Appendices

Part 1—Public Feedback Summary

CONSORTIUM MEMBERS – Finger Lakes Regional Sustainability Plan

NAME	ORGANIZATION/AFFILIATION
Tony LaFountain	Town of Penfield
Joyce Lobene	Village of Spencerport
Tom West	Village of Spencerport
Carol Nellis-Ewell	Village of Spencerport
Mike Guyon	Town of Brighton
Tom Beck	Town of Perinton
Brenda Donohue	Town of Conesus; Livingston County Board Supervisors
Larry Heininger	Town of Irondequoit
Corrine Kleisle	Village of Lyons
Paul D'Amato	NYSDEC Region 8
Ray Yacuzzo	NYSDEC Region 8
Vincent Esposito	Empire State Development and FLEDC
Dave Seeley	Office of Governor Andrew M. Cuomo, Finger Lakes Region
Mary Pat Hancock	Genesee County Legislature
Felipe Oltramari	Genesee County Department of Planning
Esther Leadley	Genesee County Legislature and G/FLRPC
Jay Gsell	Genesee County Manager
Angela Ellis	Livingston County Planning Department
Tom Goodwin	Monroe County Department of Planning & Development
Rochelle Bell	Monroe County Department of Planning & Development
Justin Roj	Monroe County Department of Environmental Services
Anne Spaulding	City of Rochester
Mark Gregor	City of Rochester, Division of Environmental Quality
Wayne Hale	Orleans County Planning & Development
David Callard	Orleans County Legislature
Mitchell Rowe	Seneca County
Bill Bordeau	Seneca County Planning & Community Development
Ora Rothfuss	Wayne County Planning
Peg Churchill	Wayne County IDA
Robert McNary	Wayne County Planning & Economic Development
James Hoffman	Wayne County Board of Supervisors; Town of Williamson
Richard Perrin	Genesee Transportation Council
Tony Favro	Genesee Transportation Council
David Zorn	Genesee/Finger Lakes Regional Planning Council
Greg Albert	Genesee/Finger Lakes Regional Planning Council
Shawna Bonshak	Yates County Planning
Art Buckley	Wyoming County Planning
Maggie Brooks	Monroe County
Thomas Richards	City of Rochester
Dorothy Huber	Ontario County Board of Supervisors; Town of East Bloomfield
Thomas Harvey	Ontario County Planning
Bob Hayssen	Seneca County Board of Supervisors
Douglas Berwanger	Wyoming County Board of Supervisors
H. Taylor Fitch	Yates County Legislature
Nicole Landers	Yates County Cornell Cooperative Extension

PLANNING TEAM LISTING – Finger Lakes Regional Sustainability Plan

NAME	ORGANIZATION/AFFILIATION
Richard Perrin	Genesee Transportation Council
Tony Favro	Genesee Transportation Council
Tom Goodwin	Monroe County Department of Planning & Development
Rochelle Bell	Monroe County Department of Planning & Development
Justin Roj	Monroe County Department of Environmental Services
Anne Spaulding	City of Rochester
Angela Ellis	Livingston County and the 8 Counties outside of Monroe County
Jason Kennedy	Monroe County Department of Environmental Services
David Zorn	Genesee/Finger Lakes Regional Planning Council
Gregory Albert	Genesee/Finger Lakes Regional Planning Council
Aileen Maguire	C&S Companies, Consultant Team
Tara Boggio	T.Y. Lin International, Consultant Team

Finger Lakes Regional Sustainability Plan

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Stakeholder Members
List by Subject Area

LAST NAME	FIRST NAME	COMPANY / ORGANIZATION	EMAIL	CONTACT NUMBER
Albert	Greg	G/FLRPC	galbert@gflrpc.org	
Anderson	Brian	National Grid	Brian.anderson@us.ngrid.com	315-428-5140
Bailey	Chip		kcbnyusa@rochester.rr.com	315-587-5030
Baron	Jack	Sweetwater Energy	jbaron@sweetwater.us	647-5762
Bechtol	Bob	Harbec Plastics	bxb@comtecsolutions.com or bxb@harbec.com	585- 265-0010
Beck	Steve	LeChase Construction	Steve.beck@lachase.com	
Boisvert	Steve	Bergmann	sboisvert@bergmannpc	585-232-5135
Bretherton	Elsa	Energy Solutions	ebretherton@esui.us	585-721-5054
Brookhart	Robyn	Liberty Pumps	Robyn.brookhart@libertypumps.com	
Cardinal	Enid	Rochester Institute of Tecnology / Senior Sustainability Advisor to the President	Enid.cardinal@rit.edu	585-475-7942
Chimino	Joe	Village of Bergen Electric	jchimino@villageofbergen.com	585-329-5717
Clark	Rob		rclark@rochester.edu	
Coia	Michael	Seneca Bio Energy / CEO	mcoia@senecabioenergy.com	315-781-7315
Coleman	Mark	Rochester Institute of Technology / CIMS / Manager Technical Development	mccasp@rit.edu	585-475-4413
Comerford	Peter	Ultralife	pcomerford@ulbi.com	
Cook	Charlie	Liberty Pumps	Charlie.Cook@libertypumps.com	585- 494-1817
Dahl, Ph.D.	Christopher	SUNY Geneseo	cdahl@geneseo.edu	585- 245-5501
Decker	Stacy		pdecker4@rochester.rr.com	
DelVecchio	Justin	Trane	jdelvecchio@trane.com	
Emm	Bill	Genesee Community College	wtemm@genesee.edu	585- 343-0055 x6200
Enfonde	Elaine	Nixon Peabody / Senior Environmental Scientist	eenfonde@nixonpeabody.com	585-263-1596
Fennie	Graham	Epiphergy	gfennie@epiphergy.com	585- 224-5864 (cell)
Groenevelt	Harry	University of Rochester	harry.groenevelt@simon.rochester.edu	585-275-2825
Harrienger	Dwight	Stantec	Dwight.harrienger@stantec.com	585-413-5273
Hastings	Brett	Noble Environmental Power	hastingsb@noblepower.com	585-322-7675, ext. 205
Haugh	Michael	CMH Consulting	Mike.haugh@cmhconsulting.us	
Hayes	Bill	Turnbull Heating and Cooling	billhayes@turnbullhvacr.com	585- 343-2005
Hoffman	James	Town of Williamson / Supervisor	jhoffman@co.wayne.ny.us	315-589-2038
Jones	Norman	City of Rochester/Rochester District Heating	norman.jones@cityofrochester.gov	585-428-6535
Kanauer	Bob		rak@LTHSSolar.com	

Kiburn	Larry	Village of Arcade	larrykilburn@villageofarcade.org	585-492-1111 x 113
Labarr	Todd	Contract Manager	tlabarr@WatchDogBP.com	585-233-5889
Marlin	Carrie	Eastman Kodak Company / Global Operations Manager – Graphics, Entertainment and Commercial Films	Carrie.marlin@kodak.com	585-724-7861 (office) or 585-766-0925 (cell)
Matteson	Schuyler	RIT PhD Student, Sustainability Program	Swm3850@rit.edu	
Miller	Justin	Harris Beach	jmiller@harrisbeach.com	
Moore	Duncan		moore@optics.rochester.edu	
Moore	Ken	Village of Fairport	kwm@fairportny.com	585 223-0313
Naetzker	Don	Finger Lakes Museum	fingerlakesmuseum@frontier.com	
Nassar, Ph.D.	Nabil	Rochester Institute of Technology / Golisano Institute for Sustainability and CIMS /Assistant Provost and Director	nasr@rit.edu	585-475-5106
Nobel	John	Synergy	jnoble@synergyag.com	585-584-8602
O'Connell	Dan	General Motors	daniel.oconnell@gm.com	585-624-6612
Peck	Ann	Empire Biofuels	Empire.biofuels@starband.net	315-331-2799
Peck	Ted	ElVi Farms		315-331-2779
Pickette	Jeri	Stantec	Jeri.pickett@stantec.com	585-413-5341
Raffaelle	Ryne (Dr.)	Rochester Institute of Technology	Rprsps@rit.edu	585-475-2055
Richardson	Jeff	Waste Management	jrichardson@wm.com	494-3000, ext. 222
Rigoni	Steve	Steve Rigoni	srigoni@frontiernet.net	585- 584-9256
Risser	Barbara (Dr.)	Finger Lakes Community College / President	risserbg@flcc.edu	585-785-1201
Rizzo	Joe	RG&E	joe_rizzo@rge.com	
Rothfuss	Ora	Wayne County Planning	orothfuss@co.wayne.ny.us.	
Rotter	Haley		hrotter@ceinfo.org	
Schulte	Kevin	SED	Kevin.schulte@sed-net.com	
Shrvastar	Ram	Larsen Engineers	ram@larsen-engineers.com	
Siegel	Bob		Bobolink52@gmail.com	
Sleight	Steve	Trane	ssleight@trane.com	
Spaulding	Anne	City of Rochester Environmental Quality	anne.spaulding@cityofrochester.gov	585-428-7474
Stadler	Mick	Cerion Energy	Mick.stadler@cerionenergy.com	585-271-5630. ext. 116
Stottler	Gary	General Motors	gary.stottler@gm.com	585- 202-8538
Suozzi	Chris	Genesee County Economic Development Center	csuozzi@gcedc.com	
Thomas	George	Center for Environmental Initiatives	gthomas@ceinfo.org	585-262-2870
Trabold	Thomas	Rochester Institute of Technology	tatasp@rit.edu	585- 475-4696

ENERGY

Tydings	Jim	AWR	James.tydings@gmail.com	
Varland	Nathan		info@CAOGINC.ORG	
Vavalo	John	UOC	John.vavalo@gmail.com	
Winebrake	James	Rochester Institute of Technology	jjwgpt@rit.edu	585-475-2510
Wormuth	AJ	Agricultural Development Services, LLC.	ajwormuth@agdevelopmentservices.com	585- 757-2373
Young	Lane	Rochester Solar Technologies (O'Connell Electric)	lane.young@oconnellelectric.com	585-924-2176

LAST NAME	FIRST NAME	COMPANY / ORGANIZATION	EMAIL	CONTACT NUMBER
Albert	Greg		galbert@gflrpc.org	585-454-0190, x18
Alt	Michael	Eastman Business Park	Michael.alt@kodak.com	585-477-1556
Aronson	Bob	Seneca County	raronson@co.seneca.ny.us	315-539-1722
Avalone	Valarie	Monroe Community College / Director of Planning	vavalone@monroecc.edu	585-292-3021
Bassett	Valerie	City of Geneva Economic Development / IDA	vbassett@geneva.ny.us	315-789-4393
Beardsley	Steven	Bank of Castile	stevebeardsley@bankofcastile.com	585-345-6168
Bechtold	Bob	Harbec Plastics	bxb@harbec.com	
Bretherton	Elsa	Energy Solutions	ebretherton@esui.us	585-721-5054
Brisky	Bob	Finger Lakes Construction	bbrisky@fingerlakesconstruction.com	315-923-7777
Buchholz	Wendy	Johnson Controls	Wendy.m.buchholz@jci.com	
Burkel	Don	Batavia Business Improvement District	dburkel@downtownbataviany.com	585-344-0900
Burns	Lisa	Livingston County TPA / Tourism Director	lisaburns@frontiernet.net	585-243-2222
Canedo	Lisa	Pathfinder Engineers & Architects / Business Dev. Analyst	lcanedo@pathfinder-ea.com	585-235-6004, x109
Cardinal	Enid	RIT	Enid.cardinal@rit.edu	
Churchill	Peg	Wayne County	PChurchill@co.wayne.ny.us	315-946-5917
Cima	John	Genesee Valley Education Partnership (BOCES)	jcima@gvboces.org	585-344 -7720
Clark	Rob	University of Rochester/ Dean of Hajim School	rclark@rochester.edu	
Clarridge	Suzanne	My Brands / President, CEO	sc@mybrandsinc.com	585-273-8480
Cleckner	Lisa	Finger Lakes Institute / Director	cleckner@hws.edu	315-781-4381
Coia	Michael	Seneca BioEnergy	mcoia@senecabioenergy.com	
Coleman	Mark	Rochester Institute of Technology / Golisano Institute of Sustainability and CIMS	mccasp@rit.edu	
Crossett	Susan	National Grid	Susan.crossett@us.ngrid.com	315-428-5430
Davies	Jodi Lynn	M&T Bank / Assistant Vice President, Business Banking	jldavies@mtb.com	585-258-8346
Decker	Stacy		pdecker4@rochester.rr.com	
DeLaro	Joan		westernerie@gmail.com	
Díaz-Herrera	Jorge L. (Dr.)	Keuka College / President	president@keuka.edu	315-279-5201
Emm	Bill	Genesee Community College	wtemm@genesee.edu	585-343-0055, x6200
Eshelman	Seth	STAACH / Owner & Principal		585-301-0800
Esposito	Vinny		vesposito@esd.ny.gov	585-399-7050

Freeman	Lynn	Genesee County TPA / Genesee County Chamber of Commerce / President	lfreeman@geneseeny.com	585-343-7440
Gage	Scott	Genesee County Career Center	sgage@co.genesee.ny.us	585-344-2042, x223
Garwood	Bret	City of Rochester Neighborhood & Business Development	bret.garwood@cityofrochester.gov	585-428-6150
Golumbeck	Ron	Goulds	Ron.golumbeck@itt.com	
Griffin	Steve	Yates County	steve@fingerlakesedc.com	315-536-7328
Griswold	Paul	Finger Lakes Technoloyg	paulg@FLTG.com	
Hale	Wayne	Ontario County	whale@orleansny.com	585.589.3187
Hall	Ed	Monroe County Visitors / President, CEO	edh@visitrochester.com	585-279-8316
Hamm	Mary Lou	GLOW WIB	mlhamm@co.genesee.ny.us	585-344-2042, x237
Hartsig	Al	Pathstone	ahartsig@pathstone.org	585-340-3304
Haugh	Michael	CMH Consulting	Mike.haugh@cmhconsulting.us	585-451-9696
Heald	Pam	Reliant Credit Union	pheald@reliantcu.com	
Hefka	Michael	Wyoming County	wcida@rochester.rr.com	585-237-4110
Henry	Erin	Harvard Business School	ehenry@hbs.edu	
Homburger	Jim		jhomburg@rochester.rr.com	
Hyde	Steve	Genesee County	shyde@gcedc.com	585-343-4866
Jagel	Gayle	Young Entrepreneurs / Young Entrepreneurs Academy	gjagel@yeausa.org	585-272-3535
Johnson	John	Baldwin Richardson	ejohnson@brfoods.com	
Kairns	John	Baldwin Richardson	jkairns@brfoods.com	
Kase	Jean	The Entrepreneurs Network	jeankase@ten-ny.org	585-753-2031
Kazmierczak	Paul	National Grid	paul.kazmierczak@us.ngrid.com	716-831-7408
Kelsch	Bob	Town of Ontario	Kelsch@ontariotown.org	
Kise	Roxanne	Western Erie Canal Main Street Program / Regional Coordinator	Kise.wecmainst@gmail.com	315-573-1479 (Cell) 315-923-9225
Knoblauch	Valerie	Ontario County Finger Lakes Visitors Connection, President	valerie@visitfingerlakes.com	585-394-3915
Kress	Anne	Monroe Community College / President	akress@monroecc.edu	585-292-2100
Landers	Nicole		naw26@cornell.edu	
Lane	Laura	Wyoming County	ljlane@wycochamber.org	585-237-0230
Leone	Jerry	Casella	Jerry.Leone@CASELLA.COM	
Linehan	Mike	Yates County	mike@yatesny.com	315-536-3111
Lyons	Bob	Finger Lakes Construction	blyons@fingerlakesconstruction.com	
Mandina	Michael	Optimax Systems, Inc.	mmandina@optimaxsi.com	

Manikowski	Michael	Ontario County	michael.manikowski@co.ontario.ny.us	585-396-4430
Marshall	Julie	Livingston County Economic Development / IDA / Deputy Director	jmarshall@co.livingston.ny.us	585-243-7124
Maukam	Andy	Ultralife	anaukam@ulbi.com	
Mazzullo	Therasa	Excel Partners	tmazzullo@excellny.com	585-458-7335
McDonough	Darlys	Ontario County, Deputy County Administrator	Darlys.mcdonough@co.ontario.ny.us	
McNary	Bob	Wayne County / Economic Development and Planning / Director	BMcNary@co.wayne.ny.us	315-946-5919
Moore	Duncan	University of Rochester	moore@optics.rochester.edu	585-275-5248
Naetzker	Donald	Finger Lakes Museum / Executive Director	dnaetzker@fingerlakesmuseum.org	315-595-2200
Nassar, Ph.D.	Nabil	Rochester Institute of Technology / Golisano Institute of Sustainability and CIMS / Assistant Provost and Director	nasr@rit.edu	585-475-5106
Noble	Susan	Cornell Agriculture and Food Technology Park	susann@thetechnologyfarm.com	
Optis	Nick	JW Danforth	noptis@jwdanforth.com	585-721-4274
Pacatte	Juli	Batavia Development Corporation	jpacatte@bataviadevelopmentcorp.org	585-345-6380
Parker	Sandy	Rochester Business Alliance	sandyp@rballiance.com	585-244-1800
Pecor	Peter	Rochester Works / Executive Director	ppecor@rochesterworks.org	585-258-3534
Peterson	Mark	Greater Rochester ENterprise	MarkPeterson@greaterrochesterenterprise.com	585- 530-6200
Pisanczyn	Jan	SUNY Brockport Small Business Development Center	jpisancz@brockport.edu	585-395-8410
Plympton	Rich	Optics	rplympton@optimaxsi.com	
Post	Greg	Town of Batavia / General Services	supervisor@townofbatavia.com	585-343-2088
Rapone	Kelly	Genesee County Chamber of Commerce	krapone@geneseeny.com	585-343-7440 x23
Risser	Barbara (Dr.)	Finger Lakes Community College / President	risserbg@flcc.edu	585-785-1201
Rizzo	Joe	RGE / Economic Development Manager	Joe_rizzo@rge.com	585-724-8165
Rountree	Pat	Livingston County	prountree@co.livingston.ny.us	585-243-7124
Schick	Bob	Lyons National Bank	rschick@bankwithlnb.com	
Schofield	Thad	City of Rochester / Business Development	schofield@cityofrochester.gov	
Seeley	Dave		Dave.seeley@exec.ny.gov	
Seil	Judy	Monroe County	JSeil@monroecounty.gov	585-753-2020
Seligman	Joel	University of Rochester / President	seligman@rochester.edu	
Senall	Jim	HTR	James.senall@htr.org	585-214-2401
Sherman	Anne	STAACH / Designer & Manager	anne@staach.com	585-301-0800
Shipley	Jeff	Seneca County	jshipley@senecachamber.org	315-568-2906
Smith	Hal	Halco	hal@halcoheating.com	
Smith	Meredith	RIT / Community & Government Relations / AVP	Meredith.smith@rit.edu	

Springmyer	Karen	Finger Lakes (Ontario, Seneca, Wayne, Yates) WIB / Executive Director / Finger Lakes Workforce Investment Board, Inc.	flwibks@rochester.rr.com	315-789-3131
Stein	Shelley	Stein Farms	shelleystein1@gmail.com	585-768-7760
Stess	Lewis	Garden Aerial	lewis@gardenaerial.org	
Stone	Timothy	Canandaigua National Bank / Vice President	tstone@cnbank.com	585-394-4260, x36105
Suozzi	Chris	Genesee County Economic Development Center	csuozzi@gcedc.com	
Thomas	George	Center for Environmental Initiatives	gthomas@ceinfo.org	585-262-2870
Thompson-Collalto	ChaaKaa	Monroe Ambulance / Director of Public Relations & Business Dev.	ccollalto@MonroeAmbulance.com	
Vary	Suzanne	Ontario County Economic Development	Suzanne.vary@co.ontario.ny.us	585-396-4866
Whipple	Jim	Orleans County	jwhipple@orleansdevelopment.org	585-589-7060 x105
Worth	Christine	Wayne County	cworth@co.wayne.ny.us	315-946-5469
Wysokoski	Kal	Fairport IDA	kal@fairportny.com	585-421-3240
Zimmer-Meyer	Heidi	Rochester Downtown Development Corporation / President & DSSI Executive Director	hzm@rddc.org	585- 263-6950
Zorn	David	G/FLRPC	Dave.zorn@gflrpc.org	

LAST NAME	FIRST NAME	COMPANY / ORGANIZATION	EMAIL	CONTACT NUMBER
Adams	Stevie		sadams@tnc.org	
Albert	Greg	G/FLRPC	galbert@gflrpc.org	
Allen	Jim	New York Apple Association	jimallen@nyapplecountry.com	585-924-2171
Anderson	Molly	Torrey Farms	mstorrey15@gmail.com	716-560-1593
Bakos	Mike	Genesee Country Market	mbakos@rochester.rr.com	716-866-4958
Bauder	Ave	Cornell Cooperative Extension – Seneca	Whb65@cornell.edu	315-539-9251
Beglinger	Jan	CCE Of Genesee County	jmb374@cornell.edu	585 343-3040 x132
Bellanca	Jobeth	Soil & Water, Yates	ycswcd@rchester.twcbc.com	315 536-5188
Britt	CJ	Lyons National Bank	cjbritt@bankwithlnb.com	
Burdett	Dennis	LiDestri Foods	dennisb@lidestrifoods.com	585-270-2471
Burkel	Don	Batavia Business Improvement District	dburkel@downtownbataviany.com	585 344-0900
Cardinal	Enid	RIT / Senior Sustainability Advisor to the President	Enid.cardinal@rit.edu	585-475-7942
Chamberlain	Diane	Farm Bureau WNY	wny@nyfb.org	877-383-7663
Claypool	Beth	Cornell Cooperative Extension – Wayne	Eac9@cornell.edu	315-331-8415 x102
Crandon	Duane	Wayne County Farm Bureau / President	dcrandonfamily@gmail.com	315-576-1310
Crawford	Sloan	NYS DEC	sncrawfo@gw.dec.state.ny.us	
Daniels	Jonathon	Port of Oswego	jdaniels@portoswego.com	
Decker	Stacy		pdecker4@rochester.rr.com	
Draper	Kathleen		Kdraper2@rochester.rr.com	
Emerick	Kelly	Soil & Water, Monroe	kelly.emerick@ny.nacdnet.net	585 473-2120
Emerick	PJ	Soil & Water, Ontario	ontswcd1@rochester.rr.com	585-396-1450
Facer	Tom	Farm Fresh First	tfacer@farmfreshfirst.com	
Farr	James	City of Rochester	james.farr@cityofrochester.gov	585 428-6866
Fenton	Megan	Cornell Cooperative Extension – Yates / Ag. Economic Develop Specialist	Mef46@cornell.edu	
Ferraro	Tom	Foodlink	tferraro@foodlink.ny.org	585-328-3380
Freeman	Louie	Cornell Cooperative Extension – Livingston	lrf22@cornell.edu	585-658-3250
Gerstenslager	Lindsey	Wayne County Soil & Water Conservation District / Director	WayneSWCD1@rochester.rr.com	315-946-4136
Greene	Mark			
Griswold	Phil	Soil & Water, Seneca	philip.griswold@ny.nacdnet.net	315 568-4366/6346 Ext. 114
Griswold	Phil		Philip.griswold@ny.nacdnet.net	
Hamilton Jancef	Vicki	Cornell Cooperative Extension – Orleans	Vhj3@cornell.edu	585-798-4265

Hammond	Bill		macsuper@macedontown.net	
Harlan	Andrij	RIT, Food Processing Initiative	axhasp@rit.edu	585-475-5385
Hartman	Chris	Headwater Foods	chris@thegoodfoodcollective.com	585-474-6532
Haugh	Mike	CMH Consulting	Mike.haugh@cmhconsulting.us	585-451-9696
Held	Diane	American Farmland Trust	dheld@farmland.org	716-652-0100
Henderson	Elizabeth	NOFA-NY, Inc.	Elizabethhenderson13@gmail.com	
Hess	Sheila	Conservation Connects	shess@conservationconnects.com	716-560-7168
Howe	Jim		jhowe@tnc.org	
Howell	Mary	Lakeview Organic Grain	mh@lakevieworganicgrain.com	
Kautz	Tucker	Monroe County Soil & Water Conservation District	Tucker.kautz@ny.nacdnet.net	585-473-2120, 108
King	Bob	Monroe Community College	rking@monroecc.edu	
Klein	David		dklein@tnc.org	585 546-8030
Kosciolek	Kathy		kxkasp@rit.edu	
Lagoner	Mark	Lagoner Farms	mlagoner@rochester.rr.com	
Landers	Nicole	Cornell Cooperative Extension – Yates	Naw26@cornell.edu	
Lauderdale	Ken		fedele@tds.net	
Liberti	Brian	City of Rochester Forestry	brian.liberti@cityofrochester.gov	585-428-6971
LiDestri	John	LiDestri Foods	giovanni@lidestrifoods.com	585-377-7700
Mancuso	Beverly	Cornell Cooperative Extension – Genesee	Blm34@cornell.edu	585-343-3040
Marten	Klaas	Lakeview Organic Grain	mh@lakevieworganicgrain.com	
Martini	Peter	Anthony Road Winery	peter@martinivineyards.com	800-559-2182
Mason	Doug	Mason Farms	masonfrms@aol.com	585-303-8290
McKurth	Greg	Soil & Water, Wyoming	wcswcd@frontiernet.net	585-786-5070
Mendenhall	Kate	Organic Farming Association of NY, Inc.	kate@nofany.org	585 271-1979
Merrell	Carol	Cornell Cooperative Extension	pcmerrell@hughes.net	
Mills	Gay	Genesee land trust	gmills@geneseelandtrust.org	
Muller	Marci	Green Topia Fest	marci@greentopiafest.com	
Noble	Susan	The Technology Farm	susann@thetechnologyfarm.com	
Orbaker	Gary	Orbaker Farms	orbakerfarms@aol.com	
Patterson	Michael	O-AT-KA Milk Products	mpatterson@oatkamilk.com	585 343-4473
Pavelsky	Pat	Cornell Cooperative Extension – Ontario	Pkp3@cornell.edu	585-394-3977
Pierce	Alex		Alexander.pierce@hcadm@gmail.com	

Post	Jeffrey		jeffreypost1@yahoo.com	585 356-5203
Reid	Peter	Peter Reid	preid@marshallpet.com	
Rhoads	Katie	Leroy Farmer's Market	katierhoadslmt@gmail.com	
Rodwell	Meghan	Farm Credit East	Meghan.rodwell@farmcrediteast.com	
Rothfuss	Ora	Wayne County	orothfuss@co.wayne.ny.us	
Rudgers	Nathan	Farm Credit WNY	Nathan.Rudgers@farmcreditwny.com	585-815-1900
Rudzinski	Maria	Ontario County	Maria.rudzinski@co.ontario.ny.us	
Schuth	Dan	Orleans County SWCD / District Manager	Dan.Schuth@ny.nacdnet.net	585 589-5959/6504
Seem	Robert	NYS Agricultural Experiment Station	Rcs4@cornell.edu	315-787-2388
Smith	Nancy	WNY Land Conservancy	nsmith@wnylc.org	716 687-1225
Sorbello	John	Sorbello Farms	sorbellofarms@gmail.com	
Squires	George	Soil & Water, Genesee	george.squires@ny.nacdnet.net	585 343-2362
Stannard	Kaari	NY Apple Sales	kaari@newyorkapplesales.com	518 477-7200
Teeple	John		jteeple@rochester.rr.com	
Thomas	George	Center for Environmental Initiatives	gthomas@ceinfo.org	585-262-2870
Tiede	Shawn	Cornell Cooperative Extension – Wyoming	Srt28@cornell.edu	585-786-2251
Travis	Robin	Cornell Cooperative Extension – Monroe	Rnt1@cornell.edu	585.461.1000
Trezise	Jim	New York Wine & Grape Foundation	JimTrezise@nywgf.org	585-394-3620
Tudhope	Stephen	Farm Credit East	stephen.tudhope@farmcrediteast.com	800-929-1350
Varland	Nathan	Community Action of Orleans & Genesee	info@caoginc.org	585 589-5605
Verbridge	Jim	KM Davies	jverbridge@kmdavies.com	
Walton	Jeanne	YWCA (Market on North Street)	jwalton@ywcagenesee.org	585-343-5808
Washburn	Joe	Cargill, Incl	Joe.washburn@cargill.com	585-345-1160, ext. 20
Wegman	Danny	Wegmans	danny@wegmans.com	
White	Jon	Soil & Water, Livingston	robert.stryker@ny.nacdnet.net	585 243-0043
Williamson	Jill	Farm Bureau CNY	sjensen@nyfb.org	315-252-1367
Williamson	Anahita		aawasp@rit.edu	
Wolf	Dan	Upstate Farms		315-945-4697
Yacuzzo	Ray	DEC	reyacuzzo@gw.dec.state.ny.us	
Zepp	Andy	Finger Lakes Land Trust	andrewzepp@fllt.org	
Zorn	David		Dave.zorn@gflrpc.org	585-454-0190 x14
Zwahlen	Tanya Mooza	Highland Planning LLC	Tanya@highland-planning.com	585-315-1834

LAST NAME	FIRST NAME	COMPANY / ORGANIZATION	EMAIL	CONTACT NUMBER
		Wyoming County Office for the Aging	officeaging@wyomingco.net	585-786-8833
Albert	Greg	G/FLRPC	galbert@gflrpc.org	
Aldinger	A.	Wyoming County Youth Bureau	aaldinger@wyomingco.net	585-786-8850
Allen	Scott	Town of Macedon	buildinginspector@macedontown.net	315-986-2948
Armbruster	Bill	AARP Regional Representative	warmbruster@aarp.org	
Bacher	Blair	Parker Hannafin / HR	bbacher@parker.com	315-923-2311
Barber	Nicolette		marber@hunt-eas.com	
Beinetti	Dave	SWBR	dbeinetti@swbr.com	
Bell	Rochelle	Monroe County / Senior Environmental Planner	rbell@monroecounty.gov	585-753-2034
Bennett	Nancy	Center for Community Health – URMC	Donna_drews@urmc.rochester.edur	585-224-3054
Blanar	Melissa	Orleans County Office for the Aging / Director	Melissa.Blanar@orleansny.com	585- 589-3191
Bonshak	Shawna	Yates County Planning	sbonshak@yatescounty.org	315/536-5153
Bordeau	Bill	Seneca County Planning	bbordeau@co.seneca.ny.us	315-539-1724
Brett	Charlotte	Conservation Connects	cbrett@conservationconnects.org	
Buckley	Art	Wyoming County Planning	abuckley4@rochester.rr.com	585- 237-4110
Calhoun	David	ARC of Wayne County / *Executive Director*	David.Calhoun@waynearc.org	315-331-7741
Cardinal	Enid	RIT / Senior Sustainability Advisor to the President	Enid.cardinal@rit.edu	585-475-7942
Carpenter	Bill	RGRTA / CEO	bcarpenter@rgrta.com	585- 654-0200
Castiglione	Bill	ARC of Ontario County / Executive Director	bcastiglione@ontarioarc.org	585-394-7500
Clark	William	Urban League / President and CEO	wclark@ulr.org	585-325-6530
Cook	Ann Marie	Lifespan	amcook@lifespan-roch.org	
Cooke	Glenn	Webster CAP, Webster Community Coalition for Economic Development	info@wcced.net	585- 269-4939
Cooper	Janelle	Waynecap	Janelle.cooper@waynecap.org	
D'Amico	Patricia	Ontario County Youth Bureau / Director	Patricia.damico@co.ontario.ny.us	585-396-4035
Decker	Stacey		pdecker4@rochester.rr.com	
DeCook	Janine	Newark Wayne Hospital / Rochester General / Public Relations	Janine.decook@rochestergeneral.org	
DeRoo	Brett	Wayne County Planning	bderoo@co.wayne.ny.us	
DeSarra	Richard	Rochester Cycling Alliance	rdscomm@rochester.rr.com	585-461-5363
Doniger	Andy	Monroe County Department of Health	adoniger@monroecounty.gov	585-753-2991
Ebert	Joe	Williamson Sodus Airport	joe_ebert@rochester.rr.com	585-314-2685
Ellis	Angela	Livingston County Planning	AEllis@co.livingston.ny.us	585) 243-7550

Farnsworth	Randy	Randall Farnsworth Auto Group	r.farnsworth@farnsworthgroup.com	
Favro	Tony	Genesee Transportation Council	tfavro@gtcmp.org	
Ferrero	Heather	Livingston County Planning	hferrero@co.livingston.ny.us	
Fields	Veronica	Finger Lakes Railway Corp.	veronicafields@fingerlakesrail.com	315-576-0415
Fitzsimmons	Jerry	Genesee County ARC	jerfitz@yahoo.com	585- 343-1123 x213
Frisch	Erik	City of Rochester Engineering	erik.frisch@cityofrochester.gov	585-428-6709
Fronk	Matt	NY BEST Consortium	mfronk@frontiernet.net	
Gadd	Todd	Wyoming County Highway Dept.	tgadd@frontiernet.net	585- 786-8955
Gates	Roy	Seneca County Highway Dept	rgates@co.seneca.ny.us	315- 549-8454
Giardino	Michael	Greater Rochester International Airport / Director of Aviation	mgiardino@monroecounty.gov	585- 753-7020
Goodwin	Tom	Monroe County Planning	TGoodwin@monroecounty.gov	585- 753-2032
Gothaur	Julie	Ontario County	Julie.gothaur@ontario.co.ny.us	
Gray	Gerry	Orleans County Highway Dept	grayj@orleansny.com	585- 589-6145
Green	Erin		egreen@eerallc.com	
Gregor	Mark	City of Rochester Environmental Quality	mark.gregor@cityofrochester.gov	585-428-5978
Hale	Wayne	Orleans County Planning	whale@orleansny.com	585.589.3187
Hallowell	Dan	NYSDOT, Regional Planning & Program Manager	Daniel.Hallowell@dot.ny.gov	585- 272-3318
Harvey	Dan	Graham Corporation	dharvey@graham-mfg.com	585- 343-2216
Heininger	Larry	Town of Irondequoit	lheininger@irondequoit.org	
Hens	Tim	Genesee County Highway Department	thens@co.genesee.ny.us	585-344-8508
Hess	Sheila	Conservation Connects	shess@conservationconnects.com	
Higgins	Don	Livingston County Highway Dept.	dhiggins@co.livingston.ny.us	585- 243-6701
Hoffman	Jim	Town of Williamson / Chair, Wayne County BOS	jhoffman@co.wayne.ny.us	
Holahan	Paul	City of Rochester Dept. of Environmental Services	Holahanp@CityofRochester.gov	585- 428-6855
Hravilla	Bob	Newark Wayne Hospital	Rhavril1@rochester.rr.com	
Hughes	Kris	Ontario County Planning	*kristen.hughes@co.ontario.ny.us*	*585-396-4455*
Hurley	Britt	Parker Hannafin	Britt.hurley@parker.com	315-923-2311
Jankwoski	Mike		mjankowski@co.wayne.ny.us	
Kanerva	Mary	Catholic Charities	mKanerva@cfcrochester.org	
Keefe	David		dlkeefe@rochester.rr.com	585-301-2433
Kennedy	Byron	Monroe County	bkennedy@monroecounty.gov	
Kenyon	Paul	Palmyra Macedon Central School District	paul.kenyon@palmaccsd.org	

Kenyon	Dan	RGRTA	dkenyon@rgrta.com	
Kicior	Tom	Senior Planner		
Klyzek	Mark	Newark Wayne Hospital		
Knox	Linda	Batavia Bus Service	lknox@rgrta.com	585-343-3079
Korfmacher	Katrina	University of Rochester – Environmental Health	Katrina_korfmacher@urmc.rochester.edu	585-275-3354
Labour	Rick	IEC	rlabour@iec-electronics.com	
Leathersich	Scott	MCDOT	sleathersich@monroecounty.gov	
Maddalina	Mark	SWBR Architects	mmaddalina@swbr.com	585-232-8300
Malcoff	Doc		gmalchoff@yahoo.com	
Maures	Adam		maures@hws.edu	
McDonald	Bill	Medical Motors Service	WMcDonald@medicalmotors.org	585- 654-6030 ext. 221
McFaul-Frey	Laurie			
McIntosh	James	City of Rochester Engineering	jim.mcintosh@cityofrochester.gov	585-428-6828
Mitchell	Stuart	PathStone	smitchell@pathstone.org	
Monte Verde	Philip	Genesee Valley Transportation	pmvgvt@yahoo.com	
Moody	Jim	Independent Living of Genesee Region	jmoody@wnyil.org	585-815-8501, x406
Naetzker	Donal	Finger Lakes Museum / Executive Director,	dnaetzker@fingerlakesmuseum.org	315-595-2200
Nesser	Kim	NY Association on Independent Living	knesser@ilny.org	585- 305-0339
Newcomb	Steve	Monroe County Office for the Aging	snewcomb@monroecounty.gov	585-753-6523
Norwood	Wade	FLHSA (for Play Best)	wadenorwood@flhsa.org	585- 461-3520
Oakley	Ken	Lake Plains Community Care Network	koakley@lakeplains.org	585-345-6110
Ockenden	Mary	University of Rochester	mary_ockenden@urmc.rochester.edu	
Oltamari	Felipe	Genesee County Planning	foltramari@co.genesee.ny.us	585- 344-2580 x5470
Parker	Ellen	Wendel		
Perrin	Richard	Genesee Transportation Council	rperrin@gtcmpo.oerg	585- 232-6240
Peterson	Chris	ARC of Livingston Wyoming / Executive Director	cpeterson@lwarc.org	585- 658-2828
Philipson	Michael	Greentopia	michael@philipsongroup.com	585-287-5555 x22
Pifer	Richard	University of Rochester	richard.pifer@rochester.edu	
Poole	Derek		ezpoole@yahoo.com	
Proper	Angie	Wyoming County Office of the Aging	officeagining@wyomingco.net	
Reardon	Angela	Seneca County Office for the Aging	areardon@co.seneca.ny.us	315- 539-1766
Reinhold	Pat	NYSDOT	preinhold@dot.state.ny.us	585- 343-0502

Rice	Terry	Monroe County Dept. of Transportation	TRice@monroecounty.gov	585 - 753 - 7720
Ring	Kate	ARC of Yates County / Executive Director	kring@arcofyates.org	315- 536-7447
Rooney	Kevin	Wayne County Highway Dept.	krooney@co.wayne.ny.us	315-946-5600
Rothfuss	Ora	Wayne County Planning	ORothfuss@co.wayne.ny.us	315.946.5919
Ruth	Larry	Town of Walworth	lruth@townofwalworthny.gov	315-524-7936
Sackett	Donna	Pembroke Central School District	dhackett@pembroke.k12.ny.us	585- 599-4859 x2971
Saleh	David	Village of Corfu Planning Board	djsaleh@gmail.com	585- 409-6346
Salvati	Wendy	Wendel		
Saracen	Sandi	Ontario Midland Railroad / General Manager	pjsomid@aol.com	315- 483-2152
Saskowski	Donna	ARC of Genesee County / Executive Director	donnas@rochester.rr.com	585- 343-1123
Schoell	Mark	United Memorial Medical Center	mschoell@ummc.org	585-344-5456
Schwarz	Liesel	SWBR Architects	lschwarz@swbr.com	585-232-8300
Sherman	Helen	Ontario County Office for the Aging /Director	onofa@co.ontario.ny.us	585-396-4040
Shockely	Penny	Wayne County Department of Aging and Youth / Director	aging@co.wayne.ny.us	315-946-5624
Sikorski	Jocelyn	Genesee Orleans County Youth Bureau	jsikorski@co.genesee.ny.us	585-344-3960
Smith	Michael	Finger Lakes Railway Corp.	catalleynh@prodigy.net	315- 781-1234
Smith	Karen	Livingston County Office for the Aging / Director	ofta@co.livingston.ny.us	585- 243-7520
Smith	Kevin	Seneca Cayuga ARC / Executive Director	ksmith@sencayarc.org	315- 539-5067
Snyder	Ryan	Livingston County Youth Bureau /Director		585- 243-6909
Spaulding	Anne	City of Rochester Environmental Quality	anne.spaulding@cityofrochester.gov	585-428-7474
Spychalski	Kellie	ARC of Orleans	kspychalski@arcoforleans.org	
Stress	Lewis	Greentopia	lewis@philipsongroup.com	585-287-5555 x21
Suter	Don	Churchville Planning Board	dsuter@rochester.rr.com	585-293-3720
Tankel	Paul	SUNY Brockport	ptankel@brockport.edu	585.395.5189
Thomas	George	Center for Environmental Initiatives	gthomas@ceinfo.org	585-262-2870
Thompson-Collalto	ChaaKaa	Monroe Ambulance	ccollalto@monroeambulance.com	585-327-7613
Thrall	Jeffrey	Churchville-Chili *CSD listed as president of the Rochester Area Transportation Supervisors Association on website (09/10/2012)*	JThrall@cccsd.org	
Urban	John	Greater Rochester Health Foundation	jurban@thegrhf.org	585-258-1704
Wale	Barbara	ARC of Monroe / President / CEO	bwale@arcmonroe.org	585-672-2233
Wehner, AIA	Peter	Irondequoit Planning Board / Chair	pwehner@irondequoit.org	585-325-1000
Whitmore	Pam	Genesee County for the Aging	pwhitmore@co.genesee.ny.us	585-343-1611 x5917

TRANSPORTATION

Winebrake, PhD.	James	Rochester Institute of Technology	jjwgpt@rit.edu	585-475-2510
Wright	Bill	Ontario County Dept. of Public Works	Bill.Wright@co.ontario.ny.us	585- 396-4000
Yonge	Christine	Yates County Youth Bureau / Director	youthbureau@yatescounty.org	315-531-3451
Zinck	Robert	Monroe County Youth Bureau / Executive Director	rzinck@monroecounty.gov	585 753-6455
Zorn	David		Dave.zorn@gflrpc.org	585-454-0190 x14

LAST NAME	FIRST NAME	COMPANY / ORGANIZATION	EMAIL	CONTACT NUMBER
Albert	Greg	G/FLRPC	galbert@gflrpc.org	
Allen	Scott	Ontario-Wayne Stormwater Coalition	buildinginspector@macedontown.net	315-986-5932
Aman	Marty	Wayne County Water & Sewer Authority	maman@wcwsa.org	315-986-1929
Bastedo	George	Wayne County Emergency Management	GBastedo@co.wayne.ny.us	315 946-5663
Beaseau	John	MCWA	John.beaseau@mcwa.com	585-442-2001 x262
Beer	Mary	Ontario County Health Dept.	mary.beer@co.ontario.ny.us	585 396-4343
Bell	Rochelle	Monroe County SWCD	rbell@monroecounty.gov	585 753-2034
Butler	Michelle	RIT	mnbasp@rit.edu	
Caraccilo	Francis	Seneca County SWCD/ Chair	fgc51@verizon.net	
Cleckner	Lisa	Hobart & William Smith / Director Finger Lakes Institute	CLECKNER@hws.edu	315-781-4381
Collins	Gregory	Wyoming County Health Dept.	gcollins@wyomingco.net	585-786-8890
Decker	Stacey		pdecker4@rochester.rr.com	
DeLaro	Joan	Western Erie Canal Alliance	westernerie@gmail.com	
Devlin, RN, BSN, MS	Diane	Wayne County Health Dept.	ddevlin@co.wayne.ny.us	*315-946-5749, x5680*
Doniger, MD, MPH	Andrew	Monroe County Health Dept. / Director	mchealth@monroecounty.gov	585 753-2991
Ellison, RN, MPH	Joan	Livingston County Health Dept.	jellison@co.livingston.ny.us	585 243-7270
Felsen	John	Monroe County Health Dept. / Environmental Health	jfelsen@monroecounty.gov	
Ford	Libby	Nixon Peabody	lford@nixonpeabody.com	
Gerstenslager	Lindsey	Wayne SWCD	Wayneswcd1@rochester.rr.com	
Gronwall	Terry	Honeoye Lake Watershed Task Force / Chairman	tgronwall@taurusgroupll.com	585-367-3000
Halahan	Bill		whallah3@naz.edu	
Harloff	Jeff	Ontario County Emergency Management	Jeff.harloff@co.ontario.ny.us	(585) 396-4310
Haugh	Michael	CMH Consulting	mike.haugh@cmhconsulting.us	
Haven	Mike	CMH Consulting	Mike.haven@cmhconsulting.us	
Henry	Erin		ehenry@hbs.edu	
Hens	Tim	Genesee County	thens@co.genesee.ny.us	
Hughes	Kris	Ontario County SWCD	Kristen.Hughes@co.ontario.ny.us	585-396-4455
Hyde	Steve	Genesee County Economic Development Center	shyde@gcedc.com	585 343-4866 x14
Knauf	Charlie	Monroe County	cknauf@monroecounty.gov	
LaManche	Kristy		klamanche@twcny.rr.com	315 673-7148
Landre	Betsy		blander@rochester.rr.com	

Lent	Peter	Oatka Creek	lent@frontiernet.net	
Leroy	Steve		smleroy@rochester.rr.com	
Makarewicz	Joe	SUNY Brockport	jmakarew@brockport.edu	585-395-5747
Manktelow	Brian	Town of Lyons / Town Supervisor	lyonssupervisor@rochester.rr.com	
Marshall	Scott	Marshall Farms	smarshall@marshallfarms.com	
McKurth	Greg	Wyoming County SWCD	wcswcd@frontiernet.net	585-786-5070
Miller	Ken	Town of Palmyra / Supervisor	palmyrasupv@palmyrany.com	
Minor, RN	Deborah	Yates County Health Dept.	publichealth@yatescounty.org	315-536-5160
Niedermaier	Kevin	Livingston County Emergency Management	KNiedermaier@co.livingston.ny.us	585-721-0113
Olvany	Kevin	Canandaigua Lake	Kevin.Olvany@canandaiguanewyork.gov	585-396-3630
Orbaker	Gary	Orbaker Farms	orbakerfarms@aol.com	
Pettit, MSL	Paul	Orleans County Health Dept. / Director	paul.pettit@orleansny.com	585-589-3278
Pierce	Alex	Joint Town/Village Planning Board Keshequa/Canaseraga Watersheds	Alexander.pierce.hcadmin@gmail.com	
Pifer	Richard	University of Rochester	Richard.pifer@rochester.edu	
Reid	Miranda	Conesus	mreid@co.livingston.ny.us	585 243-7550
Reiter	Harry	Stormwater Coalition of Monroe County/ Monroe County DES	hreiter@monroecounty.gov	585-753-7523
Richards	Dave	Wayne County	drichards@co.wayne.ny.us	
Rion, Jr.	Frederick	Monroe County Emergency Management	frion@monroecounty.gov	585-753-3810
Rollins	Dixon	NYSDEC Region 8	dfrollin@gw.dec.state.ny.us	585 226-2466
Rothfuss	Ora	Wayne Co. Planning	orothfuss@co.wayne.ny.us	
Santoro	Anthony	Wyoming County Emergency Management	asantoro@wyomingco.net	585 786-8867
Sawyko	Paul	Water Education Collaborative / Coordinator	psawyko@monroecounty.gov	585-753-5441
Schantz	Leonard	City of Rochester Water Bureau	lgs@cityofrochester.gov	585-428-7378
Scharping	Gerald	Orleans County SWCD		585 589-5959
Schuth	Dan	Orleans County SWCD / District Manager	Dan.schuth@ny.nacdnet.ent	585-589-6504
Scudder	Dave	Wayne County Water Quality Coordinating Committee / Chair	dscudder@rochester.rr.com	585-233-8741
Shearer	Craig	LANE / Plant Manager	cshearer@lane-enterprises.com	607-776-3899
Squires	George	Black Creek	george.squires@ny.nacdnet.net	585 343-2362
Stevenson	Todd	Monroe County Stormwater Coalition	tstevenson@monroecounty.gov	585-753-5472
Stratton	Brian	NYS Canals	Brian.stratton@canals.ny.gov	518-436-3055
Sweet	Sara	Rochester Midland Corporation	ssweet@rochestermidland.com	336-2263

Swinehart	Vickie	Seneca County Health Dept.	vswinehart@co.seneca.ny.us	315-539-1920
Taylor	M.	Seneca County Emergency Management	mtaylor@co.seneca.ny.us	
Taylor	M.	Seneca County	mtaylor@co.seneca.ny.us	
Thomann	Jayne	G/FLRPC	jbreschard@glflrpc.org	
Thomas	George	Center for Environmental Initiatives	gthomas@ceinfo.org	585-262-2870
Vincent	Jim	Farmer/ Genesee Co. Water Resource Agency	lbrookefarms@rochester.rr.com	585 548-2669
Wagner	Paul	Orleans County Emergency Management	pwagner@orleansny.com	585 589-4414
Warriner	Chris	Yates County Emergency Management / EMS Coordinator	emergencymanagement@yatescounty.org	315 536-3000
Williamson	Anahita			
Woelk	Benjamin		ben@gardenaerial.org	
Worth	Matt	City of Batavia Water/Sewer	mworth@batavianewyork.com	585 345-6315
Yacuzzo	Ray	NYSDEC	reyacuzza@gw.dec.state.ny.us	
Yaeger	Tim	Genesee County Emergency Management	gcemo@rochester.rr.com	585-344-0078
Zaremski	Jessica	Genesee County Health Dept.	jzaremski@co.genesee.ny.us	585 344-2580 x5525
Zorn	David	Seneca Lake	Dave.zorn@gflrpc.org	585-454-0190 x14

Albert	Greg	G/FLRPC	gablert@gflrpc.org	
Arnold, Jr.	Edward	Ed Arnold Scrap Processor	easco@rochester.rr.com	585- 762-9080
Beck	Stephen	LeChase Construction	Steve.beck@lechase.com	585-627-4423
Bennett Roll	Kate	Finger Lakes Zero Waste Coalition	Kbr2@frontiernet.net	
Butler	Michelle		mnbasp@rit.edu	
Cardinal	Enid	Rochester Institute of Technology / Senior Sustainability Advisor to the President	Enid.cardinal@rit.edu	585-475-7942
Casella	John	Casella	John.casella@casella.com	
Churchill	Peg	Wayne County IDA / Executive Director	pchurchill@co.wayne.ny.us	315-946-5917
Decker	Stacy		pdecker4@rochester.rr.com	
Fennie	Graham	Epiphragy	bfennie@frontiernet.net	585-230-7700
Goldstein	Andy	Recovery Cascades	agoldstein@recoverycascades.com	
Grayson	Peggy	GLOW Region Solid Waste Management Committee	pgrayson @co.genesee.ny.us	585- 344-2580 x5463
Griffin	Brenda	NYCTO Resource Center	bgriffin@syracusecoe.org	
Jessop	Cindy	Sunnking	cjessop@sunnking.com	
Jones	Norman	City of Rochester / Rochester District Heating	norman.jones@cityofrochester.gov	585-428-6535
Levitan	Lois	Cornell	lcl3@cornell.edu	
Maurer	Adam	Hobart & William Smith Colleges / Program Manager	MAURER@hws.edu	315-781-4380
Pifer	Richard	University of Rochester	Richard.pifer@rochester.edu	
Plumb	Al	Alpco	alplumb@alpcorecycling.com	315- 986-8900
Reiter	Harry	Monroe County	hreiter@monroecounty.gov	585-753-7523
Richardson	Jeff	Waste Management		585-223-6132
Rothfuss	Ora	Wayne County Planning	orothfuss@co.wayne.ny.us	
Salamaca	Mark	Sunnking, Inc. / Materials Manager	msalamaca@sunnking.com	585-637-8365
Saskawski	Donna	Genesee County ARC	donnas@rochester.rr.com	585- 343-1123
Simoni	Karon	City of Rochester / Refuse Operations Manager	Simonik@cityofrochester.gov	585-370-4723
Spaulding	Anne	City of Rochester	Spaulda@cityofrochester.gov	
Thomas	George	Center for Environmental Initiatives	gthomas@ceinfo.org	585-262-2870
Torelli	Marjorie		mtorelli@co.wayne.ny.us	
Whitcroft	David	Genesee County Health Dept.	dwhitcroft@co.genesee.ny.us	585- 344-2580 x5510
Yacuzzo	Ray	NSYDCE	reyacuzzo@gw.dec.state.ny.us	

APPENDIX A: PUBLIC FEEDBACK SUMMARY

1. Introduction

Public and stakeholder involvement has been a key element to the development of the Finger Lakes Regional Sustainability Plan. The outreach has been comprehensive, involved, and very integrated into the overall plan development. This document outlines the various ways the public has been engaged, and also summarizes the input received throughout the project.

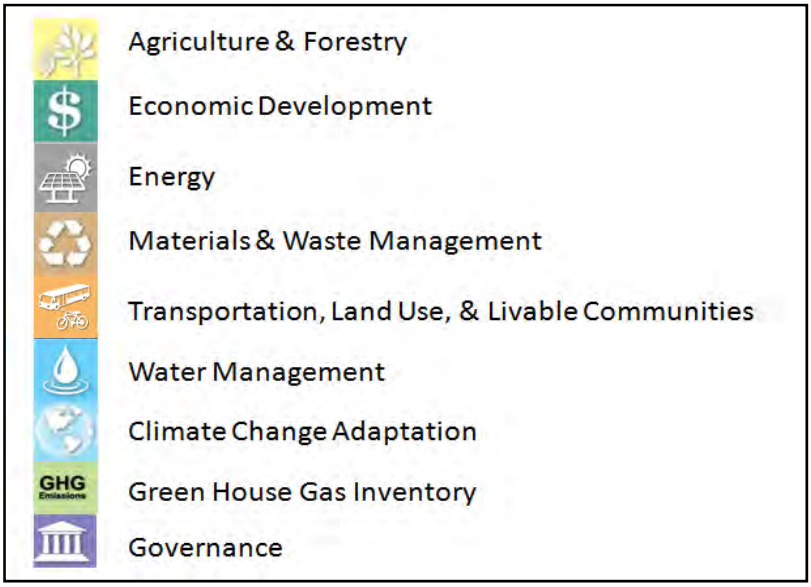
2. Outreach Methods

A variety of methods were employed to reach out to, and engage, the public. A Public Relations firm, QUINNtessence, was used to complete project marketing and Public Relations throughout the project. QUINNtessence is a woman-owned firm based in Rochester, NY with established local connections to various media outlets. They created and distributed press kits, wrote press releases, and connected with the local media to ensure coverage throughout the project. Complete reports on media coverage are provided in **Sub-Appendix A**.

2.1. Project Logo

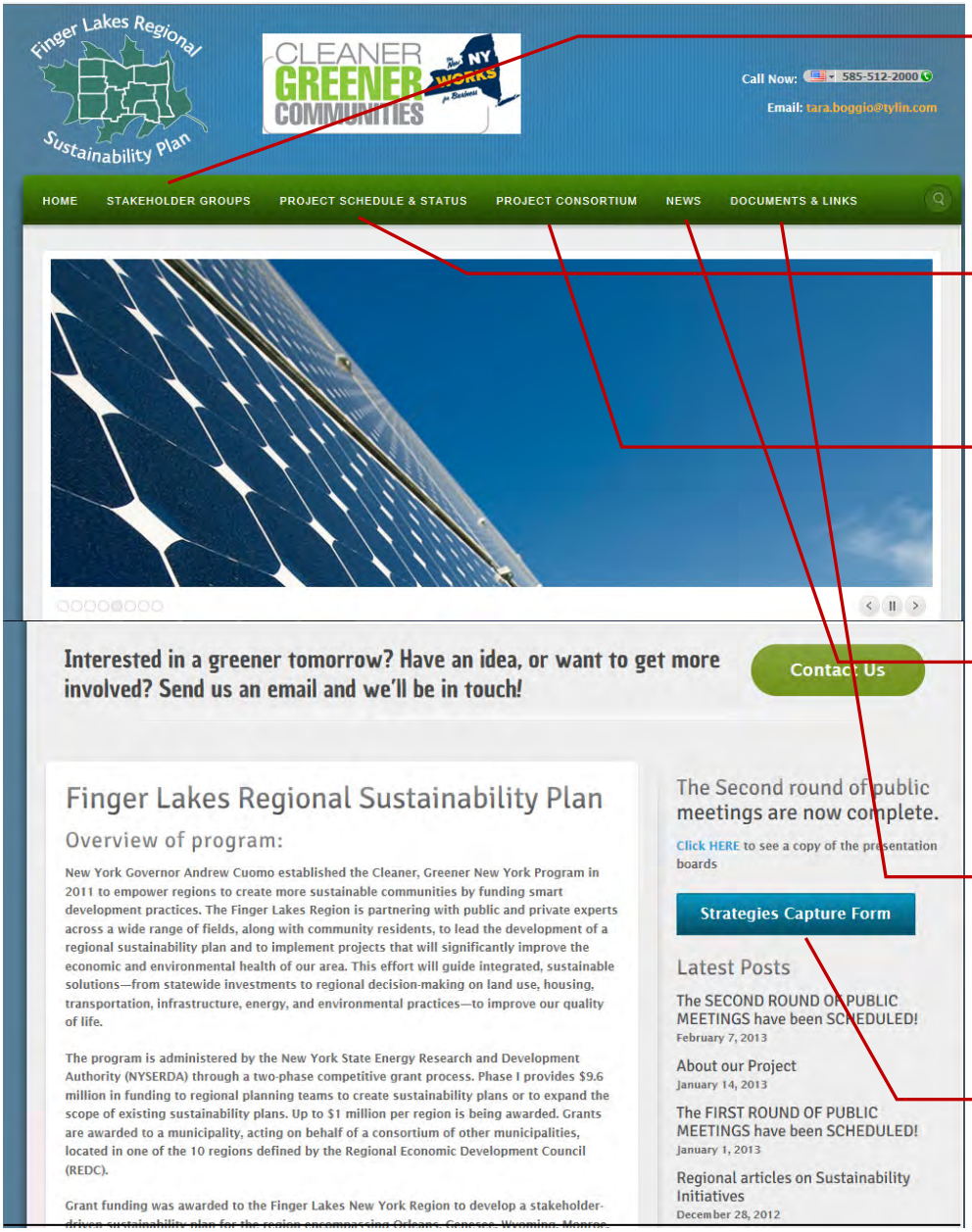
The Consultant Team developed a series of project logos that reflect the Region and the project objective to develop a Regional Sustainability Plan. These logos were reviewed with the Planning Team and the Consortium and the adjacent logo was chosen by the Executive Committee. The logo was used on all project related outreach materials and deliverables to help people identify with this project better.

Representative icons for each of the 9 subject areas were also developed to help graphically orient people to various subject areas throughout the project.



2.2. Project Website

A project website – **www.sustainable-fingerlakes.org** - was created to inform the public of meetings, provide access to documents for review and comments and submit comments and strategies for incorporation in the planning effort. It was updated consistently to provide the public with new information as it became available. Many of the municipalities within the study area provided links from their websites as well. The following shows some of the major site components.



Stakeholder Groups
All meeting presentations and minutes for stakeholder groups

Project Schedule & Status
Overall project schedule and updates

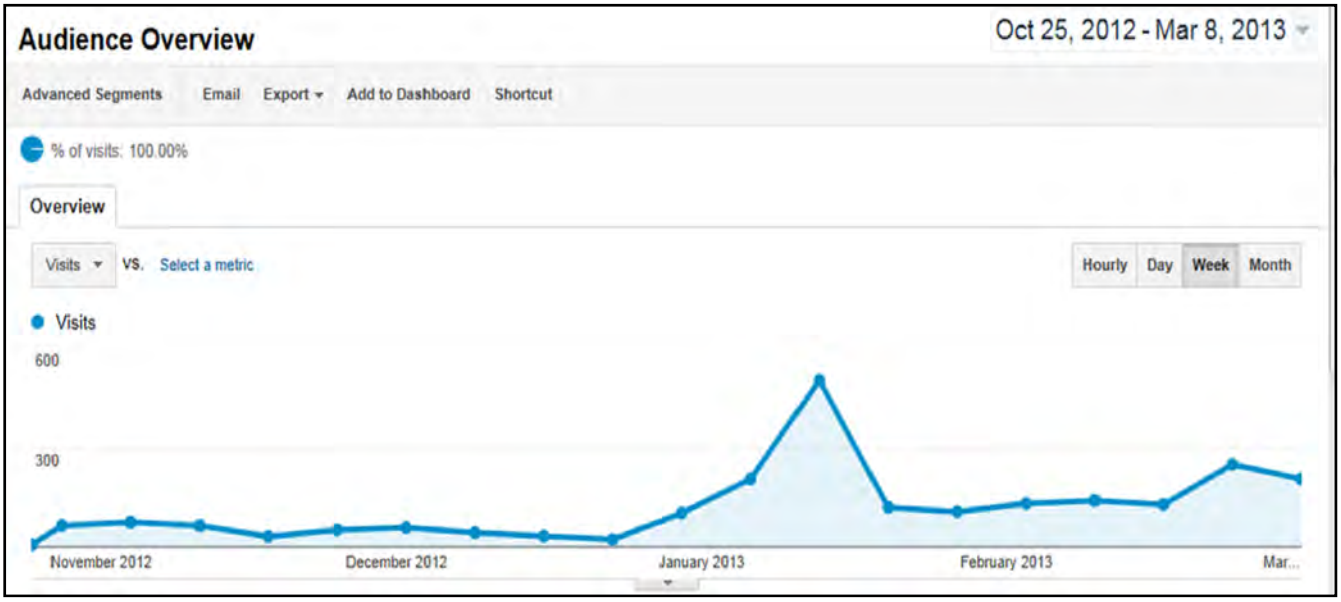
Project Consortium
All meeting presentations and minutes for the Consortium

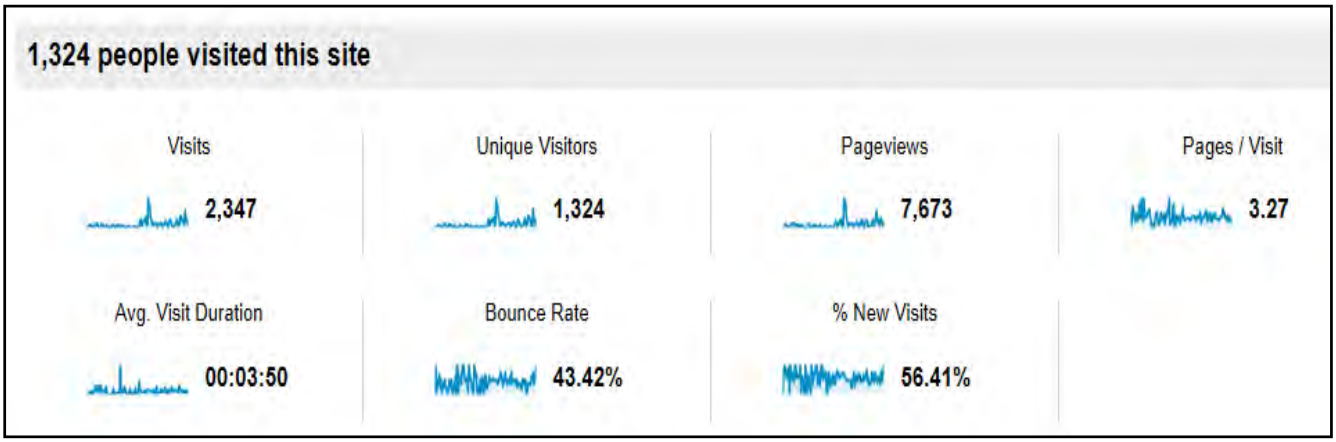
News
Latest news such as upcoming meetings, and opportunities for input

Documents & Links
Downloadable documents and links to news articles

Strategies Capture Form
A link to the online strategy capture form

The website went live on October 25, 2012, and as of March 8, 2013, it had over 1,300 unique visitors, 2,347 total views and over 100 strategy capture forms were submitted through the website. As depicted in the graphic below, which summarizes the number of visits by week, there was a significant peak in website activity after the media attention given to the first round of public meetings during mid-January. Note cards with the web address were also handed out at each of the first public meetings, again resulting in more activity to the site. The website activity remained relatively consistent during the month of February as people went to download meeting summaries, to watch for upcoming meetings, and to submit strategy capture forms.





2.3. Public Relations/Media

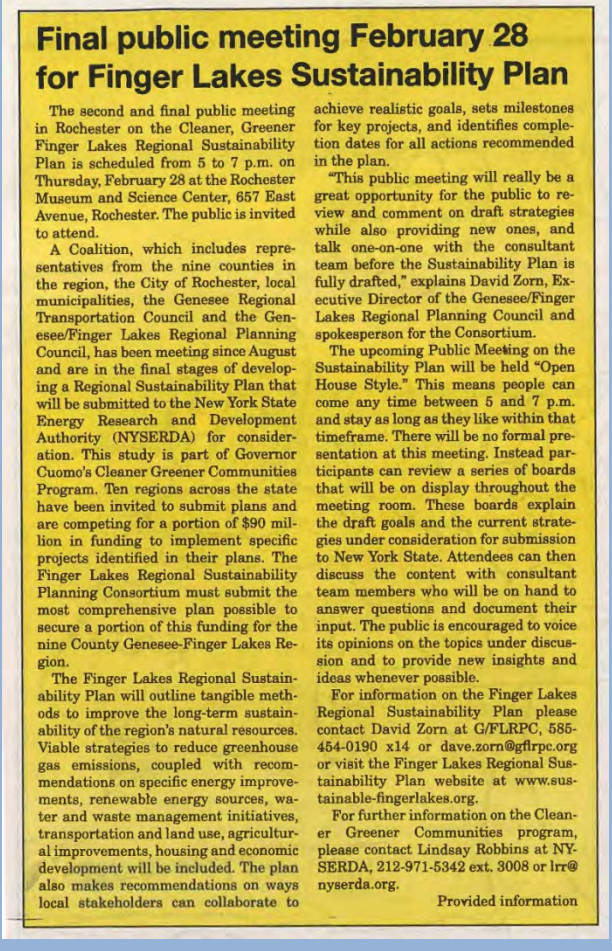
Throughout the project, the media was kept informed and was provided a variety of information including:

- Press kits – information on the project, contact information, background pieces on the stakeholder groups, and press releases for upcoming meeting
- Interview access – David Zorn, project manager, and Aileen Maguire, consultant team manager, were involved in TV and radio interviews during the course of the project.
- Press releases – notices for all public meetings including locations, dates and times.

In addition, follow up calls were made to reinforce the story, and push for coverage at the meetings.

The following is a summary of the media outlets that covered the project. A full list with links to the articles and copies of print articles is provided in **Sub-Appendix A**.

- WROC TV 8 and Fox Go Green Report
- Channel 10 News
- WXXI Radio
- Democrat & Chronicle
- Finger Lakes Times Geneva NY
- Canandaigua Daily Messenger & Messenger Post Ontario County Papers
- Community calendar: Things To Do
- Messenger Post Newspapers Monroe County and Wayne County Papers
- Fairport Post (MPN)
- City Newspaper
- Daily Record
- Batavia Daily News



Final public meeting February 28 for Finger Lakes Sustainability Plan

The second and final public meeting in Rochester on the Cleaner, Greener Finger Lakes Regional Sustainability Plan is scheduled from 5 to 7 p.m. on Thursday, February 28 at the Rochester Museum and Science Center, 657 East Avenue, Rochester. The public is invited to attend.

A Coalition, which includes representatives from the nine counties in the region, the City of Rochester, local municipalities, the Genesee Regional Transportation Council and the Genesee/Finger Lakes Regional Planning Council, has been meeting since August and are in the final stages of developing a Regional Sustainability Plan that will be submitted to the New York State Energy Research and Development Authority (NYSERDA) for consideration. This study is part of Governor Cuomo's Cleaner Greener Communities Program. Ten regions across the state have been invited to submit plans and are competing for a portion of $90 million in funding to implement specific projects identified in their plans. The Finger Lakes Regional Sustainability Planning Consortium must submit the most comprehensive plan possible to secure a portion of this funding for the nine County Genesee-Finger Lakes Region.

The Finger Lakes Regional Sustainability Plan will outline tangible methods to improve the long-term sustainability of the region's natural resources. Viable strategies to reduce greenhouse gas emissions, coupled with recommendations on specific energy improvements, renewable energy sources, water and waste management initiatives, transportation and land use, agricultural improvements, housing and economic development will be included. The plan also makes recommendations on ways local stakeholders can collaborate to achieve realistic goals, sets milestones for key projects, and identifies completion dates for all actions recommended in the plan.

"This public meeting will really be a great opportunity for the public to review and comment on draft strategies while also providing new ones, and talk one-on-one with the consultant team before the Sustainability Plan is fully drafted," explains David Zorn, Executive Director of the Genesee/Finger Lakes Regional Planning Council and spokesperson for the Consortium.

The upcoming Public Meeting on the Sustainability Plan will be held "Open House Style." This means people can come any time between 5 and 7 p.m. and stay as long as they like within that timeframe. There will be no formal presentation at this meeting. Instead participants can review a series of boards that will be on display throughout the meeting room. These boards explain the draft goals and the current strategies under consideration for submission to New York State. Attendees can then discuss the content with consultant team members who will be on hand to answer questions and document their input. The public is encouraged to voice its opinions on the topics under discussion and to provide new insights and ideas whenever possible.

For information on the Finger Lakes Regional Sustainability Plan please contact David Zorn at G/FLRPC, 585-454-0190 x14 or dave.zorn@gflrpc.org or visit the Finger Lakes Regional Sustainability Plan website at www.sustainable-fingerlakes.org.

For further information on the Cleaner Greener Communities program, please contact Lindsay Robbins at NYSERDA, 212-971-5342 ext. 3008 or lrr@nyserda.org.

Provided information

- Daily News Online NiUZER
- Democratandchronicle.com
- TopNewsToday.org
- Mirror News Service Posting
- RENews Daily
- We Surround Rochester Message Board
- Sunlize
- Cornell University Sustainable Campus Site
- Hobart and William Smith College Daily Update

2.3.1. Media details

The news coverage ranged from small mentions about upcoming meetings, to full articles about the plan as well as it's connect with the Finger Lakes Economic Development Council's strategic plan. There was a concerted effort to ensure that as public meetings approached, that coverage existed both in Monroe County and the more rural counties.

There were two interviews with Bob Smith from WXXI. The first interview with Bob Smith was conducted with David Zorn, project manager for the Finger Lakes Sustainability Plan on January 31, 2013. The following topics were discussed:

- Introducing the CGC program and the Finger Lakes Regional Sustainability Plan
- Summarized work completed to that point – baseline assessment, indicators/targets
- Structure of the project including the Consortium, Stakeholder Groups, and public meetings
- Q&A

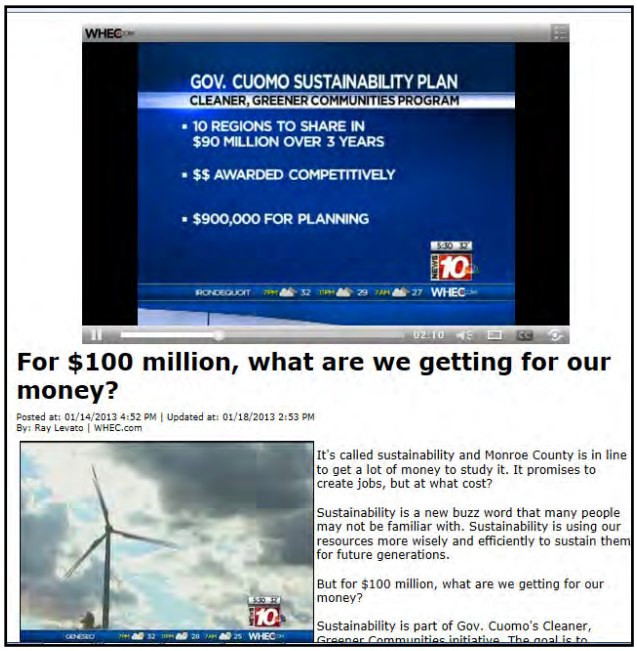
The second interview was held on February 26th, 2013 and both David Zorn and Aileen Maguire, consultant team project manager, were present. The following topics were discussed:

- Promoted the two remaining public meetings in Batavia and Rochester
- Discussed the public comments from the first meeting in Lyons
- Encouraged the use of strategy capture forms
- Q&A focused on:
    - Transportation alternative modes and alternative fuels
    - Recycling
    - Challenges of changing consumer behavior and the need for education/outreach

Channel 10 also did an interview with David Zorn, conducted by Ray Levato that aired on their newscast on January 14th, 2013 in advance of the first round of public meetings. The interview focused on a few main points:

- General overview of the funding source (Phase 1 and Phase 2)
- What the Phase 1 money is being used for
- What sustainability is and what is means to the general public
- Upcoming public meeting dates and locations

The interview and story was also posted on the Channel 10 website, and a link was provided on the project website under "News".



As part of the "Go Green" series that local news station Channel 8 conducts, and reported on their website rochesterhomepage.net, reporter Katrina Irwin also did a overview interview with David Zorn that broadly discussed the focus of the plan. This interview, which aired on January 11, 2013, was well timed as it was a week before the first round of public meetings.

The Democrat and Chronicle had a feature article in advance of the first public meeting, with a second abbreviated piece in advance of the second public meeting.

2.4. Social Media

As part of the Public Relations/media campaign, the consultant team sent out emails to the stakeholder groups asking for the help in getting the word out about upcoming meetings and involvement opportunities. As part of those emails, potential social media blurbs were included that would work for Facebook and Twitter, and many groups such as the Genesee Transportation Council, Friends of the Garden Aerial, Rochester Cycling Alliance, and the City of Rochester did tweet the meetings, and/or provide the information on their Facebook pages, increasing the awareness among the community.

3. Outreach Groups

At the onset of the project the Project Execution Plan (PEP) set forth the plan for public outreach, which has been closely followed. A few additional meetings and outreach efforts were added as a result of some needs identified through the stakeholder groups. Various groups have been consulted with concurrently throughout the process including:

- Interviews associated with the Story of Place ™
- Consortium
- Stakeholder Groups
- Regional Leaders Forum
- Coordination with Regional Organizations
- Public Outreach/Meetings

The involvement and feedback from each of these groups is summarized below. The presentations given to these groups and the meeting minutes are provided in **Sub-Appendix B**.

3.1. Story of Place Interviews

To support the development of the integral assessment and Story of Place, representatives of the Consultant Team conducted a series of phone and in-person interviews. The interviews engaged a variety of stakeholders with knowledge of the Region and expertise in the following areas:

Naturalists, environmental scientists, and scholars who are knowledgeable about the Region in terms of:

- Geologic history and morphology
- Hydrology: Seasonal, Historical and Morphology including local sub-watersheds
- Natural history of plant and animal communities
- Climate and weather history averages and extremes

Archeologists, anthropologists and cultural historians who are knowledgeable about the cultural history of the Region, in terms of:

- Indigenous tribes and their historical settlement patterns
- How land-use shifted over time, from early European settlers to the present
- Major historical (including pre-Columbian) events and conflicts
- Land use patterns in relationship to watershed
- Migration patterns
- Economic patterns-Trade, Taxation/tribute, Stratification of Society

Planning and Economic Development professionals knowledgeable about:

- Reasons people and businesses locate here
- Current business trends and performance

3.2. Consortium

The Finger Lakes Regional Sustainability Consortium ("Consortium") was established to serve as the Steering Committee for the Project. The founding members of the Consortium include:

- Genesee County
- Livingston County
- Monroe County
- Ontario County
- Orleans County
- Seneca County
- Wayne County
- Wyoming County
- Yates County
- City of Rochester
- Genesee/Finger Lakes Regional Planning Council (G/FLRPC)
- Genesee Transportation Council (GTC).

In addition to these founding members, the Consortium includes state agencies and local governments who will contribute to the Plan development. Additional municipal members were encouraged to join the Consortium throughout the development of the Plan to expand awareness of it, increase support for its recommendations, and establish an ongoing mechanism for advancing sustainability throughout the Region.

The Consortium met six times during the planning process to provide project direction and approve key deliverables. Many of the Consortium members also served on Stakeholder Groups to provide additional input into draft deliverables.

The meeting minutes from each Consortium meeting are provided in **Sub-Appendix B**, but the meeting agenda and outcome are provided below.

Meeting 1: August 30, 2012

The first meeting provided an introduction to the Cleaner Greener Communities Program, which was given by NYSERDA representatives. Lindsay Robbins from NYSERDA gave an overview of the funding source, the project intent and the scope of work. Ms. Robbins made a point to reiterate to the Consortium that the project was intended to be economic drivers and not just a plan that is done to get Phase 2 funding. She was also asked if each county would be expected to adopt the plan to which she responded that the there is not enough time within this project to expect that, however it is the hope that at the end of this counties and municipalities would endorse the plan and look to adopt portions locally.

The Genesee Finger Lakes Regional Planning Council representative, Greg Albert, then provided the Consortium a snapshot look at the Finger Lakes Region, focusing on demographics, economic clusters, and key issues that came out of the Comprehensive Economic Development Strategy that the Council prepares.

Each Consortium representative then took a few minutes to share with the group what sustainability initiatives were going on in their individual county, municipality or agency.

The consultant team representatives Aileen Maguire from C&S, and Tara Boggio from T.Y. Lin International then went through the basic schedule for the project, including noting approximate dates for Consortium meetings, and public meetings. They then took the group through a discussion of the stakeholder groups, discussing how the working groups would be broken down. The Consortium agreed to the following breakdown:

Energy
Transportation, Land Use & Livable Communities
Materials/Waste Management
Water Management
Economic Development
Agriculture & Forestry

And agreed that governance, green house gas and climate change should be discussed within each of the other 6 groups. Many other regions had separated out Transportation from Land Use, however this Consortium saw value in keeping them combined, recognizing the interrelatedness of those discussions.

Lastly, the Consortium brainstormed what agencies, organizations, etc. should be invited to each of the working groups. An interactive process was followed to add categories for each of the working group. This list of categories was then sent out to Consortium members after the meeting to help identify specific contacts for those groups, who were then invited to sit on one or more stakeholder group.

Meeting 2: October 9, 2012

The second meeting of the Consortium was focused on the Project Execution Plan. During this meeting the following items were presented and discussed:

- Project schedule - including meetings, deliverables and submission dates
- Public engagement strategy – overview of the groups being formed (stakeholder groups), public meetings, Consortium
- Presentation and adoption of a project logo
- General plan for public relations and marketing

Decision making structure for the group – consensus based approach, but an affirmative vote by not less than four voting members that combined represent more than fifty percent (50) o the population of the region provided a quorum is

present if deemed necessary. The group was shown a full list of stakeholder invitees based on the last meeting and names collected to date and members were asked to fill in any holes or add any additional suggested members.

Lastly, the status of the Baseline Assessment was given, noting that the interviews for the Story of Place had begun, as well as the existing greenhouse gas emissions inventory.

Meeting 3: November 15, 2012

The November meeting of the Consortium was the third meeting, and had a full agenda. The first topic discussed was the results of the first round of stakeholder meetings including general attendance, input received on the scope items and schedule for the next meetings. The website that was created was shown to the Consortium and they were directed where to find documents, meeting announcements, and meeting minutes.

The next agenda item focused on the Story of Place (SoP), with first an explanation from Carol Sanford from the consultant team, who noted that the rationale for doing the Story of Place is based on the following belief:

> *Communities that maintain their vitality, their ability to attract investment and resources and are able to evolve through time, have three things in common:*
>
> 1. *They know who they are – their uniqueness*
> 2. *They develop a narrative to convey who they uniquely are*
> 3. *They embed this narrative and uniqueness into everything they do*

Joel Glanzberg from the consultant team then walked the Consortium through the draft Story of Place presentation. The Story covers the history of the Region and the unique features and stories of what makes us the region we are. In general the Story identifies 3 major themes:

- Democratizing – making participation in the benefits of society available to all
- Eddying – a place where collecting, settling, nurturing and enriching can occur
- Continuous Innovation – finding solutions for local problems that are relevant for a larger world

The Consortium was then split into breakout groups to discuss the relevance of the Story of Place, to look at how the Story is evident in their current roles within the Region.

The following application of the Story of Place and Guiding Principles were developed:

Applying Story of Place

- Collaboration across Region
- Taking things to the next level
- Organized around identity
- Innovations and changes taking place here
- Keeping the Story alive
- Allow continued innovation
- Move away from linear thinking
- Process exporters
- Innovation
- Home of innovation

Guiding Principles

- Thinking systemically
- Makes us model (not linear)
- Brings back environment that supports innovation
- Creates/supports think tank mentality and function
- A change in self image and reflection

Meeting 4: January 16, 2013

The January meeting of the Consortium was an exercise in working with the Story of Place, which had been presented at the last meeting, and looking at how it influences and shapes strategies that the Sustainability Plan can advance. A brief overview of the Story of Place was given for those who had missed the previous meeting and synthesized it with democratizing, eddying, and innovating, the three major themes from the Story. "Straw dog" strategies were then offered for economic development, energy, water, land use/livable cities/transportation, agriculture and forestry, waste management, and climate change as seed ideas. Attendees then broke out to discuss each of the strategies and help enrich it, focus it, refine it, and replace it if needed. The four questions to consider were:

- Is it reflective of the Story of Place?
- Does it increase the value of the five capitals?
- Can we benefit beyond the subject area?
- Does it create benefit throughout the Region?

The groups came back and reported to the group what they had discussed. The consultant team then went through the six subject areas and the proposed strategies and indicated that they tried to take all of the past discussions and extract key ideas starting with what is the strategy that is starting to bubble up. The consultant team indicated that some will be hard to grapple with. Some of them will be disagreed with but they can serve as a seed to a conversation. After

another breakout group where they worked to improve the strategies, a discussion was had about each focus area. In general, each group was able to make improvements, or suggest additional strategies that would be brought forward to the afternoon discussion with the Stakeholder Groups.

Meeting 5: February 13, 2013

Meeting 5 with the Consortium first was focused on the Baseline Assessment, which was in draft form and available for Consortium review on the website. The consultant team then discussed the Indicator/Target document, which identifies short, mid, and long-term targets for each indicator, noting that there has been an effort to strike a balance between stretch goals and realism. The group then discussed the implementation strategy, which, among other things, evaluates strategies. The Consortium was given draft evaluation criteria for review. The proposed evaluation criteria included:

- Benefits to multiple subject areas
- Benefits to multiple capitals
- Benefits to multiple communities defined as more than one county (or Replicable to other communities easily)
- Implementation feasibility
- Consistency with planning efforts
- Financial feasibility

A question was asked on how progress will be measured. It was suggested that progress be based on the targets. A question was asked on who makes assessment of the strategies. The process is consultants, then Planning Team, and then the Consortium.

Lastly, the consultant team provided an update of public consultation efforts. First, there was an update on the website, including the number of unique visitors, the number of strategy capture forms submitted, and documents now available for review. The next round of public meetings was then discussed. It was explained that the next round would be the final round of public meetings and would be focused on the strategies to ensure the public has an opportunity to provide input on them. The format, dates, and location of the meetings were presented. Lastly the Consortium was presented the idea of the Leaders Forum meeting, discussing the intent, potential invitees, and meeting details.

Meeting 6: March 12. 2013

The last meeting of the Consortium was focused on reviewing the deliverable schedule, and a final review of the broad strategies that had been modified to reflect public comments gained through the recent public meetings. The sub

strategies and specific projects were also briefly discussed; however the consultant team reminded the Consortium that NYSERDA has put priority on ensuring the broad strategies capture any potential future projects. The Consortium also had a discussion of the future of the plan, how it would be carried forward and implemented and what level of involvement the various municipalities would like to have. David Zorn suggested that the Consortium meet again in late April/early May to have input on Representative Projects, once the full plan has been completed and submitted to formally endorse the plan, and to begin discussion of how the Consortium would continue their work.

3.3. Stakeholder Groups

To provide critical input and feedback into the Sustainability Plan, six Stakeholder Groups were established. These groups provided data, technical expertise and knowledge of the region to guide the development of the plan. These groups were developed around the following NYSERDA defined focus areas, with the topics of Climate Change Adaptation, Governance and GHG Emissions addressed in each Group:

Energy
Transportation, Land Use & Livable Communities
Materials/Waste Management
Water Management
Economic Development
Agriculture & Forestry

The Stakeholder Groups had broad representation including subject area experts, representatives from municipal, county and state agencies, academic institutions, businesses, and non-profit organizations. The composition of the groups were guided through the Consortium, with that group making recommendations first on the types of agencies, organizations, and businesses that should be invited, and then also by providing names of appropriate representatives. For each group, some members declined to be involved and were removed from the list, some attended every meeting, and others were not able to make any meetings but remained on the list, getting email updates throughout the project.

In total, almost 500 people made up the Stakeholder groups, with the following breakdown by Group:

- Agriculture – 91
- Economic Development – 107
- Energy – 65
- Materials Management – 35
- Transportation and Land Use – 125
- Water Management – 75

Not all invitees attended even one meeting, and some individuals were on multiple groups, and therefore would show up counted as one person in each group. In general at most rounds of Stakeholder meetings, we saw about 100-140 people total between the 6 groups.

The Stakeholder Groups met four times to identify their vision for a sustainable region, share their knowledge on baseline conditions and potential challenges, and provide input into the develop of indicators, targets and strategies.

A summary of each of the stakeholder meetings is provided below with the full meeting minutes and copy of the presentation provided in **Sub-Appendix B**.

3.3.1. Stakeholder Meeting #1

The first round of stakeholder meetings occurred during the second and third weeks of October, 2012. Each of the six groups met individually at different times, and with various members of the consultant team present. For each of the six groups, they followed the same agenda:

1. Welcome and Introductions

2. Introduction to the project

   The consultant team provided an overview of the Cleaner-Greener Communities Program including the funding source, the scope of work for Phase 1, anticipated schedule and funding for Phase 2, and a draft schedule for project deliverables and completion.

3. Stakeholder Group

   Each of the stakeholder groups were presented a draft mission statement for discussion regarding what they will study within the confines of the Sustainability Plan.

The consultant team then outlined the role of the stakeholders as follows:

- Input into indicators and identifying data sources (meeting 1)
- Discussion of targets (meeting 2)
- Implementation strategies (meeting 3)
- Review draft report/finalize broad strategies (became content of additional meeting - meeting 4)

Discussions were also had with each group regarding any gaps in representation within the group so additional invitations could be made.

4. Visioning

   Each group was asked what their vision was for the future of their subject area in this region. The consultant team recorded thoughts from the groups and facilitated discussions on how people would know if they were heading in the right direction.

5. Sustainability Indicators

   The consultant team provided guidance to the Stakeholder Groups regarding NYSERDA indicators as follows:

   1. Choose at least one common indicator for each focus area for inclusion in your sustainability plan
   2. There are five indicators that all of the regions are required to use. These indicators allow some information to be tracked across the state and to ensure that the CGC program is doing its part to support larger national efforts. Regions will not be required to choose additional indicators in these focus areas. These indicators will count as your required common indicator in each of the focus areas that they cover.
   3. Regions may also choose to add other indicators that they feel are appropriate to establish baselines and targets for improvements in their region.

   Applicable NYSERDA indicators that were provided in guidance documents to the consultant team were then presented to each group for consideration and discussion. The groups discussed if they thought it was a valid indicator as is, if it should be modified, or deleted (unless required). In addition, the groups discussed the need to add any new indicators provided the indicators have data available and can have targets associated with them.

6. Next steps

   Discussion of the next meeting timeframe and general agenda

3.3.2. Stakeholder Meeting #2

The second round of Stakeholder meetings were held the second week of November, with each group meeting separately. For each of the six groups, they followed the same agenda:

1. Welcome and Introductions

As part of the opening remarks, the consultant team shared with the Stakeholders a summary of the Regional Themes and Goals that were heard throughout the first round of stakeholder meetings. The draft ideas were:

- Improve accessibility, connectivity and mobility
- Preserve, protect and improve natural resources
  - air quality
  - water quality
  - prime farmland
  - forests
  - open space
- Maintain, protect and improve the functionality and disaster resiliency of existing infrastructure systems and acknowledge the links between systems
  - transportation
  - water
  - energy
  - communication
  - solid waste
- Improve public health
- Respect local planning efforts and retain individual community character
- Build partnerships between local governments, the private sector, regional institutions and the public
- Build sustainability capacity and understanding through outreach and education

Each group made suggestions for additions and edits.

2. Story of Place Framework and Exercise
   The consultant team presented the rationale for doing the Story of Place before actually presenting it which is based on the following belief:

   > Communities that maintain their vitality, their ability to attract investment and resources and are able to evolve through time, have three things in common:

1. They know who they are – their uniqueness
2. They develop a narrative to convey who they uniquely are
3. They embed this narrative and uniqueness into everything they do

Joel Glanzberg from the consultant team then walked the stakeholders through the draft Story of Place presentation. The Story covers the history of the Region and the unique features and stories of what makes us the region we are. In general the Story identifies 3 major themes:

- Democratizing – making participation in the benefits of society available to all
- Eddying – a place where collecting, settling, nurturing and enriching can occur
- Continuous Innovation/Incubator for ideas – finding solutions for local problems that are relevant for a larger world

3. Place Sourced Indicators
   After the Story of Place presentation it was explained that the consultant team is taking the Story of Place, and using it to create "Place-Sourced Indicators" which may or may not be in line with the NYSERDA ones. Each stakeholder group was lead through a discussion of potential "Place-Sourced Indicators" and captured ideas for further consideration. The consultant team reminded stakeholders that utilizing the indicators would be tied to the availability of data.

4. Guiding Principles
   The group had a discussion around the emerging patterns of the Story of Place, focusing on the eddying, and the incubating that has occurred over time. The groups each discussed the following questions:
   - Where's the growth opportunity?
   - What is our expertise?
   - What are the strengths of our natural and built environment?
   - Where are our passions headed?

5. Next steps
   Discussed next stakeholder meeting and upcoming public meeting.

3.3.3. Stakeholder Meeting #3

The third meeting of the Stakeholder groups was a joint meeting of all 6 groups together. This meeting was held as an all day workshop on January 17, 2013. Over 100 Stakeholders were in attendance throughout the day. There were times when information was presented to everyone at once, and then times when groups broke out separately.

A brief overview of the Story of Place was given for those who had missed the previous meeting and synthesized it with democratizing, eddying, and innovating, the three major themes from the Story of Place. Then, for each subject area, a "straw dog strategy" was put out to the group based on some of the feedback from the first 2 meetings. After they were presented, people were separated into groups to discuss the strategy, and supporting goal. However, they were selected randomly and therefore did not necessarily wind up in their natural stakeholder group. Instead, to comment on a goal and strategy for another subject area, giving it a unique perspective. The groups were asked to consider the following:

1. How do we make sure it creates benefit throughout the region and reflect the uniqueness of this region as reflected in the Story of Place?
2. Strategies should impact all subject areas so as to benefit the system as a whole subject, giving it a unique perspective.
3. Can we think about the strategy so that it strengthens all 5 capitals (human, ecological, fixed/built, financial, social)?

The feedback was collected in all groups and brought back to the full group and summarized by one representative of each group. After this summary, the groups then separated by their actual stakeholder group that they primarily associate themselves with and they took the comments from the morning and continued to work with them.

In the afternoon sessions, each Stakeholder group worked to more fully refine their "straw dog" strategy, adding more strategies, and working on overarching subject area goals and challenges. Lastly, while still in breakout groups, the subject areas discussed their indicators and began discussions of targets for each one.

The day ended with report outs from each group so that the consultant team could look for commonalities, and sometimes conflicts, between the groups outcomes. The Stakeholders then asked general questions about the remaining process and next steps.

3.3.4. Stakeholder Meeting #4

The last meeting of the Stakeholder groups was done with all 6 groups together on March 12, 2013. This meeting was a summary of the public feedback gained through the public meetings and a presentation of the refined broad strategies to ensure that what had been captured reflected the stakeholders' ideas and input throughout the process.

3.4. Regional Leaders Forum

Despite efforts to engage major business leaders and representatives through the Stakeholder process, there was a lack of representation from many of the Region's largest employers and therefore a special meeting was created to bring this group together. On February 21, 2013 a forum of regional leaders was conducted to engage government, institutional and industry leaders in a discussion of existing sustainability initiatives, goals, and challenges, in an effort to understand how the Plan can support their implementation efforts. A concentrated effort was made to ensure regional representation from a variety of businesses. The following businesses and municipalities were represented:

<u>Business Representation</u>
Bausch & Lomb, Inc.
Garlock Sealing Technology
Barilla Pasta
Kraft Foods
Xerox Corporation
Wegman's Food Market
O-AT-KA Milk Products
Goulds Pump
McCormick Farms
Rochester Institute of Technology

<u>Municipal/Agency Representation</u>
Wayne County
Monroe County
Genesee County
City of Rochester
Livingston County
Genesee Transportation Council
Genesee Finger Lakes Regional Planning Council

The general meeting intent was:

1. Ensure the community leadership and major regional employers understood the importance of this project.
2. Supplement the vast public input with more targeted private input.
3. Ensure existing sustainability plans/projects by major regional employers are incorporated to allow for future funding.
4. Explain how to provide input before plan is finalized.
5. Get reaction from high level thinkers on project direction to date.

Through the course of the meeting, the business representatives and municipal leaders provided report outs on their current efforts and goals on sustainability, and also shared insights into strategies and projects that would help further their sustainability goals.

Common themes on challenges that were heard repeatedly during this meeting include the following:

- Difficulty recycling industrial waste water within the production process. The desire/mandate to reduce or eliminate organics that go to landfills
- Cost-benefit of some energy efficiency projects not there to warrant investment

Opportunities noted by many of the representatives included:

- Benefits that have been seen from partnering with institutions such as the Golisano Institute for Sustainability and the Pollution Prevention Institute.
- Technological advances in the way they manufacture products – leading to energy reduction
- Opportunities for on-site alternative energy generation

Strategy ideas that came from the group, which were summarized and incorporated into the planning process included:

- support waste to energy
    - example, Epiphergy, a start-up company –used by Wegmans, Kraft, Barilla
    - need to take technology to areas of waste – no transportation which reduced GHG emissions but no NYSERDA funding
    - need technology for a small commercial, viable process
- seed funding for energy efficiency projects that currently do not make the cost/benefit tipping point
- technology and policies for water conservation
- municipalities need better guidance/policies that guide renewable/alternative energy projects – currently difficult process to navigate
- share ideas and resources across the region – leverage knowledge and experience of businesses who have implemented projects and institutions conducting research

3.5. Coordination with Regional Organizations

Presentations were made to the following organizations to inform them of the progress of the plan and to solicit their input on its content and direction.

Finger Lakes Regional Economic Development Council (REDC)
Given the inter-related nature of the Sustainability Plan and the REDC Plan, the project consultant team met with members of the REDC at two of their meeting during the plan, in addition to many members of the REDC being part of the Economic Development Stakeholder Group. The meetings were held on July 23, 2012 and December 12, 2012. The first meeting provided the REDC members an overview of the Sustainability Plan intent, scope and schedule and discuss how the REDC will be incorporated. The second meeting focused on the project definition of sustainability, CGC program background, public consultation, major components of the Plan, Baseline Assessment, next steps , and question and answers.

Genesee/Finger Lakes Regional Planning Council
David Zorn, Director of the Genesee/Finger Lakes Regional Planning Council, provided quarterly updates to the Regional Planning Council during the project to keep them informed. Many of the Regional Planning Council members are part of the Consortium and/or stakeholder groups. Tara Boggio from the Consultant team also provided a comprehensive presentation at the March 14th 2013 meeting of the G/FLRPC, providing information on the process and the findings as well as answering questions.

Genesee Transportation Council
Rich Perrin, Director of the Genesee Transportation Council (GTC), made presentations and gave updates to the GTC throughout the project to ensure the leadership knew the project status and the findings and recommendations coming out of the study.

3.6. Public Outreach

There were two times during the course of the project where public meetings were held to engage the public, gain input and gauge community response. Each time the meeting was held in 3 locations, geographically distributed across the region. A summary of each of the two rounds of public meetings are summarized below. Full presentations and meeting minute are provided in **Sub-Appendix B**.

3.6.1. Public Meeting 1

The first round of meetings were held during mid-January. On January 15th, 2013 from 6-8PM, concurrent meetings were held in Batavia, NY and in Geneva, NY. The next evening, January 16th, a meeting was held in Monroe County at Rochester Institute of

Technology. Between the three meetings approximately 95 people attended. All three meetings followed the same agenda as summarized below.

1. Welcome and Opening Remarks

2. Introduction to the project

The consultant team provided an overview of the Cleaner-Greener Communities Program including the funding source, the scope of work for Phase 1, anticipated schedule and funding for Phase 2, and a draft schedule for project deliverables and completion.

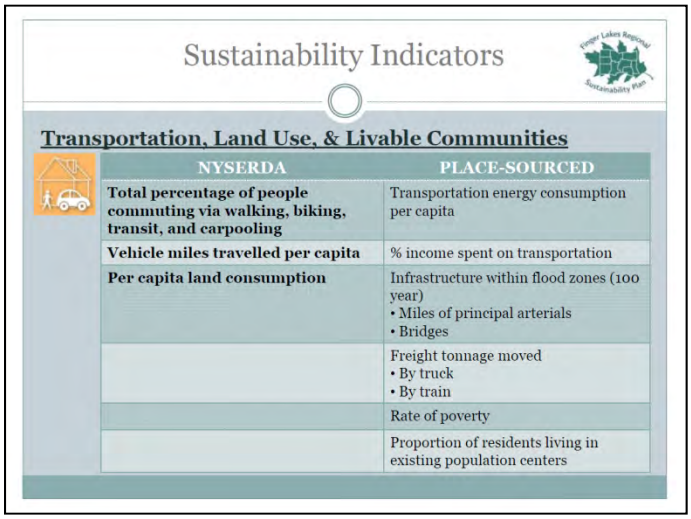
The public was also shown a list of the established Stakeholder groups and given an overview of their role in the project.

3. Themes and Goals
   The definition of sustainability that had been developed for the project was shared with the public and asked for input. Similarly, the project Themes/Goals were presented and discussed with each group.

4. Story of Place
   The consultant team then walked the stakeholders through the draft Story of Place presentation. The Story covers the history of the Region and the unique features and stories of what makes us the region we are. In general the Story identifies 3 major themes:
   - Democratizing – making participation in the benefits of society available to all
   - Eddying – a place where collecting, settling, nurturing and enriching can occur
   - Continuous Innovation/Incubator for ideas – finding solutions for local problems that are relevant for a larger world

After the Story of Place presentation, the public was asked to comment on the Story, asked if anything was missing, what they thought of the concept, and how/if they could see if relevant to their business, place of residence, etc..

5. Sustainability Indicators
   Summary tables for each subject area with NYSERDA and Place-Sourced indicators were presented to the public and explained by the consultant team. The method for generating the place-sourced indicators from the Story of Place was explained, as was the criteria used to add new indicators on top of the NYSERDA required/suggested indicators.



6. Next steps
   The next steps presented included uploading documents for public review to the website, developing targets and strategies with the Stakeholder Groups, and another round of public meetings in February.

7. Q&A
   Each location hosted a question and answer session until all questions had been addressed.

3.6.2. Public Meeting 2

The second round of public meetings took place on February 25 (East – County Courthouse, Lyons), February 26 (West – Genesee County Cornell Cooperative Extension, Batavia) and February 28 (Central – Rochester Museum and Science Center) in 2013 to solicit input on strategies. Between the three locations approximately 75 people were in attendance.

The set up for the public meeting was open house style, with display boards showing subject area goals, opportunities, challenges, variables and draft strategies for each of the subject areas as well as boards that documented public involvement to date. A video capturing the Story of Place was also showing during each meeting for people who had an interest.

Land Use and Livability

Subject Area Goal

Increase the sustainability and livability of the Finger Lakes region by revitalizing the region's traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.

Opportunities

- Protection of farmland and rural/scenic character
- Revitalization of cities, villages, and rural hamlets
- Cost savings on infrastructure and service delivery
- Reverse disinvestment in existing neighborhoods, infrastructure
- Pendulum beginning to swing back to desire for authentic, close-knit, walkable communities
- Human-scaled design supports local/small businesses, diversity of housing and cultural amenities, transportation options
- More equitable/efficient/sustainable tax structures
- Educating policy makers and the public about transportation-land use connection

Challenges

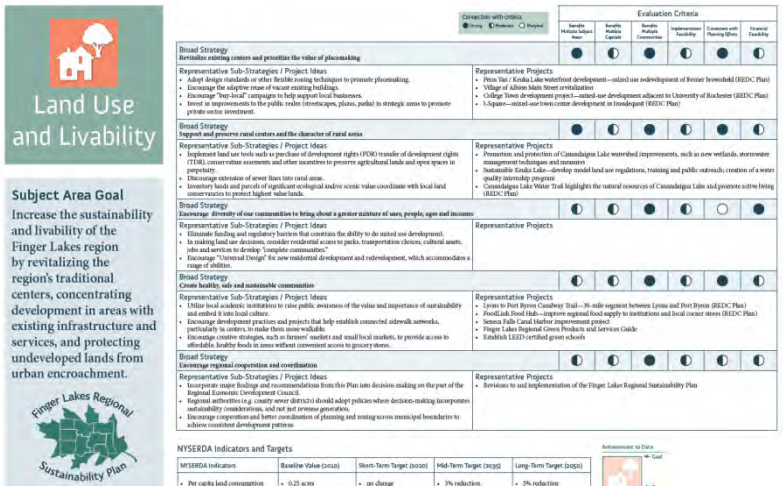
- Home rule limits effectiveness of regional planning
- Inefficient land use pattern results in high energy consumption and high cost of maintaining infrastructure/services
- Land use policies that promote auto-oriented, single-use development
- Competing priorities of adjacent communities
- Struggling urban areas discourage people from locating in walkable/bikeable neighborhoods
- Access to funding for comprehensive plans, zoning codes, design standards, etc.
- Conventional development costs are largely externalized and thus overlooked in favor of short-term benefits
- Development pressure threatens long-term viability of farms needed for sustainable food system

Variables

- Fuel costs
- Land values based on evolving housing demand and tax structures
- State/federal funding dedicated to local/regional planning initiatives

Comments (place sticky notes below)

Around the room were a series of notepads for people to write comments and place on boards to note their support, concern or comment on the content. In addition, strategy capture forms were available and laptops with the online version of the forms were available for the public to submit at the meetings.



Land Use and Livability

Subject Area Goal

Increase the sustainability and livability of the Finger Lakes region by revitalizing the region's traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.

Evaluation Criteria

Broad Strategy	Representative Sub-Strategies / Project Ideas	Representative Projects
Revitalize existing centers and prioritize the value of placemaking	• Adopt design standards or other flexible zoning techniques to promote placemaking. • Encourage the adaptive reuse of vacant existing buildings. • Encourage "buy-local" campaigns to help support local businesses. • Invest in improvements to the public realm (streetscapes, plazas, parks) in strategic areas to promote private sector investment.	• Penn Yan / Keuka Lake waterfront development—mixed use redevelopment of Keuka Brewfield (REDC Plan) • Village of Albion Main Street revitalization • College Town development project—mixed-use development adjacent to University of Rochester (REDC Plan) • I-Square—mixed-use town center development in Irondequoit (REDC Plan)
Support and preserve rural centers and the character of rural areas	• Implement land use tools such as purchase of development rights (PDR) transfer of development rights (TDR), conservation easements and other incentives to preserve agricultural lands and open spaces in perpetuity. • Discourage extension of sewer lines into rural areas. • Inventory lands and parcels of significant ecological and/or scenic value coordinate with local land conservancies to protect highest value lands.	• Promotion and protection of Canandaigua Lake watershed improvements, such as new wetlands, stormwater management techniques and measures • Sustainable Keuka Lake—develop model land use regulations, training and public outreach; creation of a water quality internship program • Canandaigua Lake Water Trail highlights the natural resources of Canandaigua Lake and promote active living (REDC Plan)
Encourage diversity of our communities to bring about a greater mixture of uses, people, ages and incomes	• Eliminate funding and regulatory barriers that constrain the ability to do mixed use development. • In making land use decisions, consider residential access to parks, transportation choices, cultural assets, jobs and services to develop "complete communities." • Encourage "Universal Design" for new residential development and redevelopment, which accommodates a range of abilities.	
Create healthy, safe and sustainable communities	• Utilize local academic institutions to raise public awareness of the value and importance of sustainability and embed it into local culture. • Encourage development practices and projects that help establish connected sidewalk networks, particularly in centers, to make them more walkable. • Encourage creative strategies, such as farmers' markets and small local markets, to provide access to affordable, healthy foods in areas without convenient access to grocery stores.	• Lyons to Port Byron Causeway Trail—36-mile segment between Lyons and Port Byron (REDC Plan) • FoodLink Food Hub—improve regional food supply to institutions and local corner stores (REDC Plan) • Seneca Falls Canal Harbor improvement project • Finger Lakes Regional Green Products and Services Guide • Establish LEED certified green schools
Encourage regional cooperation and coordination	• Incorporate major findings and recommendations from this Plan into decision-making on the part of the Regional Economic Development Council. • Regional authorities (e.g. county sewer districts) should adopt policies where decision-making incorporates sustainability considerations, and not net revenue generators. • Encourage cooperation and better coordination of planning and zoning across municipal boundaries to achieve consistent development patterns	• Revisions to and implementation of the Finger Lakes Regional Sustainability Plan

NYSERDA Indicators and Targets

NYSERDA Indicators	Baseline Value (2010)	Short-Term Target (2020)	Mid-Term Target (2035)	Long-Term Target (2050)
• Per capita land consumption	• 0.25 acres	• no change	• 3% reduction	• 3% reduction

Sub-Appendix A

Media and Public Relations Documents

Finger Lakes Regional Sustainability Plan

QUINN*tessence*
Marketing Communications & Public Relations
2040 Westside Dr., Rochester, New York 14624
Phone: (585) 594-9680 Fax: (585) 594-0503
Email: kbqcad@aol.com Website: http://www.quinntessencepr.com

HIGHLIGHTS OF PR COVERAGE FOR PUBLIC MEETINGS

- Feature article in the Democrat & Chronicle Newspaper by Steve Orr
- Go Green Report on both WROC-TV and FOX News plus continuing mentions in the Community Calendar listings associated with the Go Green segments
- Interview with Ray Levato on WHEC-TV Channel 10
- Two Interviews on the Bob Smith Show on WXXI Radio
- Feature article in the Canandaigua Daily Messenger

SYNOPSIS OF COVERAGE FOR BOTH ROUNDS OF PUBLIC MEETINGS FOR THE FINGER LAKES SUSTAINABILITY PLAN

Overall, the Finger Lakes Sustainability Public Meeting Announcements received coverage in major media outlets in all three target areas --- Central, East and West. This included a combination of daily newspapers, weekly newspapers with distribution in many towns in the region, newspapers that reach special audiences, television, radio, and online coverage. We also received coverage in some specialty publications, such as an environmental blog and college press. The information was widely disbursed and available on many sources. Here are the highlights of the press coverage:

Medium	**First Round**	**Second Round**
Democrat & Chronicle	Yes, feature article	Yes
Democrat & Chronicle Finger Lakes	Yes	Yes
Empire State Weeklies	Yes	No
Messenger Newspapers (MPN)	Yes	Yes
MPN Monroe County	Yes	Yes, Online

- Brighton
- Chili
- East Rochester
- Fairport
- Gates
- Greece
- Henrietta
- Irondequoit
- Penfield
- Perinton
- Pittsford
- Webster

City Newspaper	Yes	Yes
Daily Record	Yes	Yes
WXXI	Yes, Bob Smith	Yes, Bob Smith
WROC TV	Yes, Go Green	Yes, Continuing Mention on Go Green Online
FOX	Yes, Go Green	Yes
WHEC-TV	Yes, interview	Tent. Sched.
YNN	No	Tent. Sched.
13 WHAM	No	Tent Sched.

Regional Press:

Canandaigua Daily Messenger	Yes, feature	Yes
Democrat & Chronicle Finger Lakes	Yes	Yes
Finger Lakes Times	Yes	Yes
MPN Ontario County • Canandaigua • Bloomfield • Bristol • Farmington • Manchester • Naples • Victor • Richmond-Honeoye • Clifton Springs	Yes	Yes
MPN Wayne County Editions	Yes	Yes
Genesee Sun, Avon	Yes	No
Batavia Daily News	Yes	Yes
Daily News Online Editions	No	Yes
Livingston County News, Geneseo	No	Yes
Westside News All Editions • Brockport • Bergen • Churchville • Chili • Gates • Spencerport • Kendall • Riga • Clarkson • Hamlin • Hilton • Holley	Yes	Yes

Special Media

Rochester.Environment.com Online Blog	Yes	Yes
Hobart & William Smith	Yes, Online News	N/A
RIT Events Calendar	Yes	No

Potential Coverage We Did Not Secure:
For the most part, the coverage we did not secure was confined to very small pennysaver chains and radio stations that do not maintain news staffs for interviewing purposes.

Rochester Media		
Rochester Business Journal	No	No
Minority Reporter/La Voz	No	No
Rochester Radio Stations	No	No

Small Pennysavers & Regional Media		
Finger Lakes Radio Group	Unknown	Unknown
Corning Leader, Bath Edition	No	No
Eagle News, Prattsburg	No	No
Yates County Gazette	No	No
The Chronicle Express, Penn Yan	No	No
Times of Wayne County, Macedon	No	No
Genesee Country Express & Dansville.Online, Dansville	No	No
Perry Shopper, Perry	No	No
Shopping Bag Advertiser (all editions)	No	No
Genesee Valley Pennysaver (includes TriCounty Advertiser)	No	No

- Batavia
- Canandaigua-Naples Edition
- Dansville-Wayland
- Fairport-Perinton Edition
- Livingston Edition
- Oatka Edition
- Pittsford-East Rochester Edition
- Rush-Henrietta Edition
- Tri-County Edition
- Webster Edition

Lake County Pennysaver, Albion	No	No
Leroy Pennysaver & News, LeRoy	No	No
Oakfield (The Batavian online edition)	No	No
Warsaw Country Courier, Warsaw	No	No
Warsaw Pennysaver, Warsaw	No	No
Arcade Herald, Arcade	No	No

These stations do not have large news organizations, so it is doubtful we would get coverage. It is an FYI to them.

Entecom Radio Stations: (news)
WBEE
The Buzz
96.5 WCMF
98PXY
WBBF Good times and Golden Oldies (Fairport)
Clear Channel Radio Stations (news)
WHAM
100.5 the Drive
95.1 the Brew
KISS
Oldies Rochester 107.3
Sports 1280
WHTK
102.3 Sunny FM
Legends Radio
North Coast Radio
WRUR/tie in with WXXI
WRMM 101.3

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Online Links To Media Placements For The Public Meetings For The Finger Lakes Sustainability Plan

This is a brief compilation of some of the major print and online placements we received for the Public Meeting Announcements. These are in addition to the radio, television and feature article placements we received.

WROC TV 8 and Fox Go Green Report Link
rochesterhomepage.net/fulltext?nxd_id=364372

Finger Lakes Times Geneva NY
First Meeting:
http://www.fltimes.com/news/local/article_9f86adae-5f21-11e2-8879-0019bb2963f4.html

http://www.fltimes.com/news/local/article_33fc9450-60c9-11e2-b53f-0019bb2963f4.html

Second Meeting:
http://www.fltimes.com/news/local/article_4a13f5f0-7c38-11e2-a0ca-0019bb2963f4.html

Canandaigua Daily Messenger & Messenger Post Ontario County Papers
First Meeting: Feature article by Julie Sherwood

Second Meeting:
http://www.mpnnow.com/archive/x1037514832/Lyons-to-host-final-public-meeting-for-Finger-Lakes-Sustainability-Plan

Also in community calendar: Things To Do Monday-Wednesday

Messenger Post Newspapers Monroe County
Second Meeting
http://www.mpnnow.com/archive

Wayne County Papers
Second Meeting
http://www.waynepost.com/archive/x1037514832/Lyons-to-host-final-public-meeting-for-Finger-Lakes-Sustainability-Plan
Thu Feb 21 2013 19:13:53 GMT-0500 (EST)

Fairpost Post (MPN)
www.fairport-erpost.com/latestnews?ndn=y&lid=health

City Newspaper
First Meeting
www.rochestercitynewspaper.com/.../week-ahead-sustainability-meeting-rpd-outreach-downtown-planning-rcsd-wants-you

December Mention:
www.rochestercitynewspaper.com/rochester/sustainable.../Content?..

Second Meeting
www.rochestercitynewspaper.com/rochester/urban-action.../Content?....

Daily Record
First Meeting:
nydailyrecord.com/blog/2013/01/14/sustainability-coalition-meetings/

Second Meeting:
nydailyrecord.com/blog/2012/12/19/midtown-u-of-r-projects-get-state-funding/

Batavia Daily News
Second Meeting: (Verbatim)
http://thedailynewsonline.com/news/article_f0cc322a-7b1d-11e2-a198-001a4bcf887a.html

Daily News Online NiUZER
Second Meeting
http://www.niuzer.com/New-York/Batavia-hosts-final-public-meeting-for-Finger-Lakes-Sustainability-Plan-16562241.html

Democrat & Chronicle.com
Meeting Notice on First Meeting
*www.democratandchronicle.com/.../**Finger**%20**Lakes**%20**sustainabilit**...*

Top News Today.org
http://us.topnewstoday.org/us/article/4671167/

Mirror News Service Posting
*www.mirrornewsservice.com/**FINGER-LAKES**.../Final-**Finger-Lakes**-*

RENews Daily
renewsdaily.blogspot.com/2013/01/finger-lakes-planners-seek-ideas-to.html

We Surround Rochester Message Board
First Round of Meetings

www.wesurroundrochester.com/messages/boards/thread/.../91989462...

Sunlize
http://www.sunlize.com/the.daily.news.online/msg799889

Cornell University Sustainable Campus Site
Second Meeting:
*www.**sustainable**campus.cornell.edu/.../2-26-13-final-**public-meeting**..*

Rochester Cycling Alliance FaceBook Posting
Second Meeting
www.facebook.com/rochestercyclingalliance/.../306826686087456

Hobart and William Smith College Daily Update
www.hws.edu/dailyupdate/NewsDetails.aspx?aid=16229

RIT Events Calendar
events.rit.edu/event_detail.cfm?event_key=423664

City Of Rochester
www.cityofrochester.gov/article.aspx?id=8589956215
www.**cityofrochester.gov**/article.aspx?id=8589955693 -

Initial news
Volume 9 Genesee/Finger Lakes Regional Review
www.gflrpc.org/aboutthecouncil/newsletter/fall12.pdf

PRESS KIT

Finger Lakes Sustainability Plan

ALL PRESS INQUIRIES should be directed to:

David Zorn,
Program Manager
Genesee/ Finger Lakes Regional Planning Council (GFLRPC)
dave.zorn@gflrpc.org
585-454-0190 x14

Funded by:
NYSERDA – Cleaner, Greener Communities Program

Press Release

FOR IMMEDIATE RELEASE: January 4, 2013

Finger Lakes Regional Sustainability Plan Coalition Announces First Round of Public Meetings

Plan is Expected to Reduce Carbon Emissions, Increase Energy Savings, Enhance Economic Development

The first round of public meetings associated with the Cleaner, Greener Communities Finger Lakes Regional Sustainability Plan are slated for the middle of January. The meetings will focus on providing interested parties with an overview of the process, plan goals and themes, and the draft indicators. We will also begin discussions on strategies for implementation.

The first round of Public Meetings for the Cleaner Greener Communities Finger Lakes Regional Sustainability Plan will be Tuesday January 15, 2013 from 6:00-8:00 PM at the Genesee County Building 2 located at 3837 West Main Street Road, Batavia, NY and also from 6:00PM-8:00PM on January 15th at the Sanford Room at the Hobart & William Smith Collages Library in Geneva, New York. On Wednesday January 16, 2013 at the Rochester Institute of Technology Golisano Institute for Sustainability in Rochester, New York, the last of the three public meetings will be held from 6:00PM to 8:00 PM. For directions and more information please visit the project website at www.sustainable-fingerlakes.org.

The Coalition, including the nine counties in the region, the City of Rochester, municipalities, Genesee Transportation Council and Genesee/Finger Lakes Regional Planning Council are developing a Regional Sustainability Plan that encompasses the Finger Lakes Regional Economic Development Council (REDC) area. The development of a comprehensive regional sustainability plan is the first stage of the Cleaner, Greener Communities program and is intended to develop a vision, goals and objectives for a sustainable future, identify actions needed to achieve that future and outline metrics to measure success.

"Monroe County is proud to partner with NYSERDA as we form a state-of-the-art plan to protect the environment, while fostering future economic growth and job creation," said Monroe County Executive Maggie Brooks. "The Cleaner, Greener Communities program is an innovative way for communities across the Finger Lakes Region to develop strong, collaborative solutions for sustainability."

The Finger Lakes Regional Sustainability Plan will outline tangible actions for improving the long-term sustainability of our communities and natural resources. Specifically, the Plan will identify current greenhouse gas emissions and energy use along with available natural resources and economic assets, liabilities and opportunities; strategies for greenhouse gas emissions reduction, energy improvements, and the deployment of renewable energy sources; long-term and short-term sustainability goals for energy supply, transportation, water management, waste management, land use, open space, agriculture, housing and economic development; and actions to achieve these goals and barriers to implementation.

Development of the sustainability plan includes stakeholder involvement and is incorporating existing planning efforts. Components of the plan will include the assessment, target establishment, the implementation strategy, public consultation, and the sustainability plan. The Plan also will include an implementation strategy that describes how local stakeholders will collaborate, provides a timetable for targeted milestones, and identifies completion dates for the actions identified.

Tara Boggio, Public Involvement Lead, T.Y. Lin International – tara.boggio@tylin.com; 585-512-2000
David Zorn, Project Manager, GFLRPC - dave.zorn@gflrpc.org; 585-454-0190 x14

Stakeholder groups have been formed and have met twice around the key areas of the plan. They include energy; economic development; transportation, land use and livable communities; materials/waste management; water

management; and agriculture and forestry. Two additional topic areas of governance and climate change adaptation will overlay into each of the other six groups.

The coalition of Genesee-Finger Lakes Region counties, municipalities and organizations has received $900,000 from the New York State Energy Research and Development Authority (NYSERDA) to create a Regional Sustainability Plan as part of the Cleaner, Green Communities program announced by Governor Andrew M. Cuomo in his 2011 State of the State address.

"Governor Cuomo's Cleaner Greener Communities Programs empowers each of the State's ten regions to take the lead in the development of sustainability plans that improve the environmental well-being of their local communities," said Francis J. Murray Jr., President and CEO of NYSERDA. "This award will help support a sustainability plan that will build upon the inherent strengths and assets of the Finger Lakes region."

Phase II of the Cleaner, Greener Communities program will provide up to $90 million in additional funding on a competitive basis to implement projects that support the goals of the plan. Projects must create opportunities for achieving carbon reductions, energy efficiency savings and/or renewable energy deployment while enhancing job creation, economic investment and development consistent with the region's sustainability and REDC strategic plan, entitled *Accelerating Our Transformation*.

"This award by Governor Cuomo will enable the Finger Lakes Region to fully utilize its high level of technical expertise in sustainability and strong relationships among private, public, and academic stakeholders," said Richard Perrin, Executive Director of the Genesee Transportation Council. "Identifying opportunities to improve the economy and protect the environment in an equitable manner will ensure that our region continues to increase its standing as a world-class community."

The Finger Lakes Regional Sustainability Planning Consortium has been established and serves as the Steering Committee for the plan. The Consortium currently consists of the nine counties of the region, City of Rochester, and other local governments, representatives from the Finger Lakes Office of Empire State Development, the Finger Lakes Regional Economic Development Council, and the regional office of the New York State Department of Environmental Conservation, along with the Genesee/Finger Lakes Regional Planning Council (G/FLRPC), and Genesee Transportation Council (GTC). Other entities from the private, public, and not-for-profit sectors will be encouraged to be involved throughout the development of this plan to offer input, expand awareness of it, increase support for its recommendations, and establish an ongoing mechanism for advancing sustainability throughout the region.

"We look forward to continue to work with our partners and stakeholders to plan and implement for our region's future," said David Zorn, Executive Director of the Genesee/Finger Lakes Regional Planning Council.

For further information on the Finger Lakes regional sustainability plan please contact David Zorn at G/FLRPC, 585-454-0190 x14 or dave.zorn@gflrpc.org or visit the Finger Lakes Regional Sustainability Plan website at www.sustainable-fingerlakes.org.

For further information on the Cleaner Greener Communities program, please contact Lindsay Robbins at NYSERDA, 212-971-5342 ext. 3008 or lrr@nyserda.org.

STAKEHOLDER GROUPS

Development of the sustainability plan includes stakeholder involvement and is incorporating existing planning efforts. Six stakeholder groups have been formed and have met twice around the key areas of the plan. They include energy; economic development; transportation, land use and livable communities; materials/waste management; water management; and agriculture and forestry. Two additional topic areas of governance and climate change adaptation overlay into each of the other six groups.

The mission of each of these groups is summarized below:

- The **Agriculture and Forestry** Stakeholder Group is addressing agricultural businesses and lands, forest lands, and the multiple economic and ecological roles fulfilled by those enterprises and lands as they relate to social, economic, and ecological sustainability.

- The **Economic Development** Stakeholder Group is tasked to coordinate activities with the Finger Lakes Regional Economic Development Council (FLREDC) and clearly address how the goals of the sustainability plan intersect with and support those of the REDP.

- The **Energy** Stakeholder Group is tasked to address energy and Greenhouse Gas (GHG) emissions associated with its use and generation. The Plan will evaluate electric generation, electric use, and on-site combustion in the Finger Lakes region by building type (residential, commercial, industrial, and institutional).

- The **Materials and Waste Management** Stakeholder Group is tasked to evaluate representative waste and materials management practices throughout the Finger Lakes region and determine strategies to reduce the waste produced and stored; and to reduce GHG emissions associated with waste management.

- The **Transportation and Land Use** Stakeholder Group is tasked to evaluate existing transportation networks within the Finger Lakes region and consider improvements that would provide more efficient system operation, alternative fuel vehicles and the infrastructure to fuel them, and additional/enhanced travel choices such as public transportation, ridesharing, complete streets, and bicycle and pedestrian pathways. At the same time, this group is looking at the land-use planning components, which are interrelated, and interdependent on transportation.

SUSTAINABILITY

The project consortium and stakeholder groups have developed the following working definition of sustainability for the purposes of this plan:

Sustainability involves three interrelated components: environment, economy and society. These pillars are linked – the stability of one reinforces the strength of the other two. Sustainability planning for a community, local government or region integrates the three pillars of sustainability through collaborative work within a framework that supports long-term considerations, fosters innovation, and results in a healthy, safe and affordable place to live, work and play for all residents.

Tara Boggio, Public Involvement Lead, T.Y. Lin International – tara.boggio@tylin.com; 585-512-2000
David Zorn, Project Manager, GFLRPC - dave.zorn@gflrpc.org; 585-454-0190 x14

DRAFT GOALS/THEMES

- Improve accessibility, connectivity and mobility
- Preserve, protect and improve natural resources and acknowledge the link between natural systems
    - air quality (reduce GHG emissions)
    - water quality
    - prime farmland
    - forests
    - open space
- Maintain, protect and improve the functionality and climate change/disaster resiliency of existing infrastructure systems and acknowledge the links between systems
    - transportation
    - water
    - energy
    - communication
    - solid waste
- Improve public health
- Promote an equitable distribution of cost and benefit
- Respect local planning efforts and retain individual community character
- Build partnerships between local governments, the private sector, regional institutions and the public
- Build sustainability capacity and understanding through outreach and education
- Promote robust, high quality economic growth
- Bring the Finger Lakes Region together through a shared identity and common goals

Tara Boggio, Public Involvement Lead, T.Y. Lin International – tara.boggio@tylin.com; 585-512-2000
David Zorn, Project Manager, GFLRPC - dave.zorn@gflrpc.org; 585-454-0190 x14

SCHEDULE

	2012			2013		
TASK	October	November	December	January	February	March
Baseline Assessment						
Stakeholder Meeting #1	X					
Sustainability Indicators / Inventory						
Target Establishment						
Stakeholder Meeting #2		X				
Public Meeting #1				X		
Implementation Strategy						
Stakeholder Meeting #3				X		
Public Meeting #2					X	
Draft Sustainability Plan						
Final Sustainability Plan						

Tara Boggio, Public Involvement Lead, T.Y. Lin International – tara.boggio@tylin.com; 585-512-2000
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Finger Lakes Regional Sustainability Plan
Funded by: NYSERDA – Cleaner, Greener Communities Program

Press Release
FOR IMMEDIATE RELEASE: February 18, 2013

FINAL PUBLIC MEETING SET FOR FINGER LAKES SUSTAINABILITY PLAN

Public Is Encouraged To Voice Opinions On Specific Initiatives Under Discussion

The second and final Public Meeting in Rochester on the Cleaner, Greener Finger Lakes Regional Sustainability Plan is scheduled from 5:00P.M. - 7:00P.M. on Thurs., Feb. 28 at the Rochester Museum and Science Center, located at 657 East Ave., Rochester. The public is invited to attend.

A Coalition, which includes representatives from the nine counties in the region, the City of Rochester, local municipalities, the Genesee Regional Transportation Council and the Genesee/Finger Lakes Regional Planning Council has been meeting since August and are in the final stages of developing a Regional Sustainability Plan that will be submitted to the New York State Energy Research and Development Authority (NYSERDA) for consideration. This study is part of Governor Cuomo's Cleaner Greener Communities Program. Ten regions across the state have been invited to submit plans and are competing for a portion of $90 million in funding to implement specific projects identified in their plans. The Finger Lakes Regional Sustainability Planning Consortium must submit the most comprehensive plan possible to secure a portion of this funding for the nine County Genesee-Finger Lakes Region.

The Finger Lakes Regional Sustainability Plan will outline tangible methods to improve the long-term sustainability of the region's natural resources. Viable strategies to reduce greenhouse gas emissions, coupled with recommendations on specific energy improvements, renewable energy sources, water and waste management initiatives, transportation and land use, agricultural improvements, housing and economic development will be included. The plan also makes recommendations on ways local stakeholders can collaborate to achieve realistic goals, sets milestones for key projects, and identifies completion dates for all actions recommended in the plan.

"This public meeting will really be a great opportunity for the public to review and comment on draft strategies while also providing new ones, and talk one-on-one with the consultant team before the Sustainability Plan is fully drafted," explains David Zorn, Executive Director of the Genesee/Finger Lakes Regional Planning Council and spokesperson for the Consortium.

The upcoming Public Meeting on the Sustainability Plan will be held "Open House Style." This means people can come any time between 5:00P.M. and 7:00P.M. and stay as long as they like within that timeframe. There will be no formal presentation at this meeting. Instead participants can review a series of boards that will be on display throughout the meeting room. These boards explain the draft goals and the current strategies under consideration for submission to New York State. Attendees can then discuss the content with consultant team members who will be on hand to answer questions and document their input. The public is encouraged to voice its opinions on the topics under discussion and to provide new insights and ideas whenever possible.

For further information on the Finger Lakes Regional Sustainability Plan please contact David Zorn at G/FLRPC, 585-454-0190 x14 or dave.zorn@gflrpc.org or visit the Finger Lakes Regional Sustainability Plan website at www.sustainable-fingerlakes.org.

For further information on the Cleaner Greener Communities program, please contact Lindsay Robbins at NYSERDA, 212-971-5342 ext. 3008 or lrr@nyserda.org.

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Finger Lakes Regional Sustainability Plan
Funded by: NYSERDA – Cleaner, Greener Communities Program

Press Release
FOR IMMEDIATE RELEASE: February 18, 2013

BATAVIA HOSTS FINAL PUBLIC MEETING FOR FINGER LAKES SUSTAINABILITY PLAN

Public Is Encouraged To Voice Opinions On Specific Initiatives Under Discussion

The second and final Public Meeting on the Cleaner, Greener Finger Lakes Regional Sustainability Plan is scheduled from 5:00P.M. - 7:00P.M. on Tues., Feb. 26 at the Cornell Cooperative Extension, 420 East Main St., Batavia. The public is invited to attend.

A Coalition, which includes representatives from the nine counties in the region, the City of Rochester, local municipalities, the Genesee Regional Transportation Council and the Genesee/Finger Lakes Regional Planning Council has been meeting since August and are in the final stages of developing a Regional Sustainability Plan that will be submitted to the New York State Energy Research and Development Authority (NYSERDA) for consideration. This study is part of Governor Cuomo's Cleaner Greener Communities Program. Ten regions across the state have been invited to submit plans and are competing for a portion of $90 million in funding to implement specific projects identified in their plans. The Finger Lakes Regional Sustainability Planning Consortium must submit the most comprehensive plan possible to secure a portion of this funding for the nine County Genesee-Finger Lakes Region.

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Finger Lakes Regional Sustainability Plan
Funded by: NYSERDA – Cleaner, Greener Communities Program

Press Release
FOR IMMEDIATE RELEASE: February 18, 2013

LYONS TO HOST FINAL PUBLIC MEETING FOR FINGER LAKES SUSTAINABILITY PLAN

Public Is Encouraged To Voice Opinions On Specific Initiatives Under Discussion

The second and final Public Meeting on the Cleaner, Greener Finger Lakes Regional Sustainability Plan will be held from 5:00P.M. - 7:00P.M. on Mon., Feb. 25 at the Wayne County Courthouse, 26 Church St. in Lyons. The public is invited to attend.

A Coalition, which includes representatives from the nine counties in the region, the City of Rochester, local municipalities, the Genesee Regional Transportation Council and the Genesee/Finger Lakes Regional Planning Council has been meeting since August and are in the final stages of developing a Regional Sustainability Plan that will be submitted to the New York State Energy Research and Development Authority (NYSERDA) for consideration. This study is part of Governor Cuomo's Cleaner Greener Communities Program. Ten regions across the state have been invited to submit plans and are competing for a portion of $90 million in funding to implement specific projects identified in their plans. The Finger Lakes Regional Sustainability Planning Consortium must submit the most comprehensive plan possible to secure a portion of this funding for the nine County Genesee-Finger Lakes Region.

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Sub-Appendix B

Public Feedback Documentation

Finger Lakes Regional Sustainability Plan

CONSORTIUM MEMBERS – Finger Lakes Regional Sustainability Plan

NAME	ORGANIZATION/AFFILIATION
Tony LaFountain	Town of Penfield
Joyce Lobene	Village of Spencerport
Tom West	Village of Spencerport
Carol Nellis-Ewell	Village of Spencerport
Mike Guyon	Town of Brighton
Tom Beck	Town of Perinton
Brenda Donohue	Town of Conesus; Livingston County Board Supervisors
Larry Heininger	Town of Irondequoit
Corrine Kleisle	Village of Lyons
Paul D'Amato	NYSDEC Region 8
Ray Yacuzzo	NYSDEC Region 8
Vincent Esposito	Empire State Development and FLEDC
Dave Seeley	Office of Governor Andrew M. Cuomo, Finger Lakes Region
Mary Pat Hancock	Genesee County Legislature
Felipe Oltramari	Genesee County Department of Planning
Esther Leadley	Genesee County Legislature and G/FLRPC
Jay Gsell	Genesee County Manager
Angela Ellis	Livingston County Planning Department
Tom Goodwin	Monroe County Department of Planning & Development
Rochelle Bell	Monroe County Department of Planning & Development
Justin Roj	Monroe County Department of Environmental Services
Anne Spaulding	City of Rochester
Mark Gregor	City of Rochester, Division of Environmental Quality
Wayne Hale	Orleans County Planning & Development
David Callard	Orleans County Legislature
Mitchell Rowe	Seneca County
Bill Bordeau	Seneca County Planning & Community Development
Ora Rothfuss	Wayne County Planning
Peg Churchill	Wayne County IDA
Robert McNary	Wayne County Planning & Economic Development
James Hoffman	Wayne County Board of Supervisors; Town of Williamson
Richard Perrin	Genesee Transportation Council
Tony Favro	Genesee Transportation Council
David Zorn	Genesee/Finger Lakes Regional Planning Council
Greg Albert	Genesee/Finger Lakes Regional Planning Council
Shawna Bonshak	Yates County Planning
Art Buckley	Wyoming County Planning
Maggie Brooks	Monroe County
Thomas Richards	City of Rochester
Dorothy Huber	Ontario County Board of Supervisors; Town of East Bloomfield
Thomas Harvey	Ontario County Planning
Bob Hayssen	Seneca County Board of Supervisors
Douglas Berwanger	Wyoming County Board of Supervisors
H. Taylor Fitch	Yates County Legislature
Nicole Landers	Yates County Cornell Cooperative Extension

PLANNING TEAM LISTING – Finger Lakes Regional Sustainability Plan

NAME	ORGANIZATION/AFFILIATION
Richard Perrin	Genesee Transportation Council
Tony Favro	Genesee Transportation Council
Tom Goodwin	Monroe County Department of Planning & Development
Rochelle Bell	Monroe County Department of Planning & Development
Justin Roj	Monroe County Department of Environmental Services
Anne Spaulding	City of Rochester
Angela Ellis	Livingston County and the 8 Counties outside of Monroe County
Jason Kennedy	Monroe County Department of Environmental Services
David Zorn	Genesee/Finger Lakes Regional Planning Council
Gregory Albert	Genesee/Finger Lakes Regional Planning Council
Aileen Maguire	C&S Companies, Consultant Team
Tara Boggio	T.Y. Lin International, Consultant Team

Finger Lakes Regional Sustainability Plan

Funded by NYSERDA - Cleaner, Greener Communities Program

Consortium Meeting Minutes

Finger Lakes Regional Sustainability Plan
Cleaner Greener Communities
Consortium
Kickoff Meeting
August 30, 2012
Ebenezer Watts Conference Center
49 South Fitzhugh Street
Rochester, NY 14614

Meeting Notes

In attendance:

Mary Pat Hancock, Chair, Genesee County Legislature
Esther Leadley, Legislator, Genesee County Legislature and Vice Chair, Genesee/Finger Lakes Regional Planning Council
Felipe A. Oltramari, Senior Planner, Genesee County Department of Planning
Brenda Donohue, Supervisor, Town of Conesus and Livingston County Board of Supervisors
Angela Ellis, Planning Director, Livingston County Planning Department
Tom Goodwin, Planning Manager, Monroe County Department of Planning and Development
Rochelle Bell, Senior Environmental Planner, Monroe County Department of Planning and Development
Jason R. Kennedy, Chief of Engineering & Facilities Management, Monroe County Department of Environmental Services
Anne E. Spaulding, Energy and Environmental Sustainability Manager, City of Rochester
Mark Gregor, Manager, Division of Environmental Quality, City of Rochester
Kristen Mark Hughes, Director, Ontario County Planning Department
David B. Callard, Chair, Orleans County Legislature
Wayne Hale, Director, Orleans County Planning and Development
Bill Bordeau, Director, Seneca County Planning and Community Development
James Hoffman, Chair, Wayne County Board of Supervisors and Supervisor, Town of Williamson
Ora Rothfuss, Interim Director, Wayne County Planning
Peg Churchill, Executive Director/CEO, Wayne County IDA and Wayne Industrial Sustainability Development Corporation
Arthur Buckley, County Planner, Wyoming County Planning
Shawna E. Bonshak, Planner, Yates County Planning Department
Nicole Landers, Director, Cornell Cooperative Extension of Yates County
Richard Perrin, Executive Director, Genesee Transportation Council
Tony Favro, Program Manager, Genesee Transportation Council
David Zorn, Executive Director, Genesee/Finger Lakes Regional Planning Council

Greg Albert, Senior Planner, Genesee/Finger Lakes Regional Planning Council
Kathryn Zilka, TRC
Lindsay Robbins, NYSERDA
Aileen Maguire Meyer, Manager, Planning Department, C&S Companies
Tara Boggio, Associate Vice President, T.Y. Lin International
Mark Lowery, NYSDEC, Office of Climate Change
Tim Hughes, Sustainability Leader, C&S Companies
Ellen Parker, Planner, Wendel Companies

Introductions

David Zorn called the meeting to order and all attendees introduced themselves.

Cleaner Greener Communities Overview (NYSERDA)

Lindsay Robins presented an overview of the Cleaner Greener Communities program and background on NYSERDA (presentation attached):

Lindsay discussed the background of NYSERDA, which was started in 1973 and served mainly a research and development focus until deregulation in 1996. Since 1996 NYSERDA has focused efforts on efficiency and renewable programs. The Cleaner Greener Communities program was discussed by Governor Cuomo at his State of the State speech in 2011. The program is structured in two phases. Phase I included $10 million in funding for the completion of sustainability plans in each of the ten regions of the State. The regions are the same as the ten Regional Economic Development Council (REDC) regions. Phase II of the program includes $90 million in competitive grants for implementation of projects identified in the sustainability plans. Phase I is currently underway with seven regions scheduled for completion in December, 2012 and the remaining three regions scheduled for completion in March, 2013.

The Cleaner Greener Communities program is funded from RGGI (Regional Greenhouse Gas Initiative) funds, which is the first mandatory cap and trade program in North America and includes nine states (CT, DE, MD, ME, NY, MA, NH, VT, RI).

The Cleaner Greener Communities program is part of the NYS Open for Business effort and is aligned with the Regional Economic Development Councils and the regional sustainability plans should be consistent with the completed Regional Economic Development Council strategic plans. The Cleaner Greener Communities aims to address climate change through identifying strategies to reduce the greenhouse gas emissions by 80% below 1990 levels by 2050.

The scope of the plan is to provide a baseline assessment of the Region including a greenhouse gas inventory; to identify long-term and short-term sustainability goals and develop an implementation strategy. Development of the sustainability plan will include stakeholder involvement and incorporate existing planning efforts.

Phase II of the program will launch in the spring of 2013. The $90 million in implementation funding will likely be released over three years with $30 million in 2013; $30 million in 2014; and $30 million in 2015. Projects selected for implementation funding will reduce greenhouse gas emissions; support the achievement of goals identified in the sustainability plan; are not currently eligible for funding under current NYSERDA programs; and are prioritized within the regional sustainability plan.

It is important to remember that the plan is not a bid for Phase II funds and that this is a unique opportunity. NYSERDA is looking for a truly comprehensive planning process resulting in a realistically implementable strategy. This is your plan and should be tailored to the Finger Lakes Region.

Rich Perrin asked about the future funding of the program and if RGGI money had already been set aside for the program or if it was anticipating funds. Mark Lowery from the NYSDEC Climate Change Office responded and stated that the RGGI program is still strong and still has support of 9 states even after NJ dropped out. New York is also large enough of a state that it could keep the program alive on its own if needed. While program funding has not been as strong as anticipated the environmental goals of the program are positive and funding is likely to continue.

Rich Perrin asked if inter-regional projects were encouraged, such as a New York State Thruway corridor fuel cell hub or similar multi-regional projects. Lindsay Robbins responded and stated that NYSERDA would accommodate those projects and encourage Regions to work with one another despite the challenges of the CFA and REDC process with regards to multi-regional project submittals.

Ora Rothfuss asked if it was expected that each County endorse or adopt the plan. Lindsay stated that they are not requiring official adoption as there is not enough time in the process, but hope to see endorsements from counties/municipalities and the plan to be completed with as much support as possible.

Kris Hughes stated that it is important not to forget that support is mixed for the project amongst legislatures in the Region and that we should not lose site of leadership who need to be convinced of the process. He indicated that many people are only involved in the project for the potential $90 million in funding in the implementation stage. It is also important to note the actual costs and opportunity costs of each Consortium meeting in the Region and that the process needs to be worth while based on the investment. Lindsay responded that it is an important point and that we should consider the plans to be economic drivers rather than just designed to receive implementation funding. This is the Finger Lakes Region's plan and the connection to economic development can be emphasized for leadership.

A Snapshot of the Finger Lakes

Greg Albert provided a Regional Snapshot overview of the Finger Lakes Region (presentation attached):

There are 9 counties in the Finger Lakes Region with 190 municipalities. Population as of 2010 was 1,217,156, which was approximately a 1.5% growth since 2000 and an 8% growth since 1980. Between 1980-2010 New York State grew by 10.4% and the US grew by 36.3%. The under 18 age cohort within the Region is smaller than both New York State and the US, while the percentage of people over the age of 65 is higher within the Region, approximately 14.3% compared to 13.5% in NYS and 13.0% in the US. The Region has a high quality of life as well.

Housing is affordable with the highest median home values in the Region found in Ontario County ($133,700) compared to the US median home value of $191,900 and the New York State median home value of $310,100. There are 18 colleges and universities within the Region, 15 major hospitals, and over 170 municipal, county, state and federal parks with over 63,000 acres of parkland. There are also a variety of cultural and tourist attractions in the Region including Blue Cross Arena, Frontier Field, Darien Lake, Seneca Park Zoo, Erie Canal, Finger Lakes, Montezuma National Wildlife Refuge, Letchworth State Park, the Finger Lakes Wineries, and others.

The identified Regional Industry Clusters, which the Region has expertise and experience in, include Optics and Imaging (Kodak, Bausch and Lomb), Higher Education (RIT, UR), Energy Innovation, Advanced Manufacturing, Agriculture and Food Processing, Biotech and Life Sciences, Tourism and the Arts, and Business Services/Software/Telecommunications. Agriculture is a huge component of the Regional economy with over 1 billion in agricultural cash receipts from the Region in 2009. This represented almost 30% of the entire state agricultural cash receipts.

Greg discussed the resource use within the Region and stated that the gasoline use per vehicle per year was similar to the national average. Electrical use, non-recycled waste generated, and domestic water consumption was lower within the Finger Lakes Region compared to both New York State and the nation.

Greg identified issues and opportunities that have been brought up at the Comprehensive Economic Development Strategy stakeholder sessions, along with the development of the Finger Lakes Economic Development Council strategic plan, and during the development of other regional plans. The identified opportunities included: quality of life, smart growth, brownfield redevelopment, energy, entrepreneurship and innovation, agricultural economic development, colleges and universities, tourism, and workforce development. Identified issues included funding, short-term thinking, declining school district enrollment, mismatch between education/training and available jobs, infrastructure, suburban/rural public transportation, business climate, access to capital, and urban/rural poverty.

Felipe Oltramari provided a brief update on Genesee County sustainability initiatives:

Genesee County has completed a comprehensive plan that is tied to the budget with 10 focus groups. A Smart Growth Plan has also been completed and identifies areas where infrastructure is in place with the goals and aligning investment into these areas. The County has an Agriculture & Farmland Protection Plan. Agriculture is the number one industry within the County and is a focus. From the sustainability planning process Genesee County hopes to have a back and forth discussion and to identify methods in which they can improve their own sustainability efforts.

Angela Ellis provided an update on the Livingston County sustainability initiatives.

Livingston County is currently working with GTC on a county-wide multi-modal connectivity plan. The County and municipalities are involved in a limited number of energy projects including NYSERDA programs. A geothermal system project at the Opera House in Avon is in complete. There are two Finger Lakes within the County and aggressive watershed management plans are in place, one of which won an APA award. The County has an Agriculture & Farmland Protection Plan and an annual work plan for implementing it along with an Agricultural District program. Methane alternative energy is being investigated. A farm to school program is also ongoing. The County participates in a purchase of development rights program with 75 acres under permanent conservation easement and up to 8,500 acres possible soon. SUNY Geneseo has a sustainability initiative/partnership with the County. Worm Power-warm farm utilizes over 500,000 worms for composting. Avon has set the goal to be fully walkable by 2020. Goals of the sustainability plan are to create a regional framework, identification of projects, active leveraging and how county and municipalities might leverage each other, identification of opportunities for county, community and regional sustainability, and to improve quality of life goals and livability.

Jason Kennedy, Tom Goodwin and Rochelle Bell provided an overview of the Monroe County sustainability initiatives:

Water quality initiatives include the Pure Waters sewage program, two treatment plants, and stormwater quality initiatives. Regular water quality meetings are held. Stormwater quality initiatives are underway as well including the Stormwater Coalition of Monroe County. Solid waste management programs are in place including the Mill-Seat Landfill (methane to electric) and a comprehensive recycling program with a goal of recycling/reuse/waste diversion. Eco park has been launched to improve recycling efforts for unique materials and items. The fleet of Monroe County vehicles emphasizes alternative fuels including ethanol. The County partners with DOT on improving lighting costs in the County and implementing ITS throughout county roads. A green building policy is in place. Co-generation facilities, hospitals, airport, energy procurement, photovoltaic, wind farms, etc. are all being used for green buildings in the County. Agriculture is important to Monroe County and a Agriculture & Farmland Protection Plan is in place. Economic development is a key County focus with creation and retaining of jobs a critical goal. Rochelle Bell discussed the County health collaborative and a recent article which identified it as a potential national model.

Anne Spaulding discussed the City of Rochester sustainability initiatives:

City has a GHG inventory. The City is developing a climate action plan. Bike lanes are a focus in the City with the completion of a bicycle master plan. The City audited all facilities to help reduce building energy consumption. The City has retrofitted lighting in parking garages to be more efficient. There are 200 vehicles in the City fleet, and the City partners with Monroe County for alternative fuel for these vehicles. A goal of 24 charging stations within the City has been outlined. A solar panel is in place on the Library. DEC initiatives are also underway with green infrastructure (green roof and permeable pavement) being implemented. Brownfield redevelopment is also a key urban issue with Brownfield Opportunity Area projects to address many vacant lots. Eastman Business Park is also very important to the City and the impact of the decline of Kodak should not be lost on the Region.

Kris Hughes provided an overview of the Ontario County sustainability initiatives:

NYSERDA funding is being invested into the County. An energy analysis of County government has been completed. ARRA money ($1 Million) was received to improve facilities to be energy efficient and helped to significantly reduce energy consumption. An energy efficient transit center is targeted. Water treatment/septic is also a focus with pumps having been upgraded to save energy. Trail projects are encouraged within the County and multimodal connectivity projects are being advanced. Agriculture is a focus in the County with a diverse base of products. Grapes/wineries are the largest agricultural sector in the County. The County is exploring private industry/recycling efforts. A viticulture center is being completed with the partnership of Finger Lakes Community College in Geneva and FLCC has been undergoing college-wide improvements that follow LEED design principals.. Watershed planning and management is another key area. Fleet upgrades to natural gas and other alternative fuels are also being completed. The public transit system is looking for ways to be more efficient with the CATS system looking for flexible scheduling as a way to achieve this. Potential needs to be addressed by the Plan include water budgets including groundwater and surface water use, fleet upgrades including considering opportunities, agricultural planning, and public transit including analysis and how to make it more efficient and responsive.

Wayne Hale provided an update on the Orleans County sustainability initiatives:

An energy audit has been completed looking at improvements to facilities. Orleans and Niagara Counties have partnered to form NORA (Niagara Orleans Regional Alliance) to address lake shore protection, economic development, and tourism. Sport fishing is a $12 million industry annually for the County. A project is in place to grow fish under supervision before introducing them into the wild to improve their ability to survive. The County holds an event to collect household waste including pharmaceuticals every two years. The County is home to the Western New York Energy ethanol plant in Shelby. A brownfield inventory and prioritization is underway. There are three consolidated agricultural districts in the County. The County does not have an Agriculture & Framland Protection Plan. Another focus is on the 2nd floor spaces within the downtowns for reuse. Needs of the plan include brownfields, efficient freight/goods movement, public transit, and inclusion of rural areas/issues.

Bill Bordeau provided an overview of Seneca County sustainability initiatives:

Seneca County is a rural County. The County is one of the few to see an increase in farm land recently. Wineries in the County are expanding. Agriculture is a large employer. The County faces issues with the Lake with regards to run off of pesticides and other agricultural chemicals. Buy in of the regional sustainability plan is a concern locally. Farmland prices are increasing in the County as land limits are being reached. A portion of the Army Depot is focused on alternative energy with Seneca Bio (biodiesel). Methane usage at the landfill is in place. Potable water is a concern in the County. Water is a county-wide goal. The impact of hydrofracking on water is also a concern.

Jim Hoffman briefly discussed some of the Town of Williamson initiatives within Wayne County:

The Town is the second largest apple producer. There are two solar panel projects. There is a citizen action committee. Wind turbines are within the Town. A new alternative energy project is beginning with the hopes of addressing all of the Town's energy needs via renewable energy. Also a power batter project is underway to reduce idling and the waste of gasoline.

Peg Churchill expanded on Jim's comments to discuss Wayne County as a whole:

About nine years ago Harbec Plastics completed development of their building to LEED design standards. The Wayne Industrial Sustainability Park is in the Town of Ontario with land owned by the IDA. The County partners with NYSERDA and RIT on energy initiatives. A second Wayne Industrial Sustainability Park is planned in Newark in conjunction with the Finger Lakes Community College campus there. An 800 kw turbine is in place east of Harbec Plastics. A freight village concept is proposed for the Village of Lyons along the Erie Canal to establish a multi-modal shipping facility. A tax summit has been completed in the County. Water studies have been completed in the SE and NE quadrants of the County. Water quality and water levels are a concern. Methane energy is being captured from the manure pond from area farms. The Village of Lyons completed a 2009 study and established a green roof and improved efficiency of police cars. A strategic plan for economic development has been completed by the County. A lighting project is underway as well to improve the lighting efficiency at municipal buildings with the help of NYSERDA. Considerations of the Planning process is to have the recommendations doable and realistic.

Art Buckley provided an update of Wyoming County sustainability initiatives:

Agriculture, especially livestock is big the County – some of the leading farms in the world. County is producing wind energy. There is strong Agriculture & Farmland Protection planning. Farms are expanding. The County has large CAFO operations and associated nutrient management programs. Biodigestion is an opportunity. County has the Center for Dairy Excellence. Town farmland protection plans are in place with asset analysis tied to comprehensive plans in the Towns of Arcade and Perry. The Perry Main Street Association is redeveloping a section of downtown Perry to LEED standards at market rate. Water and sewer improvements are underway in the County. The County is considering a county water authority. Silver Lake is the source of drinking water with dredging needing to occur. The Lake is unique because the inlet and outlet are at the

same end of the lake. The Walker Road Bridge is scheduled to be updated. The former A&A Metal Fabricating site is a brownfield and in the BOA program; a total of six transformers are scheduled to be removed in September from the site. Power allocation is a challenge within the County and a reason why Arcade has been successful with industry as Arcade is a municipal electrical supplier of low cost power. Aging in place is an issue. Start up dollars for entrepreneurship is needed.

Shawna Bonshak provided an update of the Yates County sustainability initiatives:

Agriculture and tourism are key areas of focus for the County. There is a significant Mennonite population in the County. An Agriculture & Farmland Protection Plan is in place with 1100 acres currently protected. Yates County is the future home to the Finger Lakes Museum with many of the buildings being built to LEED standards. The Windmill market uses renewable energy throughout the facility. The Town of Jerusalem is the host of home and farm energy tour of 4 homes/farms with renewable energy sources. Organic farming is large industry in the County. The County is hoping to gain ideas on how to grow initiatives and regional efforts from the sustainability planning process.

Rich Perrin provided an overview of the Genesee Transportation Council sustainability projects:

Emphasis is on multiple goals: to improve the efficiency of operation and maintenance; preservation; intelligent transportation systems; reduce incidents and delays; improve public transit; and work to establish more alternative fueling stations. GTC allocates funds for studies and implementation. The Region has an aging population and active transportation is a focus. The CAP program looks at circulation, accessibility, and parking. GTC is hoping to gain a list of indicators and target goals out of development of the sustainability plan.

Dave Zorn discussed the sustainability projects from the Genesee/Finger Lakes Regional Planning Council:

G/FLRPC itself along with its two advisory committees – the Planning Coordination Committee (Planning Directors of the 9 counties, City of Rochester, and the MPO) and the Economic Development Advisory Committee – the Economic Development or IDA Directors of the 9 counties, City of Rochester and the regional office of Empire State Development - provide forums for and coordination of regional efforts. The Planning Coordination Committee has been involved with the regional sustainability planning project. Regional Roundtables are a series of meetings put together in an ongoing attempt on the part of G/FLRPC staff to bring experts together to discuss issues of regional importance. The Regional Local Government Workshop series supports and advocates for the importance of local government training and education. G/FLRPC in association with our nine counties, has presented the Regional Local Government Workshop series two times per year beginning in 1996. Through the Economic Development program area G/FLRPC serves as the District Organization for the federal Economic Development District and develops and implements the Comprehensive Economic Development Strategy. Examples of specific projects that are being worked on or have recently been completed include a impervious surface scan; historic preservation and main street revitalization planning including the development of *Historic Preservation Guidebook for the Western Erie Canal Alliance's Main Street Program*

Communities, Creating Residential, Commercial and Municipal Upper Floors: A Guidebook for Regional Revitalization and a *Genesee-Finger Lakes Regional Historic Waterfront Planning* program guidebook; and water resources planning projects include green infrastructure planning, stormwater and floodplain management planning, and watershed management planning. We are hoping the Planning effort helps us chart the way forward for both the Region and the Council; can help bring more people around the table with regard to regional sustainability issues, opportunities, planning and implementation including energy, economic development, land use and livable communities, water management, agriculture, and governance; *c*onsideration of GHG reduction; develop a regional plan and an implementation strategy; and integration of regional planning projects, programs, issues and opportunities and an integration of the regional sustainability plan into the planning and implementation work of the region and the Regional Planning Council

Project Execution Plan and Stakeholder Engagement Strategy Overview

Aileen Maguire Meyer, , C&S Companies and Tara Boggio, T.Y. Lin International presented an overview of the project execution plan (attached):

A breakdown of the project consultant structure was discussed with the various individuals who will lead each working group. The project will be completed in 7 months to meet NYSERDA's goal. A dual project management structure is in place with C&S as lead and Aileen Maguire Meyer and Tara Boggio each leading portions of the plan. Wendel will be working on governance, land use, and livability components. EDR will be working on agriculture and forestry. Ecology and Environment is leading the Greenhouse Gas Emissions portion of the project. A Story of Place component will be completed by Alliance for Regeneration to identify the unique nature of the Finger Lakes Region. The project schedule includes 4-5 Consortium meetings; Planning Team Meetings with Sharepoint file access in place; 3 rounds of working group meetings; and 2 rounds of 3 public meetings (6 total public meetings). A website is proposed for www.sustainble-fingerlakes.org and will launch soon. The website will contain materials/presentation/notes from all the meetings throughout the development of the plan.

Working groups are proposed for the following groups: energy; economic development; transportation, land use and livable communities; materials/waste management; water management; agriculture and forestry. Two additional topic areas (governance; and climate change adaptation) will overlay into each of the six groups. Art Buckley asked if it would be a good idea to also split out land use into each individual group as an overlay area. Rich Perrin stated that he thought land use should be a part of each group, but that it should remain within the transportation group as well. The group decided to acknowledge land use as a part of the governance component that is overlaying into each group.

The Climate Change report that has been completed by New York State will be distributed out to the Consortium for review.

The consultants provided an overview into each of the working groups and the proposed member participants. The consortium brainstormed and added additional potential

participants into each of the 6 working groups (attached). Lindsay Robbins stated that the focus of the working groups should be on areas and topics that can be addressed within the Region and not to worry about areas the Region has little control over such as state or federal regulations.

The next steps of the plan are to complete and finalize the work plan, initiate the Story of Place component, begin the baseline assessment, and set up the project web site. The consultants asked if branding of the project should be done and if the Consortium is ok with the consultants completing the task. The group determined that the consultant will complete the branding process with an emphasis on the Finger Lakes Region as a whole.

Wrap Up

Mark Lowery provided an update on the DEC Office of Climate Change programs and discussed the Climate Smart Communities program. The Climate Smart Communities program is a voluntary program that currently has 107 communities including the City of Rochester and the Town of Irondequoit. It provides on the ground technical support. Everyone is also welcome to join the list serve on the DEC website for additional program updates.

Mary Pat Hancock asked about the final products of the working groups. Lindsay Robbins stated that the group can frame the conversations, do the baseline assessments, set target goals within each working area, develop an implementation strategy, and identify implementation projects. Lindsay also discussed the question of governance structure/voting and stated that the group can decide on the metrics and the best strategy to identify projects within the plan.

Dave Collard asked who will decide on the projects and if they will be determined by voting. Rich thoughts that the Sustainability Planning Team and stakeholders could work to vet the projects.

Mary Pat asked if notes will be available from the meeting. David stated that meeting notes and materials will be distributed. It was also mentioned that any municipal representatives are welcome to join the Consortium and can be approached through the county planning departments, and it is important for continuity that the same representatives attend each meeting.

Finger Lakes Regional Sustainability Plan
Cleaner Greener Communities
Consortium
Meeting
October 9, 2012
Ebenezer Watts Conference Center
49 South Fitzhugh Street
Rochester, NY 14614

Meeting Notes

In attendance:
Mary Pat Hancock, Chair, Genesee County Legislature
Felipe A. Oltramari, Senior Planner, Genesee County Department of Planning
Angela Ellis, Planning Director, Livingston County Planning Department
Tom Goodwin, Planning Manager, Monroe County Department of Planning and Development
Rochelle Bell, Senior Environmental Planner, Monroe County Department of Planning and Development
Justin Roj, Deputy Director, Monroe County Department of Environmental Services
Tony LaFountain, Supervisor, Town of Penfield
Mike Guyon, Town Engineer, Town of Brighton
Larry Heininger, Director, Town of Irondequoit Department of Development Services
Thomas Beck, Town of Perinton
Anne E. Spaulding, Energy and Environmental Sustainability Manager, City of Rochester
Mark Gregor, Manager, Division of Environmental Quality, City of Rochester
Wayne Hale, Director, Orleans County Planning and Development
Mitchell Rowe, County Manager, Seneca County
Bill Bordeau, Director, Seneca County Planning and Community Development
Ora Rothfuss, Interim Director, Wayne County Planning
Robert McNary, Director, Wayne County Planning & Economic Development
Richard Perrin, Executive Director, Genesee Transportation Council
Tony Favro, Program Manager, Genesee Transportation Council
David Zorn, Executive Director, Genesee/Finger Lakes Regional Planning Council
Greg Albert, Senior Planner, Genesee/Finger Lakes Regional Planning Council

Paul D'Amato, Director, New York State Department of Environmental Conservation Region 8
Ray Yacuzzo, New York State Department of Environmental Conservation Region 8
Dave Seeley, Governor's Office
Aileen Maguire Meyer, Manager, Planning Department, C&S Companies
Tara Boggio, Associate Vice President, T.Y. Lin International

Introductions

David Zorn called the meeting to order and all attendees introduced themselves. Aileen Maguire Meyer, C&S Companies and Tara Boggio, T.Y. Lin International, proceeded to go over the agenda and associated presentation.

Work Plan

The Work Plan items include discussion of the Project Execution Plan, Participants/Roles, Communications/Meeting Schedule, Deliverable Review Process/Schedule, Decision Making Structure, Stakeholder and Public Engagement, Branding/Logo, Website, and Stakeholder/Public Engagement Schedule.

Aileen discussed the various participants and their roles. The consortium will be responsible for review and approval of key documents. The executive committee will provide guidance/direction and review documents. The stakeholder groups will contribute their knowledge of the Region and help identify indicators, criteria, and strategies.

Three more consortium meetings will be held during the following times: mid-November, mid-January, and mid-February. Executive committee meetings dates have already been identified.

Draft and final deliverable dates have been identified for the following tasks:

Task	**Deliverable**	**Submission Schedule**
Task 1 – Work Plan	• *Project Execution Plan*	11/9/12
Task 2 – Baseline Assessment	• Tier II GHG Inventory • Sustainability Indicator Memo/Inventory	11/23/12 12/7/12
Task 3 – Target Establishment	• Draft Sustainability Targets Outline	12/20/12
Task 4 – Implementation Strategy	• Draft Sustainability Targets Implementation Strategy	1/31/12
Task 5 – Public Consultation	• Final Sustainability Targets Outline • Final Sustainability Targets Implementation Strategy • Public Feedback Summary	1/18/13 3/6/13 3/7/13
Task 6 – Sustainability Plan	• *Draft Sustainability Plan Report* • Final Sustainability Plan Report	3/22/13 3/29/13

Tara indicated that the first Workgroup meeting will be after the Consortium meeting. Four of the remaining five Workgroup meetings will be October 10 and the last Workgroup meeting will be October 17.

Aileen indicated that the Project Execution Plan and the Baseline Assessment would be discussed today and that two deliverables would go to the Consortium first for review and approval – the Project Execution Plan on October 30 and the draft Sustainability Plan. All reviews will be five days.

Aileen discussed the Decision Making Structure indicating that there would be development of an evaluation criteria working with the Stakeholder Groups. Examples of types of potential evaluation criteria would be low, medium and high and may establish weighted criteria. Potential criteria could include does the project benefit multiple counties, does the project benefit multiple focus areas, is the project feasible, is the cost reasonable, and does the project reduce greenhouse gas emissions. The consultant team will help develop the strategy and criterion and establish an initial rating. The consortium will review the projects and comment on the rankings and help to prioritize projects.

A discussion of the Consortium decision making structure included the use of consensus and then a vote if consensus of voting members of the Consortium (nine counties and City of Rochester) could not be reached. It was suggested that voting be weighted by population of the voting members and that email voting be allowed if necessary. It was suggested that a draft of the Decision Making Structure be sent out by the end of the week. There would also be an additional chance for review before the project execution plan was submitted to NYSERDA. If there is disagreement from the other counties then it could be brought back to the consortium for additional discussion to agree upon a voting structure.

Tara continued the presentation and discussed the logo that has been selected for the project. The website has been submitted to NYSERDA for approval and will go live as soon as NYSERDA approves. The website address will be www.sustainable-fingerlakes.org. The website will contain information on meetings, public meetings, working groups, materials, team members, consortium members, and planning team members. Mary Pat Hancock stated that it is helpful for presentations to be put up on the website. Meeting minutes can be distributed via email. Tara stated that presentations will be put on the website in PDF format. Information for the general public will be posted on the front page to be easily accessible. A notice will be sent out to everyone when the site goes live, after NYSERDA approval.

Baseline Assessment

Baseline Assessment items include Story of Place interviews, Indicators, Data Inventory, and Tier II GHG Inventory. Aileen discussed the Story of Place and indicated that interviews had started and will continue for the next few weeks. Indicators will include the five NYSERDA specific indicators including energy, transportation (2), land use, and economic development. Other indicators can be identified and used if approved by NYSERDA. The Tier II GHG Inventory is being done with NYSERDA guidance.

Public Consultation

Tara discussed the upcoming Stakeholder meetings including Transportation, Land Use and Livable Communities on October 9, Materials/Waste Management, Agriculture and Forestry,

Water/Wastewater Management, and Energy on October 10, and Economic Development on October 17 and are still flexible if anyone has any additional names to be added to the groups. Approximately 300 invitations were sent out for the stakeholder groups. Tara stated that copies were available of the final list of invitations that were sent out for each group as well as the current list of RSVPs. The first round of Stakeholder meetings will include an introduction to the project, roles/responsibilities of stakeholders, and indicators and targets.

The first public meeting will take place between December 11th and December 13th, 2012. The second round of Stakeholder meetings will take place between November 13 and 15. The third round of Stakeholder meetings will take place between January 15th and January 17th, 2013. The second public meeting will take place between February 5th and February 7th, 2013.

Wrap Up and Next Steps

David indicated that a doddle poll would go out for the next three Consortium meetings for November 14, 2012, January 16, 2013 and February 13, 2013. The doodle poll will help varify the times for these meetings and if there are conflicts with these dates they can be re-visited. Aileen indicated that the draft Project Execution Plan would go to the Consortium on October 30 and be due back November 5. Revisions will be made and then submitted to NYSERDA.

Finger Lakes Regional Sustainability Plan
Cleaner Greener Communities
Consortium
Meeting
November 15, 2012
M&T Conference Room
255 East Avenue
Rochester, NY 14604
November 15, 2012

Meeting Notes

In attendance:
Mary Pat Hancock, Chair, Genesee County Legislature
Jay Gsell, County Manager, Genesee County
Felipe A. Oltramari, Senior Planner, Genesee County Department of Planning
Brenda Donohue, Supervisor, Town of Conesus and Livingston County Board of Supervisors
Angela Ellis, Planning Director, Livingston County Planning Department
Rochelle Bell, Senior Environmental Planner, Monroe County Department of Planning and Development
Carol Nellis-Ewell Trustee, Village of Spencerport
Anne E. Spaulding, Energy and Environmental Sustainability Manager, City of Rochester
Mark Gregor, Manager, Division of Environmental Quality, City of Rochester
Dorothy Huber, Supervisor, Town of East Bloomfield and Ontario County Board of Supervisors
Darlys McDonough, Deputy County Administrator, Ontario County
David Callard, Chair, Orleans County Legislature
Wayne Hale, Director, Orleans County Planning and Development
Mitchell Rowe, County Manager, Seneca County
Bill Bordeau, Director, Seneca County Planning and Community Development
James Hoffman, Supervisor, Town of Williamson and Chair, Wayne County Board of Supervisors
Robert McNary, Director, Wayne County Planning & Economic Development
Peg Churchill, Executive Director/CEO, Wayne County IDA and Wayne Industrial Sustainability Development Corporation

Art Buckley, County Planner, Wyoming County Planning
Shawna Bonshak, Planner, Yates County Planning Department
Nicole Landers, Yates County Cornell Cooperative Extension
Richard Perrin, Executive Director, Genesee Transportation Council
Tony Favro, Program Manager, Genesee Transportation Council
David Zorn, Executive Director, Genesee/Finger Lakes Regional Planning Council
Greg Albert, Senior Planner, Genesee/Finger Lakes Regional Planning Council
Ray Yacuzzo, New York State Department of Environmental Conservation Region 8
Aileen Maguire Meyer, Manager, Planning Department, C&S Companies
Tara Boggio, Associate Vice President, T.Y. Lin International
Tim Hughes, Sustainability Leader, C&S Companies
Nate Quinn, Communications – Public Outreach, Quinntossence
Joel Glanzberg

Introductions

David Zorn called the meeting to order and everyone introduced themselves.

Work Plan/Project Execution Plan

David indicated that NYSERDA had approved the Project Execution Plan and thanked everyone for their review and approval. He circulated the Decision Making Structure from the Project Execution Plan.

Public Consultation

Tara Bogio indicated that the first round of Stakeholder groups were done in October and that right now is the middle of the second round, with the third round scheduled for January. There has been good involvement with the Stakeholder Groups thus far. She indicated that the plan for the first round of public meetings was the middle of December but now, given the schedule and the holidays it looks like they will be the second week of January with a draft of the indicators. There will be a plan for notification for the public meetings. Three will be done in the region – east, west and central. The last round of Stakeholder groups meetings will likely take place two weeks later. The website is up and has received a few hundred hits with some e-mail feedback coming in as well. Aileen Maguire Meyer encouraged each County to establish a link from their county home page to the Regional Sustainability project website. Tara said that they will put up as many documents as they can on the website as soon as possible to allow for additional review and feedback.

Baseline Assessment

The Powerpoint presentation is attached in Adobe Acrobat format and has been posted to http://sustainable-fingerlakes.org/wp-content/uploads/2012/11/Finger-Lakes-Regional-Sustainability-Plan-consortium-11-15.pptx. Tara provided a working definition of sustainability, which covers the economy, society, and the environment, and reviewed the regional themes and goals.

Carol provided an introduction to the Story of Place, which was compiled from conversations with those who know the Region. Knowing who we are will help the Region have less volatility. There are three core strengths to the Story of Place:

1. Region knows who it is
2. Focus uniqueness into narrative
3. Make sure story is integrated into everything community does

Joel presented the draft Story of Place, covering the history of the Region and the unique features and stories that make us who we are. After the presentation Ben led a discussion and asked for feedback and provided additional context. General discussion took place with individuals stating that the presentation made them feel proud and fortunate and enlightened. There was also a comment that the cell towers have also followed the transportation routes with the transportation corridor also serving as an information node and one aspect missing from the presentation was the connection to colleges and universities such as University of Rochester and RIT.

The room was split into breakout groups to continue the discussion. Comments from the groups included discussion of the need for regional collaboration; the regional identity is organized around innovations to the world; we need to brand this identity as we are not an extension of NYC. Felipe Oltramari asked how we can continue the trend of innovation while maintaining a focus on sustainability. Peg Churchill stated that our linear thinking needs to change and we need to sharpen our opinion of ourselves, part of which can be the wide distribution of the Story of Place. Two principles that can be focused on include: 1) organize as a think tank and 2) affective place to work.

Ben stated that we are good at starting new businesses (e.g. Jello, Champion, Kodak) and have been doing it for centuries. Can we brand ourselves as innovation cluster? innovation pioneers? innovation synergy? innovation mash-up? innovation accelerator? Comments included the Region has devalued middle skills jobs and are we thinkers without being doers?

The guiding principles developed by some of the work groups were posted for review and feedback. It was asked what gaps are present. One thought was that venture capital is not what we need. We need working capital to help businesses pay bills in advance.

The following application of the Story of Place and Guiding Principles were developed:

Applying Story of Place

- Collaboration across Region
- Taking things to the next level
- Organized around identity
- Innovations and changes taking place here
- Keeping the story alive
- Allow continued innovation
- Move away from linear thinking
- Process exporters
- Innovation

    - Synergy
    - Cluster
    - Collectors
    - Pioneers
    - Celebration
    - Accelerator
    - Fountain
    - Well spring
- Home of innovation

Guiding Principles

- Thinking systemically
- Makes us model (not linear)
- Brings back environment that supports innovation
- Creates/supports think tank mentality and function
- A change in self image and reflection

Wrap Up and Next Steps

Aileen suggested that the next round of Stakeholder meetings be done all in one day with a plenary session followed by break outs of the individual Stakeholder groups. The public meetings will likely be held January 8th, 9th, and 10th. February 13th is still the tentative target date for the final stakeholder meeting. It was agreed that interim documents should be posted to the website. The next meeting is January 16, 2013 at the M&T Conference Room.

Finger Lakes Regional Sustainability Plan
Cleaner Greener Communities
Consortium
Meeting
January 16, 2013
M&T Conference Room
255 East Avenue
Rochester, NY 14604
November 15, 2012

Meeting Notes

In attendance:
Mary Pat Hancock, Chair, Genesee County Legislature
Esther Leadley, Genesee County Legislature and G/FLRPC
Jay Gsell, County Manager, Genesee County
Felipe A. Oltramari, Senior Planner, Genesee County Department of Planning
Brenda Donohue, Supervisor, Town of Conesus and Livingston County Board of Supervisors
Angela Ellis, Planning Director, Livingston County Planning Department
Justin Roj, Monroe County Department of Environmental Services
Tom Goodwin, Monroe County Department of Planning and Development
Rochelle Bell, Senior Environmental Planner, Monroe County Department of Planning and Development
Carol Nellis-Ewell Trustee, Village of Spencerport
Tom West, Village of Spencerport
Larry Heininger, Town of Irondequoit
Anne E. Spaulding, Energy and Environmental Sustainability Manager, City of Rochester
Mark Gregor, Manager, Division of Environmental Quality, City of Rochester
David Callard, Chair, Orleans County Legislature
Wayne Hale, Director, Orleans County Planning and Development
Mitchell Rowe, County Manager, Seneca County
James Hoffman, Supervisor, Town of Williamson and Chair, Wayne County Board of Supervisors
Robert McNary, Director, Wayne County Planning & Economic Development

Peg Churchill, Executive Director/CEO, Wayne County IDA and Wayne Industrial Sustainability Development Corporation
Shawna Bonshak, Planner, Yates County Planning Department
Tony Favro, Program Manager, Genesee Transportation Council
David Zorn, Executive Director, Genesee/Finger Lakes Regional Planning Council
Greg Albert, Senior Planner, Genesee/Finger Lakes Regional Planning Council
Aileen Maguire Meyer, Manager, Planning Department, C&S Companies
Tara Boggio, Associate Vice President, T.Y. Lin International
Ben Haggard, Regenesis
Carol Sanford, DEGI
Joel Glanzberg, Regenesis

Introductions

David Zorn called the meeting to order. Ben Haggard asked that everyone spend a minute and talk to the person next them and discuss what they have carried with them from the last meeting and how things have changed with the Story of Place in our mind now. Brenda Donohue suggested that topography is an overall tapestry. Angela Ellis stated that it was like an "aha" moment and she has since tried to take it back to the County and local communities in terms of service provisions, etc. and it is a great way to bring everything together. David Callard suggested the possible development of a historic heritage corridor that could include Routes 104, 98 and 31 in Orleans County and the development of an Orleans County Museum. He also is intrigued by the work done on the Village of Mt. Morris and would like to replicate it in Orleans County.

The question was brought up by the consortium of "how do you localize vision?" Ben and Joel Glanzberg discussed the establishment of common linkages and building upon those commonalities. Felipe stated that the presentation worked because we heard about what we did well. Typically our view of ourselves is skewed because of where we are viewing things from; we see and focus on the negatives. It has helped to reinforce the trend of problem solving that we have seen over history in the Region. Felipe Oltramari suggested that an outside look is valuable and would like to see the Story of Place videoed for use in future presentations. Mary Pat Hancock stated that the Story of Place can be embraced and presented to municipalities and other stakeholders in the Region that have not yet seen it. Joel stated that it is valuable to have outsiders put the presentation together, but local nuances and details can continue to be added as the presentation evolves.

Workplan

This is a living document and is evolving with project. Schedule has been updated to incorporate consolidation of interim documents, and additional meetings including Regional Leaders Forum on February 14, additional Stakeholder meeting to review strategies, and an additional Consortium meeting.

Baseline Assessment

The Baseline Assessment has been submitted to NYSERDA.

Indicators/Target Establishment/Implementation Strategies

Joel did a brief summary of the Story of Place information/presentation and synthesized it with democratizing, eddying, and innovating. "Straw dog" strategies were then offered for economic development, energy, water, land use/livable cities/transportation, agriculture and forestry, waste management, and climate change as seed ideas. Attendees then broke out to discuss each of the strategies and help enrich it, focus it, refine it, and replace it if needed. The four questions to consider were:

Is it reflective of the Story of Place?
Does it increase the value of the five capitals?
Can we benefit beyond the subject area?
Does it create benefit throughout the Region?

Target establishment and strategies will be the focus of next round Stakeholder Meetings with a draft of Targets in February.

Ben then went through the six subject areas and the proposed strategies and indicated that they tried to take all of the past discussions and extract key ideas starting with what is the strategy that's starting to bubble up. He indicated that some will be hard to grapple with. Some of them will be disagreed with but they can serve as a seed to a conversation. He suggested that they can be improved on during breakout groups. Joel indicated that even though they're under a specific category, they're probably addressing another category as well. Ben suggested that it is an attempt to have the Consortium and the stakeholders make every strategy systemic and holistic. Aileen suggested using the Story of Place when working through the strategies. She also suggested that the when the Consortium goes into breakout groups they may want to modify or add to the strategies.

The first one is in economic development. The proposed strategy is as follows:

- In General: Increase investment into "Innovation Acceleration," decrease disinvestment (such as "brain drain," poverty, and abandoned infrastructure.)
- Strategy: Innovation Investment Consortium that convenes multiple stakeholders to find and address regional challenges that have potential for global enterprise opportunities, and then support business ventures to carry them out.

In general, the groups have been looking at how to increase investment in innovation acceleration while decreasing disinvestment, which is brain drain, poverty, and abandoned infrastructure. The strategy is an innovation investment consortium that convenes multiple stakeholders to find and address regional challenges that have potential for global enterprise opportunities, and then supports new ventures to carry them out. One of the key issues being discussed is venture capital and the commitment of customers.

The proposed strategy for energy is as follows:

- In General: Increase production from renewable sources, decrease overall consumption.
- Strategy: Micro-grid technologies

Ben suggested for energy, the idea is to increase production from renewal sources, while decreasing overall consumption. The strategy is to have micro-grid technologies. This region is very vulnerable to getting cut off from the grid in extreme weather. How do you create redundancy in the system to keep it up and running? One idea is putting solar panels on buildings.

The proposed strategy for water is as follows:

- In General: Increase water quality, decrease the destructive potential of run-off especially in extreme events
- Strategy: Reduce built infrastructure costs (construction, maintenance) through rewarding ecosystem services (tax valuation or credits, utilities, etc.)

Ben suggested for water, the idea is increasing water quality, while decreasing the destructive potential of run-off especially in extreme events. Water is one of the region's strengths and there seems to be agreement there. The suggested strategy is reducing built infrastructure and its associated cost by rewarding ecosystem services. These services reduce run off and pollution of the water. For example, they get rewarded by reducing taxes on things that you do want, like preserving wet lands. Or you can do this through utilities.

The proposed strategy for land use, livable communities and transportation is a follows:

- In General: Increase development or re-development around existing infrastructure, decrease dependence on automobiles and fossil fuels for transportation.
- Strategy: Create nodal development (e.g. along Erie Canal corridor)

For land use, livable cities and transportation, this group is pointing to increasing development around existing infrastructure, while decreasing dependence on automobiles and fossil fuels for transportation. The strategy is to create nodal development. An example is the Erie Canal corridor.

The proposed strategy for agriculture and forestry is as follows:

- In General: Increase the viability and ecological contribution of Ag and Forestry, decrease waste and dependence on outside inputs.
- Strategy: Plug and Play biological energy production for farms (or forests, or municipalities.)

For agriculture and forestry, a strong need is to increase the viability and ecological contribution of agriculture and forestry, while decreasing waste and dependence on outside inputs. The strategy idea is a plug and play biological energy production for farms taking waste and creating a system that's small enough and portable enough so that a farmer could go down to the feed store, buy one, plug it in and immediately create energy for storage or for the grid.

The proposed strategy for waste management is a follows:

- In General: Increase the recovery and re-use of all materials that are currently going into the waste stream, decrease the generation of waste in the first place.
- Strategy: Regional method for brokering materials: "Garbage Craigslist"

Ben suggested that waste is connected to water quality and seems to be a real issue in this region. There may be a missed an opportunity to turn it into real economic development by linking it to energy production. The waste management group is working to increase the recovery and reuse of all materials that are currently going into the waste stream, while decreasing the generation of waste of the first place. The strategy is to create a self-organizing garbage "craigslist" to let someone know you have a waste product that someone else wants. Felipe indicated that there is something like that started that can be improved. It's the materials exchange. It's inter-county. Also suggested: the region has RIT and other places that are working on packaging; food waste and waste from farms could be part of this strategy; and there is currently a regional winery that uses waste and turns it into high quality grape seed oil.

The proposed strategy for climate change is as follows:

- In General: Increase resiliency, redundancy, and adaptability, decrease infrastructure vulnerabilities.
- Strategy: Self-Sufficient Community Disaster Refuge Centers

Ben suggested for climate change there seems to be a need to increase resiliency, redundancy and adaptability, while decreasing infrastructure vulnerabilities. The strategy is a self-sufficient community disaster refuge center. Have refuges that have food and energy that can weather power outages for several days. This connects to several of the other strategies that have been talked about.

The Consortium then went into breakout groups based on interest to work on the proposed strategy, upgrade it, deepen it, and/or refine it. Ben indicated four sets of criteria that can be used when considering the strategies. The first is can we get them to be reflective of who we are uniquely. How do we enrich the strategy to reflect who we are in terms of the Story of Place? The second is that we increase the value of 5 natures of capital (human, social, ecological, built and financial capital). The third is can we have a beneficial influence in more than the subject area we're working on? Finally, we want to be sure that the strategies we're pursing benefit the entire region.

Each group discussed and tweaked the strategy in some cases. The groups then reported out. No consortium members choose to focus on waste management or energy.

The land use/livable cities/transportation group came up with the following strategies: regional inventory-priority areas for reinvestment, aging in place-develop strategies, incentivize best use-properties for reuse, form based zoning-scalable model and incentives, create a regional toolbox, integrating transportation funding with land use funding (ROI), and identify jump start examples. The agriculture and forestry group suggested: a need for interim measures, which would become the strategy, and then implementing those measures; and the use of technology that could lead to

this as a goal. It was suggested that there is an impact to water and other areas like economic development and needs to be tied in as well and there should be an emphasis on eating local.

The water group suggested: it is not just about surface water but ground water quality as well; consider uses such as drinking, habitat and recreational; run off is a consideration; watersheds tend to start in the rural areas and the cities may not be the places that have the biggest impact on water quality; common themes are aging infrastructure in terms of water treatment and the expansion of the Water Authority, and sprawl as you expand good water quality to other areas which gets to smart growth and governance. There was then a discussion of storm water districts, aging water treatment plants, taxing and maintaining the quality of watersheds, and sewer systems.

The economic development group suggested: the main problem with economic development is that it's primarily private in nature; it is influenced less in the public side of things, compared to the other areas; integration with the Regional Economic Development Council and sharing the information from the Regional Sustainability Plan with them; sometimes this doesn't always match up with the needs in the geographies of the region and the outlying areas don't always have their industries satisfied by the state and parsing out money; and a way to share successes and opportunities. Discussion included the government in the business of picking winners and losers, the government bringing expertise together as a convener, working bottom up vs. top down, and the outlying counties.

Public Consultation

Aileen and Tara discussed the January 15 public meetings in Batavia and Geneva, the upcoming January 16 public meeting at RIT, the use of the on-line or hard copy Strategy Capture Form, and the January 17 Stakeholder meetings. A Regional Leaders meeting has been added for February 14th at RIT. The website has received 500 unique visitors and the Strategy Capture Form has been posted on the website to capture existing or new strategies that can fit into the plan. Scheduling of the second round of public meetings has also begun.

Michael Philipson discussed Greentopia. He indicated that Greentopia started 3 years ago. Last year there was a one day associated conference with 30 presenters, 30 exhibitors and 150 attendees. This year the plan is to do a 2 day Greentopia Futures Summit at MCC focusing on the region's future. There are already some confirmed speakers. A thought is to weave the Finger Lakes Regional Sustainability Plan into the summit to help keep the Plan alive, check with the status of the Plan and implementation, provide more resources for implementers, and potentially provide a competitive advantage for the region. He indicated that this could be ongoing. Mark Gregor suggested it was a great idea. Felipe suggested that it could help keep the Regional Sustainability Plan conversation going and celebrate its successes. Michael asked what the Consortium would like to get out of the potential Regional Sustainability Plan Summit sessions. Some suggestions were an introductory session with an overview of the Regional Sustainability Plan and sessions that could help tweak the strategies.

Wrap Up and Next Steps

The next Regional Sustainability Plan meeting is February 13 at 9:00 AM at the Watts Center. A doddle poll will be circulated to find a preferred date for the additional March meeting for either March 12 or 13.

Finger Lakes Regional Sustainability Plan
Cleaner Greener Communities
Consortium
Meeting
February 13, 2013
Ebenezer Watts Conference Center
49 South Fitzhugh Street
Rochester, NY 14614
Meeting Notes

In attendance:
Mary Pat Hancock, Chair, Genesee County Legislature
Esther Leadley, Genesee County Legislature and G/FLRPC
Jay Gsell, County Manager, Genesee County
Felipe A. Oltramari, Senior Planner, Genesee County Department of Planning
Brenda Donohue, Supervisor, Town of Conesus and Livingston County Board of Supervisors
Angela Ellis, Planning Director, Livingston County Planning Department
Justin Roj, Monroe County Department of Environmental Services
Rochelle Bell, Senior Environmental Planner, Monroe County Department of Planning and Development
Tony LaFountain, Supervisor, Town of Penfield
Carol Nellis-Ewell Trustee, Village of Spencerport
Anne E. Spaulding, Energy and Environmental Sustainability Manager, City of Rochester
Mark Gregor, Manager, Division of Environmental Quality, City of Rochester
Bill Bordeau, Director, Seneca County Planning & Community Development
James Hoffman, Supervisor, Town of Williamson and Chair, Wayne County Board of Supervisors
Robert McNary, Director, Wayne County Planning & Economic Development
Peg Churchill, Executive Director/CEO, Wayne County IDA and Wayne Industrial Sustainability Development Corporation
Art Buckley, County Planner, Wyoming County
Richard Perrin, Executive Director, Genesee Transportation Council
Tony Favro, Program Manager, Genesee Transportation Council
David Zorn, Executive Director, Genesee/Finger Lakes Regional Planning Council

Greg Albert, Senior Planner, Genesee/Finger Lakes Regional Planning Council
Aileen Maguire Meyer, Manager, Planning Department, C&S Companies
Tara Boggio, Associate Vice President, T.Y. Lin International

Introductions

David Zorn called the meeting to order and the Consortium did introductions. The meeting was then turned over to Aileen Maguire Meyer, and Tara Boggio. Tara directed everyone's attention to the PowerPoint presentation (available at http://sustainable-fingerlakes.org/wp-content/uploads/2012/11/consortium-feb13.pdf) and indicated that the meeting was primarily an update.

Baseline Assessment

The Baseline Assessment was submitted to NYSERDA on January 11 and is available on the project website. Approval is expected soon. Additional comments should be submitted to David Zorn. The final version will be part of the draft Plan in late March.

Indicators/Target Establishment

A draft target outline document is being developed and will identify short; mid; and long-term targets for each indicator. The goal is to strike a balance between stretch goals and realism. The draft will be posted in late February for review and comments from the Consortium. Dave Zorn will send out an e-mail to Consortium members when the document is posted on the website. The final document will be completed in late March.

Aileen provided an overview of the GHG emission targets. Art Buckley asked if we are taking advantage of existing projects such as the wind farms with regards to GHG emissions. Aileen stated that the baseline for NYSERDA is from the year 2010 and we cannot capture projects completed in the last couple of years (because they were completed before the plan).

Aileen stated that the current categories with the highest GHG emissions were transportation and energy generation consumption which together account for approximately 70% of current GHG. Jay Gsell pointed out that it is really difficult to address these areas since it is hard to restrict travel. Art Buckley stated that we can take advantage of some projects such as bio-digesters that are taking waste streams out of the system. Art also stated that we should make sure to capture all of the on-going green energy projects in our calculations.

Implementation Strategy

The capture mechanisms for the strategies are stakeholder meetings, existing regional plans, public meetings, and the project website using the Strategy Capture form. The draft Implementation Strategy Document will include broad mechanisms to achieve goals, broad strategies, substrategies/project ideas, and specific projects. The appendix will include all captured strategies with an evaluation and ranking, a specific plan that includes financial and

implementation, and a structure to implement. The Consortium will be asked to provide input on proposed priorities.

Aileen handed out a draft of the strategies evaluation criteria. The proposed evaluation criteria includes benefits to multiple subject areas, benefits to multiple capitals, benefits to multiple communities defined as more than one county, implementation feasibility, consistency with planning efforts and financial feasibility. A question was asked on how progress will be measured. It was suggested that progress be based on the targets. A question was asked on who makes assessment of the strategies. The process is consultants, then Planning Team, and then the Consortium. The strategies document is scheduled for early March and will be one of the subjects of the next meeting.

The draft Plan is due in late March with an Executive Summary and a Technical Document. Documents will have a two week Consortium review period. The Consortium asked if they would have any material in advance for review before the draft is complete. Aileen stated that some material will be together by the end of February that can be reviewed in advance of the next Consortium meeting.

There is also a chance for review of the final document and depending how quickly NYSERDA is able to turn the document around with their comments it may allow the Consortium additional time to review at the end of March.

Public Consultation

Tara outlined the website and indicated that there have been approximately 600 unique visitors, there is documents and links, along with minutes and meeting announcements and the video of the Story of Place.

There is a Regional Leaders Forum on March 21 targeted to chief elected officials and major employers. A list of invitees was circulated and it was requested that Consortium members follow up with individuals that got an invitation.

The second round of public meetings will be open house format and will take place 5:00-7:00 PM February 25 (East – County Courthouse, Lyons), February 26 (West – Cornell Cooperative Extension, Batavia) and February 28 (Central – RMSC) to solicit input on strategies. All strategies that are received by February 22 will be part of the public meetings. All strategies for the draft documents must be submitted by March 4. At this point we are no longer adding people to stakeholder groups and if anyone is not involved we have encouraged them to attend the public meetings and to visit the website. The set up for the public meeting will be display boards either on easels or utilizing wall space with limited chairs. It was asked that any images of existing sustainability projects as well as concept plans for future projects be submitted for use at the public meetings. The Public Feedback document will be completed in mid-March and will summarize all of the public outreach efforts, as well as the ideas and outcomes of the public outreach process.

Wrap Up and Next Steps

The next Regional Sustainability Plan Consortium meeting is March 12 at 9:00 AM at the Watts Center. The last round of Stakeholder Group meetings will be that afternoon at 1:00 at RIT.

Bob McNary asked about the timing of the completed plan and its relationship to the CFA process and REDC. We have been coordinating with REDC to keep them updated on the Sustainability Planning process including two presentation and David indicated that he met with Vincent Esposito, FLEDC, to give an update of the Regional Sustainability Plan. It is anticipated that Phase II implementation funding will be wrapped into the CFA process and CFA applications would be developed based on the Sustainability Plan project list, REDC would still be providing 20% of the total scores on each application. Bob stated that the REDC workgroups are taking priority projects, for the REDC plan, until May 3rd and that some of these projects may come out of the Sustainability Plan.

Dave Zorn stated that we have yet to see any guidance from NYSERDA on the Phase II implementation funding. Justin Roj stated that from what we know now it appears that any application will be able to apply for CFA funding regardless of the ranking of the project within the Sustainability Plan. By identifying broad strategies within the plan it will allow for flexibility with future applications for implementation.

Art Buckley brought up the strategy of Town Energy Policies that have been rolled into comprehensive plans within the Town of Perry and the Town of Arcade. This will be submitted as a strategy through the Strategy Capture Form. Jim Hoffman talked about an award by EPA that includes a two day workshop that will be held in Williamson in April/May sponsored by the EPA that will address smart growth and renewable energy. The press release will be sent in to be posted to the sustainability plan website.

The next Consortium meeting is scheduled for March 12th, Watts Center.

Finger Lakes Regional Sustainability Plan
Cleaner Greener Communities
Consortium
Meeting
March 12, 2013
Ebenezer Watts Conference Center
49 South Fitzhugh Street
Rochester, NY 14614
Meeting Notes

In attendance:
Mary Pat Hancock, Chair, Genesee County Legislature
Esther Leadley, Genesee County Legislature and G/FLRPC
Jay Gsell, County Manager, Genesee County
Felipe A. Oltramari, Senior Planner, Genesee County Department of Planning
Brenda Donohue, Supervisor, Town of Conesus and Livingston County Board of Supervisors
Justin Roj, Monroe County Department of Environmental Services
Tom Goodwin, Monroe County Department of Planning and Development
Rochelle Bell, Senior Environmental Planner, Monroe County Department of Planning and Development
Carol Nellis-Ewell Trustee, Village of Spencerport
Anne E. Spaulding, Energy and Environmental Sustainability Manager, City of Rochester
Mark Gregor, Manager, Division of Environmental Quality, City of Rochester
Thomas Harvey, Ontario County Planning
David Callard, Orleans County Legislature
Bill Bordeau, Director, Seneca County Planning & Community Development
Robert McNary, Director, Wayne County Planning & Economic Development
Peg Churchill, Executive Director/CEO, Wayne County IDA and Wayne Industrial Sustainability Development Corporation
Art Buckley, County Planner, Wyoming County
Richard Perrin, Executive Director, Genesee Transportation Council
Tony Favro, Program Manager, Genesee Transportation Council
David Zorn, Executive Director, Genesee/Finger Lakes Regional Planning Council

Greg Albert, Senior Planner, Genesee/Finger Lakes Regional Planning Council
David Seeley, Executive Chamber
Aileen Maguire Meyer, Manager, Planning Department, C&S Companies
Tara Boggio, Associate Vice President, T.Y. Lin International

Introductions

Dave Zorn opened the meeting and turned it over to Aileen and Tara who provided an update on the schedule.

Baseline Assessment, Indicators/Target Establishment, and Implementation Strategy

At this point the Baseline Assessment and Targets have been approved by NYSERDA. The Implementation Strategy and the NYSERDA added executive summary have all been completed in draft format and submitted to NYSERDA. All of the documents completed to this point are posted on the website.

Public Consultation

The Public Feedback Summary is currently in draft form and will be finalized and submitted to NYSERDA next week.

The Regional Leaders Forum was held in February with good representation by business and municipal leaders and detailed feedback on the challenges they are facing with sustainability initiatives. Discussions focused on water (waste-water and water quality) and on-site renewables and great connections were made amongst businesses. The strategy capture form was also discussed and attendees were encouraged to submit their projects and strategies.

The second round of public meetings were held the last week of February with lower turnout than the first round, but better feedback from attendees. In total 75 people attended the 3 meetings. There was also an increase in strategies submitted through the strategy capture form afterwards. These three open house meetings concluded the public involvement of the plan.

The project website has received 1200 unique visitors with a spike in visits around the public meeting dates.

All meeting minutes will be included within the appendix of the final plan.

All of the background data and material that was submitted along with the strategy capture forms will be delivered to G/FLRPC with the final materials as well.

Regional Sustainability Plan

The comments received from the 2nd round of public meetings and from NYSERDA will be incorporated into the draft. The draft plan is coming together this week and will be sent to the Planning Team for review and then onto NYSERDA.

NYSERDA has had positive feedback of the deliverables so far. Two comments that were received from NYSERDA was to soften the language regarding G/FLRPC carrying the strategy forward in the implementation section and to work with the REDC to determine where the plan is moving next.

The draft plan includes broad strategies within each subject area page and the indicators have been merged together and no longer identified as "NYSERDA Required" or "Placed-Based" indicators. The representative projects that are displayed are a sampling of projects and not a list of all of the projects associated with the strategy. There are also some strategies which do not have projects listed.

Mary Pat Hancock asked if the fact that a project was not included limit opportunities for that project in the future. Aileen stated that at this point we do not have enough guidance from NYSERDA to know for sure. It is anticipated that all projects would go through the CFA process and need to be consistent with the identified broad strategies. All of the strategies/projects that were submitted are listed in the appendix. The representative projects are a selection from the entire project list.

NYSERDA has asked us to focus on broad strategies and not specific projects. NYSERDA directed that specific projects be included in an appendix. It appears from NYSERDA guidance that if a project supports a broad strategy than it would be considered consistent with the Sustainability Plan. However, even given this late date we do not have enough guidance from NYSERDA to know how the Plan will be used to evaluate projects but that it is anticipated that they would go through the CFA process.

Rich Perrin asked if it would be valuable to have the counties each identify 2-3 projects to ensure that they are represented. Peg Churchill stated that over time there seemed to be a shift from broad strategies to projects and they became muddled together. Now it seems we are trying to fit projects to align them to funding which limits the impact of the plan. Do we want long-term strategies or just 5-year projects? Bob McNary asked if NYSERDA required this format. Aileen stated that as opposed to initially, NYSERDA has now indicated that they want strategies rather than projects.

Tara Boggio stated that they are capturing projects for future outside funding opportunities as well and that each of the projects are ranked on sustainability measures and that some projects have scored low as they are not sustainable. Art Buckley asked if the projects needed the 20% scoring from the REDC to be funded. Dave Seeley stated that the sustainability plan in his eyes will guide the 80% scoring from the funding agency and the REDC will have their own criteria.

Mary Pat Hancock stated that she had been waiting to submit Genesee County projects and did not know that they needed to be in already. Aileen stated that some projects were captured from existing plans and strategies even if they were not submitted through a strategy capture form. Dave Zorn stated that some of the projects that Mary Pat is thinking of may have already been submitted and may be part of the appendix. Art Buckley asked if the Wyoming County projects that were submitted were a part of the Plan. Aileen stated that these projects (wind/solar) are a

part of the broad strategies and the individual projects are in the appendix even if they are not listed as a representative project.

Jay Gsell stated that we have lost site of the large picture with this discussion. Dave Callard asked if the best approach may be to simply eliminate the project names. Justin Roj stated that without the representative projects we add confusion to what each strategy is about.

Dave Seeley was asked about the next steps with the REDC and stated that there is no formal outline yet on how the plan will be accepted and utilized.

It was determined that each county's chief elected official and planning director would be copied on an e-mail requesting each county to submit 3-4 representative projects around sustainability. These projects will be submitted to Dave Zorn by the close of business on Friday, March 15th. The one-page example completed by Monroe County will be sent out in the e-mail for reference. Projects should be submitted in Microsoft Word format, reference the document or plan that it is within (if applicable), and state the broad strategy that it is aligned with.

Mark Gregor asked how the project scores will be illustrated. Aileen stated that the project scores would not be shown in the main document or executive summary, only the appendix. The consortium agreed that the representative projects will remain in the document and that any newly submitted priority projects would be in addition to the projects listed and that they would not replace them.

Justin Roj made a motion that the Consortium endorse the broad strategies of the draft plan. Seconded by Jay Gsell. The motion was unanimously approved.

Wrap Up and Next Steps

The next consortium meeting will take place at the end of April. A doodle poll will be sent out to select a date. A tentative agenda for the meeting will be a formal approval of the completed plan, the future of the Consortium, and a discussion of Phase II.

Dave Zorn reminded everyone that a stakeholder meeting was scheduled for later this afternoon.

The meeting was adjourned at 10:45 a.m.

Finger Lakes Regional Sustainability Plan

Funded by NYSERDA - Cleaner, Greener Communities Program

Overall Stakeholder Meeting #1 - Meeting Minutes & Presentation

MEETING TITLE	Agriculture & Forestry Stakeholders Group Meeting #1	
DATE AND TIME	October 10, 2012 10:30am-12:30pm	
ATTENDEES	Greg Albert	Genesee/Finger Lakes Region Planning
	Mike Haugh	CMH Consulting
	Ray Yacuzzo	DEC
	George Thomas	CEI
	Louie Freeman	Cornell Cooperative Extension-Livingston
	Ora Rothfuss	Wayne County Planning Council
	Brian Liberti	City of Rochester Forestry
	Mike Bakos	Town of Pembroke Planning Board
	CJ Britt	Lyons National Bank
	Andy Zepp	Finger Lakes Land Trust
	Meghan Rodwell	Farm Credit East
	Dave Bojacowaki	Genesee Valley Conservancy
	Tom Ferraro	Food Link/Fresh Wise
	Andy Harlan	RIT
	Tucker Kautz	Monroe SWCD
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S, edr, Wendel, Genesis, TYLI

Introduction to the project

- See power point presentation from October 10th

Stakeholder Group

- See power point presentation from October 10th
- Website now live at www.sustainable-fingerlakes.org
- Members can join more than one stakeholder group.

Indicators & Targets

- 3-5 indicators are required to be approved by NYSERDA
- Attendees were asked to engage in a visioning exercise to think about their vision for agriculture and forestry in the future.
- Visioning: (Agriculture)
  - Recognition for role in food system
  - Agriculture as the best use of the land
  - Increase of farm profit
  - Economic viability for all farm operations, large & small
  - Made and distributed locally – same qualities for all size of operations (closed system)
  - Good future uses of our water sources
  - Water quality –nutrient-management (water shed), food processing, and agriculture
  - Other products, not food related, come from agriculture
  - Connectivity between agriculture and forestry – credit trading
  - Applications of innovative technology for the Finger Lakes region

  - Synergy – agriculture, forestry, and tourism
  - Managing vs. implementation of agricultural goods
  - Closed system for exporting goods
  - How what we produce affects the end users
  - Supply and demand
  - Artisan/branding – develop program for specialties, taking advantage of niches
  - New generation of farmers/producers – new ideas and innovation
  - Farm competition – stronger beginning farmer programs and increasing entry for non-farmers
  - Changing the image of farming – opportunities
  - Careers in agriculture – awareness/education
  - Public awareness – farming is evolving
  - Urban agriculture
  - Lack of economic equipment in smaller farms/areas – need more opportunities, possible link with Rochester's history of innovative manufacturing
  - Renewable energy – bi products/primary products
  - Labor shortage in agriculture operations
  - Diversity
  - Agricultural watering – Erie Canal
  - Logistics for smaller producers (sustainability)
  - Dairy producers – state's vision – yogurt producing state
  - Improved efficiency, energy, and otherwise, particularly for small farmers
  - Overcoming current lack of processing capabilities would encourage import substitution
  - Use current assets in a more creative way
  - Economic and social sustainability
  - End point capacity – additional costs
  - Small and medium farmers have lower ROI than with larger farmers – lower ROI
  - Agriculture sometimes viewed in an industrial manner to feed people and sustain food suppliers
  - Better access to quality food
  - Farm to school programs
  - Less reliance on property taxes to provide services to general public
  - Preservation of farmland
  - Higher value added crops
  - Branding
  - Education program to diversify products
  - Rethink system to reduce waste and manage by-products
  - Diversified agriculture base, based on location and soils

- Visioning: (Forestry)
  - Save trees – do not allow to make into products
  - Forest intact
  - Parcel size/zoning issues
  - Where are the best soils located
  - Purchase development rights

  - Farmers own farm land
  - More or less forestry
  - What happens to vacant/abandoned lots?
  - Sustainable forest does not need to be harvested
  - Preserve farm land and forests – great need (strategy)
  - Incentives to generate new forests
  - Counting existing carbon sinks
  - Eco-system – beneficial values
  - Property taxes
  - Inheritance taxes
  - Renewable energy

- Measurements
  - Increase in gross receipts
  - Product vs. market price
  - Season/market change (averages based on an extended period of time)
  - Income production
  - Environmental quality (water and air)
  - Better access to local food
  - Track/monitor agricultural products – how is this beneficial/valuable and how to implement
  - Purchase develop rights (PDR)
  - How do we measure success? Preservation of land, conservation easement
  - Measure acres of prime farmland with exemption
  - Decrease in species added to endangered species list
  - Municipal farmland plants – develop to protect
  - Assessment of agencies who view agriculture as an important economic sector
  - Importance of the agriculture industry – new recognition
  - More of a distribution center
  - Processes
  - Collaboration with other regions
  - Percentage of overall purchases
  - Percentage of sales of local products to local institutions
  - Decrease in non-point source pollution
  - Track industrial codes for support service
  - Acres in agricultural property tax exemption

- Indicators
  - Reduction of non-point source pollution
  - Each type of farm, crop, product, etc.
  - Yield comparison – large topic, needs qualifier: e.g. yield compared with off-farm inputs
  - Net value to farmers
  - Conservation area (State Parks)
  - Linkages
  - Regeneration (cover mix)
    - Urban canopy coverage (measurement)
  - Air/soil quality – chemical uses (airborne, fertilizers, etc.)

- Water quality
- Percent diversion of bi-products
- Number of farms – encompass in yield
  - Farms vs. farm land
  - Total acreage
  - Farm size
  - Number of farms
- Diversity of crops
- Urban forestry: percentage of tree cover/percentage of canopy cover
- Invasive species
- Change in groundwater and surface water defined as impaired by NYSDEC
- Turnover of farm income in local economy and service businesses

Subject Area Lead Contact Information

- If you have specific question for the technical lead for Agriculture and Forestry, please contact:

  Charlie Greene, edr Companies
  cgreene@edrcompanies.com

Next Steps

- Next Stakeholder meeting is Wednesday, November 14th from 1-4pm.
  - Discussion on 'Story of Place', indicators and targets
  - Location TBD
  - Agenda will be sent out at least one week prior.

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

Finger Lakes Regional Sustainability Plan

FUNDED BY: NYSERDA – CLEANER, GREENER COMMUNITIES PROGRAM

Agenda

1. **Welcome and Introductions**
2. **Introduction to the project**
3. **Stakeholder Group**
4. **Visioning**
5. **Sustainability Indicators**
6. **Next steps**

PROJECT INTRODUCTION

Project Introduction

Background: Cleaner-Greener Communities Program:

- Announced by Governor Cuomo in his 2011 State of the State Address
- CGC supports the creation/implementation of regional sustainability plans
- Two phase program:
  - Phase I: Regional Sustainability Planning Grants ($10 million)
  - Phase II: Regional Sustainability Plan Implementation Grants ($90 million)
- Phase I is currently underway in all regions and Phase II is expected to launch in early 2013

Climate Change Commitment:

"reduce greenhouse gas emissions to 80% below 1990 levels by 2050"

Project Introduction

Sustainability Plan Scope (Phase 1):

- Baseline assessment of the region including Green House Gas (GHG) Inventory for the Region
- Incorporation of existing local planning efforts
- Long-term and short-term sustainability goals
- Climate change adaptation
- Identification of necessary actions
- Implementation strategy
- Stakeholder involvement

Project Introduction

Phase II:

- Launches early 2013
- Three annual rounds of ~$30 million
- Will fund projects that
  - Reduce GHG emissions
  - Support the achievement of the region's sustainability goals as identified in their plans
  - Are not eligible for current NYSERDA offerings
  - Prioritized by their regional planning team

Project Introduction

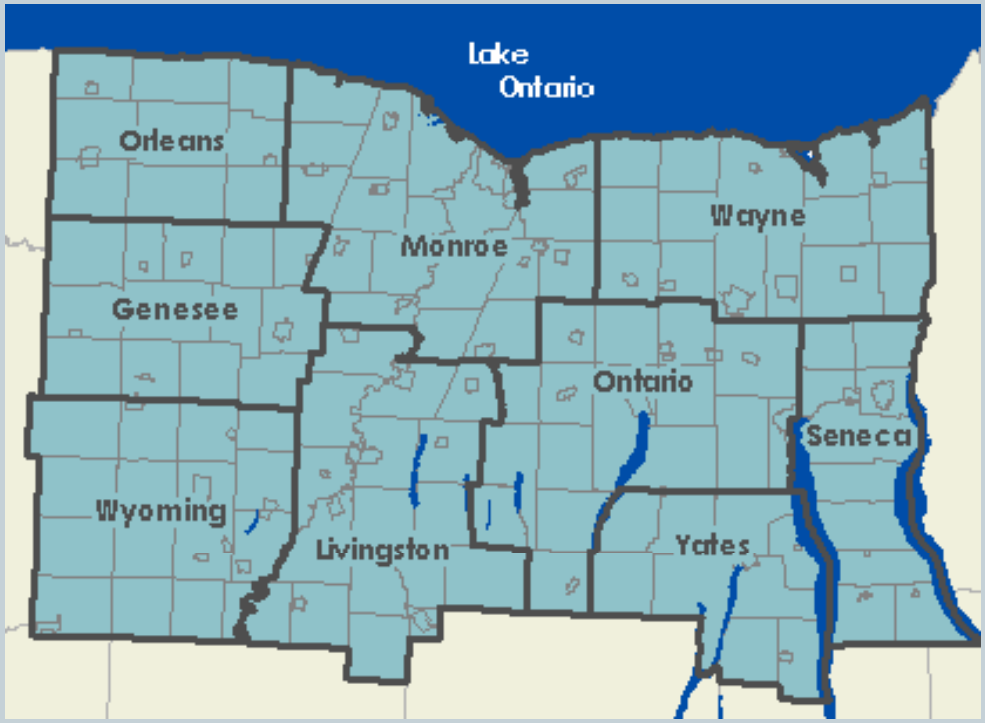
Things to Remember:

- The plan is not a bid for Phase II funds
- Unique opportunity
- Looking for a truly comprehensive planning process
- Must be realistically implementable
- Alignment with Regional Economic Development Plan
- This is your plan

Project Introduction

Finger Lakes Region:

- Monroe
- Orleans
- Genesee
- Wyoming
- Livingston
- Ontario
- Yates
- Seneca
- Wayne



Project Introduction

Schedule:

	2012			2013		
TASK	October	November	December	January	February	March
Baseline Assessment						
Stakeholder Meeting #1	X					
Sustainability Indicators / Inventory						
Target Establishment						
Stakeholder Meeting #2		X				
Public Meeting #1			X			
Implementation Strategy						
Stakeholder Meeting #3				X		
Public Meeting #2					X	
Draft Sustainability Plan						
Final Sustainability Plan						

STAKEHOLDER GROUP

Agriculture & Forestry Stakeholder Group

Mission Statement:

The **Agriculture and Forestry** Stakeholder Group will address agricultural businesses and lands, forest lands, and the multiple economic and ecological roles fulfilled by those enterprises and lands as they relate to social, economic, and ecological sustainability.

The agriculture and forestry implementation strategy will be carefully coordinated with the Land Use and Economic Development Focus Area plans.

Strategies and practices for consideration will include:

•Strengthening the economic viability of agricultural and forestry enterprises and communities that are supported by those enterprises;

•Fostering more efficient uses of energy inputs and the natural resources produced on the land of the region;

•Utilizing agricultural and forest industry by-products for energy production;

Agriculture & Forestry Stakeholder Group

Mission Statement:

• Reducing the energy cost of providing food and fiber to the WNY region through local processing and marketing;

• Encouraging continued agricultural use of productive farmland;

• Identifying farmlands at greatest risk of being developed; and

• Encouraging patterns of land use that support viable agricultural communities and discourage residential sprawl.

The Stakeholder Group will consider opportunities to improve surface water quality through land management changes designed to improve energy efficiency or energy production.

Energy Stakeholder Group

Role:

- Input into indicators and identifying data sources (meeting 1)
- Discussion of targets (meeting 2)
- Implementation strategies (meeting 3)
- Review draft report

Other Members? Have them email me at tara.boggio@tylin.com or can find link through project website.

VISIONING

Visioning

What is your vision for Agriculture and Forestry for this region for the future?

Visioning

How would you know if we are heading there?

SUSTAINABILITY INDICATORS

Sustainability Indicators

Direction from NYSERDA regarding indicators:

1. Choose at least one common indicator for each focus area for inclusion in your sustainability plan
2. There are five indicators that all of the regions are required to use. These indicators allow some information to be tracked across the state and to ensure that the CGC program is doing its part to support larger national efforts. Regions will not be required to choose additional indicators in these focus areas. These indicators will count as your required common indicator in each of the focus areas that they cover.
3. Regions may also choose to add other indicators that they feel are appropriate to establish a baselines and targets for improvements in their region.

Sustainability Indicators

Direction from NYSERDA including common indicators:

A. Common Indicators

6E: Economic Development – Farms: acreage / production of farms
This indicator provides a macro level view to economic development a major industry in New York State.

Sustainability Indicators

Criterion: Issue influencing agricultural sustainability

Indicator: Measurable relationships between variables that help to describe the state of that criterion

Discussion: List of preliminary considerations regarding the indicators and criteria

These are not exclusive lists- your input is welcome and valued

Agricultural Indicators

Criterion: Diversity of vegetation and agricultural production

Indicator(s): *Yield*
Land cover
Crop cover

Discussion: Diversity as a hedge against economic and climate fluctuation;
Economic and environmental impacts of biodiversity and monoculture- *both* positive and negative

Agricultural Indicators

Criterion: Use of external and purchased inputs

Indicator(s): *Amount of external and purchased inputs*
Amount of land in production, or yield volume

Discussion: Benefits of closed-system agriculture;
Potential loss of economic opportunities within agricultural services sector

Agricultural Indicators

Criterion: Community economic interdependence

Indicator(s): *Input-output inter-industry multipliers*

Discussion: Availability of longitudinal data is unknown

Forestry Indicators

Criterion: Biophysical condition of forest resources

Indicator(s): *Area and percent of forest by type*
Fragmentation of forests
Area and percent of forest affected by biotic processes and abiotic agents
Area and percent of forest available for wood production
Total growing stock and annual increment available for wood production

Forestry Indicators

Criterion: Ecological biodiversity

Indicator(s): *Area and percent of forest in protected areas*
Number of native forest-associated species
Number and status of native forest-associated species at risk
Management activities that meet best management practices to protect soil and water

Discussion: Difficulty in measuring management activities?

Sustainability Indicators

OTHER Indicators?

- Consideration of constraints of the data – is data available (historical, current, future)?

- Can targets be established and met with projects?

NEXT STEPS

Next Steps

Next stakeholders meeting:

WHEN: Week of Nov 13-15th (Tues-Thurs)
WHAT: Discussion on "Story of Place" and targets

Meeting minutes and agenda for next meeting within next 2 weeks

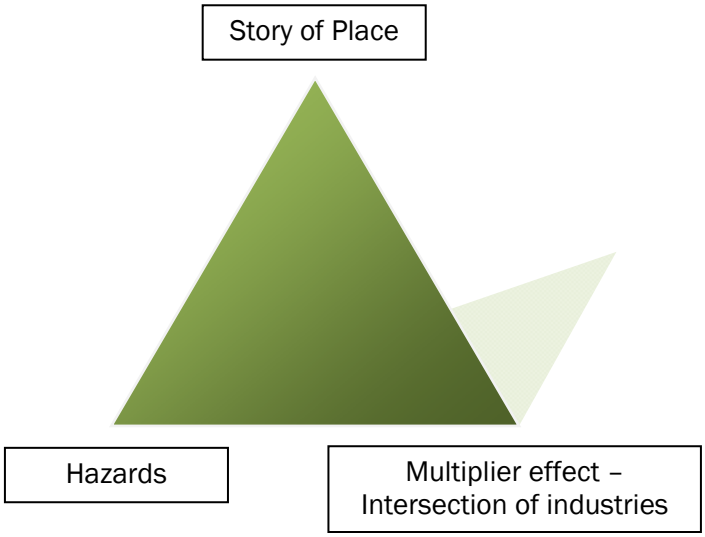
THANK YOU

MEETING TITLE	Economic Development Stakeholders Group Meeting #1	
DATE AND TIME	October 17, 2012 9:00am-2:00pm	
ATTENDEES	Julie Marshall	Livingston County
	Jim Homburger	Wayne County
	Hal Smith	Ontario County HALCO
	Bill Emm	Genesee Community College
	Mike Alt	Eastman Business Park
	Mike Haugh	CMH Consulting
	Jim Whipple	Orleans County
	Valarie Avalone	Monroe Community College
	Greg Albert	Genesee/Finger Lakes Regional Planning
	Dave Zorn	Genesee/Finger Lakes Regional Planning
	Lisa Cleckner	Hobart & William Smith Colleges
	Lewis Stess	Friends of the GardenAerial
	Duncan Moore	University of Rochester
	Don Naetzker	Finger Lakes Museum
	Laura Lane	Wyoming County Chamber
	Thad Schofield	City of Rochester Business Development
	Peg Churchill	Wayne County IDA
	George Thomas	CEI
	Roxanne Kise	Western Erie Canal Alliance
	Jan Pisanczyn	SUNY Brockport Small Business Development
	Bob McNary	Wayne County Economic Development
	Sue Vary	Ontario County Economic Development
	Erin Henry	Harvard Business School
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S, TYLI
- Healthy Regional Economy
  - Need a foundation – federal and other grants
  - Strong team base
  - Place Base – Place Space
  - How do we use the story of place to get funding – next meeting
  - Hazards
    - Climate change/mitigation
    - Rainfall
    - how to integrate into 'Plan'
    - Strengthen position
    - No going backwards
  - Building on the plan already in place in the Finger Lakes region
  - NYSERDA funding
  - Housing Patterns, Economic Development Patterns (activities), Cultural Patterns – weave together to find similarities

- Introduction
  - Introduce yourself regarding your contribution to Regional Economic Health and how you are connected in being here today



Group Exercise

- 5 Categories in which introduce a way to understand the working of our Economy
  1. Event or period that changed this region based on our response to it
  2. Favorite story of history of this place
  3. Interesting uniqueness in Natural history
  4. Thread through all industries in the region
  5. Unique physical feature(s) that depicts this place – why is it symbolic
- Group responses:
  - Category 1
    - Kodak(Past and Present)
      - Grow economy through small businesses, new developments
      - Job growth
      - Decrease in risk taking
      - Educated force in Rochester
      - Most giving community – George Eastman's legacy
      - Rural areas have smaller business after Kodak's downsizing; employment levels stable in more areas than other
    - Erie Canal
      - Business growth, industrial era, marketplace
      - Boom town
      - Monopoly
      - Transportation of goods
      - Agriculture
    - Advanced Transportation
      - Where people work vs. where they live
      - Telecommunication usage – more people able to work from home

- Advanced Technology
  - Green Nature; sustainability, Greentopia
  - Lost population in cities
  - Agricultural resources
- Festivals
  - Strong intellectual force
  - Parks
  - Creative class – underground classification
  - Attractor and retainer
- George Eastman
  - Created jobs/businesses
  - Culture of generosity
  - Cultural assets
  - Higher education system

o Category 2
- Canal Industrial Era – made villages moved out, scared of the idea of change (technology)
- Sense of place – more city
- 80-90% of forestry transformed to agricultural uses for the canal, over time, we gained it all back (Green technologies)

o Category 3
- Ice Age
  - Helped create path for canal from glaciers
  - Disconnection between Finger Lakes and Lake Ontario
  - Waterways – Finger Lakes, Lake Ontario, Genesee River
  - Sediment patterns
  - Industries centered around areas; center for food processing, changes, community issues, empty storefronts (Main Streets)

o Category 4
- Water
  - Microclimates
  - Power
  - Technology (education)
  - Transportation

o Category 5
-

Hazards

- Amplitude and frequency of rainfall
- Railroads running along the Canal/waterways – surface chemicals being forced into the water
- Telecommunications
- Energy corridors
- Interchange of lock system – communication issues, agencies working independently
- Logs moving next to bridges – could potentially destroy bridges
- Opportunities – funding through federal grants
- Sewer issues due to the high intensity of water flow

Introduction to the project

- See power point presentation from October 17th

Stakeholder Group

- See power point presentation from October 17th
- Website now live at www.sustainable-fingerlakes.org
- Members can join more than one stakeholder group.

Indicators & Targets

- 3-5 indicators are required to be approved by NYSERDA
- Attendees were asked to engage in a visioning exercise to think about their vision for economic development in the future.
- Visioning:
    - Tourism – attract more visitors
    - Measure of success – lower Green House Gas Emissions over time
    - Reduction in emissions
    - Private sector growth against sustainability measurements
    - Increase eco energy park and industrial parks – based on symbiotic relationships
    - Number of new businesses – time frame depends on industry, min. of 5 years
    - Increase capture of graduate
    - Sufficient infrastructure investments
    - Sense of pride/ownership (Wegmans) – how do people feel that live here
    - Younger workforce – people staying in the community after school or moving for jobs from other areas
    - Maintaining our Main Streets
    - Corporate vs. industry vs. communities
    - Move towards entrepreneurial city – risk taking (High Tech Rochester)
    - New ideas vs. patents
    - Where are young people employed – measure by sector
    - Poverty levels are more so in rural areas
    - Use of farm acreage
    - Improved racial diversity/equality
    - Pockets of poverty – how to improve over time (how to measure)
    - Develop areas of poverty
    - Where are people graduating from
    - Education + training + graduate location of employment
    - More vocational education – BOCES – connections with higher education programs
    - Personal sense of place – educational and industry
    - School to work – shadowing programs
    - Education at all levels
    - Funding opportunities
    - Spending mandates – how they affect businesses, education, training, tourism, etc. – customize based on unique needs
    - Protection of key elements/infrastructure for economic development
    - Lake levels – economic development infrastructure and tax base
    - Disaster prevention
    - Natural resources – protection only for this region
    - Academic technologies – promote within schools – commercialize

  - Raise rating of education on a state/global level
  - Government investment in research for institutions
  - Venture capital – increase in education
  - Social venture network/investor

- Indicators
  - Required: Housing + Transportation Index : Transportation/Housing affordability
  - Net advocate score
  - Tourism spending (REDC)
  - Age distribution of workers
  - Money spent on infrastructure
  - Measuring sense of pride, quality of life, connection to place
  - Maintaining our Main Streets
  - Measure disposable income
  - Number of people receiving social services
  - Job training programs
  - Number of firms and employees (types of businesses) – 10+ employees – impact on region based on employment (net formation and survival)
  - Use of farm acreage by type of crop/end use
  - Business locations where infrastructure already exists
  - Measure of diversity
  - Number of vocational graduates
  - Stem programs – partnership with industries
  - Funding opportunities
  - Water quality – ISO measurement (net-zero)
  - Track number of flood events – loss of property value
  - Where visitors are coming from
  - Infrastructure development vs. re-development funding – land use, planning, ROI
  - Water resource protection – imports and exports (invasive species)
  - Investment in research
  - Venture capital

Ending Remarks, Comments, Statements

- Story of Place
  1. Stakeholder engagement
  2. Project Design/Presentation
  3. Evaluation of Story of Place
- Value – what are we walking away with
  - Context – what we are focusing on
  - Finding your own voice – uniqueness
  - Connections with people, place – moving forward
  - More of the right players attending meetings

Subject Area Lead Contact Information

- If you have specific question for the technical lead for Economic Development, please contact:

  Carol Sanford, DEGI
  interoctave@comcast.net

Next Steps

- Next Stakeholder meeting is Thursday, November 15th from 1-5pm.
  - Discussion on 'Story of Place', indicators and targets
  - Location TBD
  - Agenda will be sent out at least one week prior

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

Finger Lakes Regional Sustainability Plan

FUNDED BY: NYSERDA – CLEANER, GREENER COMMUNITIES PROGRAM

PROJECT INTRODUCTION

Project Introduction

Background: Cleaner-Greener Communities Program:

- Announced by Governor Cuomo in his 2011 State of the State Address
- CGC supports the creation/implementation of regional sustainability plans
- Two phase program:
  - Phase I: Regional Sustainability Planning Grants ($10 million)
  - Phase II: Regional Sustainability Plan Implementation Grants ($90 million)
- Phase I is currently underway in all regions and Phase II is expected to launch in early 2013

Climate Change Commitment:

"reduce greenhouse gas emissions to 80% below 1990 levels by 2050"

Project Introduction

Sustainability Plan Scope (Phase 1):

- Baseline assessment of the region including Green House Gas (GHG) Inventory for the Region
- Incorporation of existing local planning efforts
- Long-term and short-term sustainability goals
- Climate change adaptation
- Identification of necessary actions
- Implementation strategy
- Stakeholder involvement

Project Introduction

Phase II:

- Launches early 2013
- Three annual rounds of ~$30 million
- Will fund projects that
  - Reduce GHG emissions
  - Support the achievement of the region's sustainability goals as identified in their plans
  - Are not eligible for current NYSERDA offerings
  - Prioritized by their regional planning team

Project Introduction

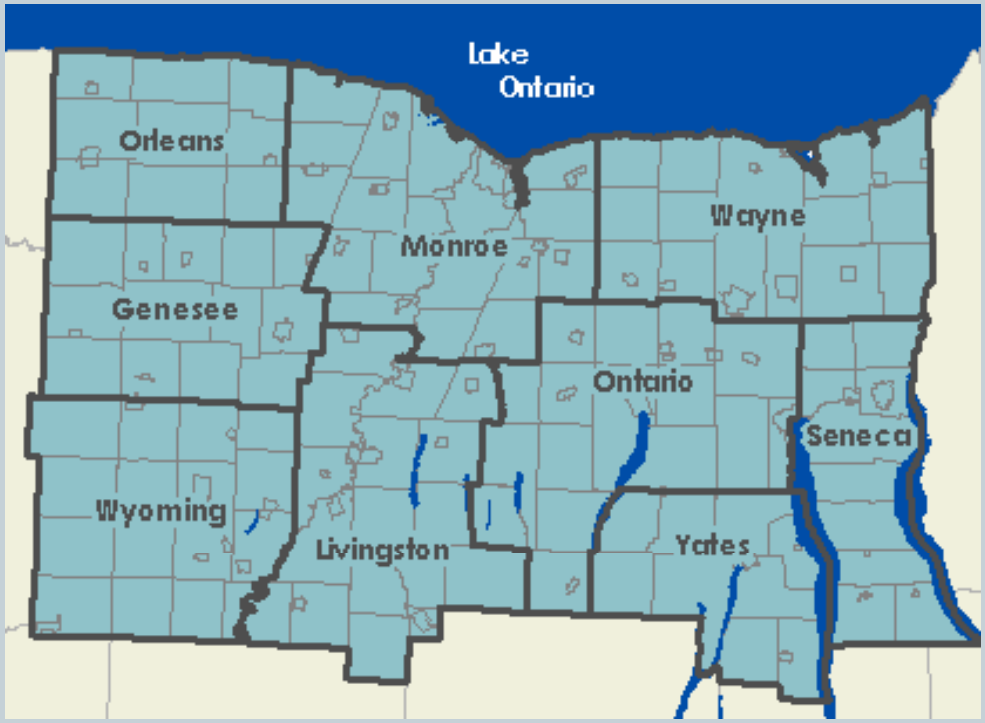
Things to Remember:

- The plan is not a bid for Phase II funds
- Unique opportunity
- Looking for a truly comprehensive planning process
- Must be realistically implementable
- Alignment with Regional Economic Development Plan
- This is your plan

Project Introduction

Finger Lakes Region:

- Monroe
- Orleans
- Genesee
- Wyoming
- Livingston
- Ontario
- Yates
- Seneca
- Wayne



Project Introduction

Schedule:

	2012			2013		
TASK	October	November	December	January	February	March
Baseline Assessment						
Stakeholder Meeting #1	X					
Sustainability Indicators / Inventory						
Target Establishment						
Stakeholder Meeting #2		X				
Public Meeting #1			X			
Implementation Strategy						
Stakeholder Meeting #3				X		
Public Meeting #2					X	
Draft Sustainability Plan						
Final Sustainability Plan						

STAKEHOLDER GROUP

Economic Development Stakeholder Group

Mission Statement:

The **Economic Development** Stakeholder Group is tasked to coordinate activities with the Finger Lakes Regional Economic Development Council (FLREDC) and clearly address how the goals of the sustainability plan intersect with and support those of the REDP.

The Plan will describe and quantify the economic development benefits of the implementation strategies identified in the Sustainability Plan. The Planning Team and Stakeholder Group will work closely with the Regional Economic Development Council and its working groups throughout the planning process to ensure that the strategies identified by the two plans support both the economic development and sustainability goals of the Finger Lakes region.

Economic Development Stakeholder Group

Role:

- Input into indicators and identifying data sources (meeting 1)
- Discussion of targets (meeting 2)
- Implementation strategies (meeting 3)
- Review draft report

Other Members? Have them email me at tara.boggio@tylin.com or can find link through project website.

SUSTAINABILITY INDICATORS

Sustainability Indicators

Direction from NYSERDA regarding indicators:

1. Choose at least one common indicator for each focus area for inclusion in your sustainability plan
2. There are five indicators that all of the regions are required to use. These indicators allow some information to be tracked across the state and to ensure that the CGC program is doing its part to support larger national efforts. Regions will not be required to choose additional indicators in these focus areas. These indicators will count as your required common indicator in each of the focus areas that they cover.
3. Regions may also choose to add other indicators that they feel are appropriate to establish a baselines and targets for improvements in their region.

Sustainability Indicators

REDC Strategic Plan Indicators

Sustainability Indicators

OTHER Indicators?

- Consideration of constraints of the data – is data available (historical, current, future)?
- Can targets be established and met with projects?
- REDC Strategic Plan Indicators

NEXT STEPS

Next Steps

Next stakeholders meeting:

WHEN: Week of Nov 13-15th (Tues-Thurs)
WHAT: Discussion on "Story of Place" and targets

Meeting minutes and agenda for next meeting within next 2 weeks

THANK YOU

MEETING TITLE	Energy Stakeholders Group Meeting #1	
DATE AND TIME	October 10, 2012 3:00pm-5:00pm	
ATTENDEES	Greg Albert	Genesee/Finger Lakes Region Planning
	George Thomas	CEI
	Ora Rothfuss	Wayne County Planning
	Dwight Harrienger	Stantec Consultants Inc.
	Tom Trabold	RIT
	Bob Bechtold	Harbec
	Bill Emm	GCC
	James Hoffman	Wayne County Planning
	Robyn Brookhart	Liberty Pumps
	Anne Spaulding	City of Rochester Environmental Quality
	Ken Moore	Village of Fairport
	Graham Fennie	Epiphergy
	Kevin Schulte	Sustainable Energy Developments
	Justin DelVecchio	Trane
	Jeri Pickett	Stantec
	Mark Coleman	RIT
	Ram Shrivastava	Larsen Engineers
	Norman Jones	City of Rochester/Rochester District Heating
	John VaValo	UOC
	James Tydings	AWR
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S, Genesis, TYLI

Stakeholders in attendance were shown a slide presentation illustrating the basic goals of the project, the timeline for project milestones, after which an open discussion ensued giving each stakeholder an opportunity to voice their opinions, goals and vision for energy as a component of a sustainable future for the Finger Lakes Region. The goal of this exercise is to collect and share the values and visions of the stakeholders, in order to advance the goals of the overall sustainability study.

Introduction to the project

- See power point presentation from October 10th

Stakeholder Group

- See power point presentation from October 10th
- Website now live at www.sustainable-fingerlakes.org
- Members can join more than one stakeholder group.

The Energy Stakeholders Group will contribute to the development of the indicators and the portion of the final Genesee Regional Finger Lakes Sustainability Plan that addresses energy.

The language shown below contains the scope of work for the Energy component of the Sustainability Plan.

Energy - The Plan shall thoroughly address energy and the GHG emissions associated with its use and generation and evaluate electric generation, electric use, and on-site combustion in the Region by building type (e.g., residential, commercial, industrial, institutional, etc.). Recommendations shall be identified on near-, medium-, and long term bases to address the energy efficiency of existing buildings; energy building standards for new construction; financing tools that support energy efficiency and renewable energy investment; innovative ownership, financing, or leasing mechanisms for renewable energy systems; and community-scale energy systems (e.g. district heating and cooling). Cost, potential energy savings, and related GHG emission reductions shall be evaluated for each potential strategy.

Indicators & Targets

- 3-5 indicators are required to be approved by NYSERDA
- Attendees were asked to engage in a visioning exercise to think about their vision for energy in the future.

The topics introduced at this first stakeholders meeting are captured below by category. Each Stakeholder, whether present or absent at the first meeting, is asked to review these categories to get buy-in from the group and to establish a baseline for going forward, within the parameters of the program goals.

RENEWABLE ENERGY

- Adoption of renewable energies
- Access to and affordability of renewable energy

ALTERNATIVE ENERGY

- Alternative fueling stations
- Net metering
- Bio gas
- Wind energy
- Solar energy
- Ethanol production

ENERGY REDUCTION

- Net zero/neutral from a carbon footprint point of view (power)
- Reduction in the amount of energy necessary to condition spaces
- Reduction in amount of energy we need/consume
- Increase in simple energy controls
- Changes in operational procedures
- Up to 75% of energy is wasted

REGIONAL IMPACTS

- Reward by reduction of energy use
- Economic growth and development
- Site specific
- Farmers can be self-sufficient
- Communities look at waste as renewable energy
- Incentive programs
- Promote green energy
- Pay back on green power
- Power over long distances
- Benefits of NYSERDA's funding – giving back to tax payers
- Regional capture of funding from NYSERDA
- All municipalities in the region need to follow the same set of rules
- Increase desirability to live in NY – Energy resources/usage
- Increase reliability of power grid system
- Local offset market
- Collaborative – regional natural resources
- Keeping energy costs low, affordable
- Attract larger business by natural resources
- Local governments want cheaper energy to attract development
- Fossil fuel/utilities – request surcharge to fund green energy programs
- Public Service Commission
- Energy generators to return money to region
- Regulate use within region (not town to town, bad for competition)
- Find ways to share excess energy between companies/communities, avoid waste
- More cooperatives for energy and natural resources
- Potential tax break for more energy efficient structures

BASELINE MEASUREMENTS

- Industries moving back to the area
- Carbon intensity received by user
- Efficiency of products consumers use – point of use
- Sustain profits
- Number of degree days (heating/cooling) goes down
- Generating only heat – combine heat and power
- Net zero club – identify achievers of next zero
- Key market indicators – green distribution generation
- Residential, commercial, industrial sectors
- Affordability index – consumption levels
- Agricultural bi-products converted into energy
- Energy professionals in the area = more activity
- Energy star projects/products
- Education facilities creating programs to learn about sustainability issues, concerns, and solutions
- Number of collaborating school systems
- Education programs – students and graduates

- Gross domestic products from green thoughts/technologies
- Pre green initiatives (current vs. past)
- Green fueling stations – some already in City of Rochester
- Advanced energy technologies
- Community involvement
- School #46 – Pencil Program – green awareness
- Changing cultures – sustainability
    - Not experimental anymore – implement solutions
- Reduction in energy use – create own energy - sustainable
- No GHGE
- Calculating how much green technologies are being used per capita
- Green systems and products

GREEN HOUSE GAS REDUCTION

- Green House Gas inventory/reduction – 'primary goal'
- How to quantify GHG – measurements
- Some goals unattainable without changes in State Policies
- Restrictions – Regional/State mandates – set rules
- Putting power where we need it
- Selling power – locally or globally
- Least carbon weighted energy – direct and indirect
- Look at alternatives to carbon
- Utility companies count data and waste resources
- How to measure energy waste
- Long term effects
- Energy independent
- Is the Greenest energy is one that is conserved, captured, net-metered?
- Affect on supply and demand – reduce demand (self-generation)
- 75% of energy is wasted

INDICATORS

1A: Regional energy consumption per capita (MMBtu) - REQUIRED INDICATOR

Energy consumption per capita is an indicator that encompasses all of the energy use within a 4 region on a scale that is highly relatable. Understanding how much energy is consumed per capita can be very effective in illuminating the need to reduce overall energy consumption regardless of its source. To calculate the value for this indicator, the calculations for several other indicators are needed and should include all sources of energy consumption (fuel combustion, electricity, renewables, etc).

This is a Mandatory Indicator

1B: Energy – Renewable Energy – Total installed renewable energy capacity
Renewable capacity provides an understanding of the willingness of the population to adopt newer, cleaner source of energy generation on their own. Monitoring this indicator over time can help the region understand any trends resulting from improvements in technology or changes in energy policy.

This Indicator was selected for consideration by the Stakeholders Group.

1C: Energy – Energy Efficiency – On-site building fuel consumptions per end use (residential, commercial, and industrial)
Stationary energy combustion can be significant at a regional level. Reducing fossil fuel combustion is achieved by reducing the amount of fuel consumed for heating in any one of the markets sectors.

This Indicator was selected for consideration by the Stakeholders Group. One significant factor to consider here is how much of the energy actually generated get consumed, vs. how much is lost, wasted, or simply un-used.

1D: Energy – Regional electricity grid fuel mix
Indicates the penetration of non-fossil fuel-based electricity sources.

This Indicator was selected for consideration by the Stakeholders Group, which is primarily a measure of current or potential alternative energy sources within the region.

Ultimately, each category will need to fit into one or more of the indicators, or re-focused into another category / indicator.

Subject Area Lead Contact Information

- If you have specific question for the technical lead for Energy, please contact:

James Burton, T.Y. Lin International (TYLI)
james.burton@tylin.com

Next Steps

- Next Stakeholder meeting is Wednesday, November 14th from 9am-noon.
  - Discussion on 'Story of Place', indicators and targets
  - Location TBD
  - Agenda will be sent out at least one week prior

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

Finger Lakes Regional Sustainability Plan

FUNDED BY: NYSERDA – CLEANER, GREENER COMMUNITIES PROGRAM

Agenda

1. **Welcome and Introductions**
2. **Introduction to the project**
3. **Stakeholder Group**
4. **Visioning**
5. **Sustainability Indicators**
6. **Next steps**

PROJECT INTRODUCTION

Project Introduction

Background: Cleaner-Greener Communities Program:

- Announced by Governor Cuomo in his 2011 State of the State Address
- CGC supports the creation/implementation of regional sustainability plans
- Two phase program:
  - Phase I: Regional Sustainability Planning Grants ($10 million)
  - Phase II: Regional Sustainability Plan Implementation Grants ($90 million)
- Phase I is currently underway in all regions and Phase II is expected to launch in early 2013

Climate Change Commitment:

"reduce greenhouse gas emissions to 80% below 1990 levels by 2050"

Project Introduction

Sustainability Plan Scope (Phase 1):

- Baseline assessment of the region including Green House Gas (GHG) Inventory for the Region
- Incorporation of existing local planning efforts
- Long-term and short-term sustainability goals
- Climate change adaptation
- Identification of necessary actions
- Implementation strategy
- Stakeholder involvement

Project Introduction

Phase II:

- Launches early 2013
- Three annual rounds of ~$30 million
- Will fund projects that
  - Reduce GHG emissions
  - Support the achievement of the region's sustainability goals as identified in their plans
  - Are not eligible for current NYSERDA offerings
  - Prioritized by their regional planning team

Project Introduction

Things to Remember:

- The plan is not a bid for Phase II funds
- Unique opportunity
- Looking for a truly comprehensive planning process
- Must be realistically implementable
- Alignment with Regional Economic Development Plan
- This is your plan

Project Introduction

Finger Lakes Region:

- Monroe
- Orleans
- Genesee
- Wyoming
- Livingston
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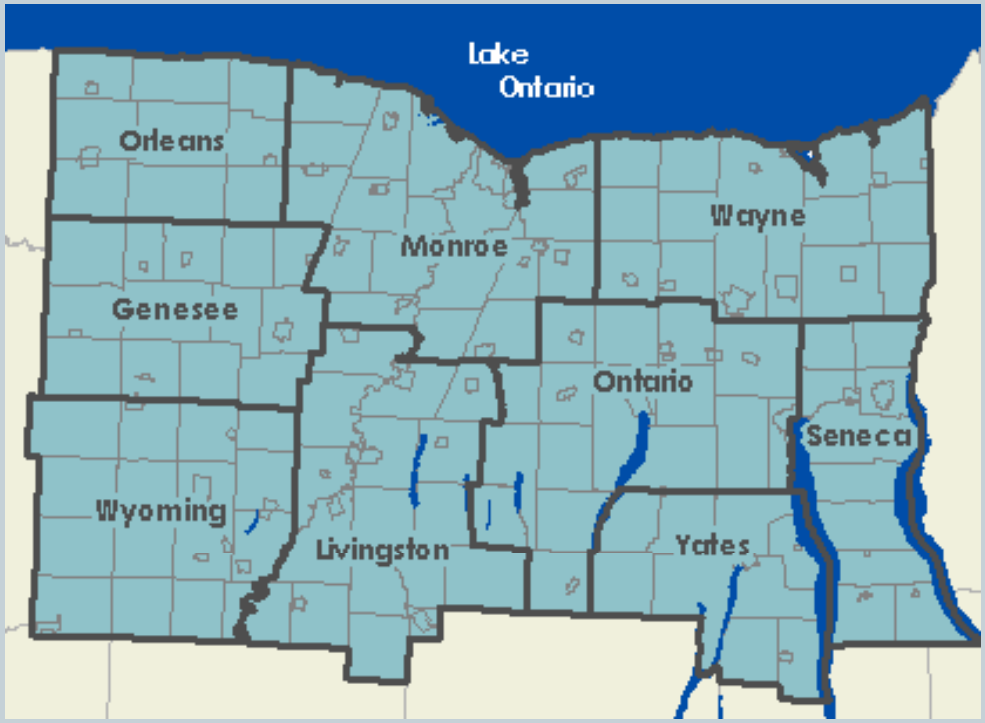

Project Introduction

Schedule:

	2012			2013		
TASK	October	November	December	January	February	March
Baseline Assessment						
Stakeholder Meeting #1	X					
Sustainability Indicators / Inventory						
Target Establishment						
Stakeholder Meeting #2		X				
Public Meeting #1			X			
Implementation Strategy						
Stakeholder Meeting #3				X		
Public Meeting #2					X	
Draft Sustainability Plan						
Final Sustainability Plan						

STAKEHOLDER GROUP

Energy Stakeholder Group

Mission Statement:

The **Energy** Stakeholder Group is tasked to address energy and Greenhouse Gas (GHG) emissions associated with its use and generation. The Plan will evaluate electric generation, electric use, and on-site combustion in the Finger Lakes region by building type (residential, commercial, industrial, and institutional). The Plan will consider short-, medium- and long-term strategies that will address:

- The energy efficiency of existing buildings;
- Energy building standards for new construction;
- Financing tools that support energy efficiency and renewable energy investment;
- Innovative ownership, financing, or leasing mechanisms for renewable energy systems; and
- Community-scale energy systems.

The Plan also will evaluate cost, potential energy savings and related GHG emission reductions for each strategy.

Energy Stakeholder Group

Role:

- Input into indicators and identifying data sources (meeting 1)
- Discussion of targets (meeting 2)
- Implementation strategies (meeting 3)
- Review draft report

Other Members? Have them email me at tara.boggio@tylin.com or can find link through project website.

VISIONING

Visioning

What is your vision for Energy for this region for the future?

Visioning

How would you know if we are heading there?

SUSTAINABILITY INDICATORS

Sustainability Indicators

Direction from NYSERDA regarding indicators:

1. Choose at least one common indicator for each focus area for inclusion in your sustainability plan
2. There are five indicators that all of the regions are required to use. These indicators allow some information to be tracked across the state and to ensure that the CGC program is doing its part to support larger national efforts. Regions will not be required to choose additional indicators in these focus areas. These indicators will count as your required common indicator in each of the focus areas that they cover.
3. Regions may also choose to add other indicators that they feel are appropriate to establish a baselines and targets for improvements in their region.

Sustainability Indicators

Direction from NYSERDA including common indicators:

A. Common Indicators

1A: Regional energy consumption per capita (MMBtu) - REQUIRED INDICATOR
Energy consumption per capita is an indicator that encompasses all of the energy use within a region on a scale that is highly relatable. Understanding how much energy is consumed per capita can be very effective in illuminating the need to reduce overall energy consumption regardless of its source. To calculate the value for this indicator, the calculations for several other indicators are needed and should include all sources of energy consumption (fuel combustion, electricity, renewables, etc.).

1B: Energy – Renewable Energy – Total installed renewable energy capacity
Renewable capacity provides an understanding of the willingness of the population to adopt newer, cleaner source of energy generation on their own. Monitoring this indicator over time can help the region understand any trends resulting from improvements in technology or changes in energy policy.

Sustainability Indicators

Direction from NYSERDA including common indicators:

B. Secondary Indicators

1C: Energy – Energy Efficiency – On-site building fuel consumptions per end use (residential, commercial, and industrial)
Stationary energy combustion can be significant at a regional level. Reducing fossil fuel combustion is achieved by reducing the amount of fuel consumed for heating in the residential sector or reducing the amount of fuel consumed in industrial production.

1D: Energy – Regional electricity grid fuel mix
Indicates the penetration of non-fossil fuel-based electricity sources.

1E: Energy – Reduction in annual energy use per end use

Sustainability Indicators

OTHER Indicators?

- Consideration of constraints of the data – is data available (historical, current, future)?

- Can targets be established and met with projects?

NEXT STEPS

Next Steps

Next stakeholders meeting:

WHEN: Week of Nov 13-15th (Tues-Thurs)
WHAT: Discussion on "Story of Place" and targets

Meeting minutes and agenda for next meeting within next 2 weeks

THANK YOU

MEETING TITLE	Material & Waste Management Stakeholders Group Meeting #1	
DATE AND TIME	October 10, 2012 8:00am-10:00am	
ATTENDEES	Peggy Grayson	GLOW Region Solid Waste Management Committee
	Greg Albert	Genesee/Finger Lakes Region Planning
	Andy Goldstein	Recovery Cascades
	Graham Fennie	Eiphergy
	Adam Maurer	Finger Lakes Institute
	George Thomas	CEI
	Mark Salamaca	Sunnking Electronics Recycling
	Cindy Jessop	Sunnking Electronics Recycling
	Anne Spaulding	City of Rochester Environmental Quality
	Karen Simoni	City of Rochester
	Brenda Griffin	NY C & D Resource Center
	Ray Yacuzzo	NYSDEC
	Enid Cardinal	RIT
	Ora Rothfuss	Wayne Co. Planning Council
ORGANIZED BY	Tara Boggio, T.Y. Lin International	

Welcome & Introductions

- Consultant team members – C&S, Syracuse Center of Excellence, Genesis, TYLI

Introduction to the project

- See power point presentation from October 10th

Stakeholder Group

- See power point presentation from October 10th
- Website now live at www.sustainable-fingerlakes.org
- Members can join more than one stakeholder group.

Indicators & Targets

- 3-5 indicators are required to be approved by NYSERDA
- Attendees were asked to engage in a visioning exercise to think about their vision for material and waste management in the future.
- Visioning:
    - Managed by county agencies – take away from government and give to agencies which will create fewer barriers.
    - Waste management authority for the region – region vs. county
    - Cradle to cradle environment – no such thing as waste
    - Material science – incentives – more innovative aspect of how to remove waste
    - Taxes on packages that are not recyclable
        - Incentives for reusable products
        - Product stewardship
    - Out of sight, out of mind and how the product is transported
    - Deconstruction capabilities – reuse materials vs. demolition

- Link between economic development and material use (recycling)
- Inventories in regions where jobs have been created by material reuse
- Conservation of natural resources – long term vs. short term goals
- Waste landfill costs/economics
- Higher value on land
- New economic system
- Landfills = potential resources
- Synergy between economics, agriculture development and recycling of materials/landfills
- Water resources
- Design for reconstruction/reuse – new buildings reuse materials from previous structures
- Understand waste characteristics from each region
- Involving younger adults/children
- Invest more in education or build policies first?
- More institutional expertise
- Articulate and value externalities
- True cost of ownership (packaging and products)
  - Incentives for reusable products
  - Product stewardship
- Landfill economics → value on disposal, land
- New economic system
- Seeing example of landfills as resource (e.g. mining)
- Connecting agriculture with materials management
  - Food waste as energy
- Whey management
- Bold enforcement and policy decisions with policy actions
- More efficient waste collection
- More focus on education → sustainability / green technologies
- Use schools as examples
- Develop local markets for recyclables → self reliance by regions
- Eliminating middleman in recycling
- Knowing what we have and what we are capturing → data/knowledge
- Learn from other places (e.g. Europe)
- Understand waste characteristics from each region

- Measurements
  - Landfills stop expanding
  - Baseline data → understand what we're measuring
  - Recycling revenue > recycling costs
  - Increase in private sector recycling
  - Generating tonnage – Finger Lakes region baseline data
  - Growth in private sector industries that use recycling feed stocks
  - Haulers hauling less; less money spent
  - Recycling done under the radar – scrap trucks
  - Consumer choices change through marketing → balance between marketing and policy
  - New learning outcomes around sustainability
  - Total waste material decreasing

    - 2009 EPA MSW report
    - Total volume of solid waste decreasing
  - Rate of recycling increasing in economically distressed areas
  - Job creation in this field

- Indicators – Transportation
  - 4a hybrid → reduction in materials use
  - 4a / 4b
  - 4d: no need for "per vehicle" → overall
  - Policy on importing waste → feedstock to local supply chain
  - 4a: total and per capita
  - 4b: solid waste diverted per capita
  - Generating P&L for region → business plan
  - 4f = important
  - Look at waste categorically
  - Build on existing businesses (e.g. packaging)
  - How mach materials waste is sent out of the region
  - Timeline of reduction (DEC)
  - Future costs

Subject Area Lead Contact Information

- If you have specific question for the technical lead for Materials and Waste Management, please contact:

  Mark Lichtenstein, Syracuse COE
  mlichenstein@syracusecoe.org

Next Steps

- Next Stakeholder meeting is Monday, November 19th from 1-4pm.
  - Discussion on 'Story of Place', indicators and targets
  - Location TBD
  - Agenda will be sent out at least one week prior.

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

Finger Lakes Regional Sustainability Plan

FUNDED BY: NYSERDA – CLEANER, GREENER COMMUNITIES PROGRAM

Agenda

1. **Welcome and Introductions**
2. **Introduction to the project**
3. **Stakeholder Group**
4. **Visioning**
5. **Sustainability Indicators**
6. **Next steps**

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Background: Cleaner-Greener Communities Program:

- Announced by Governor Cuomo in his 2011 State of the State Address
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- Two phase program:
  - Phase I: Regional Sustainability Planning Grants ($10 million)
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- Phase I is currently underway in all regions and Phase II is expected to launch in early 2013

Climate Change Commitment:

"reduce greenhouse gas emissions to 80% below 1990 levels by 2050"

Project Introduction

Sustainability Plan Scope (Phase 1):

- Baseline assessment of the region including Green House Gas (GHG) Inventory for the Region
- Incorporation of existing local planning efforts
- Long-term and short-term sustainability goals
- Climate change adaptation
- Identification of necessary actions
- Implementation strategy
- Stakeholder involvement

Project Introduction

Phase II:

- Launches early 2013
- Three annual rounds of ~$30 million
- Will fund projects that
  - Reduce GHG emissions
  - Support the achievement of the region's sustainability goals as identified in their plans
  - Are not eligible for current NYSERDA offerings
  - Prioritized by their regional planning team

Project Introduction

Things to Remember:

- The plan is not a bid for Phase II funds
- Unique opportunity
- Looking for a truly comprehensive planning process
- Must be realistically implementable
- Alignment with Regional Economic Development Plan
- This is your plan

Project Introduction

Finger Lakes Region:

- Monroe
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- Yates
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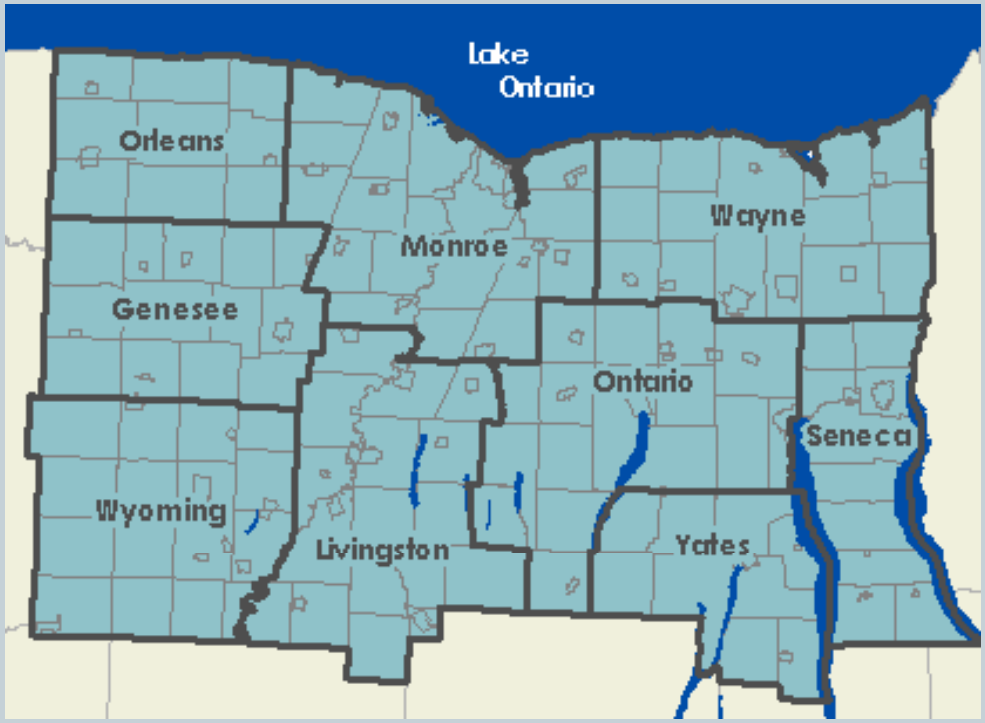

Project Introduction

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Stakeholder Meeting #1	X					
Sustainability Indicators / Inventory						
Target Establishment						
Stakeholder Meeting #2		X				
Public Meeting #1			X			
Implementation Strategy						
Stakeholder Meeting #3				X		
Public Meeting #2					X	
Draft Sustainability Plan						
Final Sustainability Plan						

STAKEHOLDER GROUP

Materials and Waste Management Stakeholder Group

Mission Statement:

The **Materials and Waste Management** Stakeholder Group is tasked to evaluate representative waste and materials management practices throughout the Finger Lakes region and determine strategies to reduce the waste produced and stored; and to reduce GHG emissions associated with waste management. The Plan will assess things such as:

- A representative set of local recycling policies;
- Landfill methane capture and disposal;
- Energy recovery from accumulated waste;
- Composting programs;
- Strategies for decreasing the amount of waste incinerated; and
- Programs that incentivize the reuse of construction waste.

Materials and Waste Management Stakeholder Group

Role:

- Input into indicators and identifying data sources (meeting 1)
- Discussion of targets (meeting 2)
- Implementation strategies (meeting 3)
- Review draft report

Other Members? Have them email me at tara.boggio@tylin.com or can find link through project website.

VISIONING

Visioning

What is your vision for Materials and Waste Management for this region for the future?

Visioning

How would you know if we are heading there?

SUSTAINABILITY INDICATORS

Sustainability Indicators

Direction from NYSERDA regarding indicators

Sustainability Indicators

A. Common Indicators

4A: Waste Management – Total Solid waste generated per capita

.

4B: Waste Management – Solid waste diverted (i.e. not landfilled or exported) per capita

Sustainability Indicators

B. Secondary Indicators

4C: Waste Management – Percentage of total municipal solid waste generated that is landfilled, combusted, or exported.

4D: Waste Management – Annual energy use of waste collection fleet per vehicle – by fuel type.

4E: Waste Management - Public participation in waste management plans and actions

Sustainability Indicators

B. Secondary Indicators cont.

4F: Waste Management - Cost of waste management method per metric ton of waste

Sustainability Indicators

OTHER Indicators? Such as:

- **Job creation potential of options**
- **Highest and best use data availability**
- **Policy development and enforcement capability**
- **Etc.**

NEXT STEPS

Next Steps

Next stakeholders meeting:

WHEN: Week of Nov 13-15th (Tues-Thurs)
WHAT: Discussion on "Story of Place" and targets

Meeting minutes and agenda for next meeting within next 2 weeks

THANK YOU

MEETING TITLE	Transportation, Land Use, and Livability Stakeholders Group Meeting #1	
DATE AND TIME	October 9, 2012 11:30am-2:00pm	
ATTENDEES	Rochelle Bell	Monroe County Planning
	Rich DeSarra	Rochester Cycling Alliance
	Ora Rothfuss	Wayne County Planning
	Deb Najarro	Back Bohne Business LLC
	ChaáKaa Thompson-Collalto	Monroe Ambulance/Transportation
	George Thomas	CEI
	Greg Albert	Genesee/Finger Lakes Regional Planning Council
	Bill Bordeau	Seneca County Planning
	Felipe Oltamari	Genesee County Planning
	Dave Johnson	Wayne Arc
	Wayne Hale	Orleans County Planning
	Richard Perrin	Genesee Transportation Council
	Tony Favro	Genesee Transportation Council
	Heather Ferrero	Livingston County Planning
	Mike Quattrone	City of Rochester DES
	Anne Spaulding	City of Rochester Environmental Quality
	Mark Gregor	City of Rochester
	Erik Frisch	City of Rochester Engineering
	Ken Oakley	Lake Plains Community Center
	Bill Carpenter	RGRTA
	Scott Leathersich	Monroe County DOT
	Liesel Schwarz	SWBR Architects
	David Keefe	Genesee Regional Clean Communities
	Katrina Korfmacher	URMS – ELFC
	Steve Newcomb	Monroe County Office for the Aging
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S, Wendel, TYLI

Introduction to the project

- See power point presentation from October 9th for introductory comments on the project.

Stakeholder Group

- See power point presentation from October 9th
- Website now live at www.sustainable-fingerlakes.org
- Members can join more than one stakeholder group.

Indicators & Targets

- 3-5 indicators are required to be approved by NYSERDA
- Attendees were asked to engage in a visioning exercise to think about their issues and needs as well as a vision for transportation, land use, and livability in the future to help inform discussion on potential indicators.

- Issues, needs, & future considerations
  - Accessibility – in your area, convenience to transit
  - Access to fresh produce – calculate in miles
  - Safety
  - Emissions
  - Public health
  - Access for senior citizens
  - Re-envisioning public transportation
  - Economic development – equity, health
  - Air quality – Green House Gas (GHG) Emissions (People, Places, Prosperity)
  - Car ownership not necessary
  - Options in mobility
  - Improve housing quality/availability of housing
  - Invest in developed areas – prioritize existing developed areas; avoid greenfields
  - Redevelopment of existing structures (commercial, industrial, residential)
  - Encourage employment and entertainment opportunities closer to populated areas
  - Lower vacancies
  - Expansion of alternate fueling stations
  - Identify and target GHGE sources
  - Multi-modal
  - Airports in greater demand for corporate business travel (more so in smaller airports)
  - Travel corridors – investments in transportation and land use infrastructure
  - Enhancement of greenspace corridors
  - Linkages
  - Renewable energy systems
  - Wind development – fracking, road construction, and land use issues/concerns
  - Regional growth and transparency through zoning requirements
  - Means to correlate/coordinate municipal land use regulation, plans, and policies (better regional planning)
  - Green technologies
  - Soils – protect prime farm soils(need for successful agriculture growth)
  - Definition of Liability
    - Quality of life
    - Walkability
    - Affordability
    - Safety
    - Diverse communities (people)
    - Bio diversity
    - Community
  - Green space
  - Air quality

- Access to recreation

- Quality of education
- Access to services and needs
- Connectivity
- Definition of Access – Convenience, Affordability, Ease and Utilization. Transportation options
- Development is commensurate with infrastructure; acknowledgement of constraints of current infrastructure
- Recognize difference between needs/issues in urban areas vs. rural areas
- Energy costs/needs – energy efficiency of buildings and affordability
- Limit of negative impacts on current infrastructures
- Awareness and outreach– education people in communities with resources available to them
- Communication technology
- Efficient use of water ways – shipping sector
- Maintenance of all forms of infrastructure
- Planning for cumulative impacts (assessment)
- Land use impacts of water and sewer (growth incentives)
- Framework – investment decisions
- Drainage – older system; upgrades?
- Inventories of GHGE - contribution of various land uses and modes of transport
- Intelligent transportation systems
- Make better use of technology
- Non-structural infrastructure solutions
- System efficiency
- Tree protection – carbon sinks
- Brownfield redevelopment

- Things to consider when evaluating indicators:
  - Required indicators
  - Sustainable solutions
  - Protect environment
  - Influenced by government and climate
  - Ways to measure/achieve goals
  - NYSERDA's common and secondary indicators – those not on these lists will need to be pre-approved by NYSERDA
  - How to track/monitor indicators
  - Can we replicate each indicator in every region?
  - Consistent in all counties/regions
  - Is data available to measure? ie. Existing data – data collection not part of this effort
  - Selection of indicators: needs/issues per group, importance, clear and informative information that would indicate changes or improvements that would not be seem through the required indicators

- Indicators – Transportation
  - Percentage of commuters by alternative modes (required)*
  - VMT per capita (required)*
  - Travel time/length (miles) per capita

- Fuel consumption/capita (gasoline vs. diesel)*
- Transportation cost per household income

- Indicators - Land Use
  - Land-use Patterns (3A –required)*
  - Percentage of redevelopment (3B)
  - Percentage of jobs and housing occurring inside municipal centers (3C)

Subject Area Lead Contact Information

- If you have specific question for the technical lead for Transportation, Land Use, and Livability, please contact:

Wendy Salvati, Wendel-AE
wsalvati@wd-ae.com

Next Steps

- Next Stakeholder meeting is Wednesday, November 14th from 9am-noon.
  - Discussion on 'Story of Place', indicators and targets
  - Location TBD
  - Agenda will be sent out at least one week prior.

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

Finger Lakes Regional Sustainability Plan

FUNDED BY: NYSERDA – CLEANER, GREENER COMMUNITIES PROGRAM

Agenda

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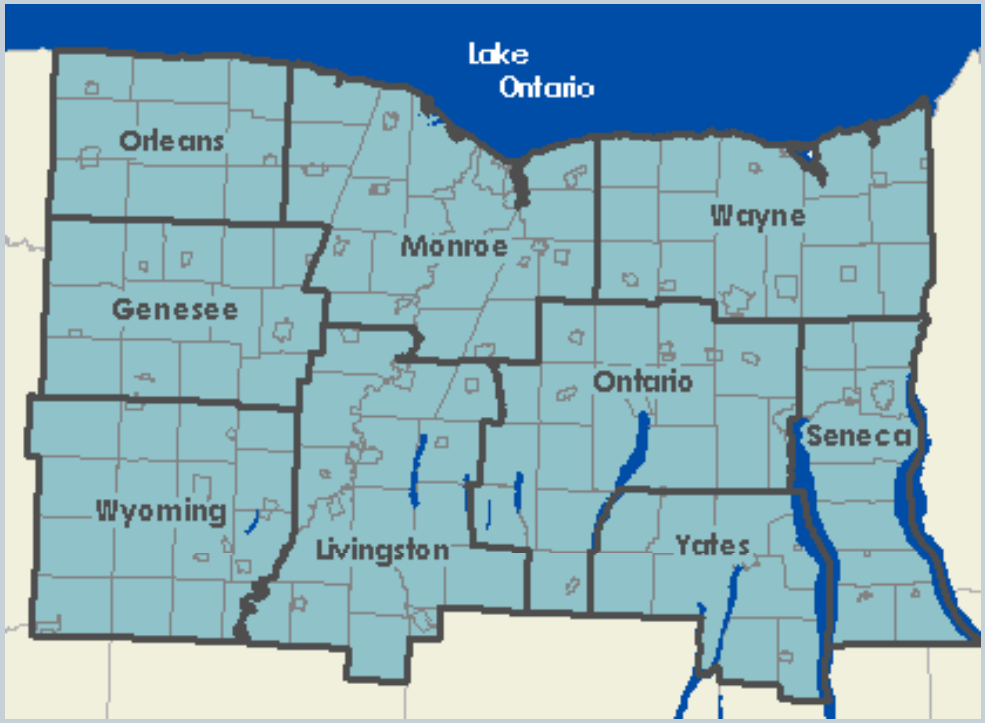

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Implementation Strategy						
Stakeholder Meeting #3				X		
Public Meeting #2					X	
Draft Sustainability Plan						
Final Sustainability Plan						

STAKEHOLDER GROUP

Transportation, Land Use, and Livability Stakeholder Group

Mission Statement:

The **Transportation and Land Use** Stakeholder Group is tasked to evaluate existing transportation networks within the Finger Lakes region and consider improvements that would provide more efficient system operation, alternative fuel vehicles and the infrastructure to fuel them, and additional/enhanced travel choices such as public transportation, ridesharing, complete streets, and bicycle and pedestrian pathways. At the same time, this group is looking at the land-use planning components, which are interrelated, and interdependent on transportation. The Plan will:

•Evaluate potential programs to encourage the use of more efficient fuels, vehicles, and modes of transportation, as well as alternatives to driving alone;

•Address the necessary investments in street, highway, transit, and fueling infrastructure that would support and complement the expansion of transportation choices; and

•Identify potential transportation solutions that would improve air quality, reduce vehicle miles traveled, reduce travel times, support transit-oriented development, reduce runoff from roads, and improve service for historically marginalized populations.

Transportation, Land Use, and Livability Stakeholder Group

Mission Statement:

•Align infrastructure investments to support equitable land-use development;

•Encourage the expansion of location-efficient housing that increases access to employment centers and transportation options;

•Stimulate investment in mixed-use development and redevelopment of land in existing communities;

•Protect natural ecosystems; and

•Prevent unsustainable use of natural resources.

Strategies will be addressed for urban, suburban, and rural communities to use land and transportation systems efficiently and sustainably while providing economic growth and quality of life for their residents.

Transportation, Land Use, and Livability Stakeholder Group

Role:

- Input into indicators and identifying data sources (meeting 1)
- Discussion of targets (meeting 2)
- Implementation strategies (meeting 3)
- Review draft report

Other Members? Have them email me at tara.boggio@tylin.com or can find link through project website.

SUSTAINABILITY INDICATORS

Indicators and Targets

Direction from NYSERDA regarding indicators:

1. Choose at least one common indicator for each focus area for inclusion in your sustainability plan
2. There are five indicators that all of the regions are required to use. These indicators allow some information to be tracked across the state and to ensure that the CGC program is doing its part to support larger national efforts. Regions will not be required to choose additional indicators in these focus areas. These indicators will count as your required common indicator in each of the focus areas that they cover.
3. Regions may also choose to add other indicators that they feel are appropriate to establish a baselines and targets for improvements in their region.

Sustainability Indicators

Direction from NYSERDA:

Required Indicators

2A: Transportation – Overall – Total percentage of people commuting via walking, biking, transit, and carpooling
This indicator provides a view to access to alternative modes of transportation.

2B: Transportation – Overall – Vehicle miles traveled per capita
This indicator provides a view to automobile usage in a region.

3A: Land Use & Livable Communities – Land-use Patterns – Per capita land consumption
This indicator correlates to environmental consumption .

Sustainability Indicators

OTHER Indicators

- Consideration of constraints of the data – is data available (historical, current, future)?
- Based on needs and issues relevant to the region
- Can targets be established and met with projects?

NEXT STEPS

Next Steps

Next stakeholders meeting:

WHEN: Week of Nov 13-15th (Tues-Thurs)
WHAT: Discussion on "Story of Place" and targets

Meeting minutes and agenda for next meeting within next 2 weeks

THANK YOU

MEETING TITLE	Water Management Stakeholders Group Meeting #1	
DATE AND TIME	October 10, 2012 1:00pm-3:00pm	
ATTENDEES	Greg Albert	Genesee/Finger Lakes Region Planning
	Miranda Reid	Conesus Lake Watershed Council/Livingston County Planning Department
	George Thomas	CEI
	Kenny Schantz	Rochester Water Bureau
	Mike Hauch	CMR Consulting
	Peter Lent	Oatka Lake Watershed Committee
	Terry Gronwall	Center for Environmental Initiative Honeoye Lake Watershed Task Force
	Alex Pierce	Joint Town/Village Planning Board Keshepva/Conaseraga Watershed
	Liz Cleckner	Finger Lakes Institute @ HWS
	Paul Sawyko	Water Education Collaborative
	Ray Yaruzzo	NYSDEC
	Ora Rothfuss	Wayne County Planning Department
	Marty Aman	Wayne County Water & Sewer Authority
	Rochelle Bell	Monroe County Planning
	Libby Ford	Nixon Peabody, LLP
	Jayme Breshard-Thomann	Genesee/Finger Lakes Region Planning
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S, Genesis, TYLI

Introduction to the project

- See power point presentation from October 10th

Stakeholder Group

- See power point presentation from October 10th
- Website now live at www.sustainable-fingerlakes.org
- Members can join more than one stakeholder group.

Indicators & Targets

- 3-5 indicators are required to be approved by NYSERDA
- Attendees were asked to engage in a visioning exercise to think about their vision for water management in the future.
- Visioning:
  - Eco-system viability
  - Natural resource conservation
  - Identify green network – natural water bodies and storm water systems, piping systems – cleaner water, habitats, operating in a natural way so we can conserve
  - Natural approaches

- Change the way we think about municipal facilities
- Move towards reducing energy to net zero
- Promote Green infrastructure – storm water systems
- Stream bank stabilization – upland/hill management
- Reduce erosion and pesticides into water ways along the region (sediment particles, pollutants, etc.)
- Promote Regional coordination between water shed municipalities – land use ordinances
- Maintain quality and sustainability of inflow into major water bodies
- Be aware of surface water quality
- Promote recharge of clean water ground water
- Centralized treatments – infrastructure
- Increase quality/performance of on-site waste water treatment (uniform)
- Be aware of water quality and nutrient loadings
- Be aware of surface pollution – top of list of pollutants
- Test soils before fertilizing to see if needed
- Reduce waste water from facilities
- Promote good water management as part of economic development
- Enforce all policies
- Promote reasonable scale of community, neighborhood, homes, etc. within water shed (diversity)
- Develop a baseline – gather data, information sharing
- Genesee River watershed
- Innovation to food processing systems – overlapping issue
- Control invasive species
- Support public education/outreach – green job creation, sustainable products
- Promote access to resources – public
- Support Green infrastructure – residential (retrofit)
- Monitor rain fall, storm runoff, etc.
- Supply/demand
- Examine/quantify the regional water balance
- Promote awareness of our freshwater resources
- Can we accommodate new construction needs
- Water protection
- Conserve water – be more efficient
- Educate people about the value of water
- Land use policies – enforce
- Dedicate funding for data collection
- Replace old water systems
- Discourage building in flood plains – leave alone and let them do their jobs
- Promote water quality
- Measurable change, reporting stream corridor
- Local level involvement
- Surveys
- Be aware of how water is being use - consumption vs. non-consumption

- Measurements
  - Teaching awareness between agencies and institutions
  - Communities learning on their own or by an education campaign
  - Data base clearing house
  - Volume and quality being distributed to communities

- Indicators
  - Residential use per capita
  - Industrial use per capita
  - Agriculture use vs. irrigation/acre
    - Crop vs. animal
  - Quantity vs. quality
  - Water withdrawal survey/data
  - 5A – only use some sectors, modify description
  - Public distribution
  - Stream improvements – higher standards
  - 5B – percentage of impaired water with number of TMDL implements/in place
  - 5D - Natural resource consideration
  - Biology elements vs. chemical elements
  - Recharge vs. runoff – base flows
  - 5J – include waste water tracking and how it makes its way to the treatment plant
  - Hydro power (strategy – not funded by NYSERDA)
  - 5C – track towards energy self-sufficiency
  - Number of water shed plans – tracking
  - Peak demands
  - Metering – up to date
  - Accounting for inaccessible water
  - Public/private supply – downstate issue

Subject Area Lead Contact Information

- If you have specific question for the technical lead for Water Management, please contact:

  John Camp, C&S
  jcamp@cscos.com

Next Steps

- Next Stakeholder meeting is Tuesday, November 13th from 11am-2pm.
  - Discussion on 'Story of Place', indicators and targets
  - Location TBD
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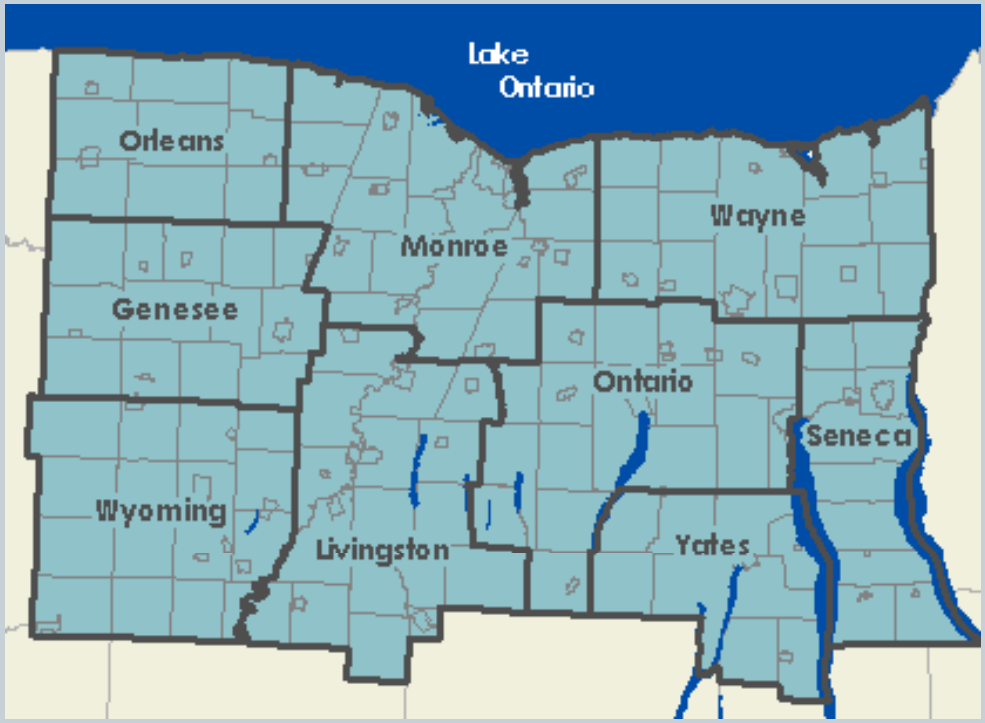

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STAKEHOLDER GROUP

Water Management Stakeholder Group

Mission Statement:

The **Water Management** Stakeholder Group is tasked to evaluate water infrastructure needs, especially those associated with investment in other sectors including transportation, housing and land use/livable communities.

The Plan will evaluate the surface water quality impacts of water, transportation, and housing infrastructure projects to ensure that investments in water management systems support the sustainability of the community and can be sustained over the long term.

The Plan will consider programs and practices to improve water use efficiency or appropriately reuse water, and will address the preservation of the region's water resources, and reduction of energy use and GHG emissions associated with movement of water.

Water Management Stakeholder Group

Role:

- Input into indicators and identifying data sources (meeting 1)
- Discussion of targets (meeting 2)
- Implementation strategies (meeting 3)
- Review draft report

Other Members? Have them email me at tara.boggio@tylin.com or can find link through project website.

VISIONING

Visioning

What is your vision for Water Management for this region for the future?

Visioning

How would you know if we are heading there?

SUSTAINABILITY INDICATORS

Indicators and Targets

Direction from NYSERDA regarding indicators:

1. Choose at least one common indicator for each focus area for inclusion in your sustainability plan
2. There are five indicators that all of the regions are required to use. These indicators allow some information to be tracked across the state and to ensure that the CGC program is doing its part to support larger national efforts. Regions will not be required to choose additional indicators in these focus areas. These indicators will count as your required common indicator in each of the focus areas that they cover.
3. Regions may also choose to add other indicators that they feel are appropriate to establish a baselines and targets for improvements in their region.

Indicators and Targets

Direction from NYSERDA including common indicators:

A. Common Indicators

5A: Water Management - Water demand per capita, by sector
This indicator provides a breakdown of water usage with respect to the population as well as each sector of use.

5B: Water management - Total Number of Impaired Waters
This indicator quantifies those waters that do not support appropriate uses and that may require development of a Total Maximum Daily Load (TMDL)

Indicators and Targets

Direction from NYSERDA including common indicators:

B. Secondary Indicators

5C: Energy use by water and sewer utilities per million gallons supplied or treated
This indicator is correlated to water usage.

5D: Water management - Total area under conservation agreement per watershed unit-area
This indicator provides an overall view of watershed conservation efforts.

5E: Water management - Ratio or water withdrawn to renewable supply
This indicator examines the regional water balance – measure of renewable water supply versus consumption.

5F: Water management - Surface and ground water quality
This indicator tracks the overall quality of drinking water sources in the region.

Indicators and Targets

Direction from NYSERDA including common indicators:

B. Secondary Indicators

5G: Water management - Percentage of wastewater effluents with tertiary treatment

This indicator measures efforts to remove nutrients from wastewater effluents.

5H: Water management - Improvement in Waterbody Inventory/ Priority Waterbody List (WI/PWL) rating that is developed through Rotating Integrated Basin Studies (RIBS)

5I: Water management - Percent impervious surface area relative to total developed and hardscaped surface

This indicator measures the percentage of impervious (built and hardscaped) surfaces in the region, which is correlated with stormwater runoff generation.

Indicators and Targets

Direction from NYSERDA including common indicators:

B. Secondary Indicators

5J: Water management - Infrastructure reliability and efficiency
This indicator looks at the proportion of water that is produced but not delivered due to of leaks, broken infiltration and inflow, or otherwise inefficient infrastructure.

5L: Water management- % of customers that are metered
This indicator would address the ability of the region to measure the water used by its residents.

Indicators and Targets

OTHER Indicators?

- Consideration of constraints of the data – is data available (historical, current, future)?

- Can targets be established and met with projects?

NEXT STEPS

Next Steps

Next stakeholders meeting:

WHEN: Week of Nov 13-15th (Tues-Thurs)
WHAT: Discussion on "Story of Place" and targets

Meeting minutes and agenda for next meeting within next 2 weeks

THANK YOU

Finger Lakes Regional Sustainability Plan

Funded by NYSERDA - Cleaner, Greener Communities Program

Overall Stakeholder Meeting #2 - Meeting Minutes & Presentation

Finger Lakes Regional Sustainability Plan

MEETING TITLE	Agriculture & Forestry Stakeholder Group Meeting #2	
DATE AND TIME	November 14, 2012, 1:00-4:00pm	
ATTENDEES	Greg Albert	Genesee/Finger Lakes Region Planning
	Mike Haugh	CMH Consulting
	George Thomas	CEI
	Ora Rothfuss	Wayne County Planning Council
	Mike Bakos	Town of Pembroke Planning Board
	George Squires	Genesee County SWCD
	Stacey Decker	Town of Penfield Energy and Environmental Advisory Committee
	Marci Muller	Greentopia
	Maria Rudzinski	OCPD
	Kathy Kosciolek	RIT – NYSP2I
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S (Tim Hughes & Aileen Maguire), edr (Andy & Charlie Greene), Regenesis (Joel Glanzberg & Ben Haggard), TYLI (Tara Boggio & Sarah Yap), Erin Henry (Harvard Business School)

Story of Place Framework and Exercise

- See power point presentation from November 14th.
- Sustainability Definition:
  - ***Sustainability*** *involves three interrelated components: environment, economy and society.*
    These pillars are linked – the stability of one reinforces the strength of the other two. Sustainability planning for a community, local government or region integrates the three pillars of sustainability through collaborative work within a framework that supports long-term considerations, fosters innovation, and results in a healthy, safe and affordable place to live, work and play for all residents.
- 5 Capitals:
  - Natural, Social, Human, Built/manufactured, and Financial Capital
- Regional Themes/Goals:
  - Improve accessibility, connectivity and mobility
  - Preserve, protect and improve natural resources
    - air quality
    - water quality
    - prime farmland
    - forests
    - open space
  - Maintain, protect and improve the functionality and disaster resiliency of existing infrastructure systems and acknowledge the links between systems
    - transportation
    - water
    - energy

- communication
- solid waste

- Improve public health
- Respect local planning efforts and retain individual community character
- Build partnerships between local governments, the private sector, regional institutions and the public
- Build sustainability capacity and understanding through outreach and education

*Additions to Themes/Goals:

- Access to food services
- Environmental sensitivity
- Interconnection between natural resources
- Quality of life to public health

Story of Place

Joel Glanzberg from Regenesis presented the draft Story of Place for the Finger Lakes Region. He noted that the story is generated from several sources: extensive historical research, dozens of phone interviews with a variety of people from the Finger Lakes area, several site visits and targeted input from the consultant team. The following is a summary of this presentation.

General Comments on why we look at the Story of Place:

- Places have reoccurring patterns (socially, economically, culturally) – and identifying these patterns is helpful to knowing who we are as a region
- Seeing region as a whole helps to develop unique attributes and find our natural strengths – something to build from

- Finger Lakes Observations are as follows:
- Watersheds – natural boundaries (Lake Ontario, Finger Lakes, Great Lakes) are different than political boundaries.
- Lake Ontario is unique versus the other Great Lakes
  - Lower water level due to Niagara Falls
  - All Great Lakes drain into Lake Ontario
- Shale and limestone help geological elements for our Region – prime farmland
- Glacier movements created Lake Ontario and land carved by 5,000 ft of ice
- Great Lakes Plain – how things moved
  - Rail and vehicle routes (straight through mountains) = roadway across the state
  - Animal trails
  - A place where people and products grew and adapted – enrichments
- Eco-Region – plants and animals (low lands)
- Region is like an eddy – or a wetland in a watershed - place where things filter in, take root, adapt, and transform before being release back out
- UN/FAO soil map of the US – our Region (-1) very good soil, rich soils – all due to climate and water, first large open space accessible to people, crops, and animals, also is a good source of agriculture

- Native trees – black spruce, burnt oak, white cedar, eastern white pine, chestnut – mild soil climate – good
- 'People of the Longhouse' settlers in NY
- Gateway to mid-west
- In-between waterways
- Many people and industries populated our Region – people, towns/villages, agriculture, industries
- Connections – built NY as a port and NYC as an international port
- Eric Canal built on top of Mohawk Trail – Civil Engineering was developed and learned in England – developed technologies for future uses
- Brought art and education to the region
- Flour city – produced grain (wheat) – water power source
- First industrial city to be fed by water access/connections
- Pioneer in agriculture
- Religious movements – Spiritualism, 7th Day Baptist, Mormon, Methodists (Shakers, Quakers) taught morals, circuit riders to churches
- Birth of democracy – formed the 'Great Law of Peace', Peace Makers
- 5 Nations of the Iroquois – lead to our Constitution (Franklin and Jefferson both learned and used the system)
- Large movements happened here – Women's Rights, Abolition, etc.
- Industries – Seneca Falls – technology developed for pumps – water source – pump capital of the World – Fire Engines
- Wegman's, Kodak, Jell-o, Bausch & Lomb, Gannett, Western Union, Xerox, French's, Champion, Genesee Brewing Company
    - Wegman's – local foods, informative about food, community ties
    - Kodak – film, digital cameras
    - Xerox – printers
    - Champion – first hooded sweatshirt, reversible t-shirt, mesh fabric
    - Genesee Brewing Company – wheat industry , Whiskey Rebellion
    - Bausch & Lomb - contacts
    - Many of the companies here acted as that eddy – they took ideas, developed them further, than sent them out to the country/world as products.

- Discussion:
    - How would this way of understanding the region change how you talk about and work on your subject area?
    - If you were to make this change, what new possibilities show up?

- Reflections/Feedback:
    - Pertains to geological, economical, and cultural events
    - Compelling story
    - Seeing the forest through the trees
    - Fertile growth and innovation
    - Rise of Kodak as an aspiration (also decrease)
    - High risk takers move West
    - Small and Medium size farms (scale)
    - Climate change/mitigation/adaption

- Shifts in industry, residential, and business

- Innovation Incubator:
  - 'NATURAL INCUBATOR'
  - Not unique for this region – everyone wants to be innovative
  - Local agriculture supplying larger population, not just families
  - Resource base higher than the standard
  - Prime farmland (soils), water, agriculture, infrastructure = resources
  - How do we sustain ourselves now
  - Natural innovators – land part of our history and culture; community based
  - Long living businesses
  - Venture capital as a community
  - Innovation the same as Sustainability?
  - Adaption – build resilience; how do we do this, circumstances?
  - What factors allow businesses to flourish
  - Economic development – diversity in thoughts/ideas
  - Mix of people/skills – uniqueness
  - Sustainable economy – business sizes for the area/population
  - Transitioning
  - Underground activity of small business - not recognized but has always been there
  - Lack of respect for manual labor – recognized strengths
  - Recognition of land worth
  - How to stimulate and engage young people
  - Do we want to become a benchmark? Needs to be different everywhere, uniqueness
  - Economic development – socially help adapt, technology, methodology, education building values/ethics
  - Education
  - Understanding values
  - Creating networks
  - Challenges – byproducts, raw material inputs – better way to manage – do not use up all our resources – stainable ways
  - Impacts
  - Who is responsible?
  - Re-discovering ourselves
  - Land based vs. animal
  - Nourish to level out the region
  - Waste runoff – be aware of (clean water)
  - Be part of the solution not the problem
  - Commitments

Place Sourced Indicators: End State

- Agriculture is the producer of clean water, habitat, and maintaining corridors
- Resources available for innovation
- Integrity of our needs coming from within regional food shed
- Food cluster that is integrated and sustainable
- Policy issues
- Regional product our focus
- Organic products – price comparisons

- Place a value on our eco system services – mechanism of measurement
- True value of cost identified
- Net exporter of increasingly good products
- Access of food in our area
- No urban farms due to city policies
- Local entrepreneurial infrastructure supports sustainable agriculture and forestry (Cornell University)

Indicators

- No net loss of agriculture land (net gain?)
- Inputs go down while soil health goes up
- Increased number of food crops and farmer markets
- Increase in viability of farms
- Increase in urban farms and gardens

Guiding Principles

- Regionally produced takes priority
- Support self-reliance of land based enterprises
- Restorative/regenerative practices
- Valuation and fostering of critical diversity (scale/bio) in small and medium farms
- Encourages responsible farming/stewardship
- Local needs and resources are in sync
- Builds capacity to monitor, guide, and change
- Reinforces idea of community identity
- Balances incentives/regulation in appropriate way to drive change

General Discussion

- Regional producers take priority
- Better thinking, better designed projects
- Increasingly self-sufficient land based enterprises
- Addressing GHGE
- Restoration/regeneration of practices
- Valuing the scale of farms – diversity
- Encourage the return/viability of all size farms
- Critical diversity of scale and value of farms
- Evaluation of small and medium farms
- Large farms not sought out to be as important to focus on – how to make this better
- Natural system encompassed into the 5 Capitals
- Encourage responsible farming – good stewardship
- Self-reliant system – change in technology uses
- Investments – re-ensuring reinvestments from small and medium farms
- Technologies
- Management skills increase when farms grow
- Local needs and resources are in sync
- Builds capacity to monitor, guide, and change

- Building a community/identity (re-enforces goals)
- Regulation and using them correctly
- Best management practices
- Rationalize system to use incentives and polices to work together

Subject Area Lead Contact Information

- If you have specific questions for the technical lead for Agriculture and Forestry, please contact:

  Charlie Greene, edr Companies
  cgreene@edrcompanies.com

Next Steps

- Next Stakeholder meeting is January 17th (Thursday) – it will be an all day workshop with all 6 stakeholder groups coming together during portions of the day, and breaking out into the specific groups at other times. Location TBD. Likely timeframe will be 9am-4pm. More details forthcoming.
- Email with draft indictors summarized and potential evaluation criteria outlined expected to be sent week of Dec. 17th for your review and comment.
- Public meeting early January. Help get people excited and involved by encouraging them to attend the public meeting. Check the website www.sustainable-fingerlakes.org for more information on dates and locations in the coming weeks.

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

Finger Lakes Regional Sustainability Plan

Stakeholder Meeting #2

FUNDED BY: NYSERDA – CLEANER, GREENER COMMUNITIES PROGRAM

Meeting Agenda

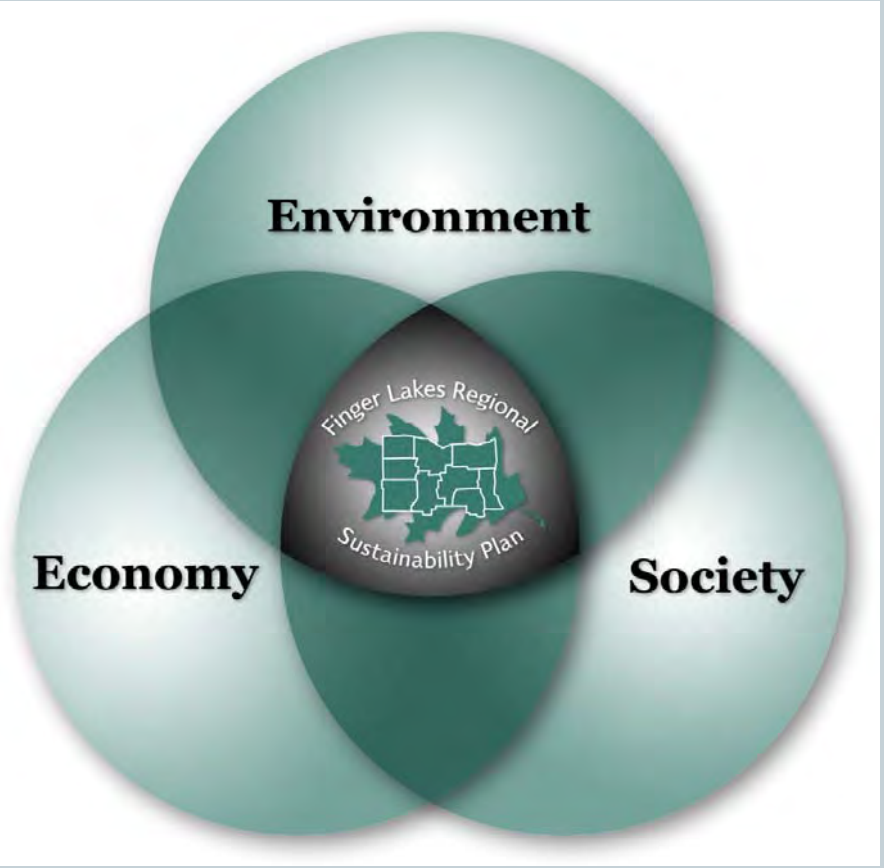
1. **Welcome and Introductions**
2. **Story of Place Framework and Exercise**
3. **Place Sourced Indicators**
4. **Guiding Principles**
5. **Next steps**

INTRODUCTORY ITEMS

Sustainability Definition

Sustainability *involves three interrelated components: environment, economy and society.*

These pillars are linked – the stability of one reinforces the strength of the other two. Sustainability planning for a community, local government or region integrates the three pillars of sustainability through collaborative work within a framework that supports long-term considerations, fosters innovation, and results in a healthy, safe and affordable place to live, work and play for all residents.



Project Framework

5 Capitals

1. Natural capital
2. Social capital
3. Human capital
4. Built/manufactured capital
5. Financial capital

Project Framework

NYSERDA Plan Purpose

The Plan, aligned with the Finger Lakes Regional Economic Development Council (REDC) Strategic Plan – Accelerating Our Transformation, will improve the economic and environmental health of the region and thereby improve the quality of life in the Finger Lakes.

NYSERDA Plan Objectives

- build upon existing and planned sustainability efforts in the Genesee-Finger Lakes Region (Region) by establishing a framework for infrastructure investment decision making,
- outline specific and tangible actions to reduce greenhouse gas (GHG) emissions by 80 percent from 1990 levels by the year 2050,
- inform municipal policies and plans, and
- identify recommendations for adapting to the effects of climate change in a manner that promotes robust, high quality economic growth.

Project Framework

Regional Themes/Goals

- Improve accessibility, connectivity and mobility
- Preserve, protect and improve natural resources
  - ✓ air quality
  - ✓ water quality
  - ✓ prime farmland
  - ✓ forests
  - ✓ open space
- Maintain, protect and improve the functionality and disaster resiliency of existing infrastructure systems and acknowledge the links between systems
  - ✓ transportation
  - ✓ water
  - ✓ energy
  - ✓ communication
  - ✓ solid waste

Project Framework

Regional Themes/Goals (cont')

- Improve public health
- Respect local planning efforts and retain individual community character
- Build partnerships between local governments, the private sector, regional institutions and the public
- Build sustainability capacity and understanding through outreach and education

STORY OF PLACE

Story of Place

It matters what stories we tell about ourselves.

Story of Place

"Land of PRETTY GOOD"

"The Train left without us...."

"We've got a brain drain problem"


Clinton
Franklin
St Lawrence
North Country
Jefferson
Essex
Lewis
Hamilton
Warren
Washington
Oswego
Oneida
Herkimer
Fulton
Saratoga
Niagara
Orleans
Monroe
Wayne
Onondaga
Mohawk
Valley
Capital
District
Genesee
Finger
Lakes
Central
New York
Montgomery
Schenectady
Erie
Ontario
Seneca
Madison
Wyoming
Livingston
Yates
Cayuga
Otsego
Rensselaer
Cortland
Schoharie
Albany
Chenango
Tompkins
Schuyler
Western New York
Southern Tier
Greene
Columbia
Steuben
Chemung
Tioga
Broome
Delaware
Chautauqua
Cattaraugus
Allegany
Ulster
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Dutchess
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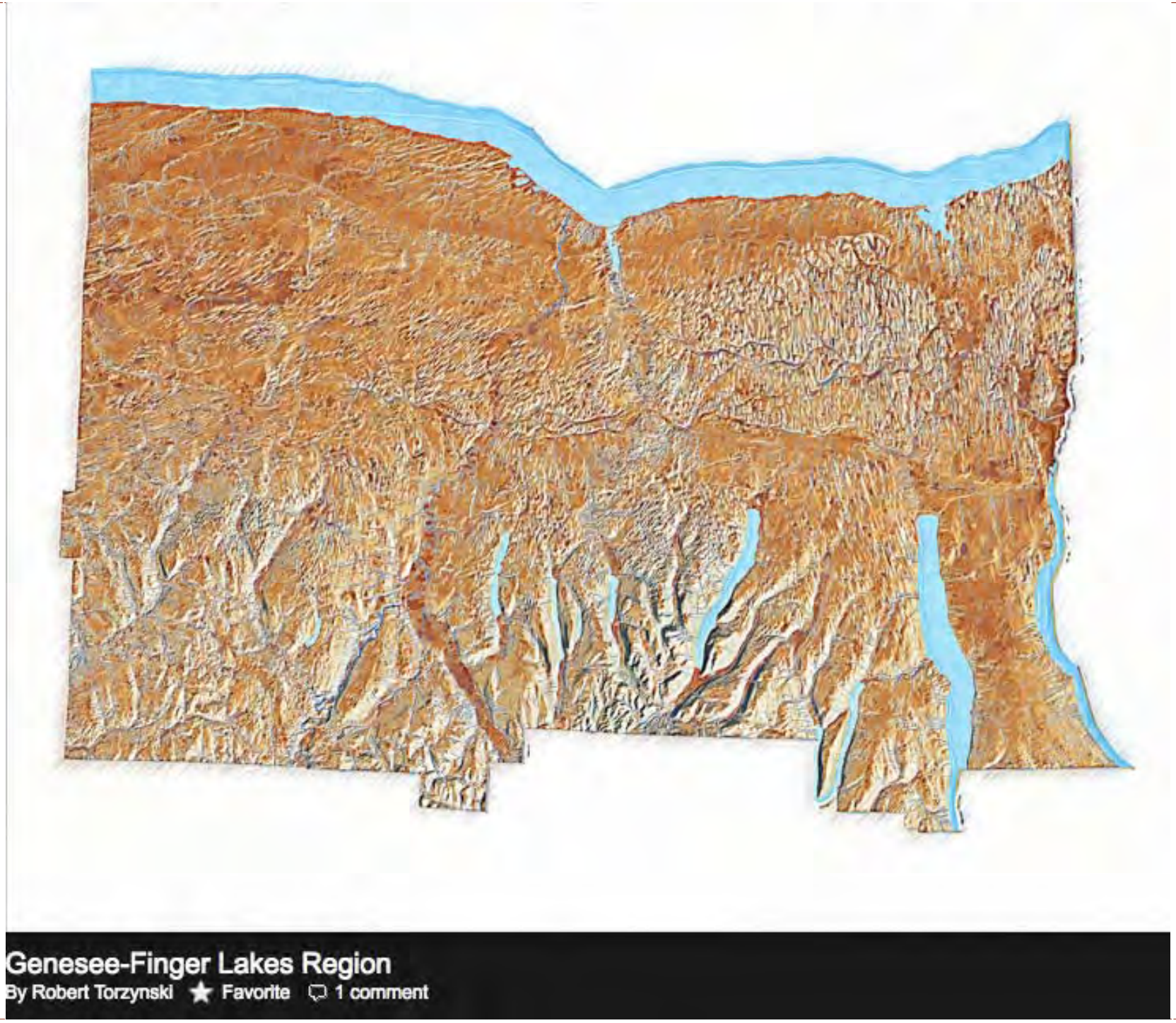
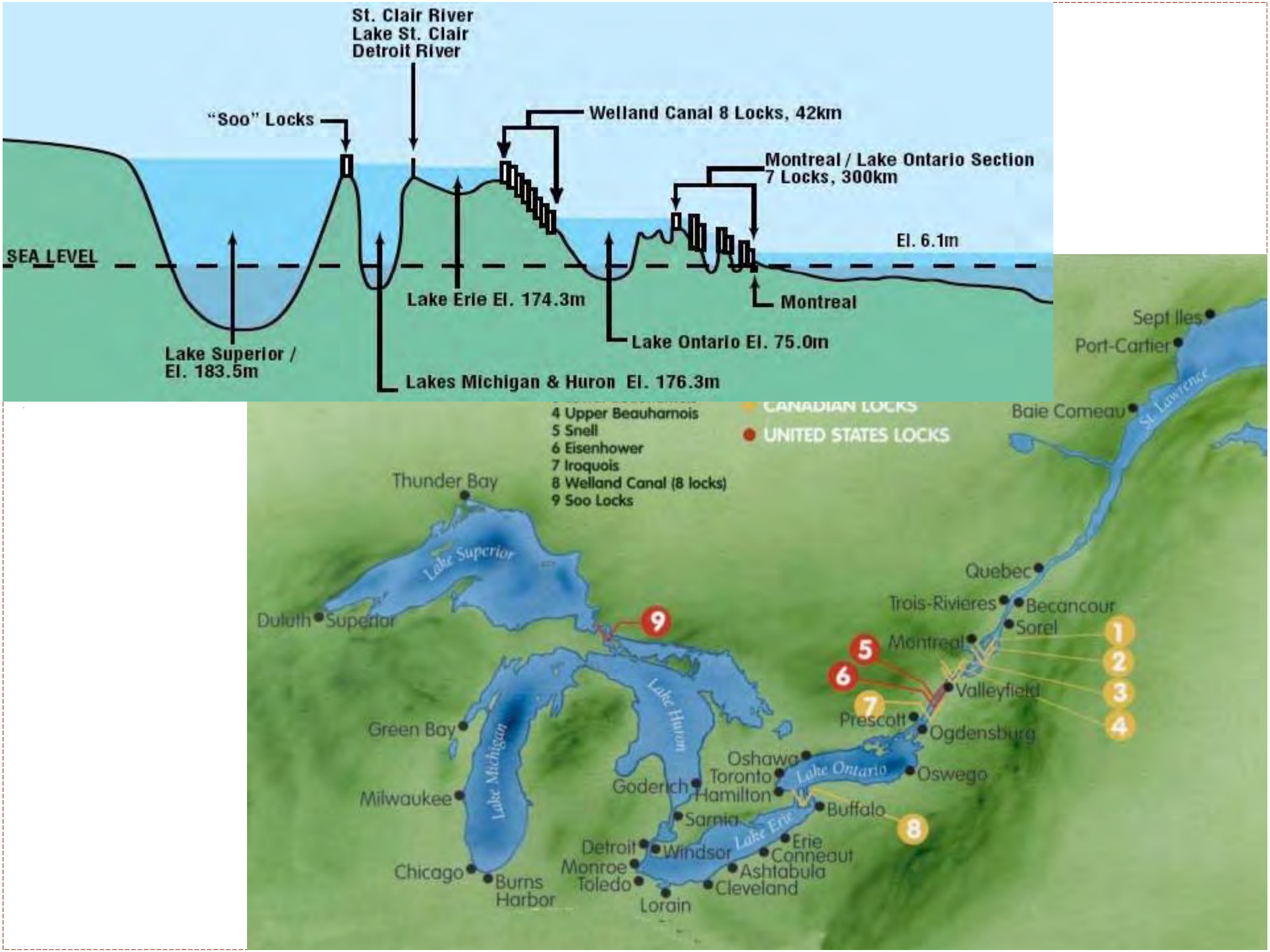
Kings
Queens



Genesee-Finger Lakes Region

By Robert Torzynski ★ Favorite 🗨 1 comment

Lake Ontario Drainage Basin


St. Clair River
Lake St. Clair
Detroit River
"Soo" Locks
Welland Canal 8 Locks, 42km
Montreal / Lake Ontario Section
7 Locks, 300km
SEA LEVEL
El. 6.1m
Lake Erie El. 174.3m
Montreal
Lake Ontario El. 75.0m
Lake Superior /
El. 183.5m
Lakes Michigan & Huron El. 176.3m
4 Upper Beauharnois
5 Snell
6 Eisenhower
7 Iroquois
8 Welland Canal (8 locks)
9 Soo Locks
CANADIAN LOCKS
UNITED STATES LOCKS
Thunder Bay
Lake Superior
Duluth
Superior
Green Bay
Lake Michigan
Milwaukee
Chicago
Burns
Harbor
Lake Huron
Goderich
Sarnia
Detroit
Windsor
Monroe
Toledo
Lorain
Lake Erie
Cleveland
Erie
Conneaut
Ashtabula
Buffalo
Lake Ontario
Oshawa
Toronto
Hamilton
Oswego
Prescott
Ogdensburg
Valleyfield
Montreal
Trois-Rivieres
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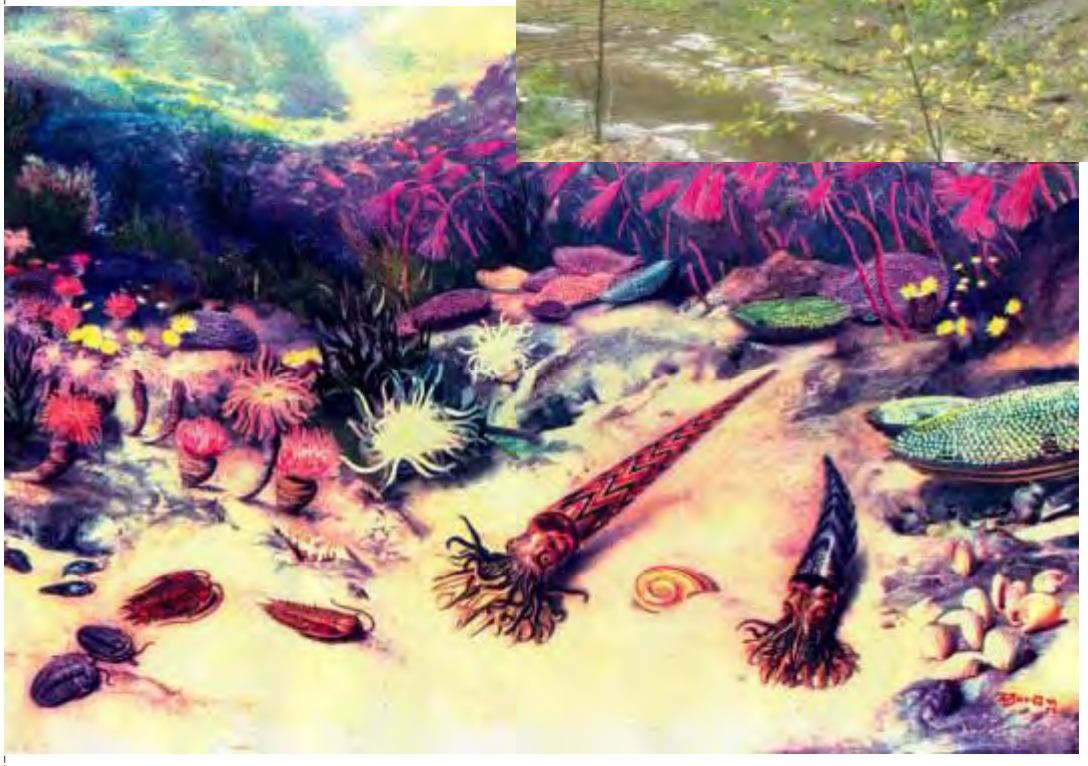
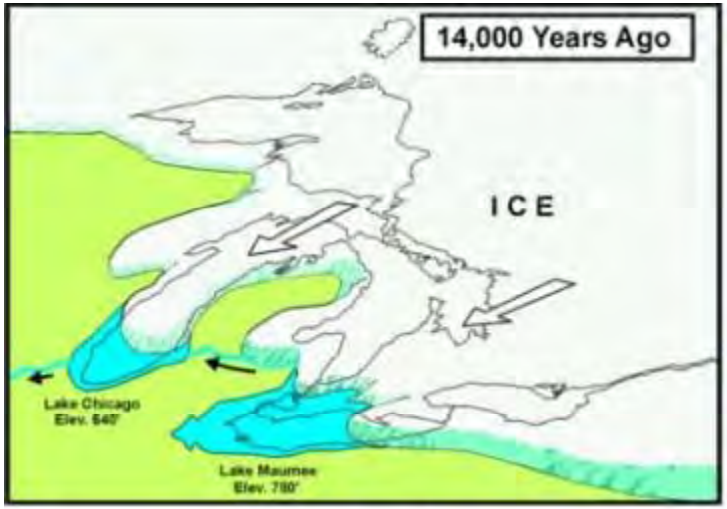
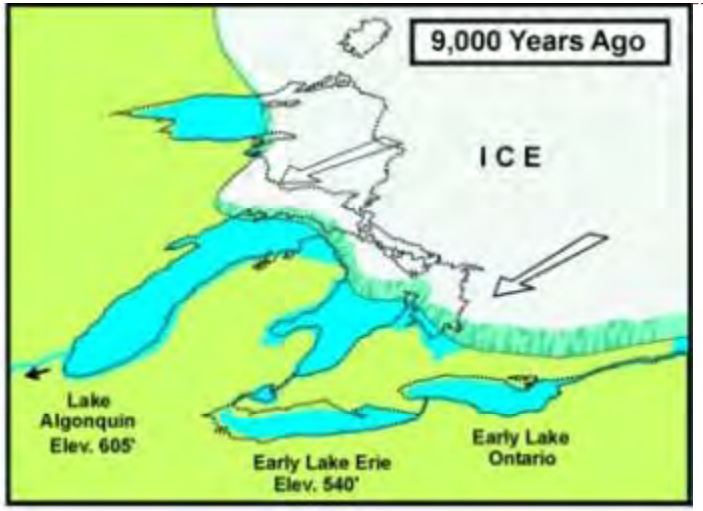



14,000 Years Ago
ICE
Lake Chicago
Elev. 640'
Lake Maumee
Elev. 780'


9,000 Years Ago
ICE
Lake
Algonquin
Elev. 605'
Early Lake Erie
Elev. 540'
Early Lake
Ontario

7,000 Years Ago
ICE
Lake Stanley
Elev. 200'
Lake Chippewa
Elev. 230'
Early Lake Ontario
Early Lake Erie
Elev. 540'

4,000 Years Ago
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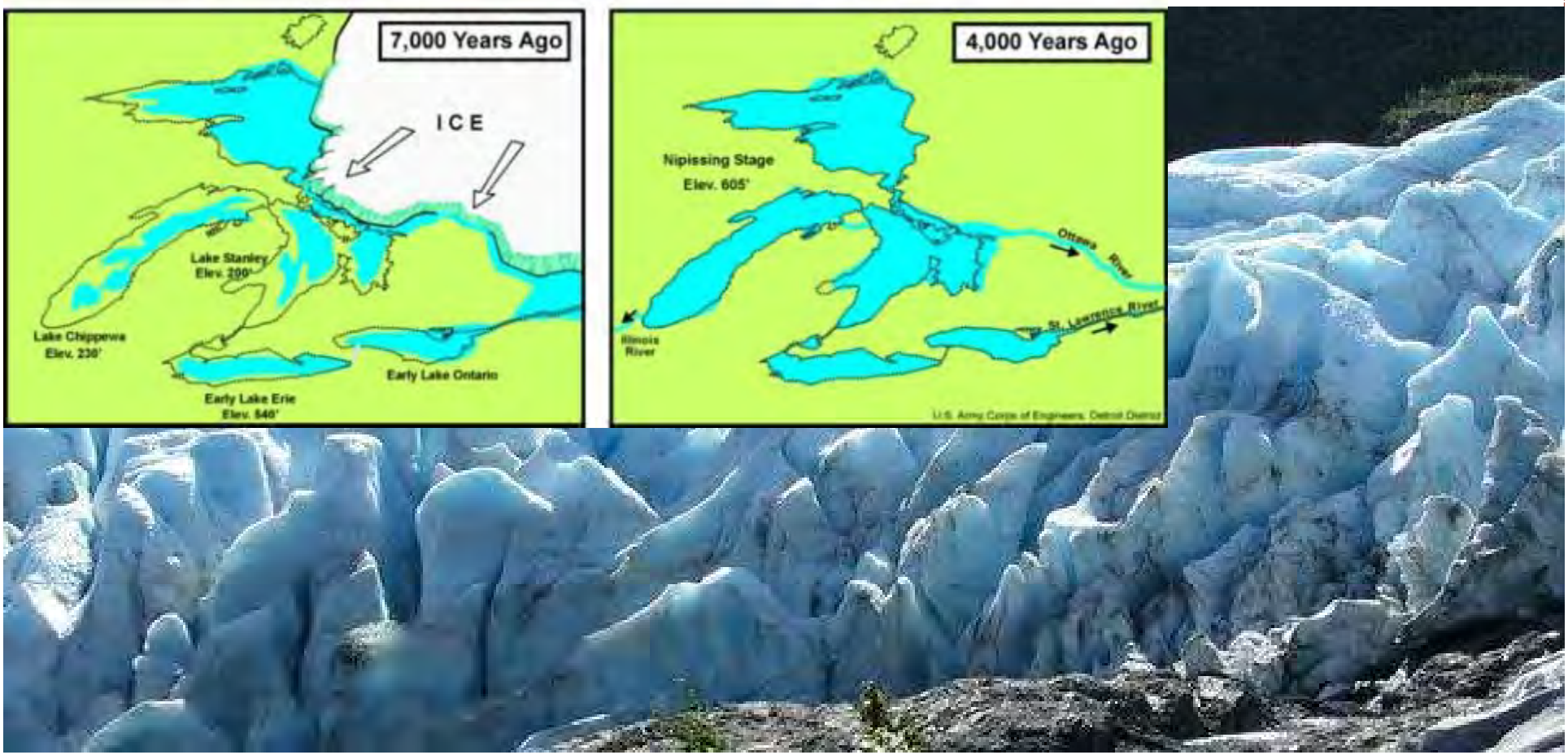
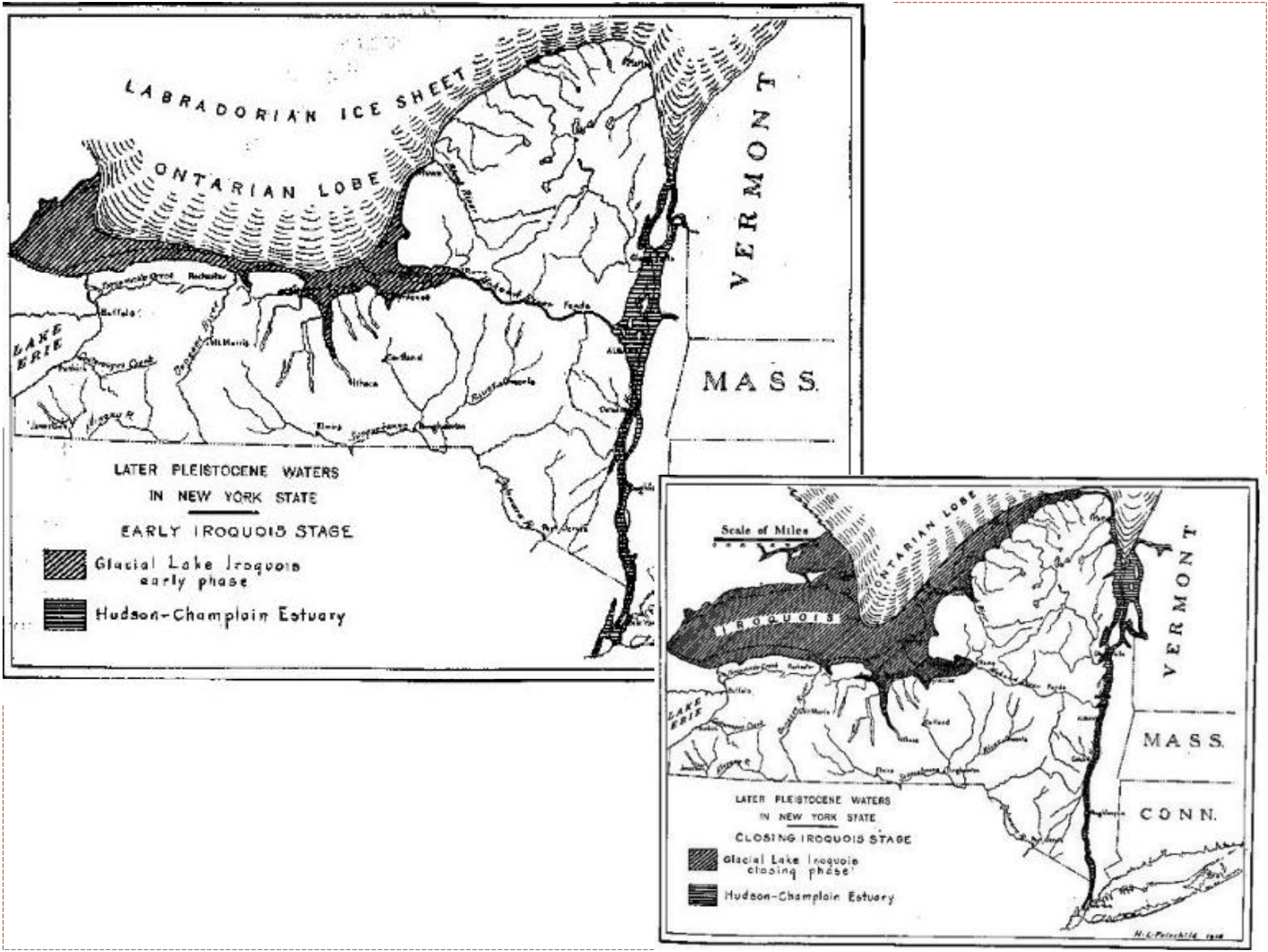
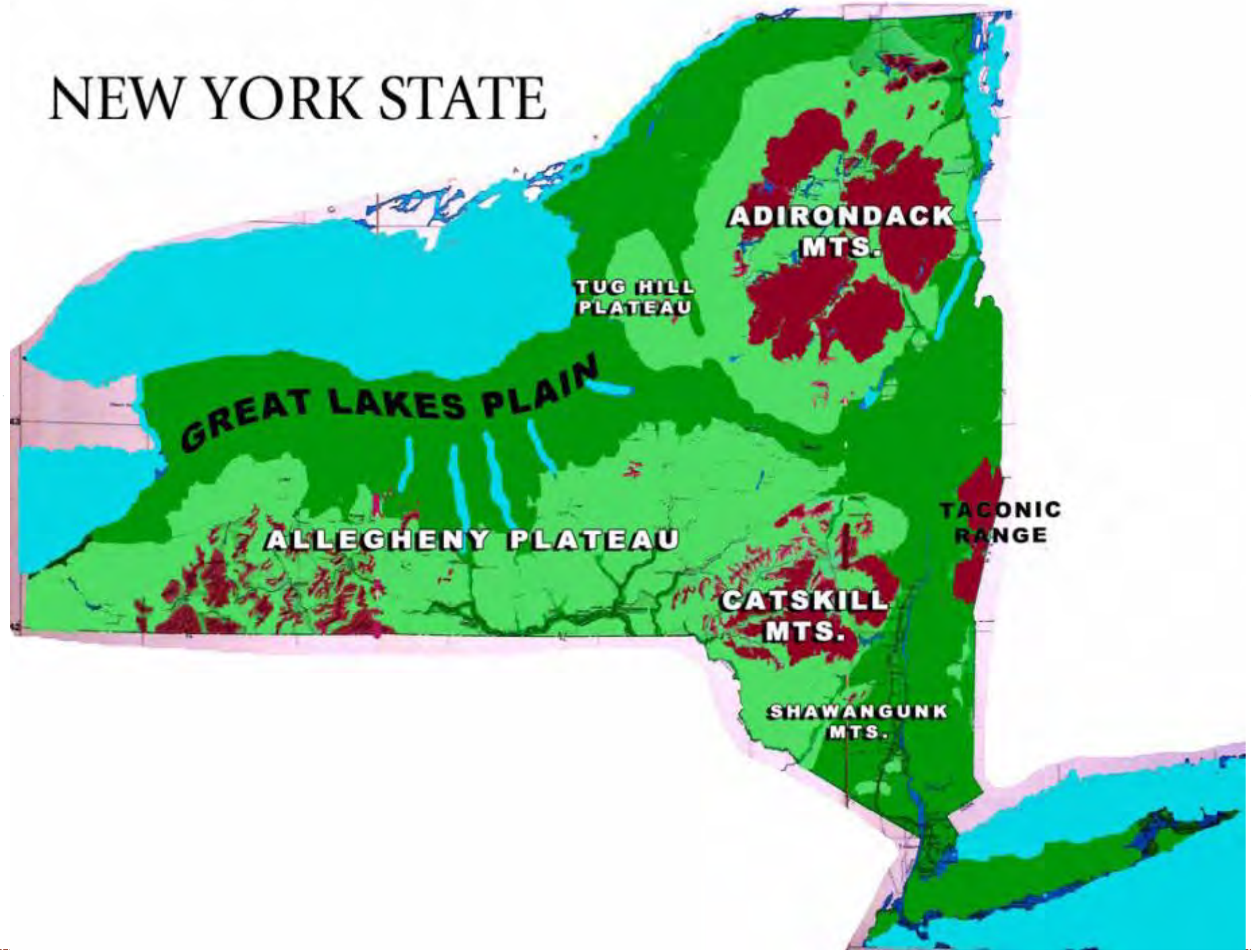



LABRADORIAN ICE SHEET
ONTARIAN LOBE
VERMONT
MASS.
LAKE ERIE
LATER PLEISTOCENE WATERS
IN NEW YORK STATE
EARLY IROQUOIS STAGE
Glacial Lake Iroquois
early phase
Hudson-Champlain Estuary
Scale of Miles
IROQUOIS
ONTARIAN LOBE
VERMONT
MASS.
CONN.
LAKE ERIE
LATER PLEISTOCENE WATERS
IN NEW YORK STATE
CLOSING IROQUOIS STAGE
Glacial Lake Iroquois
closing phase
Hudson-Champlain Estuary


NEW YORK STATE
ADIRONDACK MTS.
TUG HILL PLATEAU
GREAT LAKES PLAIN
ALLEGHENY PLATEAU
TACONIC RANGE
CATSKILL MTS.
SHAWANGUNK MTS.


Hodenosaunee Trail
Present-day boundaries
St. Lawrence River
Lake Champlain
Lake Ontario
Oneida
Mohawk
Cayuga
Seneca
Onondaga
Lake Erie
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AUTOMOBILE ROUTES, 1907


NEW YORK STATE
ADIRONDACK MTS.
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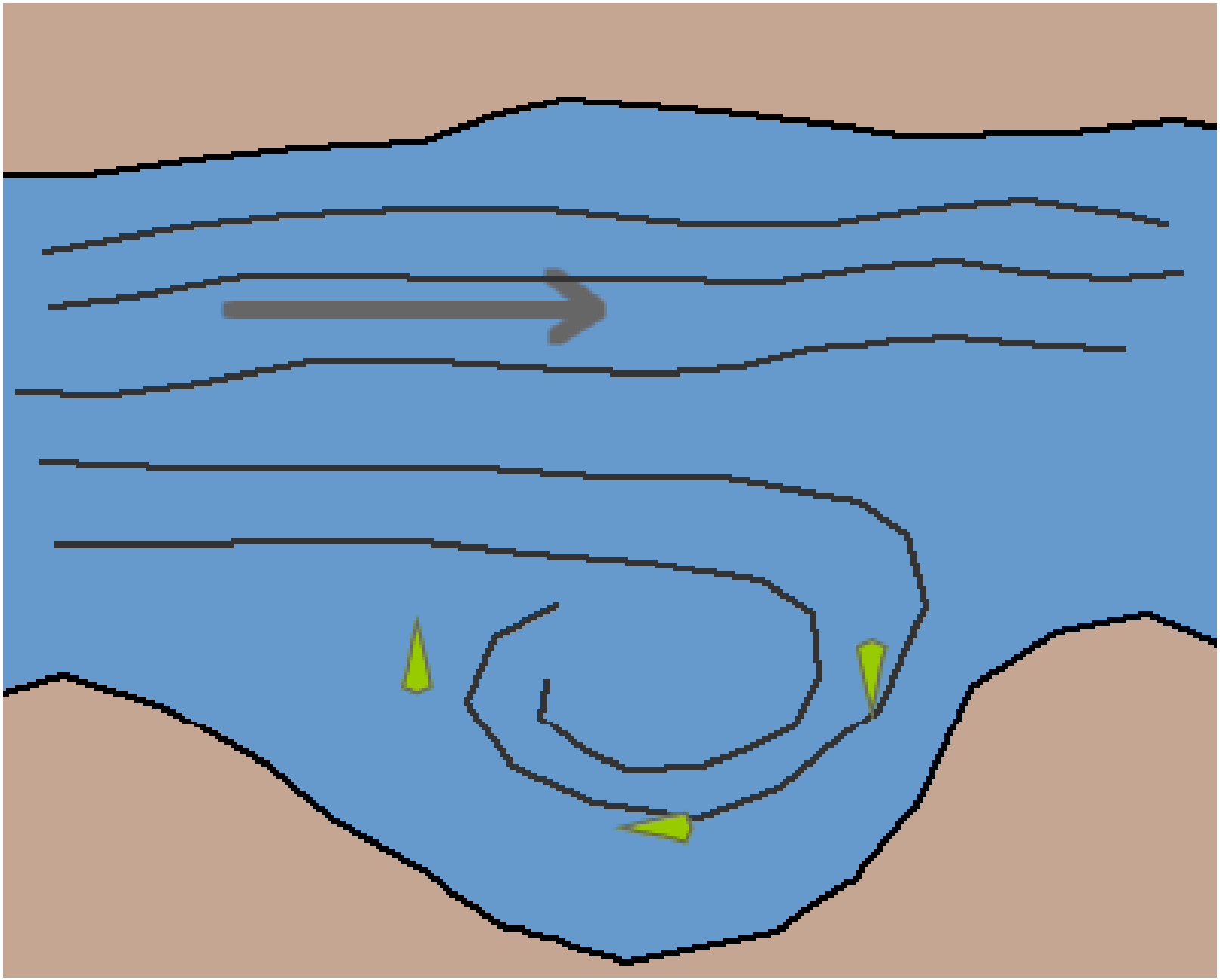
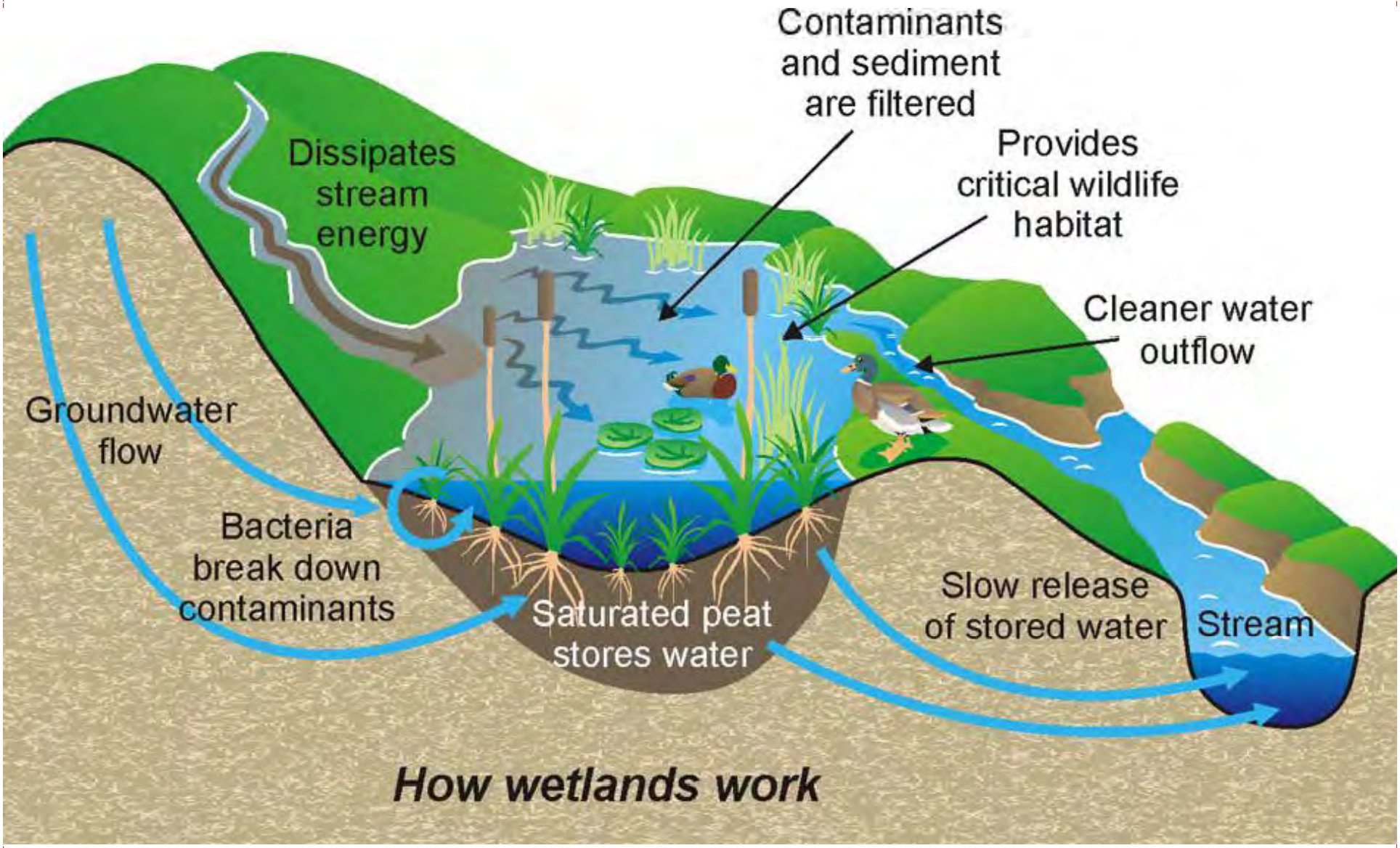
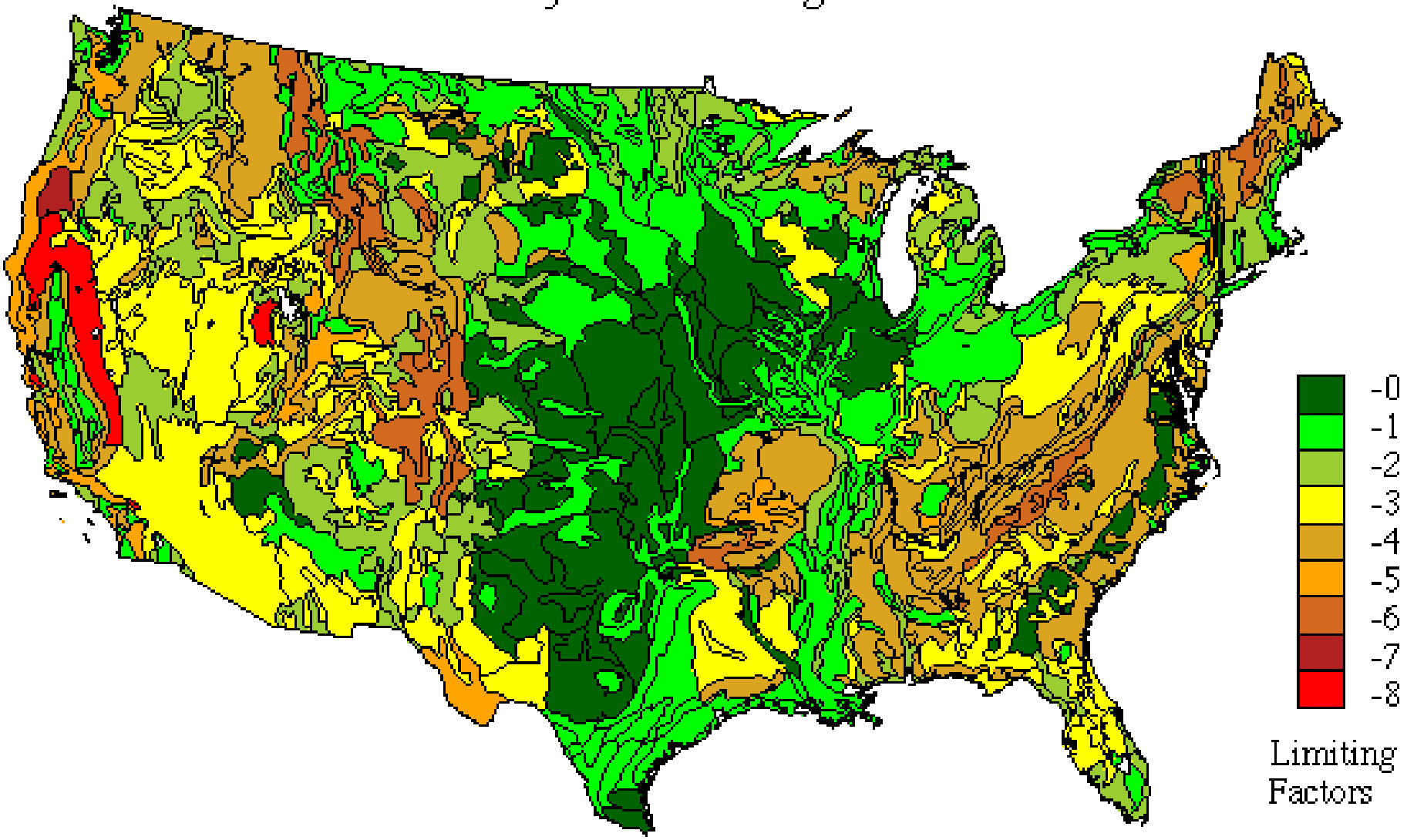
TACONIC RANGE
CATSKILL MTS.
SHAWANGUNK MTS.

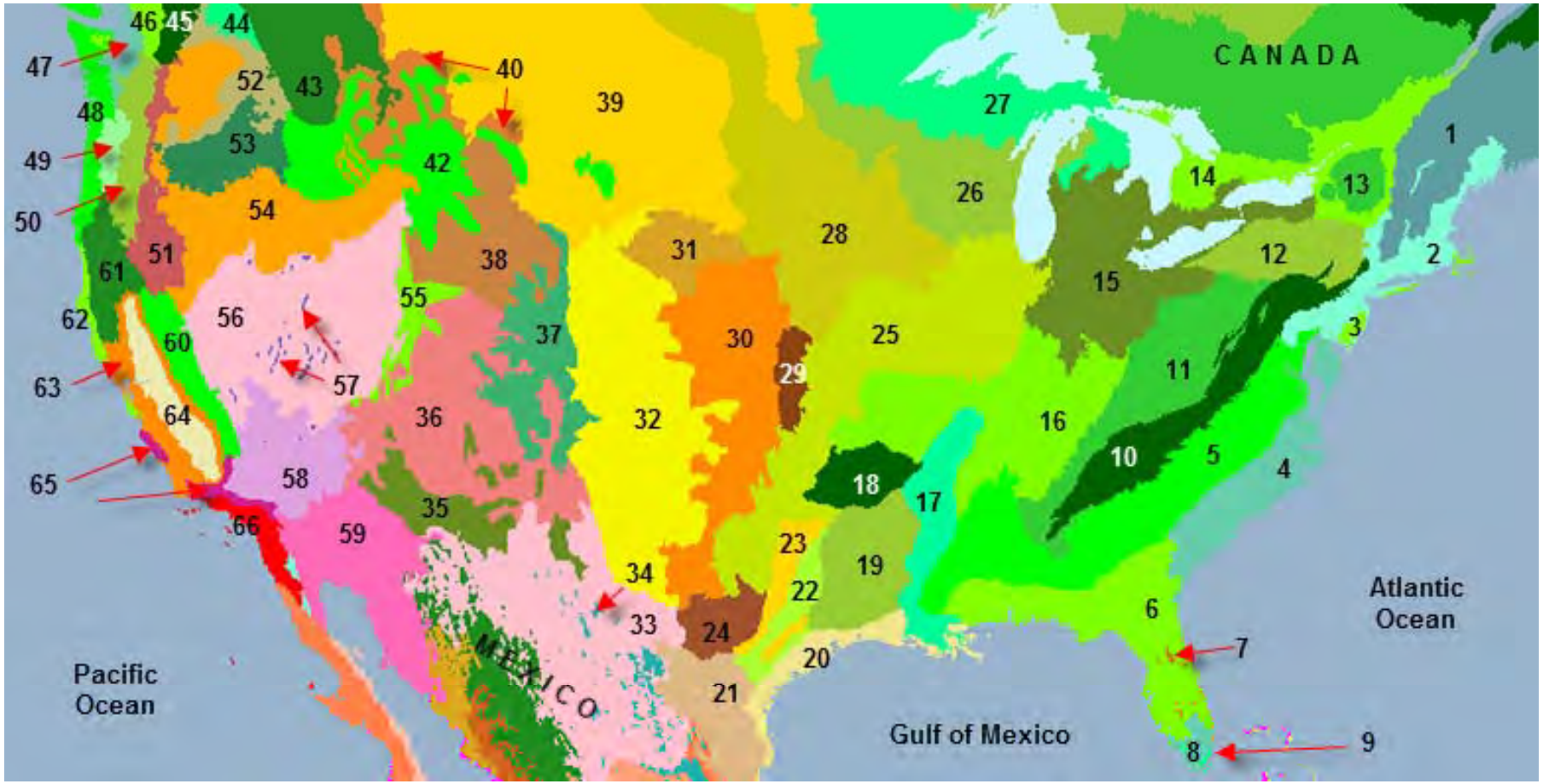



Contaminants and sediment are filtered
Provides critical wildlife habitat
Dissipates stream energy
Cleaner water outflow
Groundwater flow
Bacteria break down contaminants
Saturated peat stores water
Slow release of stored water
Stream
How wetlands work

UN/FAO Soils Map of the U.S.

Soils Ranked by FCC Limiting Factors




CANADA
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MEXICO
Gulf of Mexico
Atlantic Ocean
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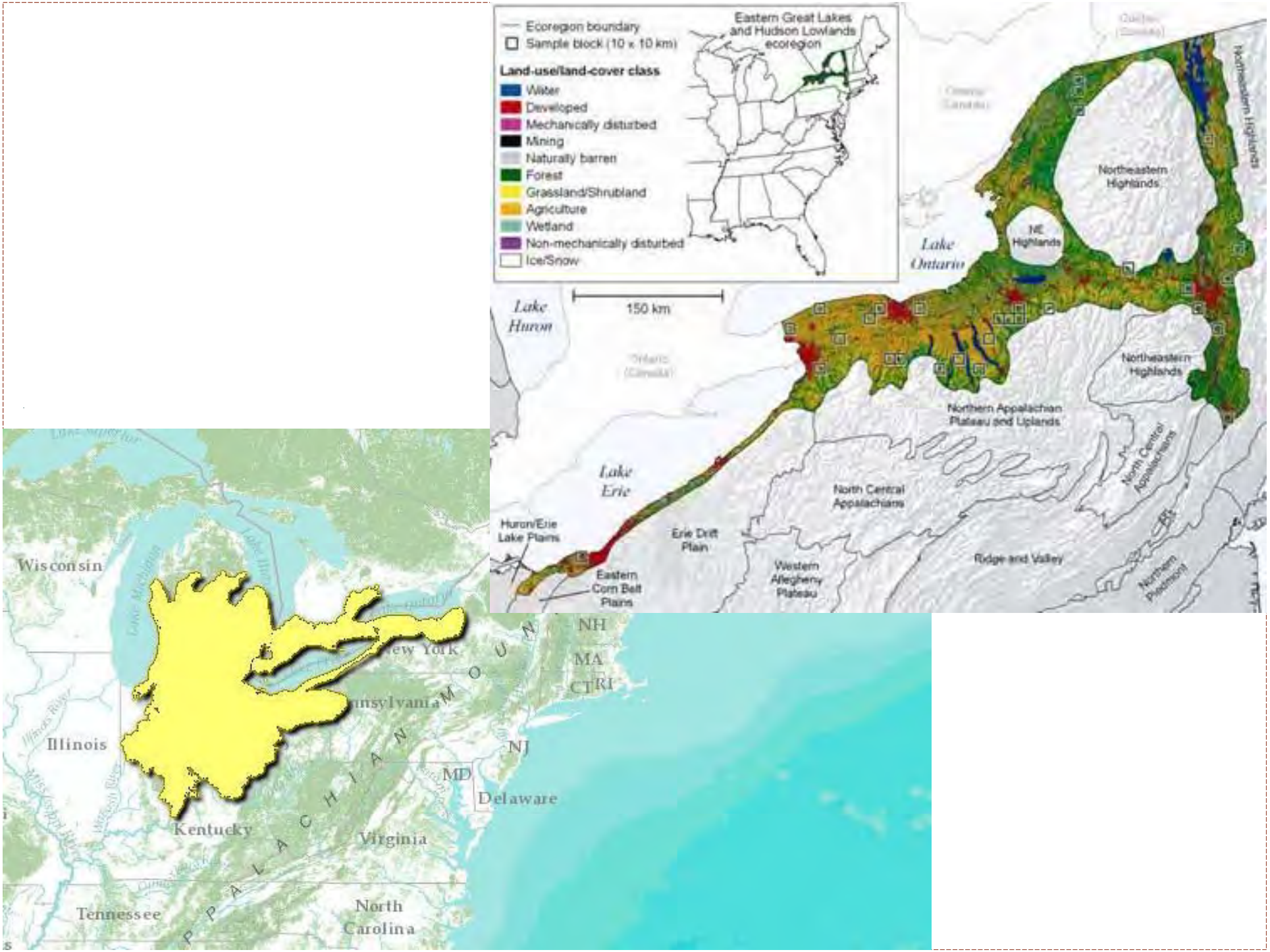
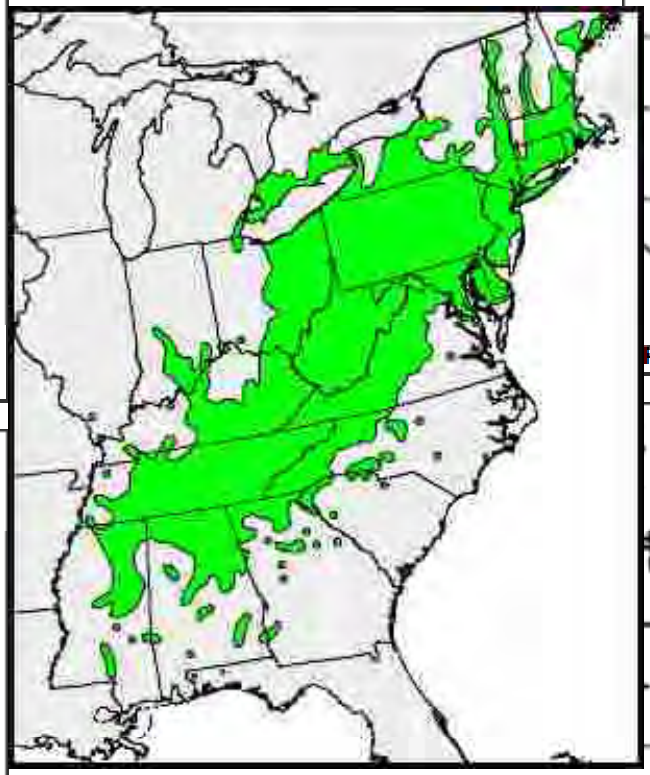

Ecoregion boundary
Sample block (10 x 10 km)
Land-use/land-cover class
Water
Developed
Mechanically disturbed
Mining
Naturally barren
Forest
Grassland/Shrubland
Agriculture
Wetland
Non-mechanically disturbed
Ice/Snow
Eastern Great Lakes and Hudson Lowlands ecoregion
150 km
Lake Ontario
Lake Huron
Lake Erie
Northeastern Highlands
NE Highlands
Northeastern Highlands
Northern Appalachian Plateau and Uplands
North Central Appalachians
North Central Appalachians
Huron/Erie Lake Plains
Erie Drift Plain
Eastern Corn Belt Plains
Western Allegheny Plateau
Ridge and Valley
Northern Piedmont
Wisconsin
Illinois
Kentucky
Tennessee
North Carolina
Virginia
Delaware
MD
NJ
NH
MA
CT
RI
APPALACHIAN MOUNTAINS

Figure 6-5. Range of black spruce.



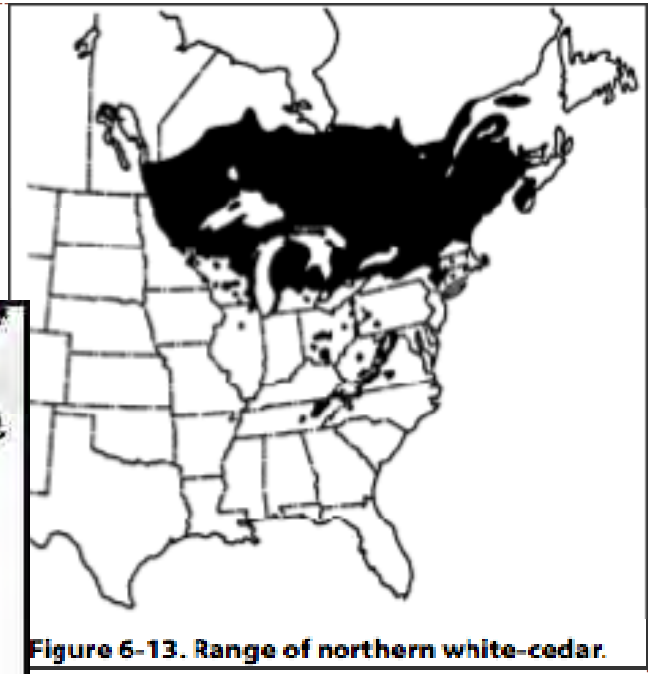
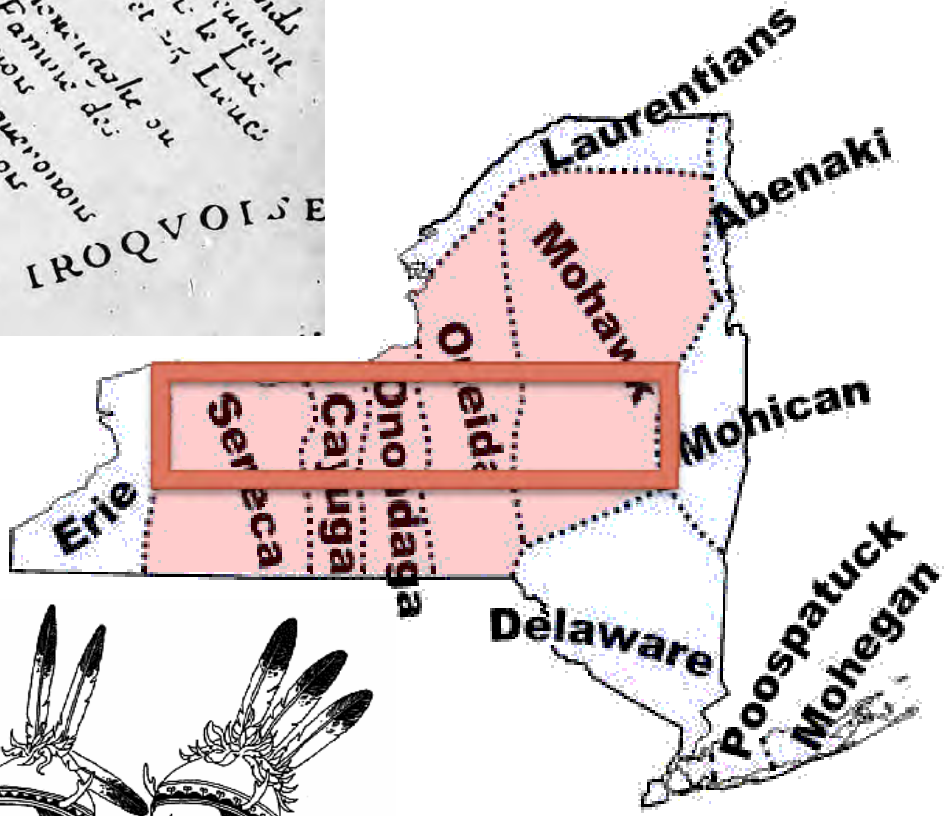


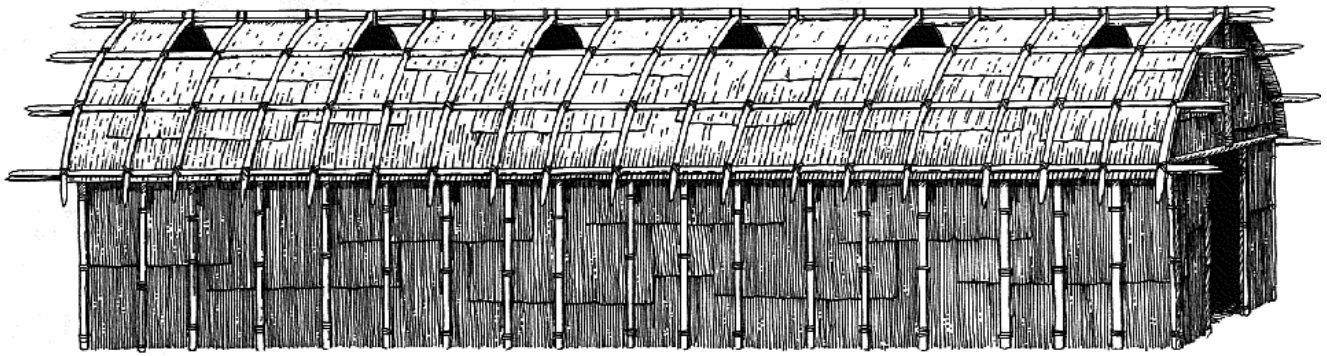
Figure 6-13. Range of northern white-cedar.

Figure 6-7. Range of bur oak.

Figure 6-8. Range of eastern white pine.

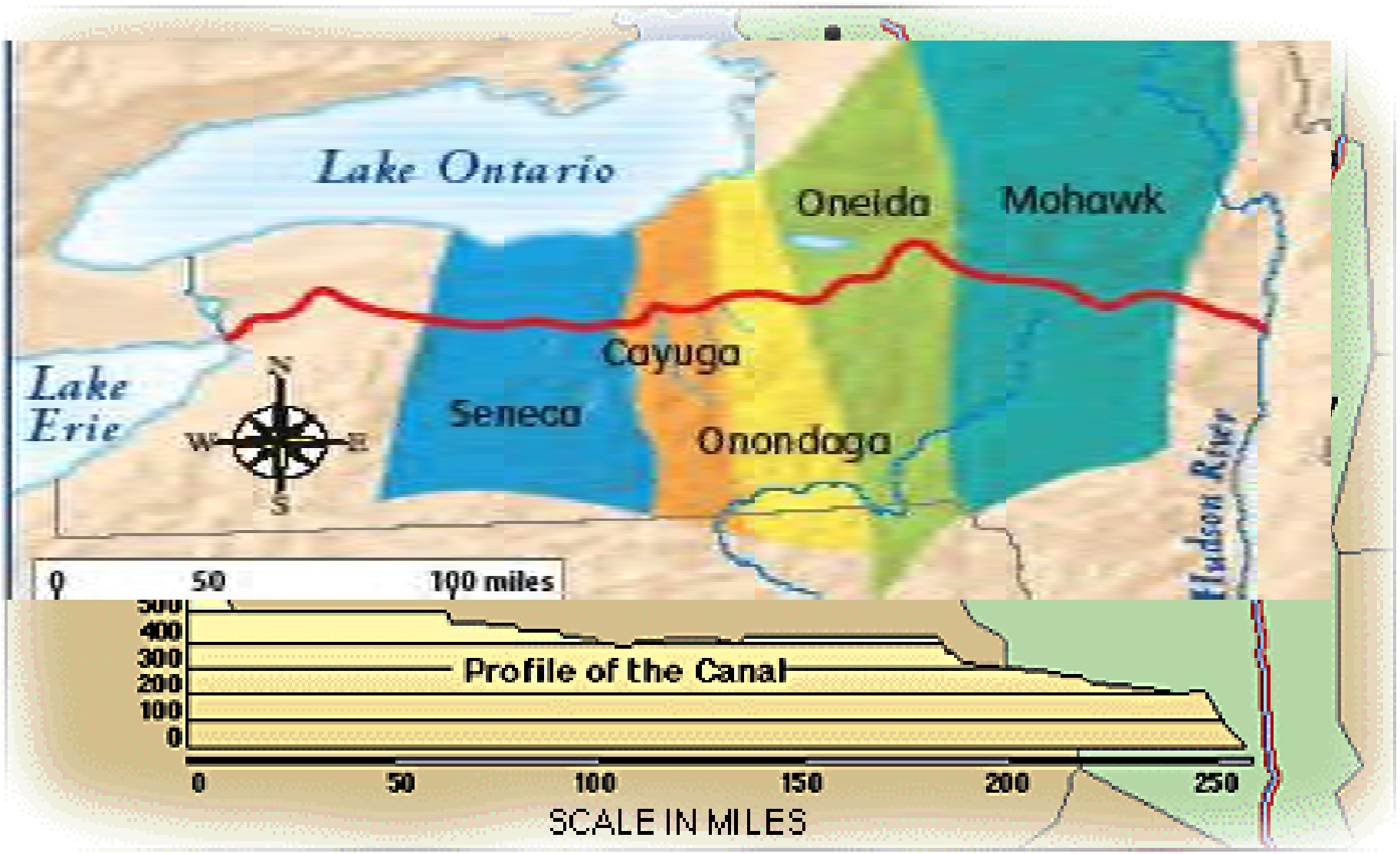

ONTARIO
Niagara
Tsonontouan
des Iroquois
Goyoguenorons
des Iroquois
Onontagueronons
des Iroquois
LES CINQ NATIONS IROQVOISE

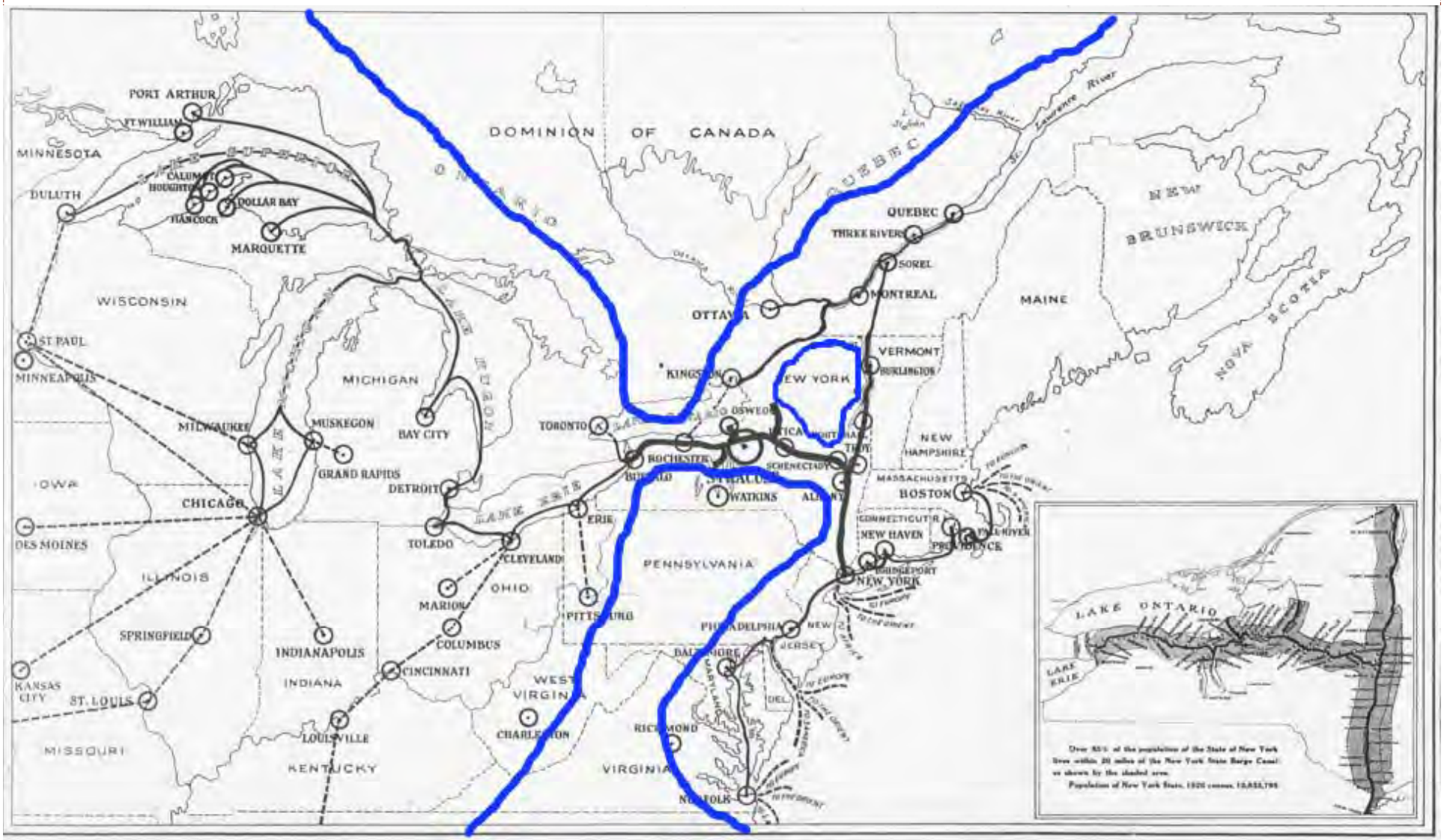

Laurentians
Abenaki
Mohawk
Oneida
Onondaga
Cayuga
Seneca
Erie
Mohican
Delaware
Poospatuck
Mohegan

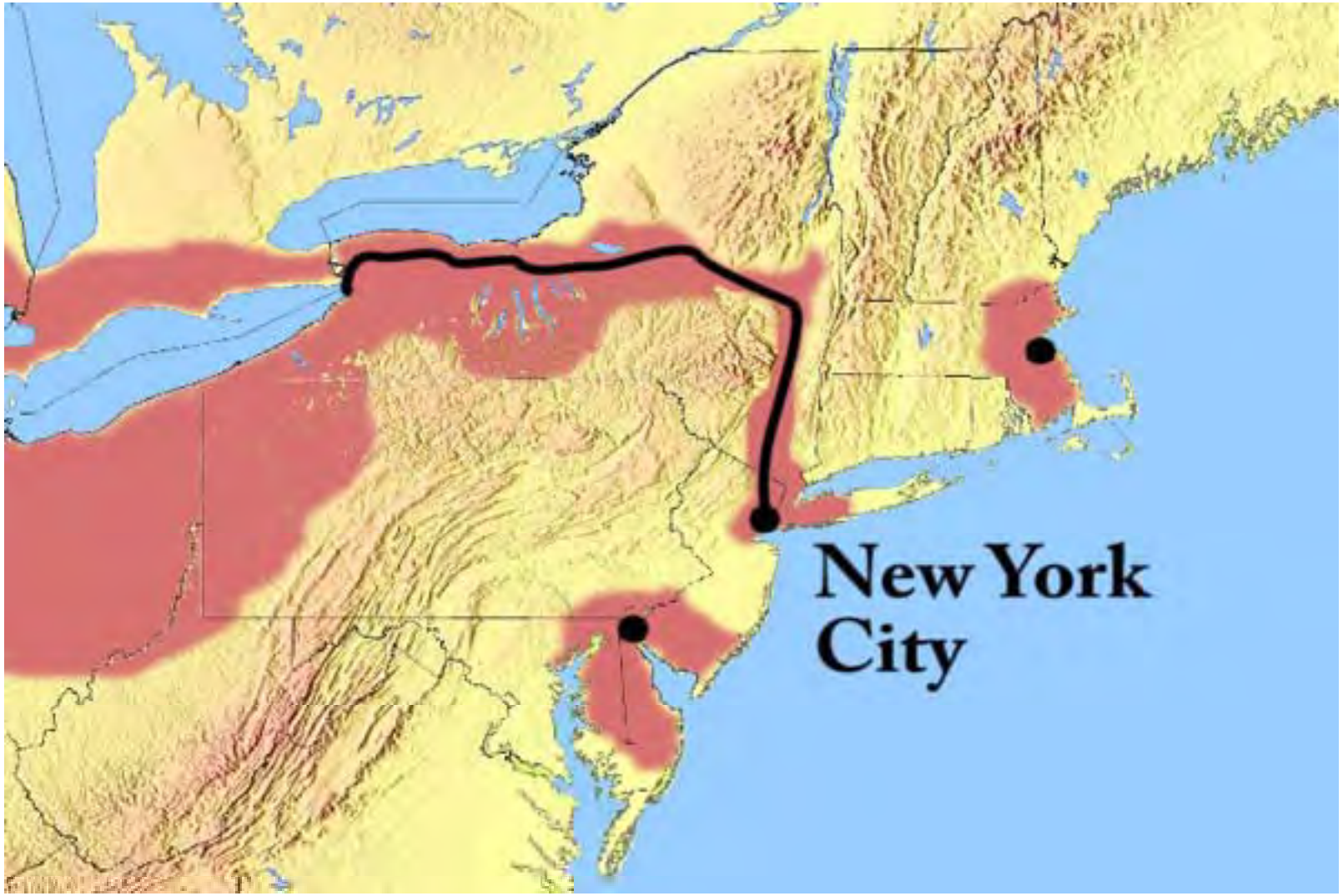


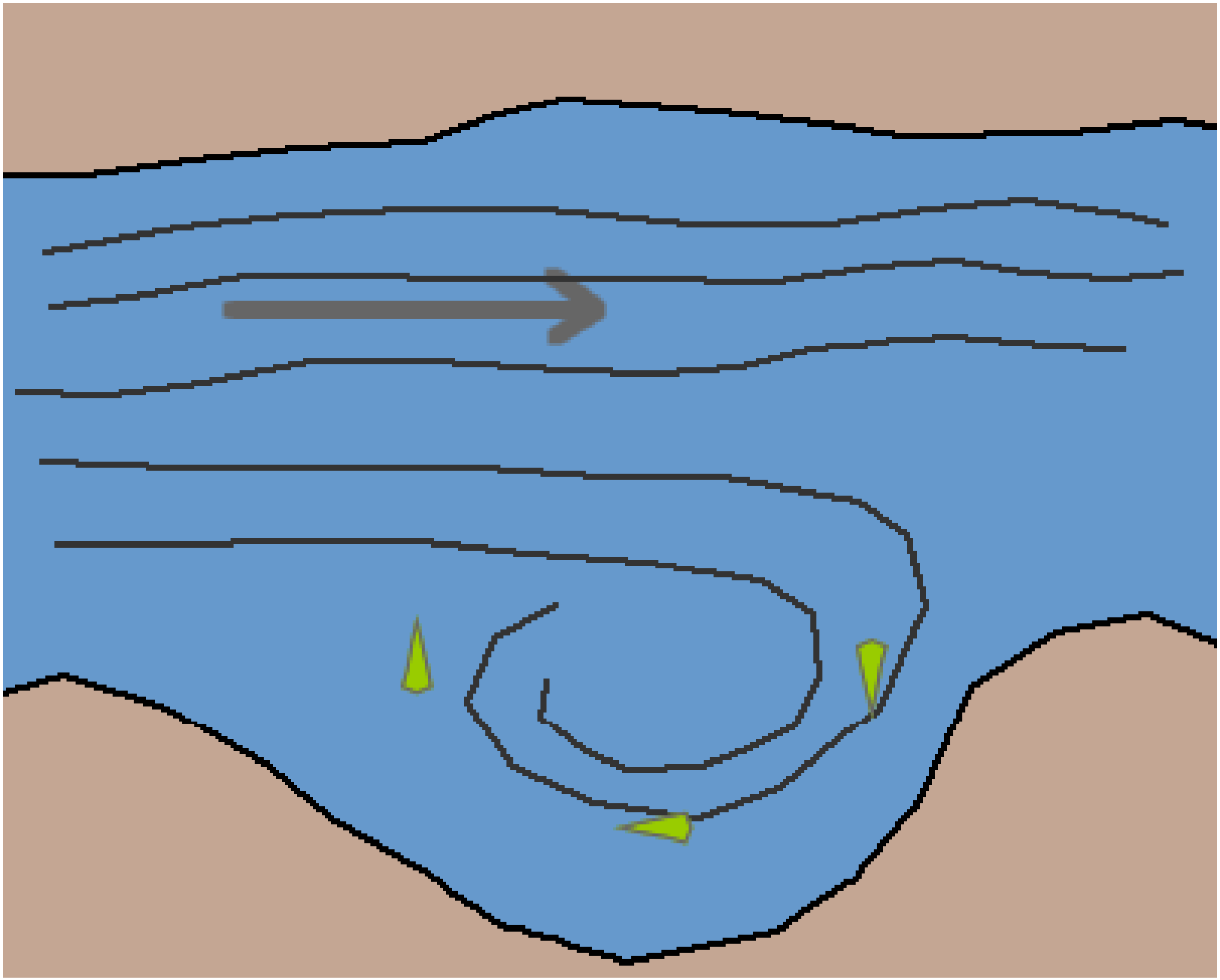

45
L. Taronto
Les Piquets
Toiaiagon
Cinatthehiagon
Kentio
Tarouate
Lac Ohate
R. Kabaroks
R. des Outaouac
Fort Frontenac
le G. de Frontenac
Portage
I Cagoutin
I Katarasqo
I Ganonkouaque
LAC DE FRONTENAC
ONTARIO
Les plus Grands
Bastiman trouvent
Frontenac dans le Lac
plus bas
Cahihouarouhe ou
la Fameuse des
Iroquois
Onontaguerronons
des Iroquois
Goyoguenorons
des Iroquois
Tsonontouan
des Iroquois
Kalvuagoga
des Iroquois
Sonnontouan
des Iroquois
Niagara
Sault
Carte de
L. Erie
LES CINQ NATIONS IROQVOISE
Les Iroquois font leurs Pechos dans
tous les Marais ou Estangs qui bordent
ce Lac d'ou ils tirent leur principale
Subsistence
Sesquahana
Fort
PENSYLVANIE


Hudson Bay
NEW FRANCE
L. Superior
L. Huron
L. Michigan
L. Erie
Wolfe
Amherst
Quebec
Montreal
Ft. Louisbourg
(Jun. 8–Jul. 26, 1758)
Ft. Beausejour
Port Royal
Ft. Ticonderoga
(Jul. 8, 1758)
Ft. Frontenac
(Aug. 27, 1758)
Ft. William Henry
(Aug. 9, 1757)
Ft. Niagara
(Jul. 29, 1759)
Ft. Oswego
Ft Stanwix
Albany
Boston
Detroit
New York
Braddock's defeat
(Aug. 9, 1755)
Ft. Duquesne
Philadelphia
Ft. Necessity
(Jul. 3, 1754)
Ft. Cumberland
Atlantic Ocean
Williamsburg
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
Charleston
Savannah
SPANISH FLORIDA
St. Augustine
Mexico
French claims
British claims
Spanish claims
Disputed British-Spanish claims
Disputed British-French claims
British victories
French victories
Forts
British troops movements

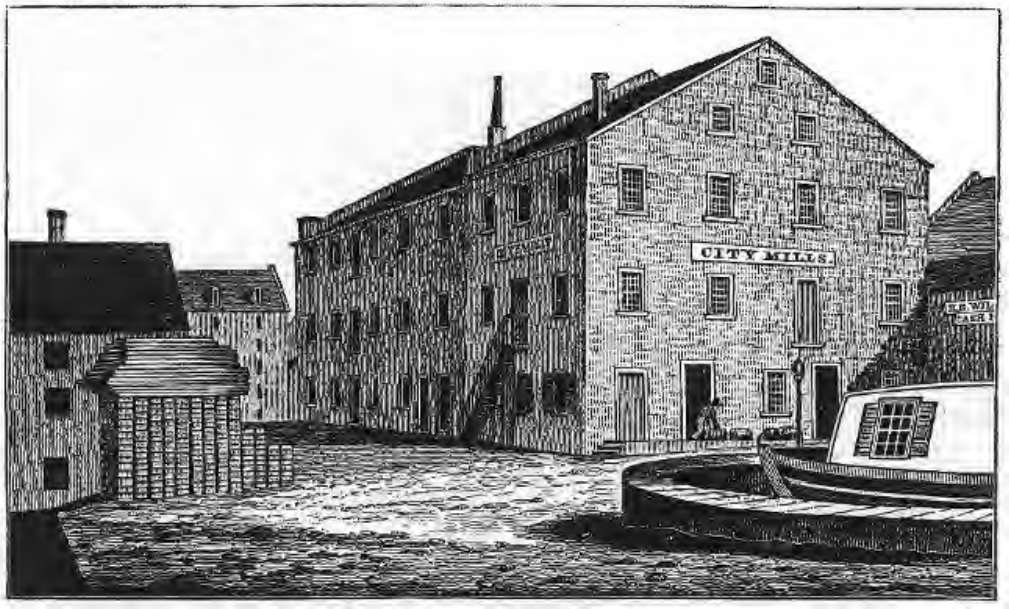

Lake Ontario
Oneida
Mohawk
Cayuga
Lake Erie
Seneca
Onondaga
Hudson River
N
W
E
S
0
50
100 miles
400
300
200
100
0
Profile of the Canal
0
50
100
150
200
250
SCALE IN MILES

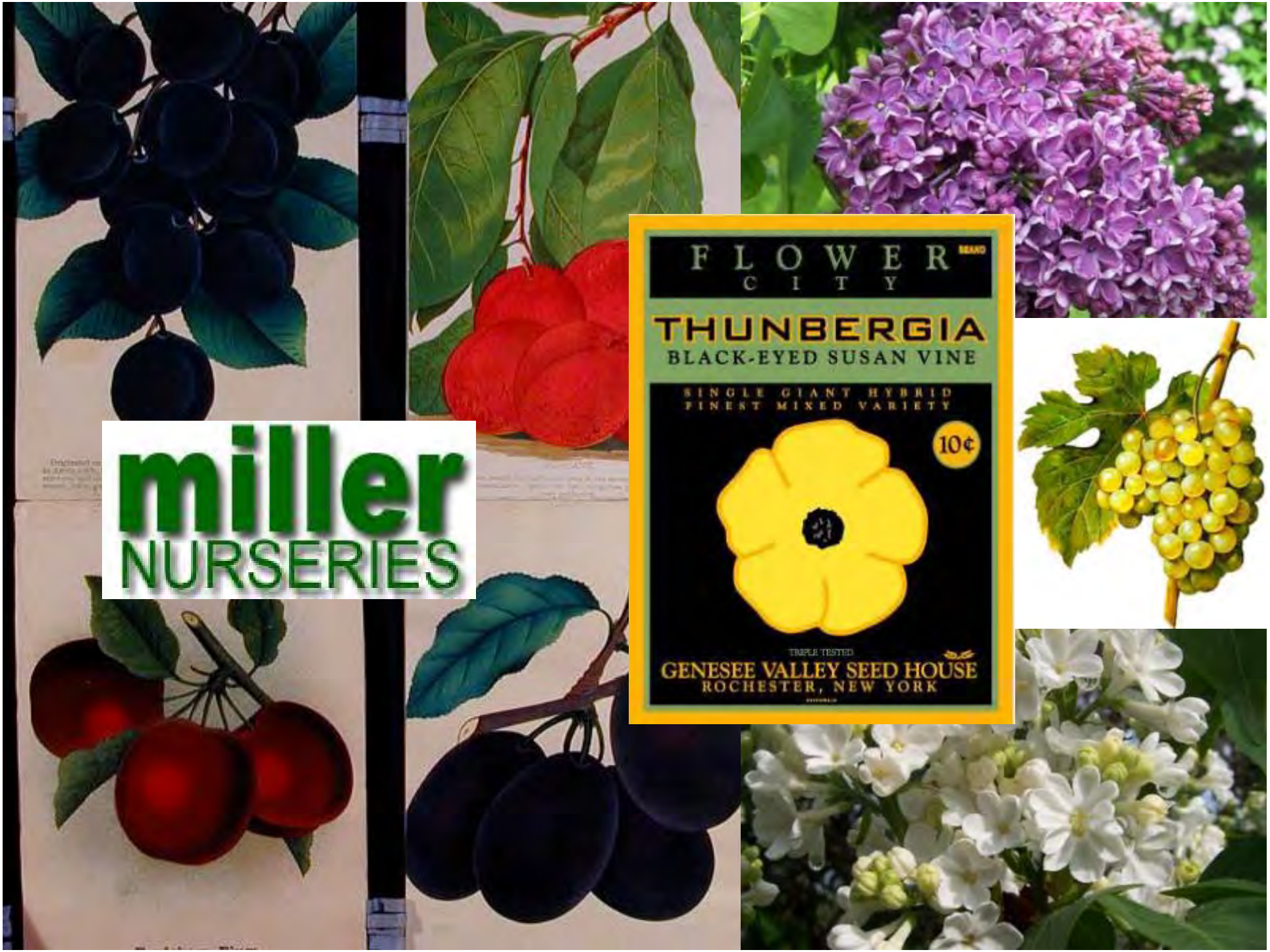

PORT ARTHUR
FT WILLIAM
MINNESOTA
DULUTH
CALUMET
HOUGHTON
HANCOCK
DOLLAR BAY
MARQUETTE
WISCONSIN
ST PAUL
MINNEAPOLIS
MILWAUKEE
MUSKEGON
BAY CITY
GRAND RAPIDS
MICHIGAN
DETROIT
CHICAGO
IOWA
DES MOINES
ILLINOIS
SPRINGFIELD
KANSAS CITY
ST. LOUIS
MISSOURI
INDIANAPOLIS
INDIANA
LOUISVILLE
KENTUCKY
CINCINNATI
COLUMBUS
MARION
OHIO
TOLEDO
CLEVELAND
ERIE
PITTSBURG
WEST VIRGINIA
CHARLESTON
RICHMOND
VIRGINIA
NORFOLK
PENNSYLVANIA
PHILADELPHIA
BALTIMORE
MARYLAND
DEL.
NEW JERSEY
NEW YORK
BRIDGEPORT
NEW HAVEN
CONNECTICUT
PROVIDENCE
FALL RIVER
BOSTON
MASSACHUSETTS
NEW HAMPSHIRE
VERMONT
BURLINGTON
MAINE
NOVA SCOTIA
NEW BRUNSWICK
QUEBEC
THREE RIVERS
SOREL
MONTREAL
OTTAWA
KINGSTON
TORONTO
ONTARIO
DOMINION OF CANADA
ROCHESTER
BUFFALO
SYRACUSE
WATKINS
SCHENECTADY
ALBANY
UTICA
OSWEGO
LAKE ONTARIO
LAKE ERIE
LAKE MICHIGAN
LAKE HURON
LAKE SUPERIOR
St. Lawrence River
Ottawa River
Lake Nipissing
TO EUROPE
TO THE ORIENT
TO BOSTON
TO THE WEST
Over 85% of the population of the State of New York lives within 20 miles of the New York State Barge Canal as shown by the shaded area.
Population of New York State, 1920 census, 10,385,799


New York
City



FLOUR CITY




miller
NURSERIES
FLOWER
CITY
THUNBERGIA
BLACK-EYED SUSAN VINE
SINGLE GIANT HYBRID
FINEST MIXED VARIETY
10¢
TRIPLE TESTED
GENESEE VALLEY SEED HOUSE
ROCHESTER, NEW YORK

The Best OF NEW YORK STATE APPLES

McINTOSH
(Sweet with a tart tang, very juicy)

EMPIRE
(Unique sweet/tart taste, very juicy)

CRISPIN
(Delicately spicy and sweet, very juicy and crisp)

GALA
(Mildly sweet flavor, super crisp)

MACOUN
(Extra sweet with a mild, tart taste, very juicy)

HONEYCRISP
(Sweet, tart, juicy, super crisp)

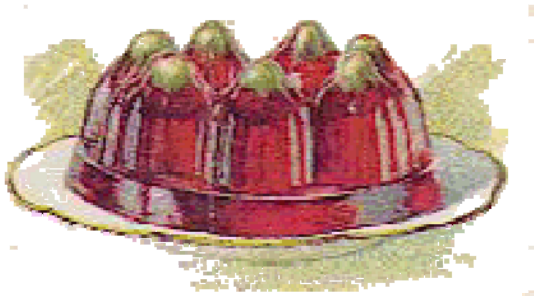
RED DELICIOUS
(Extra sweet flavor, crisp, yellow flesh)

JONAGOLD
(Honey sweet with a hint of tartness, juicy)

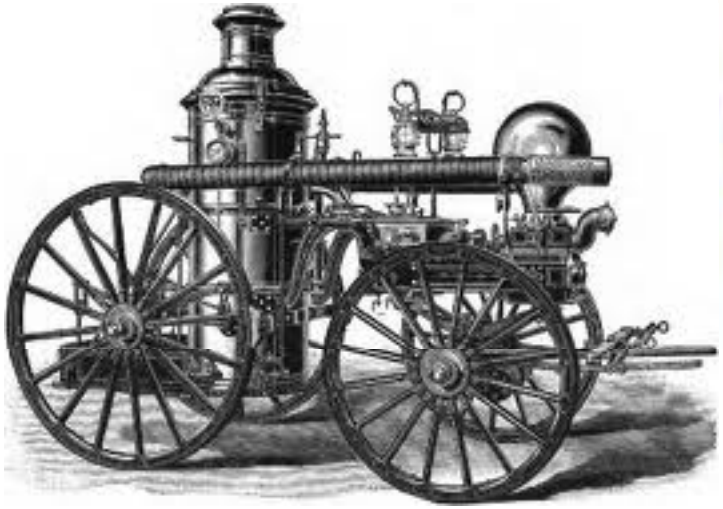
GOLDEN DELICIOUS
(Mild, sweet flavor, very crisp)

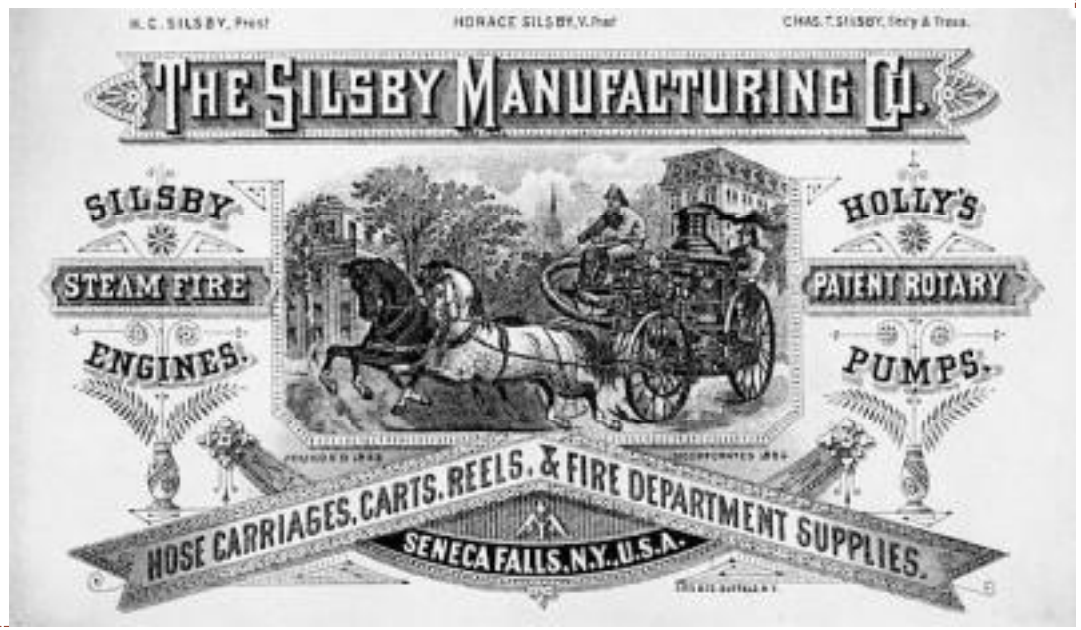
GINGERGOLD
(Sweet, yet mildly tart, fine textured and crisp)


JELL-O
JELL-O Bill Cosby



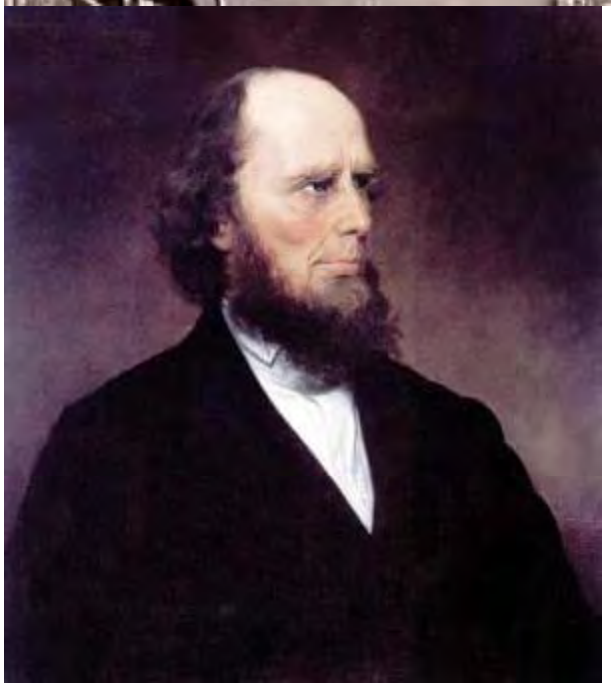

cherry
ARTIFICIAL FLAVOR
JELL-O
GELATIN DESSERT
4 1/2-Cup Servings
NET WT 3 OZ (85g)

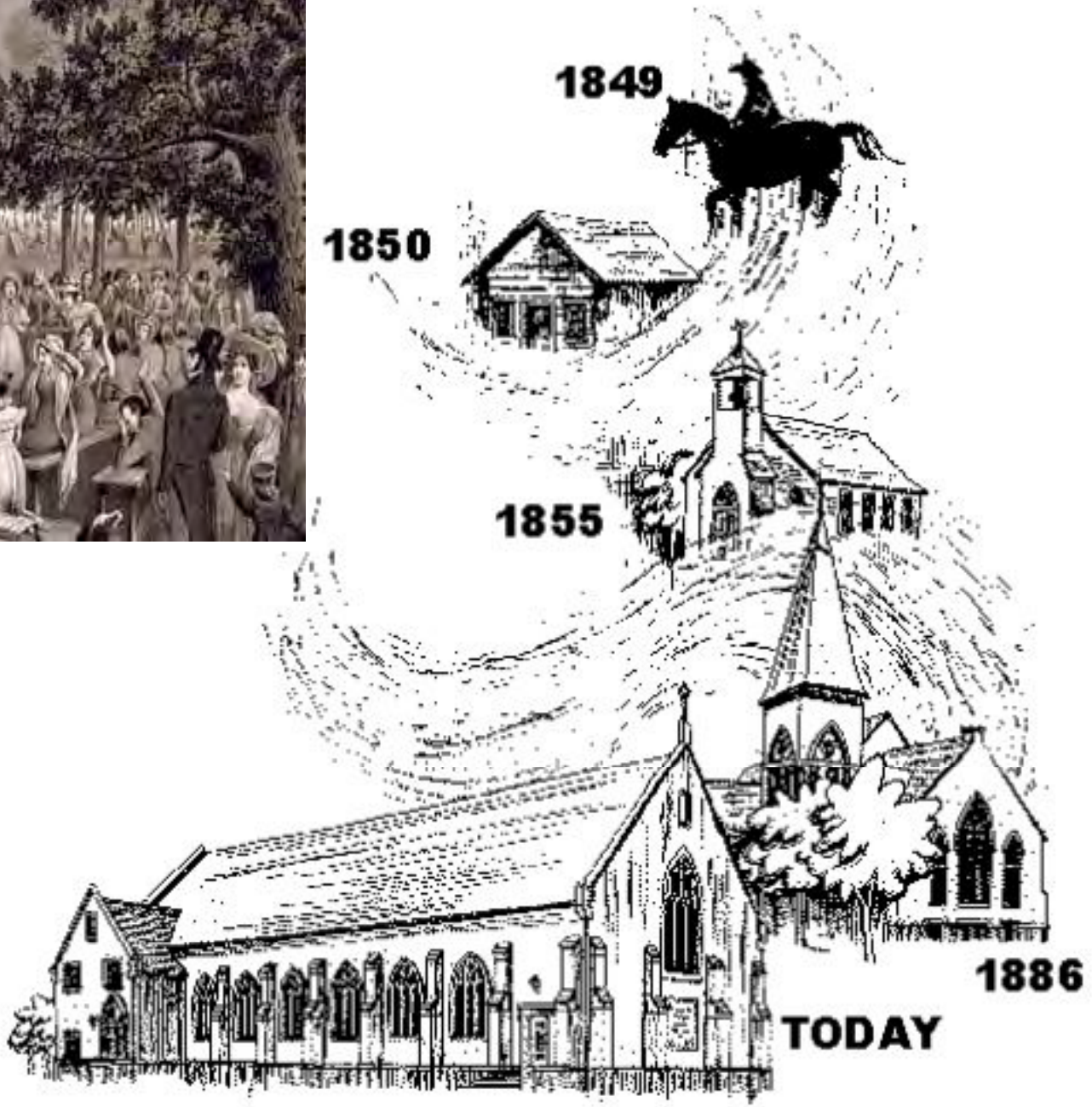


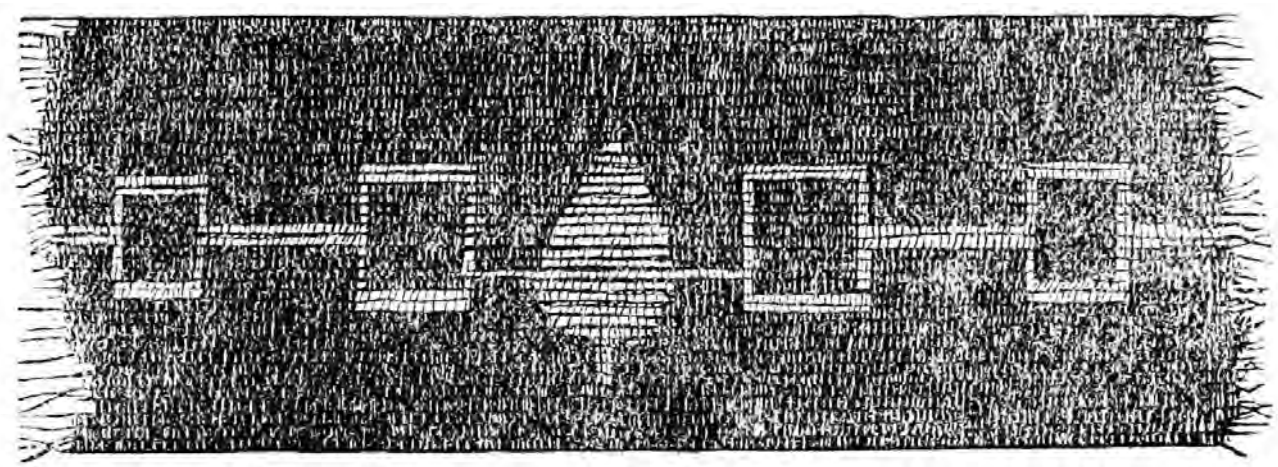

H. C. SILSBY, Pres't
HORACE SILSBY, V. Pres't
CHAS. T. SILSBY, Sec'y & Treas.
THE SILSBY MANUFACTURING CO.
SILSBY
STEAM FIRE
ENGINES.
HOLLY'S
PATENT ROTARY
PUMPS.
HOSE CARRIAGES, CARTS, REELS, & FIRE DEPARTMENT SUPPLIES.
SENECA FALLS, N.Y. U.S.A.

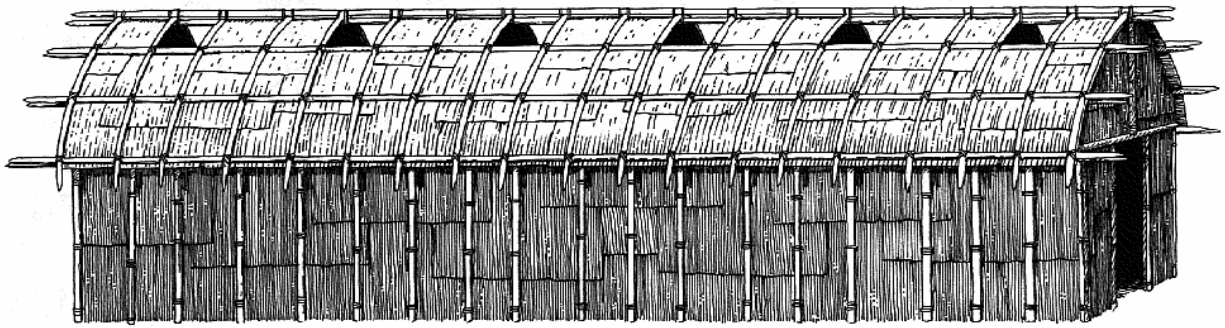

CIVIL ENGINEERING


Canal Boats going over Aqueduct.
Rochester, N.Y.
VintageRochester.blogspot.com



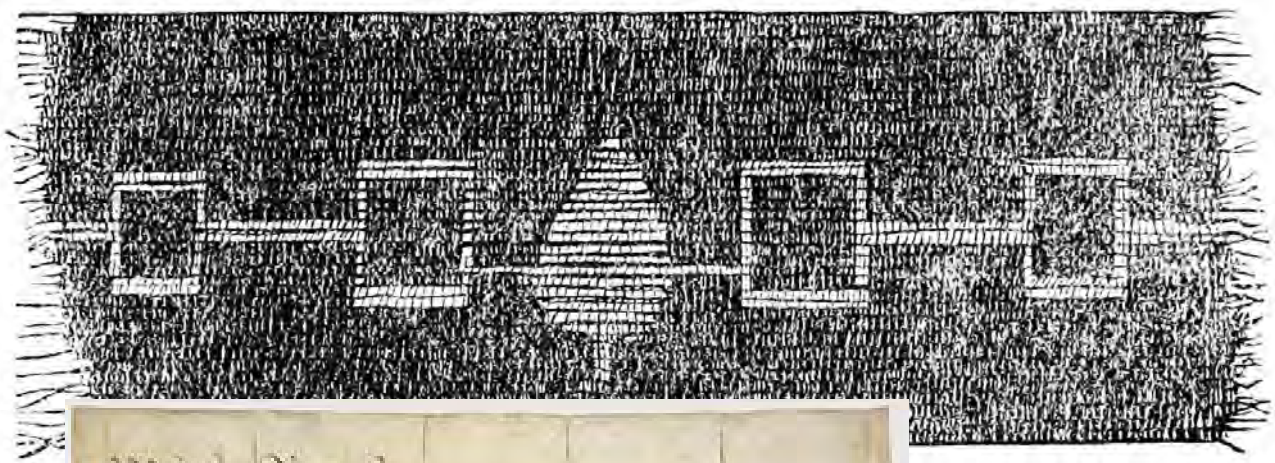

1849
1850
1855
1886
TODAY





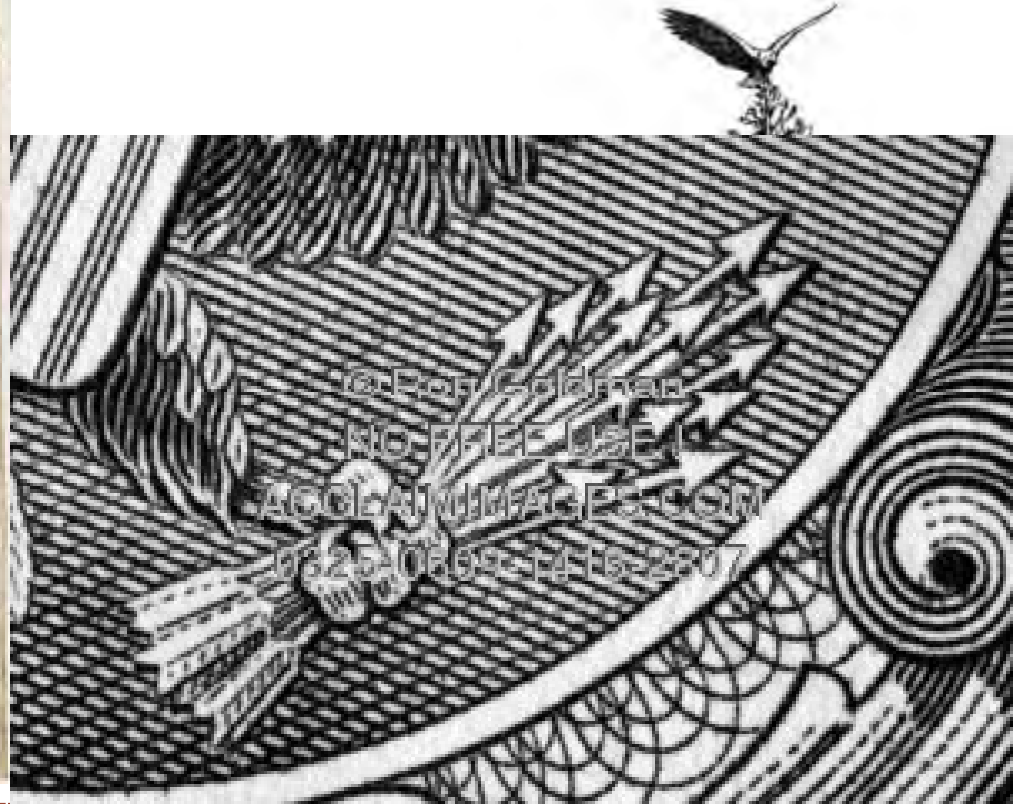
The Six Nations Confederacy was and is likened to a longhouse.

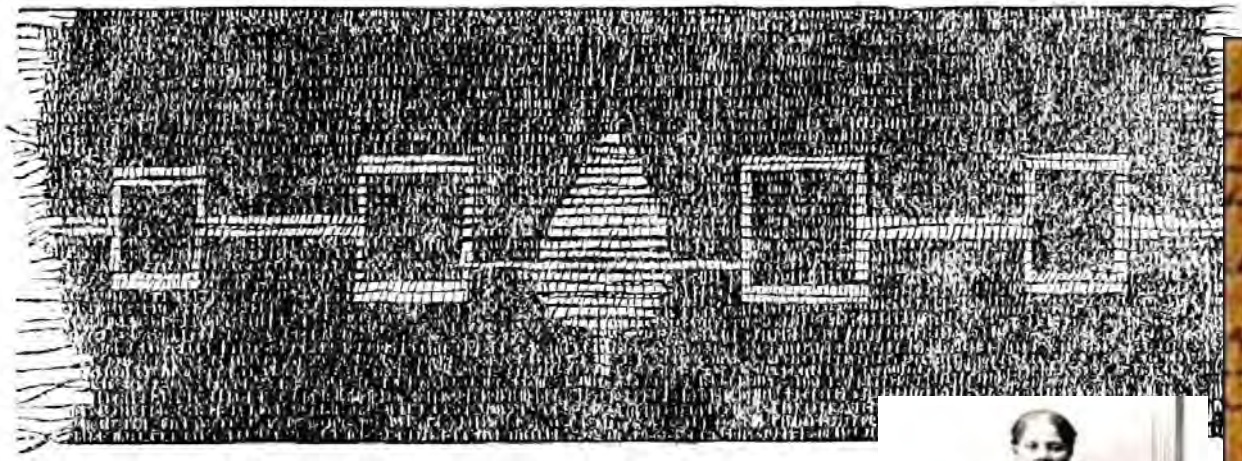
Copyright (c) 1991 by John Kahionhes Fadden




UNITED STATES OF AMERICA
$1
HAUDENOSAUNEE
GREAT LAW OF PEACE


We the People






Declaration of Sentiments
"We hold these truths to be self-evident; that all men and women are created equal..."


We the People


PROCLAMATION OF EMANCIPATION
By the President of the United States of America.


WELCOME TO
WATERLOO N.Y.
THE BIRTHPLACE OF
MEMORIAL DAY
MAY 5th
1866
VISIT THE MEMORIAL DAY
MUSEUM AT 35 E.MAIN ST.


NORTH STAR.
VOL. 9.
ROCHESTER, N. Y., FRIDAY, FEBRUARY 23, 1849.

WOMEN'S RIGHTS

The equality of Haudenosaunee women was assured from the formation of the Confederacy. The first person to accept the Peacemaker's message was a woman, *Jikonhsaseh*. She secured the rights, responsibilities, and roles Haudenosaunee women continue to enjoy. Matrilineal heritage in Haudenosaunee society, where clan and nation are inherited through mothers, establishes great respect for women's contributions to society.

The freedom of Haudenosaunee women and the power they wielded in their political life influenced the women's suffrage movement through leaders such as Elizabeth Cady Stanton, Matilda Joslyn Gage, and Lucretia Mott. Their personal relationships with people from the Haudenosaunee nation were a great inspiration to them in their suffrage campaign.

A BALANCE OF POWER

Haudenosaunee women and men have complementary roles. By sharing and checking one another's responsiblities, the clan mother and the chief achieve a balance of power. Through their entwined civil roles, they work to preserve peace for the clan, the nation, and ultimately for the Confederacy of the Six Nations.

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Our commitment to diversity
Success and Opportunity for All
Learn More »


ROCHESTER FRUIT & VEGETABLE CO.
Wegmans history
It All Started in 1916...
View Timeline »

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GANNETT

It's all within reach.

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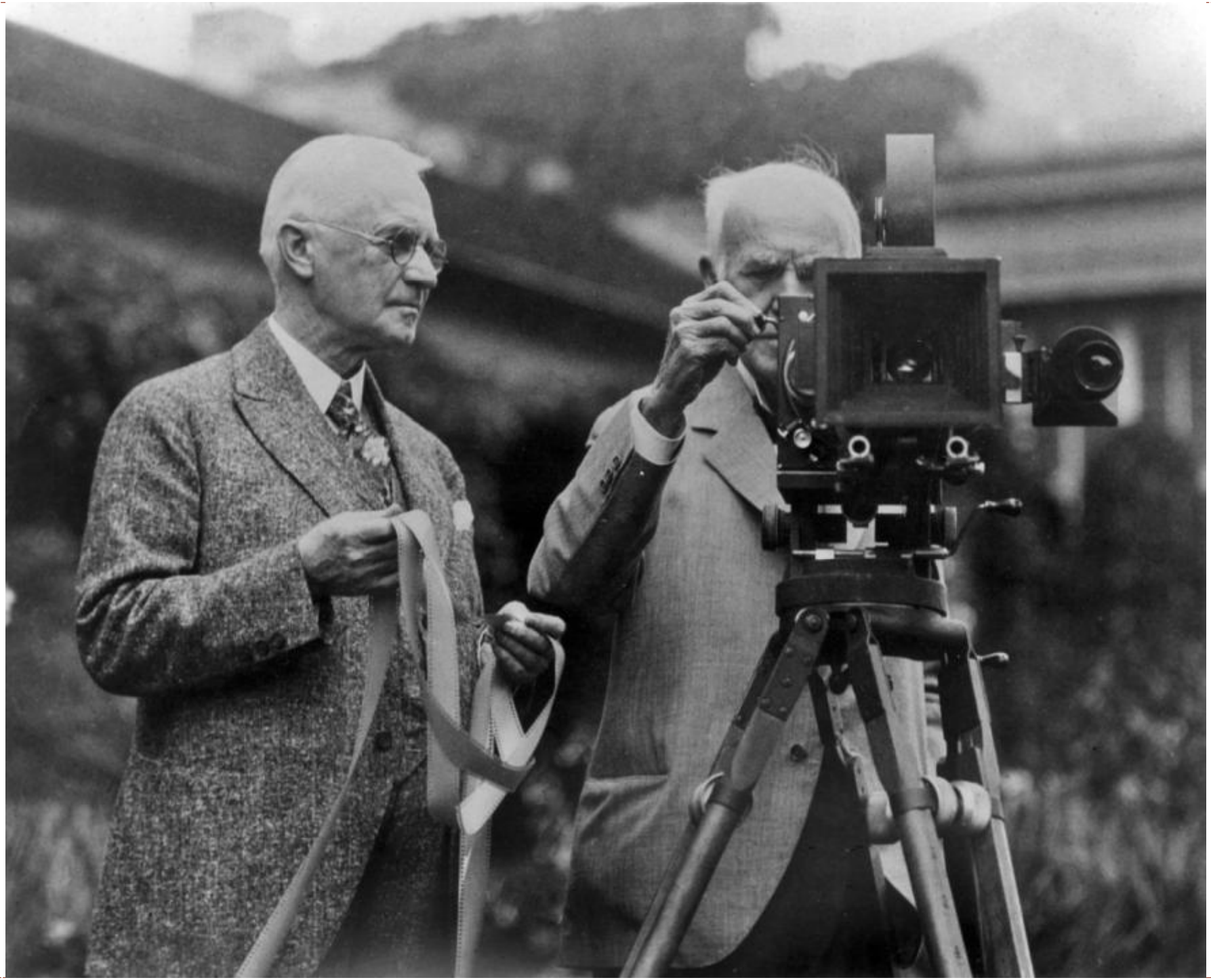

THE KODAK CAMERA.

"You press the button, - - - - we do the rest."

The only camera that anybody can use without instructions. Send for the Primer, free.

The Kodak is for sale by all Photo stock dealers.

The Eastman Dry Plate and Film Co.,

Price $25.00—Loaded for 100 Pictures. ROCHESTER, N. Y.

A full line Eastman's goods always in stock at LOEBER BROS., 111 Nassau Street, New York.


THE KODAK CAMERA.
"You press the button, -
- - - we do the rest."
t anybody can use
nd for the Primer,
l Photo stock dealers.
Film Co.,
CHESTER, N. Y.
R BROS,, 111 Nassau


5X
optical zoom
Kodak
KODAK AF 5x Optical Aspheric Lens
35mm - 175mm (Equivalent)
12 MEGAPIXELS


1990-5036/1571

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BAUSCH + LOMB

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XEROX®

XEROX®

Champion

Story of Place

How would this way of understanding the region change how you talk about and work on your subject area?

If you were to make this change, what new possibilities show up?

Emerging Patterns

Innovation Incubator

Emerging Patterns

What does this tell us about the direction we should be pursuing as a region?

- **Where's the growth opportunity?**
- **What is our expertise?**
- **What are the strengths of our natural and built environment?**
- **Where are our passions headed?**

Story of Place Discussion

Innovation Incubator

Non-Displaceability:

- Highly respected as a leader in this field
- Increasingly seen as a great place to live and work
- Economic and social opportunity for all

NEXT STEPS

Next Steps

- **Next stakeholders meeting:**

  When: Late January
  Topic: Targets and strategies

- **Meeting minutes and agenda for next meeting within next 2 weeks**

- **Email** – Summary on indicators for group feedback

- **Public Meeting –** early to mid January

THANK YOU

MEETING TITLE	Economic Development Stakeholder Group Meeting #2	
DATE AND TIME	November 15th , 2012 1:00-5:00pm	
ATTENDEES	Bill Emm	Genesee Community College
	Mike Haugh	CMH Consulting
	Valarie Avalone	Monroe Community College
	Greg Albert	Genesee/Finger Lakes Regional Planning
	Don Naetzker	Finger Lakes Museum
	Peg Churchill	Wayne County IDA
	George Thomas	CEI
	Roxanne Kise	Western Erie Canal Alliance
	Bob McNary	Wayne County Economic Development
	Al Hartsig	Path Stone Enterprise Center
	Lynn Freeman	Genesee County Chamber
	Chris Suozzi	Genesee County EDC
	Stacey Decker	Town of Penfield EEAC
	Meredith Smith	RIT
	Enid Cardinal	RIT
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S (Tim Hughes & Aileen Maguire), Developmental Economics Group/ Regenerative Alliance (Carl Sanford), Regenesis (Joel Glanzberg & Ben Haggard), TYLI (Tara Boggio & Sarah Yap), Erin Henry (Harvard Business School)

Story of Place Framework and Exercise

- See power point presentation from November 15th.
- Sustainability Definition:
  - ***Sustainability*** *involves three interrelated components: environment, economy and society.*

    These pillars are linked – the stability of one reinforces the strength of the other two. Sustainability planning for a community, local government or region integrates the three pillars of sustainability through collaborative work within a framework that supports long-term considerations, fosters innovation, and results in a healthy, safe and affordable place to live, work and play for all residents.
- 5 Capitals:
  - Natural, Social, Human, Built/manufactured, and Financial Capital
- Regional Themes/Goals:
  - Improve accessibility, connectivity and mobility
  - Preserve, protect and improve natural resources
    - air quality
    - water quality
    - prime farmland
    - forests
    - open space

- Maintain, protect and improve the functionality and disaster resiliency of existing infrastructure systems and acknowledge the links between systems
  - transportation
  - water
  - energy
  - communication
  - solid waste
- Improve public health
- Respect local planning efforts and retain individual community character
- Build partnerships between local governments, the private sector, regional institutions and the public
- Build sustainability capacity and understanding through outreach and education

Story of Place

Joel Glanzberg from Regenesis presented the draft Story of Place for the Finger Lakes Region. He noted that the story is generated from several sources: extensive historical research, dozens of phone interviews with a variety of people from the Finger Lakes area, several site visits and targeted input from the consultant team. The following is a summary of this presentation.

General Comments on why we look at the Story of Place:

- Places have reoccurring patterns (socially, economically, culturally) – and identifying these patterns is helpful to knowing who we are as a region
- Seeing region as a whole helps to develop unique attributes and find our natural strengths – something to build from

- Finger Lakes Observations are as follows:
- Watersheds – natural boundaries (Lake Ontario, Finger Lakes, Great Lakes) are different than political boundaries.
- Lake Ontario is unique versus the other Great Lakes
  - Lower water level due to Niagara Falls
  - All Great Lakes drain into Lake Ontario
- Shale and limestone help geological elements for our Region – prime farmland
- Glacier movements created Lake Ontario and land carved by 5,000 ft of ice
- Great Lakes Plain – how things moved
  - Rail and vehicle routes (straight through mountains) = roadway across the state
  - Animal trails
  - A place where people and products grew and adapted – enrichments
- Eco-Region – plants and animals (low lands)
- Region is like an eddy – or a wetland in a watershed - place where things filter in, take root, adapt, and transform before being release back out
- UN/FAO soil map of the US – our Region (-1) very good soil, rich soils – all due to climate and water, first large open space accessible to people, crops, and animals, also is a good source of agriculture
- Native trees – black spruce, burnt oak, white cedar, eastern white pine, chestnut – mild soil climate – good
- 'People of the Longhouse' settlers in NY
- Gateway to mid-west
- In-between waterways

- Many people and industries populated our Region – people, towns/villages, agriculture, industries
- Connections – built NY as a port and NYC as an international port
- Eric Canal built on top of Mohawk Trail – Civil Engineering was developed and learned in England – developed technologies for future uses
- Brought art and education to the region
- Flour city – produced grain (wheat) – water power source
- First industrial city to be fed by water access/connections
- Pioneer in agriculture
- Religious movements – Spiritualism, 7th Day Baptist, Mormon, Methodists (Shakers, Quakers) taught morals, circuit riders to churches
- Birth of democracy – formed the 'Great Law of Peace', Peace Makers
- 5 Nations of the Iroquois – lead to our Constitution (Franklin and Jefferson both learned and used the system)
- Large movements happened here – Women's Rights, Abolition, etc.
- Industries – Seneca Falls – technology developed for pumps – water source – pump capital of the World – Fire Engines
- Wegman's, Kodak, Jell-o, Bausch & Lomb, Gannett, Western Union, Xerox, French's, Champion, Genesee Brewing Company
    - Wegman's – local foods, informative about food, community ties
    - Kodak – film, digital cameras
    - Xerox – printers
    - Champion – first hooded sweatshirt, reversible t-shirt, mesh fabric
    - Genesee Brewing Company – wheat industry , Whiskey Rebellion
    - Bausch & Lomb - contacts
    - Many of the companies here acted as that eddy – they took ideas, developed them further, than sent them out to the country/world as products.

- Why it's important, biggest challenges
    - Strategic direction
    - Apathy
    - Resources
    - Boom and bust
    - Critical things that are important
    - Knew who they were distinctively – revealed who they are
    - Develop narrative for what our distinctive is (messaging)
    - Embed narrative into everything you do (the story of place)
    - Aligned process
    - Uniqueness

- Discussion:
    - How would this way of understanding the region change how you talk about and work on your subject area?
    - If you were to make this change, what new possibilities show up?

- Reflections/Feedback:
    - Interesting – glaciers and their impacts
    - Proud of the region

- Diversity of business levels and people
- Geography ties to economic development – social and sediment patterns
- Legacy of Indian Nation into Women's Rights and democracy
- Simplicity of eddy in description of the region
  - East to west movements
  - 2 ventures – flow increase, velocity decreased
  - Continuous innovation – better yourself every time
  - Eddy's to great educational opportunities
  - Evokes conversation - purpose

Group Exercise

- Local needs for the region to rise to improve/innovate, how to spread the seed, what are the real needs, and how it applies to eddy to current needs

  - What are the projects we can enrich from hearing 'Story of Place' (benefits and how to do this)

Projects:

- Eastman Business Park
- Health Science Center
- Golisano Institute of Sustainability (GIS)
- Palace Stone Finger Lakes Enterprise Fund
- Rochester Midtown Tower
- College Town (University of Rochester)
- Multiple Pathways to Middle Skill Jobs
- Finger Lakes Business Acceleration Cooperatives
- Western New York Science Technology Advancement Manufacturing Park (STAMP)
- Seneca Agriculture Green Bio-Park
- Finger Lakes Clinical Quality Incentive Improvement
- Finger Lakes Small Business Accelerator Cooperative

STORY OF PLACE

STOP | EVOLVE | ADD

← Do & Say →

Emerging Concept (Making Unique)
Local Needs
Innovate & Democratic
Spread seed

Pathways to Middle Skill Jobs

Story of place: The Indians had many middle skill jobs. If you weren't a good middle skill worker, it would be difficult for you to survive. You needed to be skilled with finding plants and medicine. The

first settlers had a great need for middle skill workers with the responsibility of building their own home and grow their food.

We determined a base that traditionally has been resilient and very innovative. Over the last couple of generations, we have devalued middle skills. When we say stop, we need to change the way we talk about those jobs and how we view those apprenticeships. We need to tie them into this continuum in the eddy. You have the ability to get a certificate for a trade and get a great job.

The Region still has a great deal of innovation and commercializing but we need the engineers as well as the middle skill workers to have everything work in unison. The Region has always responded to that and has always integrated innovation with agriculture. Advanced manufactures would love to get someone from agriculture who can fix something.

The continuum in the eddy; we have it running through grade school and beyond college into post-graduate work. Children who have the ability to work with their hands and are more interested in building Lego's. Those kids will not be demeaned. They will be helped and facilitated into areas where they will shine. That way we'll end up with the right people who are able to make these things we need commercialized. We need to make this multigenerational. We have parents and grandparents that had those jobs in large companies or a small company. They were able to make a great living and put kids through college. We need them to talk about why this was important to these kids. We need to have consortiums of industries that are open to taking on apprentices and to spark interest of elementary kids. We need to work with groups like the Finger Lakes Advanced Manufacturing. We want other people coming to those consortiums asking how they do this. We need to develop these pods in all of our regions so when we have opportunities from site selectors or businesses that are expanding.

Western New York Science Technology Advancement Manufacturing Park (STAMP)

We're talking to site selectors looking for mega sites. It doesn't happen every day that you create a mega site. The site that we've designed is a green site. It's utilizing the area well. We're minimizing the wetlands. It's aimed at developing the creative class. It's transformational. There's going to create 10,000 jobs and a 3x with suppliers, so 30,000 jobs. The regional supply chain effect is multiple counties wide. Mega sites want to locate next to R&D sites. We have that. It can create a New York tech, the I-90 tech corridor.

The project will be able to capture the next generation of manufacturing job. They're high skill and high education. We have the educational institutions so we can train them. We can build on the success on the old manufacturing to the new manufacturing. We need to stop thinking in municipal silos. We need to see the benefits throughout the region and western New York.

It is not one of the priorities, it IS the priority.

Stop talking about the death of manufacturing and the loss of those jobs. The past is the past and we need to start thinking of the future.

The economic impact model when you bring in a new company is so significant. We want to leverage the new yogurt companies. We had over 200 direct jobs to Genesee County.

We need to make a transition to being not afraid to fail. Take a risk. We can solve it along the way, just like during the creation of the Erie Canal.

Finger Lakes Business Accelerator Cooperative

This is an original plan is to create a hub and node of incubators, focused on a new incubator. It's combining with the tech incubator and RIT incubator. Then reaching out beyond to create nodes in the counties for people who don't want to come to Rochester or have a hard time getting here. We'll provide them with mentoring and capital. So, not just incubate and provide capital. Now, here's what needs to be modified.

The name is really long. Accelerate was used rather than incubate. But it might be both. The eddying is the incubating part. The accelerate part is leaving the eddy and heading out to the world. One thought was to make this less Rochester centric and less politically definition centric. If you start looking at the history and story of place, the 9 counties is not the story of place, it's the geography, the transportation. We talked about looking to a map of economic influence. Is the economic place really the 9 counties? We can evolve to a geographic area that's based on economic sphere of influence, rather than geographic. One of the things we talked about was describing it as a hub and node concept. We want to see more emphasis on the nodes, rather than the hubs. We're not talking about investing in office space; we're talking about economic development. It opens up for us to be more comprehensive of the industries the accelerator serves, rather than having a single location. Focus on the nods and diversify of what the accelerator does. One thing we'd like to do is create more community to be the accelerator. An idea is to hold an annual pilgrimage to bring people together for ideas and information sharing. Create a community around the region and entrepreneurship. It is to become more regional and focused.

Democratization would be that the nodes would reach out to the disadvantaged areas. The rural counties could tap into resources they don't have connection to now.

Underline the two way aspect. In one direction, you allow the universities to find out what's needed and have places to build test beds for some of the technology. The second is to use the innovator in different counties, that person would be able to have a means to get into the technology development centers to explore and refine the ideas they have. It becomes a multi-directional network, rather than a purely Rochester centered operation.

One great role the accelerator can play is to inspire entrepreneurship. Have more outreach and marketing to sell the history of entrepreneurship in the region. It can drive people to the resources the accelerator provides.

Golisano Institute of Sustainability (GIS)

The project is to create a new part of the Sustainability Institute. GIS is working on a food processing cluster. One effort is they are trying to provide new technology to reduce waste streams in the cluster. They're trying to help all elements of the industry. There are a couple of partners involved. The point is GIS is very diverse in their capacities. They need equipment to build capacities into the infrastructure and the business community. We have an innovation environment at RIT. When you're designing new businesses, we need middle skills. The local educational facilities can help.

Water was touched on. This region has water. Other regions in the country don't.

Water was just one resources of this area. It's hard to talk about GIS because they touch so many areas. If you take a resource you're concerned about like water, it touches many of the GIS projects.

There was an article about GIS's history being connected to the military. For evolving, you are touching all of these things. Maybe the message is getting mixed. GIS is a resource to farmers, Kodak and manufacturing.

The marketing side, add to the way we talk about it.

They have the technical aspects, but not the marketing side to get it out to the people.

Add an easier way for community members to get involved with these processes.

We have a new building. We need to be purposeful in introducing the LEED building to the community.

Indicators

- Successful commercialization of technologies and association of jobs
- Water quality
- Cost avoidance to natural systems and businesses
- Trained workforce available for diverse employment openings
- New mechanisms for training in education
- Internal guidelines, certifications, and aspiration meets/exceeds third party standards and intentions
- Supply chain leads in sustainability and ties into education system which meets/exceed third party standards and intentions
- Define and mitigate GHG inventories (scoping)

Guiding Principles

- More sustainable educational system by creating partnerships with industries, businesses, and higher educational industries – putting people into right areas of interest. This makes the educational system more robust, resilient, and effective at delivering values to those who rely on it.
- Move towards manifestation and/or evolution of real value – 5 Capitals

Reflections

- Value of Story of Place and connection with economic development
    - Will this last; build on what is already there
    - Ownership
    - Tell the story – connection to the project
    - Characteristics of the area and how it connects
    - No longer a gathering place – how do we get back to that
    - Helps economic development to be sustainable
    - Can this work everywhere?

Subject Area Lead Contact Information

- If you have specific question for the technical lead for Economic Development, please contact:

  Carol Sanford, DEGI
  interoctave@comcast.net

Next Steps

- Next Stakeholder meeting is January 17th (Thursday) – it will be an all day workshop with all 6 stakeholder groups coming together during portions of the day, and breaking out into the specific groups at other times. Location TBD. Likely timeframe will be 9am-4pm. More details forthcoming.
- Email with draft indictors summarized and potential evaluation criteria outlined expected to be sent week of Dec. 17th for your review and comment.
- Public meeting early January. Help get people excited and involved by encouraging them to attend the public meeting. Check the website www.sustainable-fingerlakes.org for more information on dates and locations in the coming weeks.

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

MEETING TITLE	Energy Stakeholder Group Meeting #2	
DATE AND TIME	November 13, 2012, 2:00pm-5:00pm	
ATTENDEES	Greg Albert	Genesee/Finger Lakes Region Planning
	Ora Rothfuss	Wayne County Planning
	Dwight Harrienger	Stantec Consultants Inc.
	Bill Emm	GCC
	Anne Spaulding	City of Rochester Environmental Quality
	Graham Fennie	Epiphergy
	Ram Shrivastava	Larsen Engineers
	Mike Haugh	CMH Consulting
	Lane Young	O'Connell Electric
	Schuyler Matteson	RIT
	Elsa Bretherten	Energy Solutions USA
	Haley Rotter	Center for Environmental Initiatives
	Jeri Pickett	Stantec Consultants Inc.
	Stacey Decker	TOP EEAC
	Justin Delvecelto	Trane
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S (Tim Hughes & Aileen Maguire), Regenesis (Joel Glanzberg & Ben Haggard), TYLI (Tara Boggio, W. Scott Copp, & Sarah Yap), Erin Henry (Harvard Business School)

Story of Place Framework and Exercise

- See power point presentation from November 13th.
- Sustainability Definition:
  - ***Sustainability*** *involves three interrelated components: environment, economy and society.*
    These pillars are linked – the stability of one reinforces the strength of the other two. Sustainability planning for a community, local government or region integrates the three pillars of sustainability through collaborative work within a framework that supports long-term considerations, fosters innovation, and results in a healthy, safe and affordable place to live, work and play for all residents.
- 5 Capitals:
  - Natural, Social, Human, Built/manufactured, and Financial Capital
- Regional Themes/Goals:
  - Improve accessibility, connectivity and mobility
  - Preserve, protect and improve natural resources
    - air quality
    - water quality
    - prime farmland
    - forests
    - open space

- Maintain, protect and improve the functionality and disaster resiliency of existing infrastructure systems and acknowledge the links between systems
  - transportation
  - water
  - energy
  - communication
  - solid waste
- Improve public health
- Respect local planning efforts and retain individual community character
- Build partnerships between local governments, the private sector, regional institutions and the public

*Additions to Themes/Goals:

- Affordability
- Status-quo
- Building small companies up – infrastructure, economics (providing support, base has diversity)
- Economics and diversity
- Build relationship with predecessor

Story of Place

Joel Glanzberg from Regenesis presented the draft Story of Place for the Finger Lakes Region. He noted that the story is generated from several sources: extensive historical research, dozens of phone interviews with a variety of people from the Finger Lakes area, several site visits and targeted input from the consultant team. The following is a summary of this presentation.

General Comments on why we look at the Story of Place:

- Places have reoccurring patterns (socially, economically, culturally) – and identifying these patterns is helpful to knowing who we are as a region
- Seeing region as a whole helps to develop unique attributes and find our natural strengths – something to build from

- Finger Lakes Observations are as follows:
- Watersheds – natural boundaries (Lake Ontario, Finger Lakes, Great Lakes) are different than political boundaries.
- Lake Ontario is unique versus the other Great Lakes
  - Lower water level due to Niagara Falls
  - All Great Lakes drain into Lake Ontario
- Shale and limestone help geological elements for our Region – prime farmland
- Glacier movements created Lake Ontario and land carved by 5,000 ft of ice
- Great Lakes Plain – how things moved
  - Rail and vehicle routes (straight through mountains) = roadway across the state
  - Animal trails
  - A place where people and products grew and adapted – enrichments
- Eco-Region – plants and animals (low lands)
- Region is like an eddy – or a wetland in a watershed - place where things filter in, take root, adapt, and transform before being release back out

- UN/FAO soil map of the US – our Region (-1) very good soil, rich soils – all due to climate and water, first large open space accessible to people, crops, and animals, also is a good source of agriculture
- Native trees – black spruce, burnt oak, white cedar, eastern white pine, chestnut – mild soil climate – good
- 'People of the Longhouse' settlers in NY
- Gateway to mid-west
- In-between waterways
- Many people and industries populated our Region – people, towns/villages, agriculture, industries
- Connections – built NY as a port and NYC as an international port
- Eric Canal built on top of Mohawk Trail – Civil Engineering was developed and learned in England – developed technologies for future uses
- Brought art and education to the region
- Flour city – produced grain (wheat) – water power source
- First industrial city to be fed by water access/connections
- Pioneer in agriculture
- Religious movements – Spiritualism, 7th Day Baptist, Mormon, Methodists (Shakers, Quakers) taught morals, circuit riders to churches
- Birth of democracy – formed the 'Great Law of Peace', Peace Makers
- 5 Nations of the Iroquois – lead to our Constitution (Franklin and Jefferson both learned and used the system)
- Large movements happened here – Women's Rights, Abolition, etc.
- Industries – Seneca Falls – technology developed for pumps – water source – pump capital of the World – Fire Engines
- Wegman's, Kodak, Jell-o, Bausch & Lomb, Gannett, Western Union, Xerox, French's, Champion, Genesee Brewing Company
    - Wegman's – local foods, informative about food, community ties
    - Kodak – film, digital cameras
    - Xerox – printers
    - Champion – first hooded sweatshirt, reversible t-shirt, mesh fabric
    - Genesee Brewing Company – wheat industry , Whiskey Rebellion
    - Bausch & Lomb - contacts
    - Many of the companies here acted as that eddy – they took ideas, developed them further, than sent them out to the country/world as products.

- Discussion:
    - How would this way of understanding the region change how you talk about and work on your subject area?
    - If you were to make this change, what new possibilities show up?

- Reflections/Feedback:
    - Energy = Character of place
    - Regional resources – secure, recognized, and developed
    - Water – historical use and impact
    - Creation of ideas
    - Energy sources now and future
    - Water energy not just hydro

- Innovation Incubator:
  - Wants to be a leader in Sustainability
  - Expression of the character of place
  - New energy technology ideas
  - Aging grid – micro grids moving forwards, growth in infrastructure
  - Takes a catastrophe to improve technologies – Hurricane Sandy as an example
  - Alternate energy sources – manure, solar, wind, water, etc (spin-off companies to support ideas/technologies)
  - Alternate fuel sources for tractors
    - Energy requirements vs. operations (Farms)
    - Whole cycle – capturing value on the farm or nearby
  - Scale
  - Reduce build costs
  - On-farm processing
  - Costs – less waste due to costs of resources (strengths of 'home rule')
  - Educational infrastructure
  - Goals – accomplishments
  - Vulnerability – will cause people to think differently about how to move forward (technology based) – what is the goal? How to protect if something happens
  - Embrace long term
  - Funding power companies – user pays for power
  - Climate cloud cover – how to generate power
  - Public power companies – growth in communities, did not sustain, cost increases, need to buy more at higher rates, has not created something to replace
  - Centralize common uses for power not decentralize like what is going on now
  - Energy conserved always goes to new uses vs. actually conserving

Place Sourced Indicators: End State

- Renewable energies produced – percentage depending on the areas. Energy independence from an increasingly centralized network
- Breakthrough in energy technologies/infrastructure
- Ethics in policies and regulations in Energy – residential financing through mortgages for green technologies/energy (community choices)

Indicators

- Decrease in total energy consumption
- Employment/unemployment number increase/decrease in innovation based businesses
- Affordability
- Education – more hands on innovation

General Discussion

- Resistance based on culture and acceptable alternatives – we have not decided on it - fracking
- Shale levels within the state – how far do we want to dig
- Consistency in moving forward on energy technologies
- Hydro-fracking is 'innovative'
- More community participation to talk through ideas

- Political boundaries
- Impacts on the whole Region
- Benefits – named based on history of the Region (Albany innovation corridor)

Guiding Principles (Stimulus to Creativity)

- Equal access to innovation and infrastructure it regions
- Thinking long term
- Energy that is reliable, affordable, and environmentally benign
- Our actions enrich rather than impoverish the Region (Cover all 5 capitals)
- Actively support innovation and the products it enables
- Policies allow collaborations (financing)
- Multiple benefits for multiple communities (more than one town, along barriers) allow for partnerships and governance issues
- Reduce, reuse, recycle, regenerate energies
- Energy survival plan – communities, companies, schools, colleges, industries, etc.

Subject Area Lead Contact Information

- If you have specific questions for the technical lead for Energy, please contact:

James Burton, T.Y. Lin International (TYLI)
james.burton@tylin.com

Next Steps

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MEETING TITLE	Materials & Waste Stakeholder Group Meeting #2	
DATE AND TIME	November 19, 2012, 1:00pm-4:00pm	
ATTENDEES	Greg Albert	Genesee/Finger Lakes Region Planning
	Graham Fennie	Epiphergy
	Stacey Decker	Town of Perinton EEAC
	Marjoriz Torelli	NY Product Stewardship Council
	Aud Goldstein	Cascades Recovery
	Cindy Jessop	Sunnkeng
	Peggy Grayson	GLOW SWMC
	Lois Leuitan	Recycling Agricultural Plastics Project
	Michelle Butler	RIT – NYS Pollution Prevention Institute
	Barbara Kasulaitis	CEI
	Adam Maurer	Finger Lakes Inst.
	George Thomas	CEI
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S (Tim Hughes & Aileen Maguire), Regenesis (Joel Glanzberg & Ben Haggard), TYLI (Tara Boggio & Sarah Yap), Erin Henry (Harvard Business School) Syracuse Center of Excellence (Mark Lichtenstein)

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    - water
    - energy

  - communication
  - solid waste
- Improve public health
- Respect local planning efforts and retain individual community character
- Build partnerships between local governments, the private sector, regional institutions and the public

*Additions to Themes/Goals:

- Improve climate change adaption
- Add mitigation to the process
- Resiliency

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- Discussion:
    - How would this way of understanding the region change how you talk about and work on your subject area?
    - If you were to make this change, what new possibilities show up?

- Reflections/Feedback:
    - Theme of reoccurrence (eddy concept)
    - Companies spun off from Kodak (Carestream)
    - Kodak – guaranteed employment
    - Kodak – did not respond positively/actively towards digital vs. Bausch and Lomb who saw change and embraced it
    - Serve the Regions needs but was also able to spread to other areas
    - Missing education (knowledge base, innovation)
    - Missing supply of fresh water
    - Waves of immigration – needs to be told

- Group exercise: How does Story of Place change how we should be talking about and working on waste and materials management in this Region?

  - Innovation of the process – yogurt in the Region and how to deal with food waste (landfill space – many areas in the Region) – digesters
  - Landfills
  - GHGR (Greenhouse Gas Reduction) – limitations/constraints of the economic issues, goals, objectives, ideas – requirements of how we think of solutions/achievements
  - Solid waste management plan, landfills (not in our control), organic by-products related to agriculture (manure) = opportunities
  - Address waste coming into the Region
  - Determine waste generation – no new regulations and state policies/barriers
  - Better utilized landfills and how to get out of there, not getting any benefits from now, thinking process on how to deal with, and understanding of policies
  - Sustainable wastes – technologies of transport of waste, how we design and manufacture, purchasing consortium within Region
  - Not a lot of press on reducing waste – no encouragement (tipping fees – does not address everything) true long term costs = barriers (not public or private incinerators = connected, short term economic fees/revenues = all connected, resource management = work where waste is generated
  - Develop a proposal for Regional Waste Management that speaks to these themes from the Story of Place:
    - Eddying
    - Sourced from a pressing local need
    - Democratizing benefits
    - Scalable to address a larger world

- Incubator Indicators:
  - Extract value of materials at landfills
    - Conservation of waste – product design at place of origin
    - What could be waste
  - Brain Trust
    - Private business and education – group of people to develop solutions of waste management options
    - How do we find this – part of tipping fees to go back to brain trust at collection
    - Aggressive building codes – materials going into the building
    - Changing concept of tipping fees
    - Regional and State strategies (E-scrap, DEC)
    - State wide increase in tipping fees – need funding pool
    - Incentives
    - Refunds – manufacturer responsible for funding of recycling efforts on their products – added into price of product (supply and demand)
    - Health issues of our materials
    - Processes/integration of strategies
    - Innovation center to have global implications
    - Develop solutions for commodity stream
    - Funding through surcharge on tipping fees
  - Organic processing (Bio Managements)
    - By-processing
    - Reduce land applied waste
    - Manure

- Majority – Municipal Solid Waste
  - Eco Park (Monroe County) how to make this work in other counties of the Region
  - Put on consumer – 'waste is money' concept now 'waste is bad' (financial benefits – who tells the concept, overall issues to be thought about)
  - True cost of waste, articulate
  - Alternatives
  - Waste as a resource to become a new product
  - New economic models for development of waste management as income

Place Sourced Indicators: End State

- Rate in which landfills are being filled – reduction in tons/year – reduction in landfill permits
- Decrease amount of waste being generated at the source
- Increase of recycle percentage in Regional manufacturing companies
- Percentage of recyclable waste versus landfill waste increase (recyclables actually being recycled/reused)
- Taking credit for recyclables when it is really waste –Monitor
- Total waste reduction
- Patents

Indicators

- Reduction in landfill inputs
- Increase of recycled content in locally manufactured products – increase in local manufacturing (ers)
- Reduction in total waste concentrated
- Increase of recycling efficiency
- Increase in patents related to products and material flows
- Reduction of bio by-products land-applied

General Discussion

- Up cycling – best use principles and highest uses
- Nutrients in the area going where they need to go – flow management
- Managing organic waste = energy recovery (not ending their life cycle at the landfills)
- Organics making energy/power (electricity)
- Toxins with organics
- Mixing of materials
- 'Single steam recycling' – hybrid products
- Design for ease of recycling/reuse
- Reframing of economic baseline – support role of recycling system (education)
- Changing manufacturing process – reconstruct, recycle
- Buy-back program? Evolution of products is possible
- More companies responsible for waste recycling

Guiding Principles (Stimulus to Creativity)

- Waste = Resource
- Waste generation not driven by economics (all costs realized)

- Easier way to recover waste
- Life cycle
- Carrying capacity of land known/acknowledged – kept below level
- Balance economic impact with desire to allow import of waste; replace viable industry
- Reduce = Priority
- Growing and expanding businesses here (organic growth)
- Addressing toxicity level for general health issues
- Society understands the meaning of 'waste'
- Increase personal responsibility in what comes into and out of the home
- Transform material flow
- Highest and best uses of products – 'up-cycling'
- Nutrient flow-manage the cycle
- Materials not mixed so as to make it difficult to break down – 'cradle to cradle'
- Reframe economic model to better deal with various roles of recycling
- Change in manufacturing process to allow for better deconstruction and recycling – make them responsible for product life cycle (cost benefit has to work)

Subject Area Lead Contact Information

- If you have specific questions for the technical lead for Materials and Waste Management, please contact:

  Mark Lichtenstein, Syracuse COE
  mlichenstein@syracusecoe.org

Next Steps

- Next Stakeholder meeting is January 17th (Thursday) – it will be an all day workshop with all 6 stakeholder groups coming together during portions of the day, and breaking out into the specific groups at other times. Location TBD. Likely timeframe will be 9am-4pm. More details forthcoming.
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MEETING TITLE	Transportation, Land Use, and Livability Stakeholder Group Meeting #2	
DATE AND TIME	November 14, 2012, 9:00am - 12:00pm	
ATTENDEES	Adam Maurer	Finger Lakes Institute
	Julie Gotham	Ontario County Planning
	Glenn Cooke	Webster LDC Western Ontario LDC
	Felipe Oltramari	Genesee County Planning
	ChaáKaa Thompson-Collalto	Monroe Ambulance
	Greg Albert	G/FLRPC
	Rich Desarra	RCA
	Dan Kenyon	RGRTA
	Ora Rothfuss	Wayne County Planning
	Charlotte Brett	Conservation Connection/NY Green
	Heather Ferrero	Livingston County Planning
	Art Buckley	Wyoming County Planning
	Liesel Schwarz	SWBR Architects
	Richard Perrin	Genesee Transportation Council
	Erik Frisch	City of Rochester
	Tom Favro	ARC
	Mark Gregor	City Environmental Quality
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S (Tim Hughes, Kim Fabend & Aileen Maguire), Regenesis (Joel Glanzberg & Ben Haggard), TYLI (Tara Boggio & Sarah Yap), Erin Henry (Harvard Business School) & Wendel (Wendy Salvati and Ellen Parker)

Story of Place Framework and Exercise

- See power point presentation from November 14th.
- Sustainability Definition:
  - ***Sustainability*** *involves three interrelated components: environment, economy and society.*
    These pillars are linked – the stability of one reinforces the strength of the other two. Sustainability planning for a community, local government or region integrates the three pillars of sustainability through collaborative work within a framework that supports long-term considerations, fosters innovation, and results in a healthy, safe and affordable place to live, work and play for all residents.
- 5 Capitals:
  - Natural, Social, Human, Built/manufactured, and Financial Capital
- Regional Themes/Goals:
  - Improve accessibility, connectivity and mobility
  - Preserve, protect and improve natural resources
    - air quality
    - water quality
    - prime farmland
    - forests
    - open space

- Maintain, protect and improve the functionality and disaster resiliency of existing infrastructure systems and acknowledge the links between systems
  - transportation
  - water
  - energy
  - communication
  - solid waste
- Improve public health
- Respect local planning efforts and retain individual community character
- Build partnerships between local governments, the private sector, regional institutions and the public

*Additions to Themes/Goals:

- Private Sector
- Overall diversity in businesses (large – small)
- Climate change
- Productive farmland (in addition to Prime Farmland) 'Prime and Productive Farmland'
- Improving natural resources
- Self-organizing development

Story of Place

Joel Glanzberg from Regenesis presented the draft Story of Place for the Finger Lakes Region. He noted that the story is generated from several sources: extensive historical research, dozens of phone interviews with a variety of people from the Finger Lakes area, several site visits and targeted input from the consultant team. The following is a summary of this presentation.

General Comments on why we look at the Story of Place:

- Places have reoccurring patterns (socially, economically, culturally) – and identifying these patterns is helpful to knowing who we are as a region
- Seeing region as a whole helps to develop unique attributes and find our natural strengths – something to build from

- Finger Lakes Observations are as follows:
- Watersheds – natural boundaries (Lake Ontario, Finger Lakes, Great Lakes) are different than political boundaries.
- Lake Ontario is unique versus the other Great Lakes
  - Lower water level due to Niagara Falls
  - All Great Lakes drain into Lake Ontario
- Shale and limestone help geological elements for our Region – prime farmland
- Glacier movements created Lake Ontario and land carved by 5,000 ft of ice
- Great Lakes Plain – how things moved
  - Rail and vehicle routes (straight through mountains) = roadway across the state
  - Animal trails
  - A place where people and products grew and adapted – enrichments
- Eco-Region – plants and animals (low lands)

- Region is like an eddy – or a wetland in a watershed - place where things filter in, take root, adapt, and transform before being release back out
- UN/FAO soil map of the US – our Region (-1) very good soil, rich soils – all due to climate and water, first large open space accessible to people, crops, and animals, also is a good source of agriculture
- Native trees – black spruce, burnt oak, white cedar, eastern white pine, chestnut – mild soil climate – good
- 'People of the Longhouse' settlers in NY
- Gateway to mid-west
- In-between waterways
- Many people and industries populated our Region – people, towns/villages, agriculture, industries
- Connections – built NY as a port and NYC as an international port
- Eric Canal built on top of Mohawk Trail – Civil Engineering was developed and learned in England – developed technologies for future uses
- Brought art and education to the region
- Flour city – produced grain (wheat) – water power source
- First industrial city to be fed by water access/connections
- Pioneer in agriculture
- Religious movements – Spiritualism, 7th Day Baptist, Mormon, Methodists (Shakers, Quakers) taught morals, circuit riders to churches
- Birth of democracy – formed the 'Great Law of Peace', Peace Makers
- 5 Nations of the Iroquois – lead to our Constitution (Franklin and Jefferson both learned and used the system)
- Large movements happened here – Women's Rights, Abolition, etc.
- Industries – Seneca Falls – technology developed for pumps – water source – pump capital of the World – Fire Engines
- Wegman's, Kodak, Jell-o, Bausch & Lomb, Gannett, Western Union, Xerox, French's, Champion, Genesee Brewing Company
    - Wegman's – local foods, informative about food, community ties
    - Kodak – film, digital cameras
    - Xerox – printers
    - Champion – first hooded sweatshirt, reversible t-shirt, mesh fabric
    - Genesee Brewing Company – wheat industry , Whiskey Rebellion
    - Bausch & Lomb - contacts
    - Many of the companies here acted as that eddy – they took ideas, developed them further, than sent them out to the country/world as products.

- Discussion:
    - How would this way of understanding the region change how you talk about and work on your subject area?
    - If you were to make this change, what new possibilities show up?

- Reflections/Feedback:
    - Look at the future versus living in the past
    - How we can change and move forward
    - Future orientated – flexibility ,changes, adaption

  - How do we promote tourism in our Region to people who are visiting or just passing through our airports?
  - More viable – how to improve
  - Involvement in community connections
  - Major 'booms' that has influenced our Region:
    - New industries
    - Corporations – Kodak and Xerox
    - Not creating jobs, but creating a learning environment
    - Entrepreneurial infrastructure
    - How to measure success in our Region
    - Extend over national boundary
    - Government limitations – 'home rule' asset versus liability – lending and stand polices are an issues – 'home runs'
  - Economic infrastructure – how to use our resources (people)
  - Collective identity – changing culture, how to not have State affect ideas

- Incubator Indicators: (Consider Laboratory instead of Incubators – incubator used in other efforts and may have a negative connotation)
  - Mash-ups: new ideas, collaboration (people in businesses and how to implement changes
  - Compelling needs – bring innovation development to it
  - More homegrown funding
    - How does it make us feel – own rules, not being told how and what we can spend money on
  - Equitable
  - Direct connections – global economy critical to our future, lending change to facilitate transporting goods
  - Local solutions – building linkages (benefits?)
  - Understanding investments – communities
  - Regional integration – equal opportunities
  - Lowering poverty – reduce everywhere, policies
  - Better ways of governing – resources, policies, incentives
  - Uplifting whole community attitudes, education, creativity
  - Investing in all 5 types of capital
  - Move to a more strategic state and creative with projects and actions
  - Reaction to strategic thinking
  - Creating opportunities – disasters to opportunities
  - Patterns
  - Maintaining capital for areas around the Region
  - Need for Regional identity – branding
  - Think more about the 5 capitals, not just the money aspect
  - Venture capital – businesses exceeding means for the area and how it moves – measurements of success
  - Where and how people live
  - What about the Lake?

Indicators

- Reduction in poverty and its concentration
- Investing in all 5 Capitals

Guiding Principles

- Equitable benefit
- Connection to community (people/land)
- Valuing diversity for resiliency (no hedging)
- Diversity of function connection and opportunity oriented towards vibrant and authentic regional identity
- Enables the fine grain that supports human scale and interaction
- Recognize flow to build local capacity in order to sustain life, process inputs, and re-emphasize integrity of place

*General Discussion:

- Equitable through the communities
- Millenniums more urban shifts in views
- Connection to community and nature
- Demographics of the US – diversity
- Evaluation of diversity – cultural, social, etc (5 Capitals)
- Resiliency – flexibility
- Diversity of connections
- Restoring populations
- Good urbanism – environmental
- Preservationist
- Eco-systems
- Diversity versus hedging – make sure we are creating synergy
- Places of personal values – make people want to stay
- Fine graining – human scale and interactions
- Taking advantage of local goods – how to transport within Region
- Import substitution – making local connections
- How to build on assets
- Diffused populations
- Multiplier affect
- Effectiveness of transportation

Subject Area Lead Contact Information

- If you have specific questions for the technical lead for Transportation, Land Use, and Livability, please contact:

Wendy Salvati, Wendel-AE
wsalvati@wd-ae.com

Next Steps

- Next Stakeholder meeting is January 17th (Thursday) – it will be an all day workshop with all 6 stakeholder groups coming together during portions of the day, and breaking out into the specific groups at other times. Location TBD. Likely timeframe will be 9am-4pm. More details forthcoming.
- Email with draft indictors summarized and potential evaluation criteria outlined expected to be sent week of Dec. 17th for your review and comment.
- Public meeting early January. Help get people excited and involved by encouraging them to attend the public meeting. Check the website www.sustainable-fingerlakes.org for more information on dates and locations in the coming weeks.

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

MEETING TITLE	Water Management Stakeholder Group Meeting #2	
DATE AND TIME	November 13, 2012, 11:00am-2:00pm	
ATTENDEES	Jayme Breschard	Genesee/Finger Lakes Regional Planning
	Miranda Reid	Conesus Lake Watershed
	Peter Lent	Oatka Creek Watershed Committee
	Paul Sawyko	Water Education Collaborative
	Ora Rothfuss	Wayne County Planning Department
	Rochelle Bell	Monroe County Planning
	Michelle Butler	NYS Pollution Prevention Institute (RIT)
	George Thomas	CEI
	Dave Richards	WCIDA
	Len Schantz	City of Rochester
	Sara Sweet	Rochester Midland Corp Sustainability Network
	Benjamin Woellc	Friends of the Garden Aerial
	Marty Aman	WCW/SA
	Betsy Landre	Ontario County Planning
	Stacey Decker	Town of Penfield EAC
	Mike Haugh	CMH Consulting
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S (Tim Hughes, John Camp, & Aileen Maguire), Regenesis (Joel Glanzberg & Ben Haggard), TYLI (Tara Boggio & Sarah Yap), Erin Henry (Harvard Business School)

Story of Place Framework and Exercise

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  - communication
  - solid waste
- Improve public health
- Respect local planning efforts and retain individual community character
- Build partnerships between local governments, the private sector, regional institutions and the public

*Additions to Themes/Goals:

- Greenhouse gas emissions and climate change
- How does this bring the Region together? More now as separate pieces versus one common goal

Story of Place

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- Discussion:
    - How would this way of understanding the region change how you talk about and work on your subject area?
    - If you were to make this change, what new possibilities show up?

- Reflections/Feedback:
    - Freshwater sources = Natural resources = Energy (prototypes) = Thinking of the future
    - Big manufacturer in the Region for the US – encourage growth in companies, treasure education, innovation, capitalization, setting goals, ideas on a large scale. Largest water providers – how to think long term to defer from water shortages. Best preserver of water (water treatment)

- Farmland and development – common ground/elements – physical and natural development of the area/environment of the area has created a path from history to help us grow in the future (resources – historical perspective) Pesticides not to be in our water shed
- Not just about data – identifying who we are – are willing to provide leadership
- Relationship with rural areas does not exist. Build relationship through natural resources – help people understand, be a forum for the Region, find a common ground
- Vibrant area – High Tech (University of Rochester stepped forward as a leader)
- Where in the community should we find a leader?
- Wire Grand
- Stop bad talking Kodak, focus on growth and new companies
- Disconnects with the public
- Cultural – wine and breweries
- Economy – high taxes
- Different way to irrigate/fertilize farmland.
- Understanding – bring people together (appreciation, culture, life styles). Defines who we are.
- Appreciation – stewardship
- People are here for a reason
- Women in innovation
- Farmers are well educated
- Specialties taught within the Region
- No longer a dying town – tell a new story
- Organize a community leadership
- Peace Maker – integrity and how to work together

- Incubator Indicators:
  - Growth opportunity, expertise, strengths of natural resources, passions – what direction should we purse in the Region?
  - Sustainable technologies – hydro power
  - Promote dairy – nutrients, super foods – valuable opportunities
  - Optics, machines – broad based
  - Medical technology
  - Takes time to develop an idea – faster processes, this needs to change – more collaboration to move things forward
  - Materialize to real life ideas/products – dairy wastes
  - Water, dairy, food processing – need to do things right
  - Can't count on large industries – diversity
  - Don't recreate a base

Place Sourced Indicators: End State

- World leader in green technologies
- Nutrients/waste into energy
- People coming to use
- Scale – not trying to be like San Francisco – stay as a small city – maintain appropriate scale despite success
- What is necessary to be a good innovator in the 21st century – innovation infrastructure
- Culture change

- Government
- People who are not afraid of change
- Communication
- Percent growth tied to emerging areas
- Unemployment rate below national average
- Household income
- Policy changes – adoption
- Sourcing Region for water sustainability leader
- Number of patents
- No generation gaps – cross generational participation
- Recognition of success and authenticity
- Cross-socio economics
- Known for great connection to environment and water
- New creation

Indicators

- Percent growth tied to emerging technologies
- Google water system and Rochester comes up in search
- Unemployment consistently below national average
- New policy that reflects change in intent
- Number of patents

*General Discussion:

- Graduation rates
- Quality of life
- National stories/news
- Local restaurants that sell/serve local products (ambiguous of local goods – celebrate)
- Robust exports
- Meet and exceed water standards – all bodies of water
- Story of Place – Finger Lakes Museum
- Everyone knows what water shed they live in

Guiding Principles

- Waste becomes source
- Improve all 5 Capitals (Natural, Social, Human, Built/Manufactured, Financial)
- Maintain scale
- Fair distribution of costs and benefits
- Partnership
- Development towards essence

*General Discussion:

- Elimination of inconsistencies
- Principles of nature

- Waste becomes source
- Need of general public input
- Need to keep in mind – environment, social – need to be inter-related (Improve all 5 Capitals)
- Distribution of cost – equal (benefits)
- Maintain scale
- Partnership
- Education
- Sustainable development (development towards essence)

Subject Area Lead Contact Information

- If you have specific question for the technical lead for Water Management, please contact:

  John Camp, C&S
  jcamp@cscos.com

Next Steps

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Finger Lakes Regional Sustainability Plan

Funded by NYSERDA - Cleaner, Greener Communities Program

Overall Stakeholder Meeting #3 - Meeting Minutes & Presentation

MEETING TITLE	Overall Stakeholder Group Meeting #3	
DATE AND TIME	January 17, 2013 9am-4pm	
ATTENDEES	Craig Shearer	Lane Enterprises, Inc.
	John Sorbello	New York Farm Bureau
	David Keefe	Genesee Region Clean Communities
	Laura Lane	Wyoming County Chamber
	Anne Spaulding	City of Rochester
	Mark Salamaca	Sunnking
	Lynn Freeman	Genesee County Chamber
	Josh Farrelman	University of Rochester
	Bill Waterhouse	From Red 2 Black
	Benjamin Woelk	Friends of the Garden Aerial
	Chris Hartman	Headwater Foods
	Bob McNary	Wayne Co. Planning & Econ. Dev.
	Kevin Schulte	SED, Inc.
	Ram Shrivastare	Larsen Engineers
	Carrie Marlin	Eastman Business Park
	Paul Sawyko	Water Education Collaborative
	Dave Richards	WCIDA
	Judy Bennett	Orleans County SWCD
	Dennis Kirby	Orleans County SWCD
	Pamela Whitemore	Genesee Country Office for the Aging
	Beth Claypool	CCE Wayne
	Sarah Meyer	Finger Lakes Institute
	Courtney Reich	NY Best Commercialization Center
	Ora Rothfuss	Wayne County
	Brett Williams	Keuka College
	Michelle Butler	RIT
	Felipe Oltramari	Genesee Co. Dept. of Planning
	Miranda Reid	Livingston Cty. Planning
	Justin Roj	MCDES
	Matt Fronk	NYBEST
	Bob Kanauer	LTHS Solar
	Peter Lent	Oatka Creek Watershed Committee
	C.J. Britt	Lyons National Bank
	Adam Maurer	Finger Lakes Institute
	Glenn Cooke	Webster LDC & Western Ontario LDC
	Liesel Schwarz	SWBR Architects
	Greg Albert	G/FLRPC
	Valarie Avalone	MCC
	Lisa Canedo	Pathfinder Engineers and Architects
	Tom Goodwin	Monroe County Planning
	Marjorie Torelli	Independent
	Jayme B. Thomann	G/FLRPC

ATTENDEES	Harriett Haynes	Seneca County
	C. Thompson Lollalto	Monroe Ambulance
	Jack Baron	Sweetwater Energy
	Alex Taylor	Yates County IDA
	George Thomas	CEI
	Lisa Cleckner	Finger Lakes Institute
	Robert Putney	R.M. Putney & Associates, Inc.
	Meredith Smith	RIT
	Sue Vary	Ontario County
	Hubert Vantol	Pathstone Enterprise
	Kathleen Draper	Finger Lakes Biochar
	Andy Goldstein	Cascades Recovery
	Kurt Forman	Clearview Farm
	Erin Green	Genesee Clean Cities Energy & Environ.
	Bob Siegel	Rain Mountain
	Maria Rudzinski	Ontario County Planning
	Don Naetzker	Finger Lakes Museum
	Alex Pierce	Municipal Planning Bard Nunda Env. Mgt. Council Livingston County
	Sara Sweet	Rochester Midland
	Marty Aman	Wayne County Water & Sewer Authority
	Lewis Stess	Friends of the Garden Aerial
	Andy Harlan	RIT
	Roxanne Kise	WECA
	Charlotte Brett	Conservation Connects
	Rochelle Bell	Monroe County Planning
	Stacey Decker	Town of Penfield EEAC
	Len Schantz	City of Rochester
	Jeri Pickett	Stantec
	Kathy Kosciolek	RIT – NYSP2I
	Mike Haven	CMH Consulting
	Anne Sherman	STAACH
	Dan Kenyon	RGRTA
	Tony Favro	GTC
	Jenn Rodriguez	LCDOH
	Tucker Kautz	Monroe County SWCD
	Enid Cardinal	RIT
	Bill Bastuk	Larsen Engineers
	Steve Newcomb	Monroe Co. Office for the Aging
	Scott Leathersich	MCDOT
	Dwight Harrienger	Stantec Consultants
	Peg Chuchill	WCIDA
	David Zorn	G/FLRPC
	Libby Ford	Nixon Peaboday
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Introductions and Opening Remarks

- Consultant team members – C&S (Tim Hughes, Kim Fabend, John Camp, & Aileen Maguire), edr (Andy Obernesser, Jane Rice, & Charlie Greene), Developmental Economics Group (Carol Sanford), Syracuse Center of Excellence (Mark Lichtenstein & Brenda Griffin), Wendel (Wendy Salvati & Ellen Parker), Regenesis (Joel Glanzberg & Ben Haggard), TYLI (Tara Boggio, James Burton, & Sarah Yap), Erin Henry (Harvard Business School)

  Opening Exercise: Discussion about how the Story of Place (SoP) has influenced your work or how you do things since we last met.

  Group comments:

  Comment 1: All over Chile, I saw signs of innovation. I saw that was not unique here was innovation. Every region you go to, you see this. We're not unique. The story of place didn't touch on the equity issues-race or class issues.
  Response 1: There were three big points. Carol said this the other day, anywhere where you have people concentrating, you'll have people innovating. It's a universal human phenomenon. The thing is, how does THIS place do it? The second thing is are we missing important elements? The answer is yes. The first go though of SoP is a sketch. We can explore how we can expand this. Equity issues were not built into this. This is one of them and there are probably others. We can bring in some of the things in. You are a great mix of urban and rural. How do we bring in those new discoveries into the strategies? Innovation doesn't have to be high tech. Innovation is just doing what we do, just better or different

  Comment 2: I was thinking about perspective, based on where you live and socioeconomic status. When you travel and see the division, your perspective will change based on your resources. We need to address the distribution of resources.
  Response 2: We need to think about distribution of resources based on the SoP. One thing we heard is really bringing things back to sustainability. Things were in one area. Or profit was really the focus, like innovation is focused on profit. What about the social? What about the environmental? Someone said he didn't want to participate because he didn't think this was about sustainability anymore. This is sustainability, not economic development. It's not just the story of place, how do we tie the economic, environmental and social and not give priority to one or another? NYSERDA's process has been a top down generic approach where it looks at certain things that they believe impact sustainability. The Story of Place is bottom up, discovery process. We've been working on weaving them together.

- Story of Place – Joel Glanzberg provided an abbreviated version of the Story of Place since there were some stakeholders who were absent at the last meeting. We've been developing a draft of the beliefs, philosophies and principles of this place, which we're calling Story of Place. When you're trying to think about where you're going as a community, you need the objectives and goals. You put a strategy together to pursue the goal. Then you have to design how you're going to get there with projects. Then, you need an action plan for those projects. Then you need to audit those actions through indicators to validate the thinking. Finally, you want to evaluate and ask if you created the value you intended. Did you maintain the integrity of the beliefs, philosophies and principles?

- Straw Dog Strategies – For each subject area, a "straw dog strategy" was put out to the group based on some of the feedback from the first 2 meetings. After they were presented, people were separated into groups to discuss the strategy, and supporting goal. However, they were not allowed to be in their natural stakeholder group. Instead, to comment on a goal and strategy for another subject area, giving it a unique perspective. The groups were asked to consider the following:

    1. How do we make sure it creates benefit throughout the region and reflect the uniqueness of this region as reflected in the SoP?
    2. We'd like the strategies to impact all subject areas, so benefit through the system as a whole.
    3. Can we think about the strategy so that it strengthens all 5 capitals (human, ecological, fixed/built, financial, social)?

The groups then separated by their actual stakeholder group that they primarily associate themselves with and they took the comments from the morning and continued to work with them. The findings and outcomes on these combined sessions are provided below. There are several concepts (goals, strategies) that come out in the various sessions. We are documenting them all here, but please note that they will be paired down in some cases, and prioritized over the next month.

Breakout Sessions Summary

Water Management:

<u>In General:</u> Increase water quality (for both surface and ground water), decrease the destructive potential of run-off especially in extreme events.

<u>Concept:</u> Continuous renewal of a robust and healthy hydrological system (for humans and nature).

<u>Strategy:</u> Reduce built infrastructure costs (construction, maintenance) through rewarding ecosystem services (tax valuation or credits, utilities, etc.)

The session began with a review of the discussion held by the morning group. The "straw dog" goal was discussed and refined. An additional goal was suggested. The previously identified indicators were then evaluated as to their applicability in measuring progress toward the goals. Targets for the indicators were then discussed.

"Straw dog" goal: Improve water quality (both surface and groundwater) and decrease the destructive potential of runoff, especially in extreme events.

Concepts that seemed to be missing from "straw dog" goal:

1. Improve the reliability and availability of water
2. Improve/protect the water environment (ecology, biology)
3. Promote and make people aware of the value of water
    a. Recognize and promote the value of our (natural) freshwater reservoirs
4. Preserve and protect the water environment
    a. Address invasive species

Revised goal:
Improve and protect the water environment with respect to quality, quantity, and availability. Promote and understand the value of our water reservoirs, watercourse, and built infrastructure. Maximize the social, economic, and ecological potential of our water resources toward equitable sharing of their benefits for both the short and long terms.

"Straw dog" strategy: reduce grey infrastructure costs (construction, maintenance) through rewarding ecosystem services (tax valuation or credits, utilities, etc. and the use of green infrastructure

Revised strategy:
Reduce grey infrastructure costs (construction, maintenance) through rewarding ecosystem services such as tax valuation or credits, stormwater utilities, and the use of green infrastructure.

Additional Strategy:
Collaborate regionally through the standardization of water resource management practices across villages, cities, towns and counties. Water resource management strategies should consider all water-related strengths, weaknesses, opportunities, and threats. Water resource management strategies should also consider their relationship to each of the tenets of sustainability.

Initiatives / Projects:
1. Re-conceive wastewater from a water "waste" to a water "source". Water effluent from treatment facilities could be as clean as, or cleaner than, water in the environment.
2. Agricultural BMPs and streambank restoration to improve water quality.
3. Consumer-friendly systems for capturing, storing, using, and re-using water on site.
4. Education, rewards, and promotion of stewardship.
5. Extract energy from water already in use.

Challenges:
1. Home rule and a lack of regional cooperation. This makes the establishment of a credit system difficult.
2. Assuring that the implementers of improvements will receive a payback / benefit for their efforts (equitable sharing of costs and benefits).
3. Water is cheap and easy right now.
4. Lack of education of users, stakeholders, and beneficiaries.

Indicators:
It was generally agreed that the previously identified indicators should show progress toward the newly identified goals. It was agreed that one indicator should be modified-
Old indicator – Percentage of Impaired Waters with TMDL Requirements

New Indicator - **Percentage of Impaired Waters with TMDL Requirements Removed From the 303-d List**

Targets:
1. Water use by Category

   a. 2020-decrease by 5%
   b. 2035-decrease by 15%
   c. 2050-decrease by 20%
2. Total number of impaired waters
   a. 2020-decrease by 2%
   b. 2035-decrease by 10%
   c. 2050-decrease by 20%
3. Percentage of Beach Water Quality Samples Exceeding State Thresholds
   a. 2020-decrease by 10%
   b. 2035-decrease by 25%
   c. 2050-decrease by 40%
4. Percentage of Impaired Waters with TMDL Requirements Removed From the 303-d List
   a. 2020- 2%
   b. 2035- 5%
   c. 2050- 10%
5. Concentrations of Pollutants in the Finger Lakes
   a. 2020-50% of state-mandated maximums
   b. 2035-40% of state-mandated maximums
   c. 2050-25% of state-mandated maximums

Agriculture & Forestry:

In General: Increase the viability and ecological contribution of Ag and Forestry, decrease waste and dependence on outside inputs.

Concept: Diversify yields in order to make land-based ventures increasingly economically attractive.

Strategy: Biological energy production (for farms, forests, communities) through initiatives like Plug and Play systems, regional facilities, or power purchase agreements.

Summary of morning and afternoon breakout sessions:

- Morning session included an initial discussion as to the "cross-pollination" of stakeholder groups, which was eventually understood through discussion of the value of ideas from outside of our topic area. Afternoon session included an initial discussion of agriculture and forestry indicators.
  - Morning discussion:

    The "straw dog" strategy discussed is: To increase the viability and ecological contribution of farms and forests while decreasing waste and dependence on outside inputs.

    - Stakeholders connected the "straw dog" strategy to several other topic areas:
      1. Energy production
      2. Climate change adaptation via increased self-sufficiency and the potential for additional redundancy and resiliency of the energy supply
      3. Economic development via research & development opportunities
      4. Water quality improvements via decreased nonpoint-source pollution

5. Increased livability of communities via reduced energy costs and the potential to support nodal development
6. Increased viability of agricultural sector via product diversity (e.g. adding biomass for energy production as a marketable crop)
7. Increased educational opportunities for technical workforce

- Regarding the questions provided for the exercise:
  8. Stakeholders upgraded the strategy by identifying the need for a *scalable* plug-and-play technology to convert/extract power from farm biomass.
  9. Identified three restraints: *absence of scalable technology* (or lack of knowledge, if it exists); *financial restraints* (e.g. the cost is just too high); *risk* (e.g. the lack of guarantees from utility companies that all power produced on the farm would be purchased means that farmers don't know whether or not it's worth the cost of installing on farm electrical generating technology)

- Afternoon discussion:
  - Discussion started on the issue of diversity in agriculture. Two restraints were raised: the specificity of capital-intensive equipment impacting the farmer's nimbleness to adjust to market changes and the difficulty of managing diverse production. Four strategies were raised in response to these restraints:
    - ✓ Develop models for managing diversity at different operation sizes (i.e. small, medium, and large farms)
    - ✓ Extend growing season and growing opportunities (e.g. hoop houses, vertical farms
    - ✓ Create market synergies/connections between consumers looking for niche products and the producers that could supply them
    - ✓ Reduce risk for innovation and diversification
- Discussion moved to the issue of farm land conversion to non-farm use. First restraint mentioned(of many) to decreasing loss of quality farm land was that subdivision standards do not account for agricultural infrastructure, quality of land, etc. leaving the decision makers without adequate information. One strategy developed in response:
  - Align land use regulations with the functional requirements of farms
- Discussion regarding general viability of agricultural sector focused initially on bringing new producers into the market (including but not limited to younger and/or first generation farmers). Primary restraints include price of farmland and equipment and lack of knowledge of agricultural career opportunities, and difficulty for first generation farmers to "do without" during the years before a new farm becomes profitable. One strategy developed in response:
  - ✓ Align an educational network for direct and specific educational opportunities (e.g. internships within university system; tax credits for farms w/ interns; opportunities for lenders and interns to engage one another)
- Agricultural viability was also discussed in terms of lack of necessary market responses and relationships between buyers and sellers. This is not just a matter of increasing direct sales, but also increasing sales through intermediaries (e.g. stores, wholesalers, restaurants). One multi-faceted strategy developed in response:
  - ✓ Create market and efficient network for distribution of agricultural products, generation and distribution of energy, generation of ecological services
  - ✓ Adjustment to indicators

- Biodiversity of bird species:

- Two of the four indicator species were changed to attempt to control for variables arising from the fact that all of the previous four indicator species were birds that migrated out of the region for the winter. Two migratory bird species were replaced by resident bird species to reduce the potential for adverse impacts at over-wintering locations that might result in decreased presence of the migratory bird species in Finger Lakes forests . The two Species removed were the Veery, and the Scarlet Tanager, replaced by the Red-Shouldered Hawk and the Northern Goshawk. The new list of the four indicator species is as follows:
  - ✓ Northern Goshawk
  - ✓ Red-shouldered Hawk
  - ✓ Ovenbird
  - ✓ Black-and-white Warbler
- Also, we recently obtained access to this information in a spatial format which allows for a more beneficial analysis. For this reason, instead of individual survey block presence counts for each of the indicator bird species we can now measure the more meaningful number of blocks where at least one of the indicator species was reported. This changes the baseline value to: 297 blocks containing at least one of the four indicator species during the most recent Breeding Bird Atlas Survey (2000-2005).
  - Wildfire occurrences:
    - ✓ This fifth indicator was added after data was received from the NYSDEC and NYS Office of Fire Prevention and Control. The data reports the number of wildfires reported from 2006-2011. The baseline value is 3,885 reported wildfires.
  - Direct sales:
    - ✓ The indicator value representing direct sales of agricultural products has been changed from an absolute dollar value ($9.52) to reflect the proportion of at-home food expenditures dedicated to direct sale products (0.49% in 2010). The targets have been adjusted accordingly. This change was made to avoid the projection of absolute monetary values into the future.

- Adjustment to goal(s)
  - Goal as provided to stakeholders:
    - Increase the viability and the ecological contribution of the agricultural and forestry sectors, while decreasing waste and dependency on external inputs.
    - This goal was slightly amended to include "Increase the viability, *accessibility,* and ecological contribution…" to reflect the importance of creating more economic opportunity within rural and urban agricultural settings, as well as creating greater opportunity for disadvantaged consumers to purchase fresh, high-quality foods.
- Summary of strategies suggested by stakeholders (from all three working group meetings)
  - Create/increase opportunities for some sort of ecosystem services credit trading system.
  - Strengthen programming for producing, marketing, and exporting specialty products.
  - Establish a beginner farming program.
  - Increase public awareness regarding economic and/or career opportunities in agriculture and forestry.
  - For large farms, strengthen the labor force by educating workers and making the guest worker program more efficient.
  - Support the special logistical needs of small and medium-sized operations in moving their products to market.
  - Improve processing capabilities.
  - Find opportunities for import substitution.

- Examine opportunities to change tax code regarding inherited agricultural operations and forested land.
- Support purchase of development right programs and the farmland preservation program.
- Increase opportunities for the on-farm production of renewable energy.
- Develop models for managing diversity at different operation sizes (i.e. small, medium, and large farms).
- Extend growing season and growing opportunities (e.g. hoop houses, vertical farms (defined above)).
- Create market synergies/connections between consumers looking for niche products and the producers that could supply them.
- Reduce risk for innovation and diversification.
- Align (land use) regulations with the functional requirements of farm and forest landscapes.
- Align an educational network for direct and specific educational opportunities (e.g. internships within university system; tax credits for farms w/ interns; opportunities for lenders and interns to engage one another; system of funneling ag project resources similar to IDA system)
- Create market and efficient network for distribution of agricultural products, generation and distribution of energy, generation of ecological services
- Create a regional food product identity a la Tuscany.

Transportation (focus):

The transportation/land use afternoon session began with introductions of the consultant team leads from Wendel and C&S and of each stakeholder (approximately 15) in attendance. The session was structured to cover thoughts on the morning, discuss and further refine straw goal and strategy from the morning, brainstorm additional strategies and begin establishing targets for the indicators. The following is a summary of topics discussed during the afternoon session:

- Straw goal/strategy:
  - Goal: Increase development or re-development around existing infrastructure, decrease dependence on automobiles and fossil fuels for transportation.
  - Concept: Stimulate nodal development
  - Strategy: Make existing but underutilized assets affordable enough to attract new energy and investment
- Discussion points on straw goal/strategy:
  - Goal – should read '…dependence on automobiles and/or fossil fuels…' since improvement could be made staying in automobile but choosing alternative fuels
  - This is a good concept but some REDC projects go against this goal – the Stamp Project for example – how are we going to make sure there is consistency?
  - Should be a focus on maximizing all existing assets not just underutilized
  - How are the nodes going to be established?
    - Existing transportation corridors
    - Established places
- Other strategies
  - Establish connections between nodes
  - Encourage & support development of infrastructure for alternative fuel vehicles
  - Create regional land use and zoning regulations/models
  - Protect & preserve environmental assets
  - Ensure social justice

- Incentivize redevelopment/redesign – capture externalities
- Educate & promote existing sustainable services & programs
- Leverage technology to promote transit and create a more flexible system
- Consider aging of population and needs that will come from that
- Develop safe routes to school
- Develop car sharing or peer to peer programs
- Incorporate complete street designs
- Encourage & promote consolidated freight movement
- Consolidate government/municipalities – waste management, maintenance, etc – lots of overlap or inefficiencies in services
- Develop & promote recreational tourism – bike/hike trails
- Shorten commute times – incentivize living where you work
- Use public/private partnerships to provide transit options – vanpooling, carpooling, etc
- Stakeholders weren't aware of ROCeasyride program – need to advertize and promote

After this general discussion, the group broke out to discuss land use/livability and transportation separately. Below are topics from the transportation discussion (approximately 7 participants):

- We began by trying to focus on what strategies discussed with the larger group were the most important:
  - Incorporating complete street design elements in all design projects
  - Market & promote alternative fuels, modes of transportation and services
  - Establish a car sharing program
  - Make connections to close the bike/ped infrastructure gaps both on- and off-road (completing trails, bike routes/lanes, sidewalks, etc)
  - Make alternative fuel/vehicle options more affordable
- It was noted that the region should continue to apply pressure for continued funding for projects that promote alternative modes and fuels to ensure the funding is available
- There was a discussion on the indicators – especially the one that reports on the number of miles of roadways and bridges in 100-year flood zones. It was noted that while this information is useful, it's not a useful indicator of change. The climate change adaptation indicator that considers "reduction in # of residents put at risk from loss of critical infrastructure for more than one day" would capture the change in vulnerability of the transportation systems.
  - It was agreed upon that this would be removed as an indicator
  - Another indicator was proposed: miles of roadway – this would provide information on sprawl b/c if we were trying to use existing assets, there would be no additional roadways
- Targets:
  - Total % of people commuting via walking, biking, transit & carpooling – consultant team lead noted the following: 2010 national averages – 2010 walking, biking, transit and carpool share is 19%; the target for the capital region is to reduce drive alone share by 25% by 2030; and central region is to increase walking, biking, transit and carpool share by 20% by 2030. The group thought this seems aggressive and there were some comments that getting people out of their cars was impossible – the working group was comfortable with an ***increase of 5% walking, biking, transit and carpool commuters by 2050***.

- 2010 baseline: 15%
- 2020: 1% increase to 16%
- 2035: 3% increase to 18%
- 2050: 5% increase to 20%

- VMT per capita – team lead noted in the capital region and the central region are noted as being a 20% reduction by 2030. This seems aggressive – the working group was comfortable with a ***25% reduction in vehicle miles traveled per capita by 2050***.
  - 2010 baseline: 9,742
  - 2020: 5% decrease to 9,255
  - 2035: 15% decrease to 8,280
  - 2050: 25% decrease to 7,310
- Transportation energy consumption per capita - It was noted by the working group that the transportation energy consumption reduction would be greater than the VMT per capita since this measure would take into account not only a shift in modes but a shift to alternative fuel vehicles. The working group was comfortable with a ***40% reduction in transportation energy consumption per capita by 2050***.
  - 2010 baseline: 73 MMBtu/635 gal gas/capita
  - 2020: 10% decrease to 66/572
  - 2035: 25% decrease to 55/476
  - 2050: 40% decrease to 44/381
- % income spent on transportation - While noting it was an aggressive goal, the working group was comfortable with targeting what the H&T index notes as affordable transportation costs by 2050 (15% of the median household income). Therefore, the target is a ***10.5% reduction in transportation costs by 2050***.
  - 2010 baseline: 25.5%
  - 2020: 3.5% decrease to 22%
  - 2035: 7% decrease to 18.5%
  - 2050: 10.5% decrease to 15%
- Miles of roads/number of bridges within flood zones (100 year) – this indicator was removed
- Freight tonnage moved by truck and rail – the team lead noted that the GTC's Freight/Goods Movement study indicated forecasts for freight movement by mode through 2035. It was noted that the truck share would increase to 82% and rail would decrease to 11%. The short- and mid-term targets for this plan would be to maintain the existing split between truck and rail which would mean that a shift would begin immediately through to 2035 then the region would actually begin to see a decrease in the truck share and increase in the rail share from that point forward. Therefore, the target is a ***2% reduction in tonnage moved by truck and a 2% increase moved by rail by 2050***.
  - 2010 baseline: truck 80% - rail 12%
  - 2020: maintain baseline split, truck 80% - rail 12%
  - 2035: maintain baseline split, truck 80% - rail 12%
  - 2050: 2% reduction in truck share and 2% increase in rail share, truck 78% - rail 14%

Land Use/Livable Cities:

In General: Increase development or re-development around existing infrastructure, decrease dependence on automobiles and fossil fuels for transportation.

Concept: Stimulate nodal development.

Strategy: Make existing but underutilized assets (e.g. along Erie Canal corridor, urban brownfields) affordable enough to attract new energy and investment.

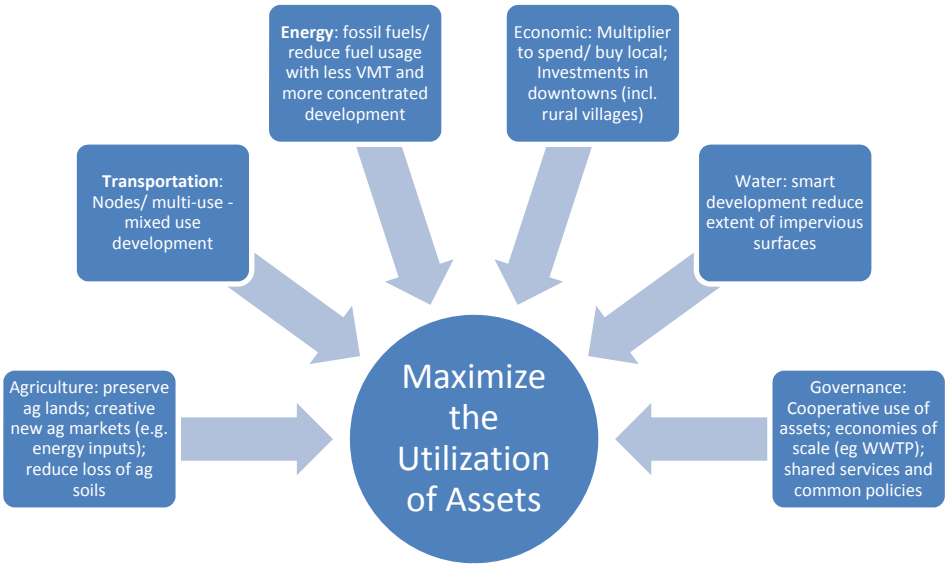
Morning Session (scrambled group of about 17 people for combined input on land use, livability and transportation) – discussion of issues and opportunities using straw strategy as a starting point.

- Add "built and ecological" to statement before the word "assets" to recognize that assets include buildings and infrastructure, as well as natural resources.
- In the general statement, it should read "and/or" fossil fuels, as new vehicles currently exist, and more are being developed, that do not rely on the use of fossil fuels.
- The strategy is too narrow; we need to think beyond the cities and canal corridor; focus on small villages and hamlets that already exist not only along the canal but throughout the region.
- What about public transportation – need more and improved public transport options to enable people to get out of their cars.
- Incentivize redevelopment and reuse; having people closer together keeps dollars in communities.
- There is a need to engage underutilized assets, and in doing so, we must consider the differences between the needs of urban and rural communities.
- Need for more mixed use development; there are barriers to funding for mixed use projects (federal lending standards).
- Reuse existing structural assets (buildings and infrastructure) to address strategic needs of communities.
- Existing buildings represent a very valuable asset that should be better utilized: historic buildings are better built and more attractive than much new construction, especially for commercial properties.
- Bio-materials development is another underutilized asset. (e.g. use of lake weeds as bio-mass to generate energy).
- Use agricultural lands as a source for economic development, tying rural and urban areas together.
- Agricultural lands are a source of inputs to advanced technologies (e.g., ethanol, sweet water chemical, biomass crops, etc.)
- Must consider food deserts, which exist in both urban and rural areas.
- "Green the rustbelt" – reuse brownfields, which can be used for ecology and agriculture.

- Need to integrate ecology, an understanding of environmental protection and ecological design into design standards and practices.
- There is a need to revamp the entrenched system that is embedded on capital and quick returns on investment.
- Need to build relationships and a stronger understanding of sustainability to change established systems and practices (e.g., county sewer and water districts, major highway extensions, etc.) that support sprawl.
- Local zoning should support nodal development (model legislation; incentivize good zoning).
- Need strong leaders and leadership in order to get things accomplished.
- Need to increase awareness of sustainability; it must become embedded in the local culture.
- Utilize the power of the academic community in the region to achieve sustainability goals.
- Need to "brand" sustainability in the region.
- Need cooperative utilization of assets.
- Coordinate with REDC actions – filter/translate Regional Sustainability Plan back into REDC efforts.
- Create a regional entity to "marry" the REDC and FLRSP together (incentivize cooperation – how?)
- Need to better capture externalities/value capture – ex. Disincentives to abandon properties (penalties for abandonment; old big box); reward good actions.
- Need for regional tax base sharing to break away from the perceived need to continue development in rural areas to boost local tax revenues.
- Promote the region as a region and work together to achieve sustainable improvements (there is currently too much fragmentation).
- Home rule makes regional activity a challenge; it creates restraints that result in fragmentation. Need incentives to get beyond this (such as good zoning), but this requires strong leadership.
- Integrate land use issue to integrate social issues.
- Institutionalize regional cooperation – take advantage of REDC, not perfect but it's what we have.

- Institutionalize efforts now to capture and hold what is achieved through this process before the Governor is gone and things change.
- Use Napa Valley/San Francisco model as a vision or guide for this region.
- Buy local.
- The current economic development system is about winners and losers, which makes intermunicipal cooperation more challenging. It should not be about distributing monies or creating winner and losers – there should be regional benefits.
- Must embed sustainability into the local culture so that the value becomes inherent in the system.

<u>System Integration with Other Subject Areas</u> (based on discussion of issues and opportunities):



Afternoon Session Input (Land Use/ Livability Stakeholders – about 10 people)

Discussion of issues, building off of what was offered in the morning session, with focus on land use and livability – the following was offered:

- Maximize existing assets and resources (infrastructure) – build on what we have rather than continuing to sprawl and expand.
- Develop transit-related /communication interconnections between nodes – make connections between existing places where appropriate.
- Encourage and develop alternative modes of transport – get people out of their cars.
- Revise zoning and land use policies to encourage and support adaptive reuse and redevelopment – existing policies and practices support sprawl and don't allow for mixed use development.
- Protect and preserve social and environmental assets – related to quality of life and environmental protection; recognition of the importance of these things to vital communities.
- Capture ecological components and functions of land use – need to bring ecology and environmentalism into the discussion and lens of focus.
- Practice social equity – it's not just about improving cities or affluent areas.
- Consider how the build environment and natural environment co-exist as a part of development.
- Promote policies to incentivize better land use – need to find ways to change what we build and the way we build.
- Capture externalities – increase costs of unsustainable development; reward good development (incentives).
- Promote common land use policies and regulations (model zoning) for all communities – need for better coordination and common planning across municipal boundaries to achieve more sustainable outcomes and development (need to come together rather than stay more fragmented).

- Encourage mixed use development (zoning and local land use policies should support this to improve density and diversity in developed places).
- Need education to assist people "to live locally" – help people understand the importance of sustainability.
- Need zoning to support needs of elderly and lower income – "mixing" and decentralizing.
- Need government consolidation – helps reduce redundancy and costs.
- Nodal development leverages existing investments and makes investments sustainable.
- Think of nodes as multi-use – focus on strengthening existing centers.
- Underutilized resources – creative look (example of how the nutrient-rich nuisance weeds in the Honeoye Lake could be used as a source of bio-fuel).
- Challenge home rule – how to coordinate, incentivize change, and build the relationships necessary to bring about different thinking to achieve more sustainable outcomes.
- Challenge – farm lands often leased – makes them a more fragile resource.
- Holistic approach to problem solving – using all areas of expertise to address issues and achieve sustainability; we are in a region with great resources.
- Governance – regional sewer, regional water, Genesee expressway, etc. encourages sprawl – these are entrenched systems.
- Livable communities – services, schools and safety are three factors that attract people to neighborhoods. Improve the core to build and retain population.
- Crime prevention through environmental design.
- Scale travel to needs (car sharing, etc.).
- Rural solutions will be different from urban ones: for example, mass transit is not sustainable in very rural settings, but alternatives are needed in rural areas also.
- Complete street improvements to accommodate all uses and modes; create vital neighborhoods.
- Focus on nodes with development concentrated in these areas.
- Incentives to draw residents to centers rather than sprawl – how to make the centers more livable and sustainable to retain and attract population.
- Improved education and good schools keep people in urban areas.
- Mandate (require) intermunicipal cooperation and interaction (shared policies).

Goal for Land Use and Livability:
Maximize existing assets (buildings and infrastructure) and concentrate development and redevelopment in established places and population centers (utilizing transportation corridors as one criterion for evaluation).

Strategies - after a discussion of the issues and opportunities, the information gathered was consolidated into some central strategies or themes.

- Establish common land use policies and regulations (model land use ordinances) to encourage and achieve redevelopment, adaptive reuse and mixed use development.
-
-

- Establish policies to address social equity and improve services, schools and safety in population centers and established places in an effort to retain and increase population and improve quality of life.
- Promote government consolidation and intermunicipal collaboration and cooperation.

Targets – the selected indicators were discussed with the group and realistic targets were evaluated based on short term, midterm and long term horizons.

- Per Capital Land Consumption – need to look at trends to see how land consumption has changed over the past decades. Ideal is to increase population to decrease ratio of land consumption. When looking out to the future, consider the potential impacts of having access to a large supply of fresh water (Lake Ontario) and how that may affect population growth in the region. What would it take to reduce land consumption (bring down by 0.01 = .23 ac (based on population only).
  2020 = status quo (0.25 ac)
  2035 = 0.2425 (3% decrease) 0.0075 reduction in acreage
  2050 = 0.24 (5% decrease) 0.0125 reduction in acreage

- Residents in population centers – need to look at trends back to 1970 and factor in the average household size. Again, for future, take into consideration potential impact of access to fresh water supply.
  2020 = status quo (36% population in centers)
  2035 = 5% increase (~ 38% in centers) +/- 26,000 (increase to +/-463,000 persons)
  2050 = 10% increase (~46% in centers)

- Deconcentration of Poverty – currently 13.2 % of region, with 23.2% in centers and 8.1% outside centers, which means 60% of poverty is located in centers. Decreasing overall rate doesn't necessarily address goal of deconcentration. Don't want to decrease the rate in the centers by increasing poverty outside centers (redistributing poverty). Target, therefore, is to maintain the status quo outside the centers (8.1%) while decreasing the poverty rate in the centers.
  2020 = status quo (23.2% in centers)
  2035 = 3% reduction (~20%)
  2050 = 5% reduction (~18%)

Energy:

In General: Discussions included establishing goals for increasing diversified energy production from renewable sources, while decreasing overall consumption, with a specific focus on the advantage of a regional micro-grid.

- One of the stakeholders pointed out that he would rather see a successful regional plan for developing an abundance of clean, renewable, competitively priced energy that would lure new businesses and responsible growth, which may actually increase overall consumption.

Concept: Locally usable energy

Strategy: Micro-grid technology that integrates the advantages of independent local or regional production and distribution with the storage and capacity large enough to serve the region.

Current Regional Energy Generation Resources:

- Nuclear
- Hydro-power (National Grid, Municipal Power Corporations)
- Waste energy plan (Riga, Parrington)
- Land fill methane capture
- Ethanol
- Farms – manure
- Natural gas

Localized energy generation and distribution

- Could act independently when the 'grid' goes out (stand alone)
- Could serve to back feed adjacent communities or regions from excess generation

Micro-grid can be a part of Smart-grid

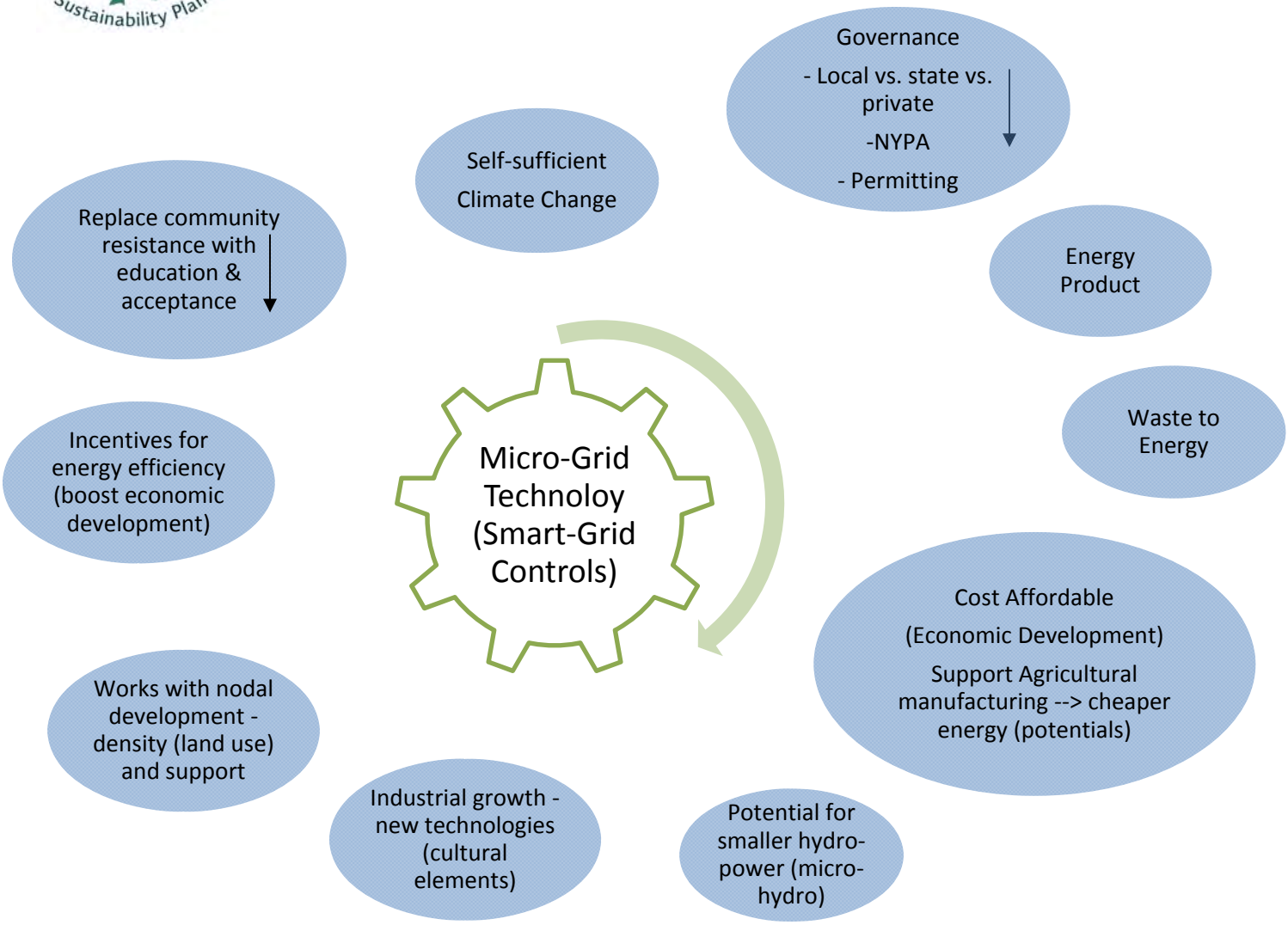
- Multiple micro-grids
- Switches

Discussion:

- Think about gas, not just electricity
  - Natural gas is abundant in our region, and competitively priced as compared to many other fuel sources Getting away from fossil fuel consumption
- Transitioning
  - Production
  - Transmission (renewable sources)
  - End-users
- NY Climate Action Plan 2009 (DEC & NYSERDA) already in place, with Albany and Syracuse regions being studied

Strategy Concepts:

- Production goals for renewable and local energy generation
- Incentives for increasing renewable and reducing fossil fuel consumption
- Resilience self-reliance, generation ≥ consumption
- Distributed energy, getting excess power generation into the grid or other means of measurement & storage
- Reduction of Green House Gas Emission
- Documentation of alternative/renewable energies



Task:

1. Looking at the goals & strategies given from the morning exercise, further develop how the strategy can be used, create new strategies, and look at how they affect the other subject areas and their impact on the 5 Capitals.
2. Assign targets for each Indicator.

- Grid infrastructure fragile:
  - snow storms
  - ice storms
  - rural areas

  → Affect the grid

- Micro-grid: could be a portion of a larger, smart-grid, neighborhoods, level of a household, generation is captured, measured, and distributed. (net-metering)

Strategy: Micro-grid technology that integrates the advantages of independent local production and distribution with the storage and distribution capacity of a large grid.

→ Micro-Grid

Using micro-grid technology, all subject areas and 5 capitals need to be filtered through a lens so that we are capturing all aspects of how a micro-grid can be beneficial to our Region.

Subject Areas

Water: Energy from distribution centers at water sources → micro-turbines
Will eventually go back into the grid
Biological waste products

Agriculture & Forestry: Effluent > water quality

Economic Development: low cost energy → business/reliability
Carbon Credits (tax/trading)
Return on Investments

Materials: Organic material re-uses

Land Use & Transportation: Convert brownfields into PV Power fields

Climate Change Adaptation: Provides areas of refuge

5 Capitals

Human: Education, Accountability

Ecological: Generation of renewable energies within the Region/Community

Financial: Accountability

Fixed/Built: Generating power off of an existing water source, roof tops (solar panels), etc.

Social: Community micro-grid, coming together

Obstacles

- Public Policy
- Community Resistance
- Funding

- Power Transport
- Jurisdiction/Dependencies

After looking though the lenses and discovering more about micro-grid technology, more **strategies** will be filtered through this exercise.

Materials Management:

In General: Increase the recovery and re-use of all materials that are currently going into the waste stream, decrease the generation of waste in the first place.

Concept: Discover, realize, and recover the value in all elements of the waste stream.

Strategy: Regional method for brokering materials: "Garbage Craigslist"

Group Make-up

- Nine participants all who have some connection to the materials & waste sector, including the facilitator and assistant (who both were active participants)
- Sectors represented included: Two university/college based staff members, one labor/small business rep., one manufacturer/start-up, two statewide non-profit technical assistance organizations (not based in the Finger Lakes), three local non-profit/community based-organizations

General Discussion

SWOT:

Discussion mostly focused on other goals and strategies (beyond the *Straw Dog*), and while challenges (Threats) were identified, the focus was mostly on Opportunities and Strengths. Very little discussion surrounded Weaknesses (SWOT).

Straw Dog:

General discussion surrounded the *Straw Dog* (portrayed immediately below), with four resulting conclusions: 1) The "In General" and "Concept" statements seemed to resonate; 2) but, there was one addition as noted to the "Concept" statement (in brackets); 3) the "Strategy" statement was a bit small as a presentation of a strategy that could have far-reaching, regional implications—it is a good idea, but not one of the highest-level strategies that should be deployed; and 4) it is critical to get away from concepts such as "trash," "waste," and "garbage" in the plan, thus the change in the strategy statement to "materials" (in brackets).

A new treatment of the first two components of the initial *Straw Dog* is noted below the original (Revised Overall Goal Statement).

Straw Dog

In General:

- Increase recovery and reuse of all materials currently in waste stream
- Decrease generation of waste in the first place

Concept:

- Discover, realize, and recover the value *[highest and best use]* in all elements of the materials stream

Strategy:

- Regional method for brokering materials (e.g. "Garbage *[Materials]* Craigslist")

Revised Overall Goal Statements (based on *Straw Dog*)

- Decrease generation of waste in the first place
- Maximize reuse, recycling, and composting of materials currently in waste stream
- Discover, realize, and recover the value (highest and best use) in all elements of the materials stream

System Integration:

Addition dialogue about goals, strategies, and even projects/programs, inherently brought in components/interests of other subject areas—the nature of materials (waste) management is one of system integration. Integration and impact of/on other subject areas serves as the foundation of the sustainable approach to materials management recommended for the Finger Lakes Region. For instance, by way of example, it could be argued that the landfills in the region impact all the other subject areas.

Other Issues:

We need to be sure everyone understands our (and NYSERDA's) broadened definition of "waste" to include not just Municipal Solid Waste, but also other materials such as Agriculture and Biosolids, Construction and Demolition Debris, Non-hazardous Industrial Waste, and Tires. It was also discussed that Industrial Hazardous Waste should also be included in the region's planning initiative.

All are issues discussed are noted below under "Goals."

Subject Area Goals

- A critical component of a broader concept/goal statement is that the region should not simply base its strategy/project delineation process focused on present challenges/problems (which may, or may not exist; or, could be debated ad nausea); but rather, project out to the future what problems, challenges, threats, and more importantly, opportunities await that need a solid foundation developed today.

- Focus on the important theme of "non-product output" as a way to articulate what "waste" really means—it adds the economic imperative to how the region approaches materials management.
- Base strategy and project decisions on data (data-driven decision making)—and if the data does not exist, expend resources to acquire it.
- Target items in the waste stream using a "highest and best use" approach to solutions with the following priority as a guide: 1) Source reduction of non-product output, 2) Reuse of materials, and 3) Recycling and composting solutions.
- Don't ignore the 800-pound Gorilla in the room—the existing landfills and huge amount of waste imported into the region—focus on big reductions in waste disposed at those landfills.
- Strive to "normalize size" in manufacturing/business as it relates to materials management and innovation.
- Focus efforts on what is not being done appropriately and what can be done better (e.g., biosolid management).
- Focus efforts on "big ticket" items in the waste stream (e.g., organics, composting).

Strategies and Projects

Strategies:

- Understand the categories of waste (materials)—e.g., through a regional waste characterization effort
- Consider the following criteria when making decisions about specific materials management options:
  - Number/quantity in stream (volume/weight)—target major components
  - Identify items to be managed differently based on toxicity—reduce high-toxicity items
  - Look at cost of alternative management options considering externality costs and benefits (which need to be articulated)—strive for lower-cost options
  - Identify "easy" solutions based on some type of risk assessment—defer to options that can be done quickly and with reduced effort
  - Consider market/alternative solution availability/development—focus on those items with existing markets first, then—or at the same time—develop local markets for other logical materials
  - Target things not currently managed well—reduce/recycle problem materials and/or eliminate problematic management modes
  - Strive for local based solutions—use regional materials to invest in "green jobs" in the region
- In conjunction with the landfill operators, develop new business models that move away from disposal in its purest sense
- Regarding incoming waste:
  - Better characterize what is coming into region
  - Define highest and best use for the major components of this waste stream
  - Work to extract highest value of this material (which is not necessarily landfilling)
  - Potentially work with state regulators to limit material coming into the region using strategies such as: "We won't take anything from anywhere not already reaching a 40% diversion/recycling rate"
- Develop a debris management plan for extreme weather events, such as storing bulky wood instead of chipping to improve chip quality
- Develop materials management strategies that increase diversion goals at each "touch-point" of the waste/materials (such as at the place of generation, waste truck, transfer facilities, and

disposal locations)—e.g., offer "service opportunity analysis" technical assistance services to optimize reduction of "non-product output"

- Prepare for inevitability of single-stream programs throughout region, including how to best utilize the new Monroe County single-stream MRF to: Improve material quality, level the playing field, decide what is the best method for curbside (e.g., system improvements), and identify and target differences in what is collected and how it's collected
- Develop incentive programs—e.g., take back/deposit programs
- Address net-metering as it is a challenge and particularly limiting in rural areas (this relates to digestion, energy production, and distributed energy)
- Develop a new system to capture pre-consumer organics (e.g., vegetable and fruit waste at point of processing), then expand this system—once proven—to post-consumer organics (e.g., food waste)
- Encourage carbon credit policies (at the state level)
- Address low tipping fees (that currently do not include all externality costs) as they are a disincentive to sustainable approaches to materials/waste management
- Develop integrated communication, outreach, and education strategy that looks beyond email, websites, and electronic social networking (while all are good to deploy), and recognizes that large segments of society don't have access to these means of communication
- Develop local innovative approaches to: 1) Reduced packaging techniques, and 2) new sustainable materials for packaging, using already existing local resources such as existing manufacturers, new private sector interests, and existing academic resources (e.g., at RIT's Golisano Institute)
- Develop metrics and education strategies to define and articulate the true value of materials
- Biosolids are currently being land applied and overburdening water and land resources—move toward composting and digestion solutions

Projects:

There was limited discussion around specific projects, but a few did come up:

- Need seed money for education about pre- and post-consumer organics management programs
- Address challenges with funding more digesters
- Provide resources and programs to better train operators/owners regarding digester operation and maintenance

Targets

Discussion started on potential targets and surrounded three concepts that need to be developed further:

- Potentially look at a per year reduction in waste production, measured in a percentage—say, 10% a year—using the 2010 waste generation tonnage number as a baseline
- Develop per commodity reduction (decreasing) and recycling (increasing) numbers
- Calculate and strive for a per person per year (per capita) reduction—say, from the national average of 4.3 to 3.3

Economic Development:

In General: Increase investment into "Innovation Acceleration," decrease disinvestment (such as "brain drain," poverty, and abandoned infrastructure.)

Concept: Invest in utilizing and strengthening the core genius of this place.

Strategy: An Innovation Consortium (drawn from business, academia, government, and the NGO community) that convenes multiple stakeholders to find and address regional challenges that have potential for global enterprise opportunities, and then support business ventures to carry them out.

Context: Economic development is best understood as the means of wealth-creation for all entities in a system. We are working in the Finger Lakes Economic Development Working group to tease out the best paths for this capacity to produce increasing wealth and long-term health for all institutions, agencies, businesses, communities and families, as well as individuals. Our experience is that this is more likely when communities draw on and advance themselves from that with makes them unique and distinctive. That uniqueness serves as a source of development that adds value and is able to grow the community coffers as a result. This is contrasted to regions that have less success by chasing trends which anyone can take on, such as technologies that are not unique to the region. This is also contrasted to working on local needs but without a mind to the scalability of it for unique offerings beyond the region that are only likely to be really innovative. These two contrasts are the shortfall producer for most regions in their economic planning. They become a commodity as a result.

The economic development top priorities will be selected is terms of their ability to develop means to innovate, generating ideas that contribute and serve the growth of the region, implement them such that they have long-term viability, scalability and spread-ability, and develop ways to sustain that through time as a foundation. Understanding and using the Story Of Place™ has proven effective in regions in Texas, Oregon, British Columbia, Mexico and many other places. It will be a guiding light in our Sustainability Planning in the Finger Lakes Region.

What makes The Finger Lakes Unique and Distinctive?
The story is more complex, but we are anchoring on three concepts that have proven to be repeatedly powerful for Finger Lakes throughout its history in terms of business development, job creation and talent development and attraction and ability to create global demand for products.

The first is that ideas that start **from local needs but have global application** has been the most successful. For example:

- Kodak, Jell-o, Bausch & Lomb, Gannett, Western Union, Xerox, French's, Champion, Genesee
- Brewing Company
- Kodak – film, digital cameras
- Xerox – printers
- Champion – first hooded sweatshirt, reversible t-shirt, mesh fabric
- Genesee Brewing Company – wheat industry, Whiskey Rebellion
- Bausch & Lomb – contacts that came from understanding lens.

Many of the companies here acted as an eddy in a fast moving world, taking ideas, developing them in very new ways. They were seen only as local solutions but later advanced and sent out to the country/world as products that were valued and adopted on a large scale. Often these were new technologies in the industry and using materials in very unique ways.

This second distinctiveness in the Finger Lakes Region was the ability to take the original need and innovate in ways that are very practical and solve local problems immediately. But repeatedly innovation is introduced in a way that the benefits can be "Democraticized" (made applicable on a grand scale)

The third distinctiveness is in the ability to spread the seed idea, just like Jonnie Appleseed, in a way that its value is seen across a broad landscape of regions. It is easily adopted outside the region, bringing wealth back to the region from national and global adoption of technologies that grew out of local needs, were innovative and were applicable to a variety of situating with the same or related needs.

These three unique criteria are how we are evaluating projects and funding application, believing it has the best chance of creating wealth from the funds invested in economic development. Further, since we will be working on many projects related to sustainability and climate mitigation that will meet this criteria, local problems and needs where innovation is needed, the plan for economic development will pull these needs over into the economic development strategy and find project there to advance that will simultaneously improve sustainability (e.g. food safety and security, climate mitigation technologies) and are tackled from the criteria that is unique to the Finger Lakes based on the story of place.

General Input:
When looking at the characteristics that make Finger Lakes unique, the following ideas were generated collectively as strategic places to grow the wealth of the region.

- Custodian of Economic Development should have comprehensible understanding of this distinctness in all subject areas and the five capitals on every project; make it a process that is imbedded
- Connect to local land use plan so decisions are made at local level-while embedding sustainability more deeply, especially on implementation ideas; so Story of Place is further refined as well.
- Example of a strategy: *Waterways like San Antonio River Walk-have transportation, economic and tourist activities tied to our unique story of place and other subjects (transit, education on our uniqueness). We need this nature of thinking. We would use sustainability lens so energy is rethought which was not done in San Antonio.
- Blend in international organizations that are national and global, e.g., Boy Scouts
- *Social attention of children and youth. Institutions feel like fortresses. Bridge between business and students as seed for investing in innovation on our uniqueness
- Globalization of our innovation-aware of size, many sizes so more resilient. Diversity of size, mix of people and perspective in economic activity
- Measure growth by diversity and not just consumption
- Reducing footprint across all subject areas. Sustainability is good for business. Metrics-ROI. E.g., Issue of clean water and costing fees; devise systems that demonstrate
- *Transparent and democratizing0need to show capital benefit of all projects to communities, plus share our innovation process with others. Claim it so we can own it.
- Value our goods correctly so value flows back. E.g., water

- *Build an accounting system to recover and invest in value "appreciation" of natural resources. Start with national businesses locally. Traveling road show with Consortium on what we discover (innovation need).
- Regional building of business capability to work sustainability with stakeholders broadly (fragmented examples now)
- *Food strategy that brings stronger safety security, uniqueness, sustainable and linked to other 5 areas. Building financial incentives (local where can make sense). Regional food strategy with cross stakeholder process
- Investment isn't just financial
- Branding/marketing of the region

Shared Strategy discussions across from other groups and advanced by ED as well

- Scaling of biomass-want to serve all size farms
- System to recover and invest in values and appreciate natural resources
- No regional communication/approach for land use, transportation, ED, etc. Need to tap into current efforts
- Goal: It's a challenge to move from a focus on community or county to the region. Want to keep the individuality, while moving the regional economy forward
- Sustainability isn't just an add on-it's core to ED project

Prioritized Strategies

Strategies narrowed from above dialogue

I. Strategy One

Initial

↑ Investment in innovation acceleration
↓disinvestment (people infrastructure)

Invest in utilizing and strengthening the genius of place (embedded in all three strategies)

Strategy One:
Innovation consortium convenes diverse stakeholders-Find and address regional challenges with potential for global enterprise opportunities.

Create an entity (convening authority) that will seek out developing best practices in sustainability and incorporate local views/context in order to ensure the 5 capitals are considered in RED-C proposals

II. Strategy Two

↑ investment (energy) in the 5 capitals (human, social, ecological, fixed and financial) innovation (entrepreneurship and intrapreneurship) acceleration
↓disinvestment (people infrastructure-including poverty; atmosphere where all people can contribute; diversity of opportunity; history embedded in cultural; service, income opportunity and need disparity
Innovation consortium convenes diverse stakeholders-Find and address regional challenges with potential for global enterprise opportunities.

Increase regional sourcing of foods from within the region, leading to economic growth and energy reduction and energy development

III. Strategy Three

Create a climate of entrepreneurial energy that fosters a transformational regional brand and identity that leverages the strengths of the regions' five capital assets (human, ecological, financial, social and fixed/built).

IV. Strategies Four:

Middle skills:

Over the last couple of generations, we have devalued middle skills. When we say stop, we need to change the way we talk about those jobs and how we view those apprenticeships. We need to tie them into this continuum in the eddy. Advanced manufactures would love to get someone from agriculture who can fix something. We need to replace the message that everyone's going to college.

To enhance Economic Development from a sustainability lens, I didn't hear anything about environmental or health. I would emphasize the equity piece

Built in apprenticeship. We need to replace that from previous dying business.

V. Strategy Five:

Science, Technology and Manufacturing Park

- Looking for mega sites. The site is to be a green site. It's utilizing the area well. We minimizing the wetlands impact. It's aimed at developing the creative class. There's going to create 10,000 jobs and a 3x with suppliers, so 30,000 jobs. The regional supply chain effect is multiple county wide. Mega sites want to locate next to R&D sites. The project will be able to capture the next generation of manufacturing job. They're high skill, high education. We have the educational institutions so we can train them. We can build on the success on the old manufacturing to the new manufacturing. We need to stop thinking in municipal silos. We need to see the benefits throughout the region and western New York.
- The plant needs some type of certification by a third party. Also, leveraging out to supply chain. Those people need to have some type of certification too.

VI. Strategy Six:

FL Business Accelerator Cooperative

- This is a plan is to create a hub and node of incubators, focused on a new incubator. It's combining with the tech incubator and RIT incubator. Then reaching out beyond to create nodes in the counties for people who don't want to come to Rochester or have a hard time getting here. We'll provide them with mentoring and capital. So, not just incubate and provide capital. My potential for democratization would be that the nodes would reach out to the disadvantaged areas. The rural counties could tap into resources they don't have connection to now. Then we teach other states and regions to do that.

VII. Strategy Seven:

GIS (Golisano Institute of Sustainability)

- The project was to create a new part of the Sustainability Institute. GIS is working on a food processing cluster. One effort is they trying to provide new technology to reduce waste streams in the cluster. They're trying to help all elements of the industry. There are a couple of partners involved. The point is GIS is very diverse in their capacities. They

need equipment to build capacities into the infrastructure and the business community. We have an innovation environment at RIT. When you're designing new businesses, we need middle skills. The local educational facilities can help. Water was touched on. This region has water. Other regions in the country don't.

Indicators

(All indicators are additions to the December document. No time periods were associated with these indicators.)

1. # of out of state visitors
2. ↑ of mixed used development
3. ↓ of vacant… [The group that suggested this indicator will refine and contact Carol.]
4. ↑ business attraction and retention
5. ↑ talent attraction and retention
6. ↑ in home grown businesses
7. ↑ in projects that meet sustainability criteria that will be developed by the proposed Innovation Consortium
8. Charitable donations
9. Happiness index
10. ↑ in high school graduation
11. ↑ movement into Finger Lakes zip codes
12. ↑ capital investment
13. ↓ of empty Main St. store fronts and open space
14. Net advocate score
15. Tourism spending
16. Age distribution of workforce
17. Money spent on infrastructure
18. How connected to place
19. Main St. viability
20. Average disposable income
21. Number receiving social services
22. Number of technical programs available
23. Business with 10 or more employees
24. Acres farmed by types of crops and end use of land
25. Businesses located where infrastructure exists
26. Funding trends for small businesses
27. Water quality (ISO measurement-net zero)
28. Number of flood events
29. Visitor or tourism dollars and origins
30. Water quality
31. Philanthropic giving
32. Quality of education
33. Investment in research
34. Amount of Venture capital
35. Successful commercialization of technologies and associated jobs
36. Improvement in water quality
37. Cost avoidance to companies when given technology
38. Trained workforce availability for diverse opportunities
39. New mechanisms for training and educating
40. Certification for projects
41. Required certifications of suppliers
42. Number of technologies reviews

43. Number of associated employment growth
44. Address GHGE (greenhouse gas) at scopes 1-3 and their mitigation

Overall Indicator thought: So a major indicator will be how well the projects from the other working groups are framed in terms of these following criteria.

1. Are the projects being focused on local needs that have largest applicability beyond the Finger Lakes?
2. Are the projects innovative taken on, and converted into economic development potential, not just reducing the harm that will come from the problem? Can the challenges be converted, directly and literally, into business ventures that solve the problem at the same time they generate economic development opportunity. E.g. See Sarah's example attached. All projects in other working groups should be tackled this way and will therefore be Story of Place indicators. Every working group should pursue this route and the economic working group should scour all the other plans for such opportunities. This is the heart of the distinctiveness of the region that can be leveraged even as we design and implement this plan. (This is the highest leverage place for high-level returns to the region.
3. Do they have a component in each venture that tracks the spread of the idea into other regions as part of business and economic development plans?

Indicators that had priority for the group:

1. Number of businesses that focus on the problems found in the planning process in the other working groups and start initiatives to tackle them. New business ventures that target those directions

2. Training that is aimed at business development ideas in #2 indicator, those that are focused on the problems and needs identified in the plan's working groups, rather than just new projects which are not seen as tackling those specific problems (a past huge success rate for Finger Lakes to innovate on it on problems)

3. Successful commercialization of technologies for problems specifically designated in this plan, globalization of the offerings and growing jobs association with those specific projects as they scale to bigger regions, nationally and globally.

TARGETS (where to focus) – specific targets were not established in this group however they will be developed based on the overall discussion and shared with the group for feedback.

- Increased tourism
- Private sector growth against sustainability measure
- Increase in eco energy parks based on symbiotic relationships of businesses within the park
- Number of new businesses (that survived over 5 years)
- Increase in capturing graduates
- Pride/happiness with region
- Move from corporate city to entrepreneurial, risk taking city
- Decrease of the number of poverty
- Improved racial poverty level
- Increase wage earning equality and availability of training in pockets of distressed areas
- Increase in job shadowing

  - Diversity in education levels and programs
  - Balancing between mandates and opportunities to customize based on unique needs
- Disaster protection for key infrastructure
- Consideration for infrastructure investments when looking at lake levels
- Keep infrastructure aligned with capacity/planning
- Protect our natural resources?
- Increase education rating and levels (nationally and internationally)

Last Thoughts/ Q&A

- Project Recommendation List → how the money will be spent
  - Focus on goals and strategies
  - Specific projects will be in an appendix
  - Can they be incorporated into document?
    - No, NYSERDA has requested that strategies in the main document be broad strategies and specific projects be documented in the appendix.
  - Strategy but no project, what happens
    - Make note, will be part on Plan
    - Ownership, measurements, goals → responsibility of Project Owner
- Fate of indicators?
  - Submitted Place-Sourced Indicators
  - NYSERDA required indicators stay
  - Strategy for each indicator – working on progressing indicators and goals
  - More strategies by March
  - Indicators may be modified per strategy, data, etc.

- Education – has it been addressed?
  - Came up briefly in Economic Development group discussion
  - Where does this belong? Which subject area → should be part of Livable Communities and Agriculture and Forestry
  - Quality of Urban schools
  - Poverty
  - Increase graduation rates
  - Economic Development → Institutions
  - Strategy for K-12 education
    - Inner-city schools
    - Affordability of housing and school systems
- Integration of ideas
  - Future funding
- Public meeting summaries on website

Next Steps

- STRATEGIES: Strategies are being captured from the online form and will continue to be captured. The deadline for strategies to be submitted for inclusion of this draft plan is March 4th. However, draft strategies will be put in front of the public for review in late February and therefore if you want the strategy included in that exercise, where it can be advanced/modified/endorsed, then you need to submit the strategy by February 8th. The Genesee/ Finger Lakes Regional Planning Council will likely continue to collect strategies even after this report is finalized so it can be updated over time.

- PUBLIC MEETINGS: A second round of public meetings will be held the last week of February. Fliers will be available on the website the week of Feb. 4th.

- STAKEHOLDER MEETING: There will be a fourth meeting of the stakeholder groups (as a group) in March (either the 12th or 13th)to comment on the ranking of strategies, wording, etc. These will be sent out to the groups IN ADVANCE of the meeting so that you have time to review them and bring comments and questions to the meeting.

Tara Boggio, Public Involvement Lead, T.Y. Lin International – tara.boggio@tylin.com; 585-512-2000
David Zorn, Project Manager, G/FLRPC - dave.zorn@gflrpc.org; 585-454-0190 x14

Finger Lakes Regional Sustainability Plan

Stakeholder Meeting #3

January 17, 2013

FUNDED BY: NYSERDA – CLEANER, GREENER COMMUNITIES PROGRAM

Story of Place

Rationale:

Communities that maintain their vitality, their ability to attract investment and resources and are able to evolve through time, have three things in common:

1. They know who they are – their uniqueness
2. They develop a narrative to convey who they uniquely are
3. They embed this narrative and uniqueness into everything they do

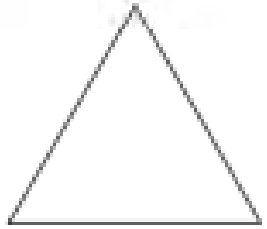
Story of Place presentation can be found under stakeholder meeting #2 minutes - we are not reissuing here due to size

"DEMOCRATIZING"

MAKING PARTICIPATION IN THE BENEFITS OF SOCIETY AVAILABLE TO ALL

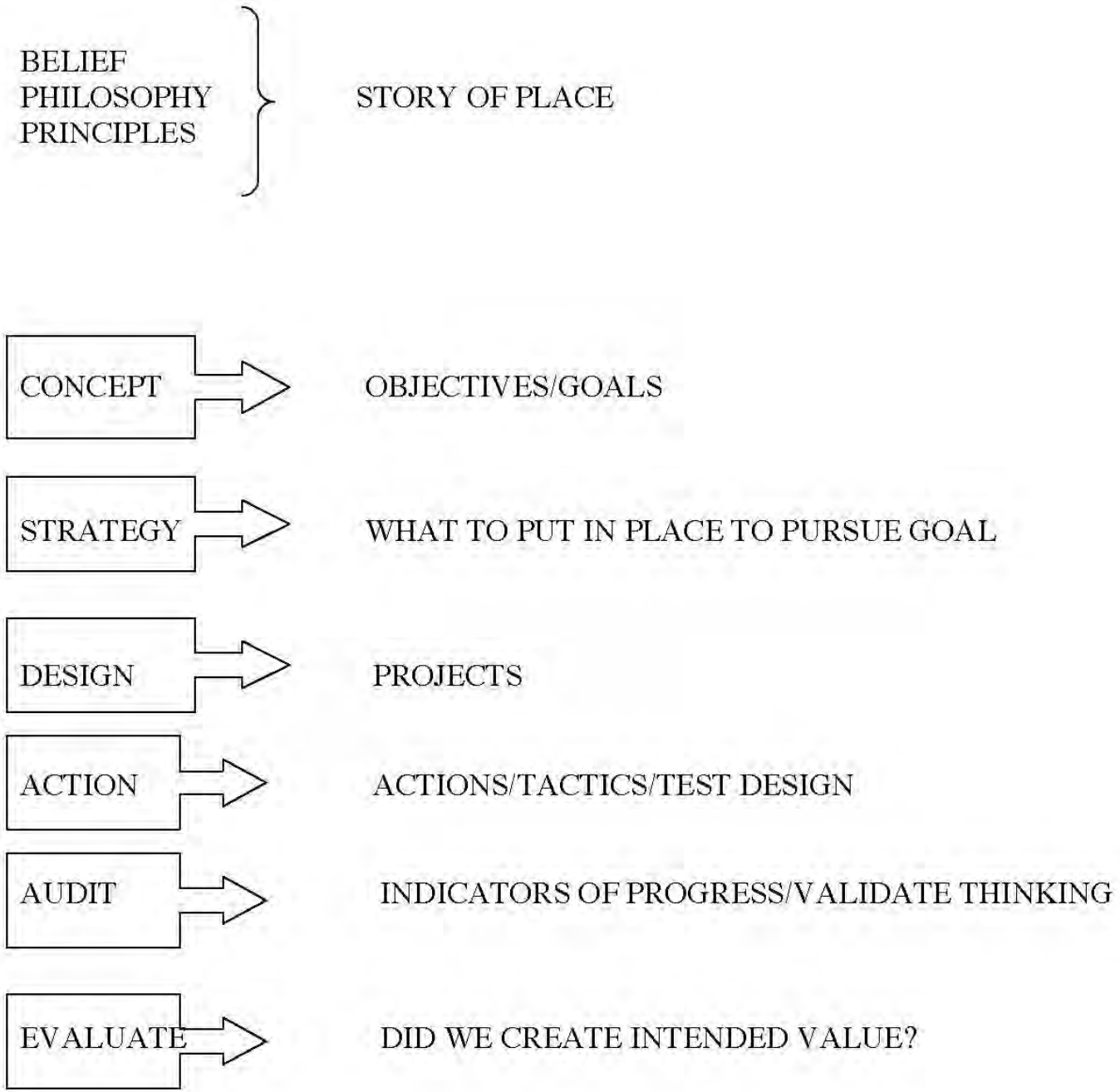
"EDDYING'

A PLACE WHERE COLLECTING, SETTLING, NURTURING, AND ENRICHING CAN OCCUR



"INNOVATING"

FINDING SOLUTIONS FOR LOCAL PROBLEMS THAT ARE RELEVANT FOR A LARGER WORLD


BELIEF
PHILOSOPHY
PRINCIPLES
STORY OF PLACE
CONCEPT
OBJECTIVES/GOALS
STRATEGY
WHAT TO PUT IN PLACE TO PURSUE GOAL
DESIGN
PROJECTS
ACTION
ACTIONS/TACTICS/TEST DESIGN
AUDIT
INDICATORS OF PROGRESS/VALIDATE THINKING
EVALUATE
DID WE CREATE INTENDED VALUE?

“Straw Dog” Strategies

Economic Development

In General: Increase investment into “Innovation Acceleration,” decrease disinvestment (such as “brain drain,” poverty, and abandoned infrastructure.)

Concept: Invest in utilizing and strengthening the core genius of this place.

Strategy: An Innovation Consortium (drawn from business, academia, government, and the NGO community) that convenes multiple stakeholders to find and address regional challenges that have potential for global enterprise opportunities, and then support business ventures to carry them out.

“Straw Dog” Strategies

Energy

In General: Increase diversified energy production from renewable sources, decrease overall consumption.

Concept: Locally usable local energy.

Strategy: Micro-grid technologies that integrate the advantages of independent local production and distribution systems with the storage and distribution capacity of a large grid.

“Straw Dog” Strategies

Water

In General: Increase water quality (for both surface and ground water), decrease the destructive potential of run-off especially in extreme events

Concept: Continuous renewal of a robust and healthy hydrological system (for humans and nature).

Strategy: Reduce built infrastructure costs (construction, maintenance) through rewarding ecosystem services (tax valuation or credits, utilities, etc.)

“Straw Dog” Strategies

Land Use, Livable Cities, and Transportation

In General: Increase development or re-development around existing infrastructure, decrease dependence on automobiles and fossil fuels for transportation.

Concept: Stimulate nodal development.

Strategy: Make existing but underutilized assets (e.g. along Erie Canal corridor, urban brownfields) affordable enough to attract new energy and investment.

“Straw Dog” Strategies

Agriculture and Forestry

In General: Increase the viability and ecological contribution of Ag and Forestry, decrease waste and dependence on outside inputs.

Concept: Diversify yields in order to make land-based ventures increasingly economically attractive.

Strategy: Biological energy production (for farms, forests, communities) through initiatives like Plug and Play systems, regional facilities, or power purchase agreements.

“Straw Dog” Strategies

Waste Management

In General: Increase the recovery and re-use of all materials that are currently going into the waste stream, decrease the generation of waste in the first place.

Concept: Discover, realize, and recover the value in all elements of the waste stream.

Strategy: Regional method for brokering materials: “Garbage Craigslist”

“Straw Dog” Strategies

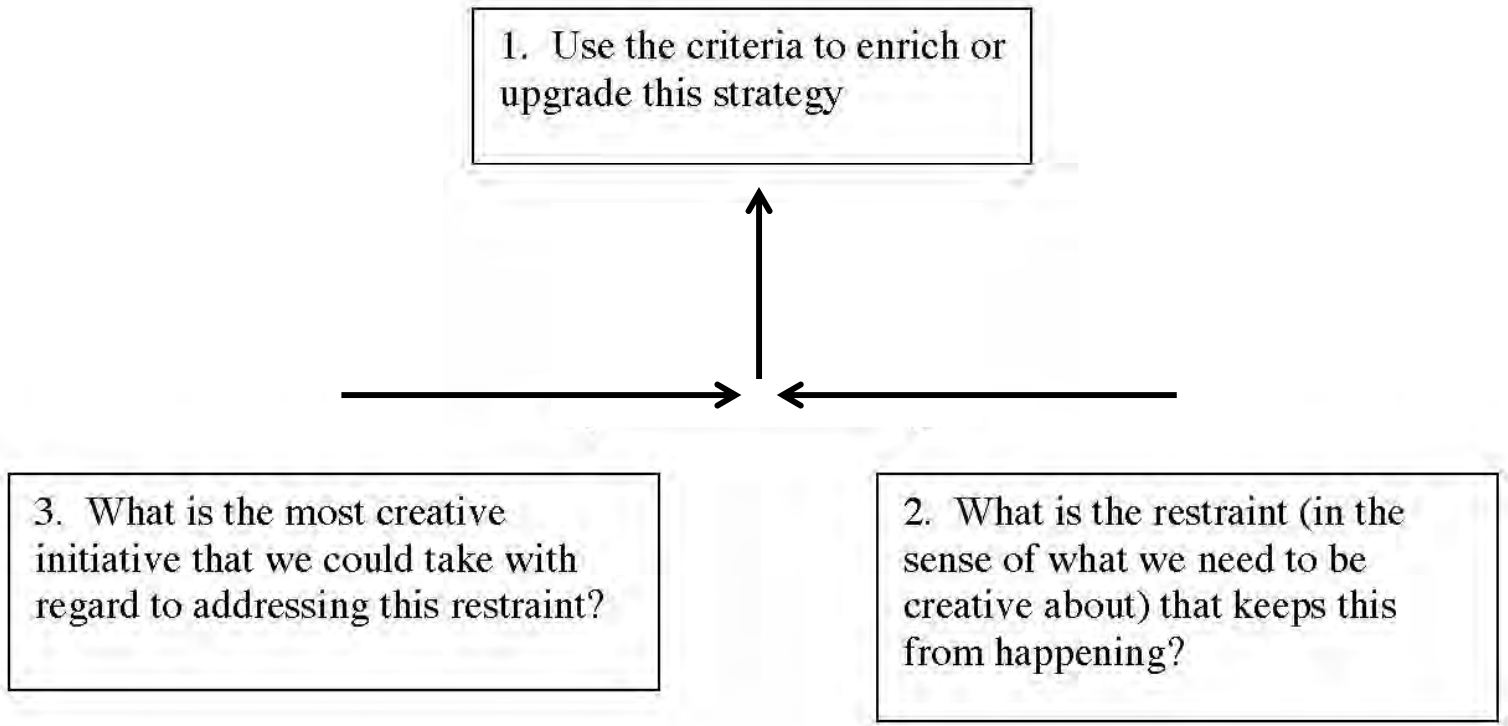
Climate Change

In General: Increase resiliency, redundancy, and adaptability, decrease infrastructure vulnerabilities.

Concept: Semi-independent but mutually reinforcing networks (for energy, food, water, and other critical needs).

Strategy: Self-Sufficient Community Disaster Refuge Centers

Law of Three


1. Use the criteria to enrich or upgrade this strategy
3. What is the most creative initiative that we could take with regard to addressing this restraint?
2. What is the restraint (in the sense of what we need to be creative about) that keeps this from happening?

Exercise

1. Select from all the indictors that have been developed for this plan, and identify a set that you believe this strategy will positively affect.
2. Help us understand why this strategy will affect each of these indicators, and how.
3. Are there obvious voids in terms of the indicators that we should be tracking?
4. For each indicator, what should the target be, and what are the short and mi-term milestones moving toward that target?

Energy

Subject Area Goal

Increase the generation and distribution of regional renewable energies while using energy efficient and alternative energy resources, along with conservation methods, to decrease the reliance on fossil fuels and non-renewable outside energy sources and to become a self-sustainable region.

Opportunities

- Various renewable/alternative energy sources that reduce dependence on fossil fuels
- Focus on sustainable demand/consumption, not just replacing fossil fuels with other sources
- Economic development—R&D, manufacturing, operations, etc. for renewable/alternative sources
- Reduced environmental impacts—cleaner air, cleaner water
- Waste-to-energy research and development (landfills, farms, etc.)
- Mutually beneficial relationship with other subject areas

Challenges

- Balancing renewable/alternative sources with environmental/ecological impact
- Consensus between municipalities, organizations, and the public
- Securing sufficient public and private investment
- Developing incentives (financial and otherwise) for voluntary guidelines and programs
- Achieving a viable cost/benefit ratio for new energy sources
- Visual and landscape blight of different energy installations
- Developing effective public policies
- Developing technology for energy storage and distribution
- Resistance to change
- Need for reliable, technology-neutral education resources to combat misinformation

Variables

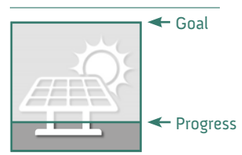
- Success of other subject areas
- Unstable energy markets
- Public perception/acceptance of various energy sources and techniques
- Success of research and development efforts

Indicators and Targets

Indicators	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Regional energy consumption per capita	186 MMBtu	20% reduction	35% reduction	50% reduction
Total installed renewable energy capacity	3,495,768 MMBtu (9% of region's total demand)	20% of region's total demand provided by renewable energy	35% of region's total demand provided by renewable energy	50% of region's total demand provided by renewable energy
Regional energy self-reliance (% generated within the region)	59%	65%	75%	85%
Regional energy generation per capita	19.6 MMBtu	21.62 MMBtu	24.86 MMBtu	28.17 MMBtu
Availability, accessibility, affordability of renewable energy	Data not available**	N/A	N/A	N/A
Energy efficiency	Data not available**	N/A	N/A	N/A

*All % reductions or increases are related to the 2010 baseline values, not the previous target.
** Baseline data currently not available. It is recommended that in the short-term, a method to collect this data be developed.

Achievement to Date



Energy

Subject Area Goal

Increase the generation and distribution of regional renewable energies while using energy efficient and alternative energy resources, along with conservation methods, to decrease the reliance on fossil fuels and non-renewable outside energy sources and to become a self-sustainable region.

Finger Lakes Regional Sustainability Plan

Priority Broad Strategies

Connection with criteria
● Strong ◐ Moderate ○ Marginal

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency	◐	●	●	●	●	●
Develop, produce, and employ alternative energy (bio-energy, waste to energy, etc.)	●	●	●	●	●	◐
Upgrade the existing conventional energy production and distribution in an a sustainable way	◐	●	●	●	◐	●
Develop, produce and employ renewable energy (wind, hydroelectric, solar, and geothermal)	●	●	●	◐	◐	◐
Develop and implement micro-grid technologies that integrate the advantages of independent local production and distribution systems with the storage and distribution capacity of a large grid	●	●	●	○	○	○

Broad Strategy—Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency

Representative Sub-Strategies / Project Ideas

- Promote and incentivize energy auditing/measurement and verification, commissioning, and the implementation of energy conservation and efficiency measures (e.g., lighting, motor, service hot water heating, and HVAC controls).
- Develop and promote the adoption of local codes and policies that exceed the minimum requirements of the NYS Energy Conservation Construction Code.
- Educate and promote energy conservation and efficiency measures to municipalities, businesses and residents highlighting the benefits of simple measures (i.e. maximize the use of daylight, use of occupancy sensors, installation of energy efficient lighting and adjusting temperature controls).
- Support research and development, deployment of pilot projects to validate technology and eventual commercialization of net-zero energy technologies.
- Promote the use of alternate transportation.
- Promote the awareness of alternative fuels and technology.
- Utilize green infrastructure and ecosystem services to reduce energy demand.
- Collaborate with colleges and universities to establish a household energy audit clearinghouse.

Representative Projects

- Golisano Institute for Sustainability at RIT—funding to enable the equipment of research labs to support research and development that embodies the principles of sustainability in product development (REDC Plan)
- New York State Pollution Prevention Institute at RIT—a resource that enables companies to reduce chemical use, increase the efficient use of raw materials, energy and water and reduce emissions and waste generation. (REDC Plan)
- The FLREDC will continue to support, monitor and promote projects that improve energy efficiency. (REDC Plan)

Broad Strategy—Develop, produce, and employ alternative energy (bio-energy, waste to energy, etc.)

Representative Sub-Strategies / Project Ideas

- Use of food waste (ag, processed, etc.) to produce energy.
- Bio-gas powered fuel cell and hydrogen development research and implementation.
- Increase availability and geographic coverage of alternative public fueling stations using electricity, hydrogen, bio-fuel, CNG, ethanol, LNG, or propane
- Support research and development, deployment of pilot projects to validate technology and eventual commercialization of new alternative energy technology.
- Educate the public and municipal officials on the benefits of alternative energy generation and address the potential negative impacts.
- Encourage municipalities and local districts to conduct an inventory of potential alternative energy production.
- Conduct farm energy audits.

Representative Projects

- Seneca AgBio Green Energy Park – funding to expand this innovative program for agricultural and renewable energy production. The facility process grape agricultural waste and produces grape seed oil and biodiesel. (REDC Plan)
- Epiphergy.

Broad Strategy—Upgrade the existing conventional energy production and distribution in an a sustainable way

Representative Sub-Strategies / Project Ideas

- Upgrade the transmission infrastructure to reduce distribution loss.
- Increase the use of demand response program to better manage supply and consumption.
- Promote distributed generation.

Representative Projects

Broad Strategy—Develop, produce and employ renewable energy (wind, hydroelectric, solar, and geothermal)

Representative Sub-Strategies / Project Ideas

- Develop and promote the adoption of local policies that accommodate the development of on-site and community renewable energy generation
- Explore and develop innovative funding and financing options for the development of renewable energy production.
- Research the potential for and promote the use of public-private partnerships and/or purchase power agreements to encourage the development of renewable energy generation.
- Support research and development, deployment of pilot projects to validate technology and eventual commercialization of new renewable energy technology.
- Educate the public and municipal officials on the benefits of renewable energy generation and address the potential negative impacts.

Representative Projects

- Innovacracy—innovative crowd source funding model to support early stage technology development and commercialization. (REDC Plan)
- New Town Energy Independence—develop large scale solar projects within new communities for energy self-sufficiency.
- Livonia Energy Park—creation of municipal park with renewable energy production capacity going back to community grid.

Broad Strategy—Develop and implement micro-grid technologies that integrate the advantages of independent local production and distribution systems with the storage and distribution capacity of a large grid

Representative Sub-Strategies / Project Ideas

- Support research and development, deployment of pilot projects to validate technology and eventual commercialization.
- Explore and develop innovative approaches to address microgrid financing, ownership and service models.

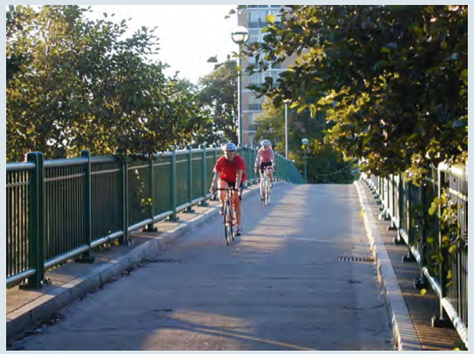
Representative Projects

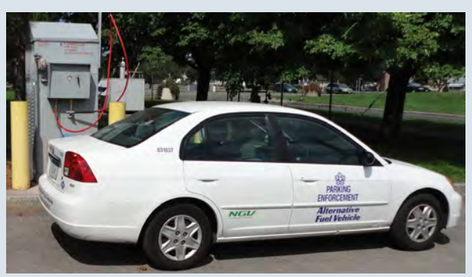
- Wayne Industrial Sustainability Project (WISP)

Transportation

Subject Area Goal

Provide an equitable transportation system that ensures safety, maximizes efficiency, addresses disaster resiliency, provides mode choice and reduces dependence on fossil fuels.





Opportunities

- GHG emission reduction
- Improved public health through active transportation
- Outreach/promotion of available programs and services
- Increased resilience for individuals/ households when multiple modes are viable for their daily needs
- Expand on recent momentum in expanding bicycle infrastructure
- Human-scaled design supports local/small businesses
- Educating policy makers and the public about transportation-land use connection

Challenges

- Access to funding
- Minimal congestion discourages alternative modes
- Land use policies that promote auto-oriented, single-use development
- Struggling urban areas discourage people from locating in walkable/bikeable neighborhoods
- Current lack of critical mass to support transit modes beyond bus service
- Negative perception of public transit

Variables

- Availability of federal and state funding
- Fuel costs

Indicators and Targets

Indicators	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Total percentage of people commuting via walking, biking, transit, and carpooling	15%	16%	18%	20%
Vehicle miles travelled per capita	9,472 miles	1% reduction	3% reduction	5% reduction
Transportation energy consumption per capita	73 MMBtu	10% reduction	25% reduction	40% reduction
% income spent on transportation	25%	3% reduction	7% reduction	10% reduction
Freight tonnage moved • Percent by truck • Percent by rail	 • 80% • 12%	 • no change • no change	 • no change • no change	 • 78% • 14%

*All % reductions or increases are related to the 2010 baseline values, not the previous target.

Achievement to Date

Transportation

Subject Area Goal

Provide an equitable transportation system that ensures safety, maximizes efficiency, addresses disaster resiliency, provides mode choice and reduces dependence on fossil fuels.

Finger Lakes Regional Sustainability Plan

Priority Broad Strategies

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Provide for and promote alternative modes of transportation	●	●	●	◐	●	◐
Promote nodal development	●	●	●	◐	●	◐
Leverage transportation system assets to encourage economic development and enhance natural features	◐	◐	●	◐	●	●
Maintain and improve the functionality, safety and efficiency of the existing transportation infrastructure	◐	◐	●	◐	●	◐
Promote the development and adoption of alternative fuels and power sources	◐	◐	●	◐	◐	◐

Broad Strategy—Provide for and promote alternative modes of transportation

Representative Sub-Strategies / Project Ideas

- Enhance and expand bicycle and pedestrian infrastructure to close gaps and create connections between destinations.
- Assess and, as necessary, adjust public transportation services to accommodate needs, demand and market potential.
- Collaborate with large employers, agencies, and municipalities to promote Transportation Demand Management (TDM) strategies including emphasizing the environmental and health benefits of active transportation.
- Promote and implement Safe Routes to School (SRTS) programs.
- Evaluate the feasibility of broad car-sharing and bike-sharing programs.
- Evaluate the feasibility for Bus Rapid Transit (BRT), light rail or fixed transit service serving major employers/ destinations.

Representative Projects

- GTC Regional Trails Initiative update.
- Establish a Center City Circulator Service (Rochester) to serve daily commuters, visitors & tourists (GTC LRTP 2035).
- Construct the Rochester Intermodal Station for interregional rail & bus services at the site of the current Amtrak station (GTC LRTP 2035).
- Develop and implement and marketing and promotional campaign for the Greater Rochester Regional Commuter Choice Program (roceasyride.org).
- Continue to conduct Active Transportation Summits to educate about & encourage active transportation options.

Broad Strategy—Promote nodal development

Representative Sub-Strategies / Project Ideas

- Develop and implement a transportation technical assistance program to inform local planning and zoning boards about the need to support development that fully considers and integrates transportation needs (e.g., transit supportive, cluster).
- Develop incentives to promote nodal development in existing population and employment centers
- Identify and implement demonstration projects that address concerns and perceived negative aspects of nodal development.

Representative Projects

- Support Main Street revitalization projects that will emphasize local community engagement within their business attraction & revitalization efforts as well promoting nodal development (G/FLRPC Comprehensive Economic Development Strategy. (CEDS), REDC Strategic Plan)
- Keuka Lake Waterfront project—consists of a mixed-use redevelopment of a 14.7-acre brownfield site at the north end of Keuka Lake & adjacent to historic Penn Yan. (REDC Strategic Plan)

Broad Strategy—Leverage transportation system assets to encourage economic development and enhance natural features

Representative Sub-Strategies / Project Ideas

- Educate the public and key stakeholders in the region about the importance of freight transportation
- Develop efficient connections between modes of freight transportation (intermodal rail-truck transfer facility and new/improved rail access points)
- Preserve and improve access to the freight transportation system for existing and emerging industries
- Develop and promote recreational and cultural tourism projects
- Establish/maintain wildlife crossing where transportation and habitat corridors intersect
- Where transportation networks cross hydrologic networks, establish/maintain natural conveyance for aquatic life

Representative Projects

- Extend Erie Canalway Trail for 30 miles between towns of Lyons & Port Byron through the Montezuma National Wildlife Refuge. (REDC Strategic Plan)
- Construct a recreation trail that highlights the natural resources of Canandaigua Lake & will include access points, signage and waterway connections. (REDC Strategic Plan)
- Lyons Freight Village/Industrial Park—multi-modal, multi-business facility that will allow regional businesses to utilize the most cost effective transportation option for importing or exporting. (G/FLRPC CEDS, GTC Freight & Goods Movement Study)
- Determine feasibility of improvements noted in Seneca Army Depot Industrial Rail Facility Concept Plan. (G/ FLRPC CEDS, GTC Freight & Goods Movement Study)
- Rebuild & repair Rochester & Southern Railroad rail line between Dansville & Mt. Morris to improve access to and encourage development of Dansville Properties. (G/FLRPC CEDS)

Broad Strategy—Maintain and improve the functionality, safety and efficiency of the existing transportation infrastructure

Representative Sub-Strategies / Project Ideas

- Continue investment policies that prioritize preservation and maintenance projects.
- Advance access management as part of rehabilitation and reconstruction projects, where appropriate.
- Identify and implement Circulation, Access & Parking (CAP) or Complete Streets recommendations, where appropriate.
- Improve the functionality of intersections and interchanges to increase safety, reduce delay and improve mobility.
- Identify and implement Transportation System Management and Operations (TSMO) projects in the areas of technology, coordination and demand.

Representative Projects

- Replace the Portage Bridge on Norfolk Southern's Southern Tier rail line to eliminate a major weight & speed restriction. (GTC LRTP 2035, GTC Freight & Goods Movement Study, REDC Strategic Plan)
- Construct an interchange at Kendrick Road as part of the I-390 Southern Corridor Project to reduce delays/ emissions & serve the expansion of the area. (GTC LRTP 2035, REDC Strategic Plan)
- NYS Route 96 Corridor, Victor, Ontario County—link traffic signals on the Route 96 corridor with the Regional Traffic Operations Center (RTOC) through fiber optic & wireless means. (GTC LRTP 2035)
- Technology Initiatives Driving Excellence (TIDE) for Regional Transit Service—continue the implementation of TIDE to improve operational efficiency & customer service. (GTC LRTP 2035)

Broad Strategy—Promote the development and adoption of alternative fuels and power sources

Representative Sub-Strategies / Project Ideas

- Promote the research and development of advanced technology vehicles (e.g., electric hybrid, fuel cell, etc.).
- Encourage the development of publicly accessible alternative fuel and charging stations including truck stop electrification facilities.
- Encourage alternative fuel fleet vehicles (public and private fleets).
- Explore and develop financing options to make alternative fuel/vehicles more affordable and incentivize their use.
- Promote the awareness of alternative fuels and technology.

Representative Projects

- Install alternative fuel charging stations at service areas along the Thruway
- Bio-gas powered fuel cell and hydrogen development research

Land Use and Livable Communities

Subject Area Goal

Increase the sustainability and livability of the Finger Lakes region by revitalizing the region's traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.

Opportunities

- Protection of farmland and rural/scenic character
- Revitalization of cities, villages, and rural hamlets
- Cost savings on infrastructure and service delivery
- Reverse disinvestment in existing neighborhoods, infrastructure
- Pendulum beginning to swing back to desire for authentic, close-knit, walkable communities
- Human-scaled design supports local/small businesses, diversity of housing and cultural amenities, transportation options
- More equitable/efficient/sustainable tax structures
- Educating policy makers and the public about transportation-land use connection

Challenges

- Home rule limits effectiveness of regional planning
- Inefficient land use pattern results in high energy consumption and high cost of maintaining infrastructure/services
- Land use policies that promote auto-oriented, single-use development
- Competing priorities of adjacent communities
- Struggling urban areas discourage people from locating in walkable/bikeable neighborhoods
- Access to funding for comprehensive plans, zoning codes, design standards, etc.
- Conventional development costs are largely externalized and thus overlooked in favor of short-term benefits
- Development pressure threatens long-term viability of farms needed for sustainable food system

Variables

- Fuel costs
- Land values based on evolving housing demand and tax structures
- State/federal funding dedicated to local/regional planning initiatives

Indicators and Targets

Indicators	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Per capita land consumption	0.25 acres	no change	3% reduction	5% reduction
Rate of poverty in population centers	22%	No change	3% reduction	5% reduction
Proportion of residents living in existing population centers	36%	No change	38%	40%

*All % reductions or increases are related to the 2010 baseline values, not the previous target.

Achievement to Date

Land Use and Livable Communities

Subject Area Goal

Increase the sustainability and livability of the Finger Lakes region by revitalizing the region's traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.

Finger Lakes Regional Sustainability Plan

Priority Broad Strategies, continued

Connection with criteria
● Strong ◐ Moderate ○ Marginal

Broad Strategy

Create healthy, safe and sustainable communities

Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
●	●	●	◐	●	◐

Representative Sub-Strategies / Project Ideas

- Increase the number of communities with new/updated comprehensive plans and zoning that incorporate climate change considerations and sustainability.
- Create municipal sustainability offices at local and/or county level to provide stewardship over this Plan.
- Use local academic institutions to raise public awareness of the value and importance of sustainability.
- Invest in projects with green infrastructure to promote habitat restoration, improve water quality and reduce erosion.
- Develop a comprehensive system of sidewalk and trail networks and traffic calming measures linking major destinations and prioritizing human activity over traffic.
- Encourage creative strategies, such as farmers' markets and small local markets, to provide access to affordable, healthy foods.
- Dedicate public safety resources to promote safe neighborhoods.
- Use STAR Community Rating System to set a clear path and measure progress toward sustainability goals.
- Train local boards and officials in site plan and regulatory reviews that promote more sustainable site design and development.

Representative Projects

- FoodLink Food Hub—increased capacity in food processing, storage and distribution to improve regional food supply to institutions and local corner stores. (REDC Plan)
- Rochester Public Market—enhancements to the public market, strengthens ties to region's farmers, increases access to healthy foods for City residents. (REDC Plan)
- Lyons to Port Byron Canalway Trail—extend Erie Canalway Trail along a 30-mile segment between Lyons and Port Byron, improving continuity of the trail system. (REDC Plan)

Broad Strategy

Revitalize existing centers and prioritize the value of placemaking

Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
◐	◐	●	◐	○	◐

Representative Sub-Strategies / Project Ideas

- Adopt zoning regulations and design standards to support infill development and create better places.
- Encourage the adaptive reuse And/or historic preservation of existing buildings.
- Improve access to credit and capital in support of redevelopment of centers.
- Encourage location of core institutions (schools, post offices, municipal buildings) in centers.
- Take advantage of State brownfield programs to remediate brownfields.
- Encourage "buy-local" campaigns to help support local businesses.
- Adopt a 'fix it first' policy for infrastructure investment.
- Consider public sector land banking, demolitions, land assembly and 485b tax incentives to lower private sector costs of redevelopment.
- Invest in improvements to the public realm (streetscapes, plazas, parks) in strategic areas to promote private sector investment.
- Invest in the development, promotion and preservation of cultural, artistic and historic assets.

Representative Projects

- Midtown Redevelopment and Tower—mixed, office, residential, hotel and retail space. Includes reestablishing the traditional street grid and the adaptive reuse of the Midtown Tower as a cornerstone of downtown revitalization. (REDC Plan)
- Penn Yan / Keuka Lake Waterfront Development—mixed-use redevelopment of former brownfield into 170,000 square feet of retail, office, restaurant, residential and hotel uses at the northern end of Keuka Lake, adjacent to the historic village of Penn Yan (REDC Plan)
- Finger Lakes Museum—redevelopment of a former elementary school in Branchport and construction of additional facilities to establish a destination museum focusing on the environmental and cultural story of the Finger Lakes region. (REDC Plan)
- I-Square—redevelopment of vacant and under-utilized lands in Irondequoit into a mixed use "town center" development. (REDC Plan)

Land Use and Livable Communities

Subject Area Goal

Increase the sustainability and livability of the Finger Lakes region by revitalizing the region's traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.

Finger Lakes Regional Sustainability Plan

Priority Broad Strategies

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Support and preserve rural centers (hamlets and villages) and the character of rural areas	●	◐	●	◐	●	◐

Representative Sub-Strategies / Project Ideas

- Implement land use tools such as purchase of development rights (PDR) transfer of development rights (TDR), conservation easements and other incentives to preserve agricultural lands, open spaces corridors, cultural and historic assets and natural features.
- Educate the public about the ecological and economic value of natural systems for sustainability and resiliency.
- Inventory lands and parcels of significant ecological and/or scenic value (hillsides, forested lands, shorelines), and prioritize and coordinate with local land conservancies to protect highest value lands.
- Educate policy makers about true fiscal costs of development, including operations and maintenance.

Representative Projects

- Canandaigua Lake Water Trail—recreational trail to highlight the natural resources of Canandaigua Lake and promote active living. (REDC Plan).
- Promotion and protection of Canandaigua Lake—watershed improvements, such as new wetlands, stormwater management techniques and measures to control stream bank erosion to protect rural resources. Watershed education programs and a Watershed Program Manager Position were also funded. (Funded through CFA 2011)
- Strategy of a Sustainable Keuka Lake—updates to the Keuka Lake Watershed Land Use Planning Guide to develop model land use regulations, training and public outreach; creation of a water quality internship program; mapping of important resources and an agricultural assessment. (Funded through CFA 2011)

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Encourage diversity of our communities to bring about a greater mixture of uses, people, ages and incomes	◐	◐	●	◐	●	◐

Representative Sub-Strategies / Project Ideas

- Update municipal Comprehensive Plans, adopt flexible zoning regulations and encourage "Universal Design" to accommodate mixed uses, affordable housing, seniors and youth programs to encourage diversity.
- Eliminate funding and regulatory barriers that constrain the ability to do mixed use development.
- Develop specific vision plans for community centers, focused on good urban design and access to parks, transportation choices, cultural assets, jobs and services to develop "complete communities".
- Work with non-profit housing organizations to provide programs, such as home repair assistance, tool libraries, housing education and energy-efficiency programs to enable lower-income homeowners to stay in their homes and maintain them in good condition.
- Support programs, such as home-care, respite care and assistance with home modifications, that facilitate aging in place.
- Invest in strong local school systems to attract and retain young families.

Representative Projects

- College Town Development Project—redevelopment of 16 acres in the City of Rochester as a gateway to the University of Rochester and the city. The mixed-use, walkable neighborhood will incorporate affordable housing, mixed use buildings (retail with residential above), flexible zoning, and urban design principles. (REDC Plan)
- Senior and affordable housing projects—(27 projects funded throughout the region through 2011 CFA).

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Encourage regional cooperation and coordination (Governance Broad Strategy)	◐	◐	●	◐	◐	◐

Representative Sub-Strategies / Project Ideas

- Incorporate major findings and recommendations from the Regional Sustainability Plan into decision-making on the part of the Regional Economic Development Council.
- Regional authorities (e.g., county sewer districts) should adopt policies where decision-making incorporates sustainability considerations, and not just revenue generation.
- Encourage cooperation and better coordination of planning and zoning across municipal boundaries to achieve consistent development patterns.

Representative Projects

- Finger Lakes Regional Sustainability Plan—revisions and continued implementation of the Regional Sustainability Plan (REDC Plan).

Materials and Waste Management

Subject Area Goal

Decrease the generation of waste, increase the recovery and reuse of materials currently in the discard stream, manage materials using a highest-and-best-use framework, and create economic opportunities and improved environmental stewardship as a result.

Opportunities

- Shift perception from "waste management" to "sustainable materials management"
- Energy production for small scale operations and the larger grid
- Product packaging advancements
- Increased composting, both large and small scale
- Change perception of waste to recognize various reuse and recycle outcomes
- Collaboration with agricultural and industrial operations

Challenges

- Reduce the lifecycle impacts across the materials supply chain
- Lack of local or regional waste tracking systems
- Prioritizing investment in reduction, reuse, recycling and composting over disposal
- Mitigating impacts of imported waste
- Inspiring sustainable choices—greatest impacts come from collective decisions of households

Variables

- Fluctuating levels of imported waste
- Technologic advances for reuse/recycle/disposal of materials
- Transportation/fuel costs

Indicators and Targets

Indicators	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Total solid waste generated per capita	6.95 tons	15% reduction	25% reduction	35% reduction
Solid waste diverted (i.e., not landfilled or exported) per capita	Data not available**	35% reduction of total solid waste generated	50% reduction of total solid waste generated	55% reduction of total solid waste generated

*All % reductions or increases are related to the 2010 baseline values, not the previous target.

** Baseline data currently not available. It is recommended that in the short-term, a method to collect this data be developed.

Achievement to Date

Materials and Waste Management

Subject Area Goal

Decrease the generation of waste, increase the recovery and reuse of materials currently in the discard stream, manage materials using a highest-and-best-use framework, and create economic opportunities and improved environmental stewardship as a result.

Finger Lakes Regional Sustainability Plan

Priority Broad Strategies

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Reduce the amount of solid waste generated in the region	◐	●	●	●	◐	◐
Increase the percentage of materials reused, recycled, and composted within the region	◐	◐	●	●	◐	●
Address financial barriers through new revenue and business models	●	●	●	◐	◐	◐
Promote comprehensive sustainable materials management education, awareness, and research services	◐	◐	●	●		●
Expand reuse to include construction and demolition (C&D) debris and building development opportunities, such as deconstruction and demolition	◐	◐	●	◐		◐

Reduce the amount of solid waste generated in the region

Representative Sub-Strategies / Project Ideas

- Target incoming waste.
- Develop local innovative approaches to: 1) Reduced packaging techniques, 2) new sustainable materials for packaging, and 3) source reduction policy initiatives.

Representative Projects

Increase the percentage of materials reused, recycled, and composted within the region

Representative Sub-Strategies / Project Ideas

- Develop a new system to capture pre-consumer organics, then expand this system—once proven—to post-consumer organics.
- Develop local markets for recyclables.
- Provide on-site composting vessels to the region's colleges, schools, hospitals, nursing homes, manufacturing plants and other facilities with cafeterias.
- Move toward composting, digestion, and appropriate land-application solutions for bio solids and other organic materials.
- Support research and development, deployment of pilot projects to validate technology and eventual commercialization of "waste" to energy technology (i.e. anaerobic digester systems).

Representative Projects

- Limit your waste challenge – a community challenge encouraging families to limit their waste though recycling, composting, and decreasing overconsumption.
- Revised curbside pick-up program – provide proper bins for recyclable and compostable materials, also increasing efficiency in vehicle fleet.
- Construct rail sidings to major regional landfills – possible reuse of existing rail infrastructure as well as reduced truck traffic and increased efficiency. (GTC LRTP)
- I-Square: Sustainable multi-use redevelopment project in the Center of the Town of Irondequoit, which will encompass the reduce, reuse, recycle guiding principles. (REDC Plan)

Address financial barriers through new revenue and business models

Representative Sub-Strategies / Project Ideas

- Develop incentive programs to encourage materials use/reuse vs. disposal (e.g., carbon credit policies, pay-as-you-throw programs).
- Product stewardship programs.
- Develop financing opportunities for pilot projects that validate new waste reduction and diversion technology and the benefits of implementation.

Representative Projects

- Limit your waste challenge—a community challenge encouraging families to limit their waste though recycling, composting, and decreasing overconsumption.
- Revised curbside pick-up program—provide proper bins for recyclable and compostable materials, also increasing efficiency in vehicle fleet.
- Construct rail sidings to major regional landfills—possible reuse of existing rail infrastructure as well as reduced truck traffic and increased efficiency. (GTC LRTP)

Promote comprehensive sustainable materials management education, awareness, and research services

Representative Sub-Strategies / Project Ideas

- Develop metrics and education strategies to define and articulate the true value of materials.
- Educate the public, government, businesses, and institutions regarding waste management regulations, requirements, and cost, and the benefits of sustainable materials management.
- Leverage, support and promote regional organizations that provide research and education in efficient materials use, reduction of waste and energy efficiency.

Representative Projects

- Material generation and disposal reporting system for non-residential sectors—web-based software system for non-residential waste generators to report data on materials they generate and dispose of off-site. (CNY Regional Sustainability Plan)
- Pre- and post-consumer organics management education programs—programs for both public and businesses sectors to learn about proper organic waste management practices.

Expand reuse to include construction and demolition (C&D) debris and building development opportunities, such as deconstruction and demolition

Representative Sub-Strategies / Project Ideas

- Increase construction and demolition (C&D) recycling operations.
- Encourage building deconstruction and subsequent material reuse and recycling, as opposed to building demolition.

Representative Projects

Water Management

Subject Area Goal

Improve and protect the water environment with respect to quality, quantity, and availability; promote and understand the value of our water reservoirs, watercourses, and built infrastructure; maximize the social, economic, and ecological potential of our water resources toward equitable sharing of their benefits for both the short and long terms.

Opportunities

- Maximizing water's benefits in a way that ensures its preservation
- Preserving natural state of wetlands and other waterbodies mitigates storm impacts
- Deepen the knowledge of Region's water resources
- Equitable distribution of costs and benefits of water resources
- Rewarding developers for enhanced designs that mitigate impacts
- Increase in tourism with increased quality of waterbodies
- Greater municipal cooperation
- Mitigating impacts of natural gas drilling and other resource extraction efforts
- Balancing water needs of agricultural operations with minimizing residential development in rural areas
- Cheap and ample resource can be taken for granted

Challenges

- Mitigating impacts and removal of invasive species
- Poorly-designed development and agricultural operations that increase runoff and pollutants in waterbodies
- Watershed boundaries and river/stream corridors rarely coincide with political boundaries (home rule)

Variables

- Erratic weather as it relates to replenishing waterbodies and water table
- Competing interests in St. Lawrence Seaway
- Highly-mobile society constantly threatens to introduce new invasive species
- Market forces for other resources (i.e. natural gas) impact demand for and quality of water
- Changing pollutants challenge capabilities of water treatment facilities

Indicators and Targets

Indicators	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Water demand per capita (per 1,000 people)	0.866 Mgal/day	no change	10% decrease	15% decrease
Total number of impaired waters	49 impaired waters	2% decrease	10% decrease	20% decrease
% of beach WQ samples exceeding state thresholds	17%	15%	13%	10%
Number of impaired waters with established TMDL requirements	49	48	47	45
Concentrations of pollutants in the Finger Lakes • Total phosphates • Total nitrogen	• Phosphates: 90% • Nitrogen: 4%	50% of state-mandated maximums at each lake	40% of state-mandated maximums at each lake	25% of state-mandated maximums at each lake

*All % reductions or increases are related to the 2010 baseline values, not the previous target.

Achievement to Date

Water Management

Subject Area Goal

Improve and protect the water environment with respect to quality, quantity, and availability; promote and understand the value of our water reservoirs, watercourses, and built infrastructure; maximize the social, economic, and ecological potential of our water resources toward equitable sharing of their benefits for both the short and long terms.

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

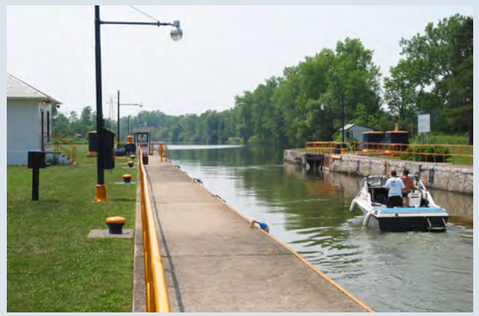
Broad Strategy / Representative Sub-Strategies / Project Ideas	Representative Projects	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Broad Strategy: **Inventory, monitor and educate to create a better understanding of the region's water resources.**		◐	●	●	◐	●	●
Representative Sub-Strategies / Project Ideas: • Track USGS-compiled and published "Water Use County Data." • Create a repository of rainfall/runoff data and models.	Representative Projects: • Wayne County Comprehensive Shoreline Management Program. • Green Genesee Roadmap.						
Broad Strategy: **Promote regional standardization of regulations and management**		◐	●	●	○	●	●
Representative Sub-Strategies / Project Ideas: • Promote community vision planning to focus development in existing centers and preserve open space. • Establish the Genesee River Institute. • Continue to support the development, update and implementation of watershed management plans. • Provide training and technical resources to support local government in the implementation of land use regulations to support water resources and mitigate flooding.	Representative Projects: • Establish the Genesee River Institute. • Preparation of Strategy for a Sustainable Keuka Lake. • Develop Wayne County Drinking Water Plan. • Establish a Countywide Drainage District in Orleans County.						
Broad Strategy: **Preserve existing ecosystem services and promote green infrastructure to reduce reliance on grey infrastructure**		◐	●	◐	◐	●	◐
Representative Sub-Strategies / Project Ideas: • Encourage Net Zero pervious surfaces. • Provide financial incentives to increase green infrastructure or reduce the amount of stormwater runoff. • Explore use of natural systems for wastewater treatment. • Improve on-site wastewater treatment systems. • Establish invasive species management program. • Promote the implementation of highway maintenance best management practices for water quality. • Promote the implementation of agricultural best management practices for water quality.	Representative Projects: • Rochester Museum and Science Center (RMSC) Green Innovations. • Improve streams and hillside runoff along South Lake Road and Canandaigua Lake (Yates County).						
Broad Strategy: **Conserve water and leverage its value in energy production**		◐	●	●	○	●	○
Representative Sub-Strategies / Project Ideas: • Encourage organizations that can improve water-related energy practices. • Decrease energy usage by water-related utilities. • Generate renewable energy from used water. • Promote and educate businesses and residents on water reuse and reducing water use. • Educate and promote the implementation of best management practices to improve water efficiency of crop irrigation and landscaping practices.	Representative Projects:						
Broad Strategy: **Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems**		○	◐	●	◐	◐	◐
Representative Sub-Strategies / Project Ideas: • Implement improvements in infrastructure systems to reduce water loss in transport.	Representative Projects: • Village of Perry stormwater drainage project. • Village of Macedon Wastewater Treatment Plant study. • Village of Naples sewer feasibility study.						

Economic Development

Subject Area Goal

Transform the economic landscape through embedding the region's uniqueness (the Story of Place), the Five Capitals*, and resiliency into all policy and investment decisions.

*Human, Social, Natural, Built/Manufactured, Financial



Opportunities

- Embed the Story of Place into the region's decision-making framework
- Strong relationships between communities and colleges/universities
- Build on momentum established by REDC plans to promote regional thinking
- Build economic foundation on unique attributes rather than economic trends
- Develop local solutions that will benefit places beyond our boundaries
- Wealth of educational institutions serve as incubators of ideas/innovation
- Highly-skilled labor force

Challenges

- Need cautious approach to "hot sectors" and economic trends
- Moving beyond conventional models based exclusively on financial bottom line
- Current economic climate often leads to short-sighted policies and solutions
- Continuing to transition from a small number of large manufacturing firms to multiple small-scale businesses
- Concentration of poverty and continued disinvestment in urban areas
- Extremely mobile society results in high competition with other regions, states, and countries

Variables

- Trendy sectors at the national / global scale
- Unstable financial sector and access to capital
- State government and state economy-related impacts

Indicators and Targets

Indicators	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Housing + Transportation Affordability Index	52%	51%	50%	48%
Jobs created by sector	532,997 jobs	10% increase	12.5% increase	15% increase
Successful commercialization of technologies and associated jobs	Data not available**	N/A	N/A	N/A
Increased venture capital investment	Data not available**	N/A	N/A	N/A
Jobs created by sector • Food manufacturing • Alternative energy • Materials science	• 6,972 jobs • Data not available** • Data not available**	Maximum 5% decrease	5% increase	10% increase

*All % reductions or increases are related to the 2010 baseline values, not the previous target.
** Baseline data currently not available. It is recommended that in the short-term, a method to collect this data be developed.

Achievement to Date
Goal
Progress

Economic Development

Subject Area Goal

Transform the economic landscape through embedding the region's uniqueness (the Story of Place), the Five Capitals*, and resiliency into all policy and investment decisions.

*Human, Social, Natural, Built/Manufactured, Financial

Priority Broad Strategies

Connection with criteria
● Strong ◐ Moderate ○ Marginal

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Embed the framework of this plan into all planning, execution and measurement activities throughout the region.	●	●	●	●	○	●

Representative Sub-Strategies / Project Ideas

- Expand the representation at all regional and municipal planning entities to include expertise from all five capitals.
- Incorporate FLRSP measurement matrices into the tracking and reporting of all investments.
- Develop project evaluation forms that contain the complete project criteria recommended in the FLRSP for use on all projects applying for economic development support and funding.

Representative Projects

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all five capitals and have broad commercialization potential.	●	●	◐	●	●	◐

Representative Sub-Strategies / Project Ideas

- Network, collaborate, and promote regional organizations that encourage and support entrepreneurship, technology transfer and small business—align their criteria and priorities with the Finger Lakes Regional Sustainability Plan.
- Increase collaboration between educational institutions and existing businesses to support innovation of products and services aligned with the Finger Lakes Regional Sustainability Plan.
- Develop funding center to identify and connect emerging innovations with financial resources (seed, grants, venture capital, etc.).

Representative Projects

- Finger Lakes Business Accelerator Cooperative—interconnected network of business support services and incubation facilities, spanning all nine counties (REDC Plan).
- Seneca AgBio Green Energy Park—a cluster of companies that convert agricultural byproducts and waste into biofuels and biomaterials (REDC Plan).
- NY-BEST Commercialization Center—a consortium of companies and universities aimed at facilitating the creation and deployment of the next generation of energy storage technologies (REDC Plan).

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Invest in critical infrastructure to foster economic expansion and advance sustainable initiatives (access, function, resiliency)	●	◐	●	●	●	◐

Representative Sub-Strategies / Project Ideas

- Develop regional condition, capacity and vulnerability assessments and inventories for all critical infrastructure.
- Accelerate the development and adoption of independent, local networks of critical infrastructure (communications, energy, water, wastewater, micro-grid, etc.).
- Invest in ecological resource-related projects that enhance ecological systems, improve water access, retain water quality, and increase water safety.

Representative Projects

- Mill Seat Landfill bioreactor.
- Ontario County Alternative Energy Park infrastructure.
- Lyons Industrial Park development (highway, rail, possible water access), multi modal transportation and logistics site (GTC Regional Freight Plan).
- Portageville freight rail bridge replacement project (GTC Regional Freight Plan).

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Expand and align training and education initiatives to target strategic sectors and meet the needs of existing and emerging industries.	◐	◐	●	●	●	◐

Representative Sub-Strategies / Project Ideas

- Connect private industry with the educational system to stimulate early awareness and interest in manufacturing career opportunities and align programs to deliver qualified candidates.
- Develop education and re-training networks to enable displaced or under-employed workers to fill strategic regional employment needs.
- Foster closer cooperation among the region's companies and institutions of higher education to accelerate technology transfer and align workforce training programs with the skill sets required by the sector.

Representative Projects

- Golisano Institute for Sustainability at RIT—program embodying the principles of sustainability in product development (REDC Plan).
- Multiple Pathways to Middle Skills Jobs—a partnership to create seamless career pathways for secondary education students and post-secondary unemployed workers (REDC Plan).
- Finger Lakes Community College Viticulture and Wine Technology Facility—designed to help meet the urgent and growing demands for skilled workers by the region's vineyards (REDC Plan).

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Enrich and market the unique natural, cultural, agricultural, and destination assets of the region.	○	○	●	●	●	●

Representative Sub-Strategies / Project Ideas

- Develop, network, and promote the region's growing wine, culinary, agricultural, and food micro-enterprises.
- Strengthen and support the development of the Finger Lakes' diverse water resources and recreational tourism opportunities, allowing greater access and promoting year-round use.
- Support the efforts of regional partners in identifying and securing funding for tourism promotion.

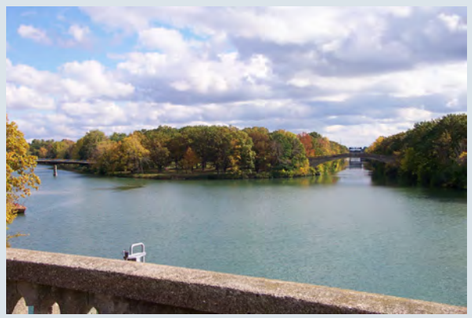
Representative Projects

- Value-Added, Direct-to-Market Grants Program—provide funding that enables farms to build new structures, buy equipment, renovate buildings, and access working capital (REDC Plan).
- Little Theatre Renovation—improvements that will preserve the theater as premier venue for independent/ foreign films (REDC Plan).
- Finger Lakes Boating Museum—waterfront improvements and construction of Museum and Visitors Center on Seneca Lake in Geneva (REDC Plan).

Climate Change Adaptation

Subject Area Goal

Improve performance and resiliency of community assets (buildings and infrastructure systems, natural systems, and agriculture and business systems) under normal and extreme conditions.



Opportunities

- More dynamic community centers and other local assets
- Ample intellectual, social, financial, natural, and economic resources
- Stronger relationships and networks resulting from community investment and resiliency pursuits
- Using educational institutions for research/education related to improved systems
- Re-purposing historic buildings to increase density and improve service delivery
- Leveraging assets and sharing resources across municipal borders

Challenges

- Improving resiliency of food supply
- Continued debate over causes of and responses to climate change
- Funding sources for infrastructure and systems investments
- Supplying services and resources in an emergency to rural areas
- Home rule creates inefficiencies and logistical challenges for inter-municipal coordination

Variables

- Potential increase in extreme weather events
- Food supply affected by variable temperatures, drought, and extreme weather events
- Available resources and capacity of local governments

Indicators and Targets

Indicators	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
The degree to which climate change and adaptation is discussed within required hazard mitigation plans	0 out of 9 required county plans	9 out of 9 county plans	9 out of 9 county plans	9 out of 9 county plans
Reduction in agricultural economic losses attributable to temperature, drought, flooding	Data not available**	N/A	N/A	N/A
Reduction in number of residents put at risk from loss of critical infrastructure services for more than one day	Data not available**	N/A	N/A	N/A

*All % reductions or increases are related to the 2010 baseline values, not the previous target.
** Baseline data currently not available. It is recommended that in the short-term, a method to collect this data be developed.

Achievement to Date

Climate Change Adaptation

Subject Area Goal

Improve performance and resiliency of community assets (buildings and infrastructure systems, natural systems, and agriculture and business systems) under normal and extreme conditions.

Finger Lakes Regional Sustainability Plan

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

	Evaluation Criteria					
	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Broad Strategy **Enhance mutual aid and support among neighboring communities, counties, and regions to share, develop, and create capabilities, resources, and special assets.**	●	●	●	●	●	●
Representative Sub-Strategies / Project Ideas • Develop research, education, training, and continuing education to solve local problems • Develop processes to identify and share critical resources (e.g., listing of willing and trained medical personal, strategic location of special response equipment for easy deployment).	**Representative Projects**					
Broad Strategy **Upgrade existing assets (buildings and critical infrastructure, farms, fields, and forests, businesses) to better withstand extreme conditions.**	●	●	●	●	●	◐
Representative Sub-Strategies / Project Ideas • Develop research, training and deployment of multiple strategies ("hardening" as well as "softening"/ breakaway/crumple zones) to upgrade existing assets. • Develop research, development and evaluation of innovative approaches to regenerate natural systems to improve the performance of built systems (e.g., wetlands as buffer zones during flooding). • Upgrade existing facilities (e.g., buildings, industrial facilities) to reduce resource use (i.e., energy, waste, materials, etc.).	**Representative Projects** • Wayne County Comprehensive Shoreline Management Program • Green Genesee Roadmap					
Broad Strategy **Create self-sufficient "places of refuge" in each community/neighborhood for critical resources, shelter and aid under normal and extreme conditions.**	●	●	●	●	●	◐
Representative Sub-Strategies / Project Ideas • Focus on on-site critical services that include energy production, water and wastewater (sewage) treatment, and solid waste treatment/processing (especially organic waste), as well as food, medical and emergency services. • Enhance "places of refuge" in local historical/cultural centers to help preserve the sense of place for each community - and give these centers a new lease on life. • Link on-site services to the regional centralized systems (e.g., electricity grid) to offset community/ municipal costs, and provide new sources of revenue. • Provide medical service, education/training, and other services in these "places of refuge" for day-to-day activities.	**Representative Projects**					
Broad Strategy **Create localized networks for critical services (e.g., local food sources, micro-grids for energy, water, sewage, solid waste treatment, district heating, etc.) to complement existing centralized systems (at a larger scale than the "places of refuge").**	●	●	●	◐	●	◐
Representative Sub-Strategies / Project Ideas • Create/deploy localized networks in rural as well as urban and suburban settlements, using local inputs (e.g., manure from farms). • Develop and approve options for "islanding" these networks under extreme conditions to protect lives and livelihoods. • Develop market and financial mechanisms to use localized networks as a new revenue source for participants/providers (e.g., farmers).	**Representative Projects**					

Agriculture

Subject Area Goal

Increase the viability, accessibility, and ecological contribution of farms, while decreasing waste and dependence on external inputs.

Opportunities

- Stronger connections with urban markets
- Mostly family-owned farms—better suited to sustainable models
- Environmental protection through farmland design and practice
- Rise of local farmers markets
- Slow food / locavore / organic movements
- Strategic land use policies and programs

Challenges

- Rising costs
- Rapidly-evolving technologies
- Development pressure (slow-paced sprawl)
- Aging farm owners
- Succession planning
- Public perception and nuisances

Variables

- Availability of capital
- Quality workforce
- Consumption patterns and consumer tastes
- National / global markets
- Erratic weather

Indicators and Targets

Indicators	Baseline Value (2010)	Short-Term Target (2020)	Mid-Term Target (2035)	Long-Term Target (2050)
Acres of agricultural land in non-agricultural use	155,968 acres	no change	no change	no change
Direct farm sales per capita (as a percent of at home food expenditures)	0.49%	2%	5%	10%
Use of external inputs	10.7%	10.1%	8.9%	7.8%
Diversity of production (Shannon's Diversity Index)	6.97	7.00	7.00	7.00

Achievement to Date

Agriculture

Subject Area Goal

Increase the viability, accessibility, and ecological contribution of farms, while decreasing waste and dependence on external inputs.

Priority Broad Strategies

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Support the continued development of an efficient and productive regional food system.	●	●	●	●	●	●

Representative Sub-Strategies / Project Ideas

- Support the expansion of regional processing and distribution facilities, and/or other facilities that add value to regional food products.
- Increase food security for individuals and households at risk of hunger.
- Increase regional farms' sales to regional institutional buyers.
- Increase regional farms' direct sales to consumers.
- Support the development and/or expansion of multi-farm networks of community-supported agricultural operations.

Representative Projects

- Headwaters Food Hub—processing and logistics facility will be built in the Wayne County Industrial Sustainability Park to support the regional food system by managing supply chain logistics, aggregation, distribution, and sales of local, sustainable, source-identified foods from a network of partner farms, including their own, and from local food producers.
- Finger Lakes Food Processing Cluster Initiative—leveraging the Jobs and Innovation Accelerator Grant from US Economic Development Agency and SBA and NYS to support this coordinated initiative that provides assistance, training, and collaborative partnerships. Project is underway.
- Regional Multi-Farm CSA Development—development and promotion of CSA-consumer website.

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Increase adoption of distributed bio-energy production technologies to increase production of renewable energy from farm and forest products and product waste.	●	●	●	●	●	●

Representative Sub-Strategies / Project Ideas

- Advance the availability and affordability of scalable plug-and-play bio-energy production systems, and provide standards for selling excess power into the grid.
- Assist farm operators in analyzing energy demand, as well as opportunities for efficiency and potential energy production.
- Establish local policy frameworks and incentives for community-scale bio-energy generation/distribution.
- Develop purchase agreements for the sale of bio-energy produced by the agricultural and forestry sectors to the power grid.

Representative Projects

- Farm Energy Sustainability Plans—energy analysts and farm service providers review loads, timing, motor efficiencies, lighting and fuel use to find demand efficiencies. Plans may also review potential for on-site renewable energy production, including biogas, wind, solar, and biofuels.
- Seneca AgBio Green Energy Park—Agricultural and Renewable Energy Program with projects including grape waste processing, grapeseed oil production, and biodiesel production. Project currently delayed.

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Reduce the conversion of quality farmland.	●	●	●	●	●	●

Representative Sub-Strategies / Project Ideas

- Align local land use regulations with the functional and financial needs of farms.
- Support the creation and implementation of municipal farmland protection plans.
- Improve regulatory context for the purchase, lease, and/or transfer of development rights.
- Increase use of under-utilized grasslands for livestock production.
- Expand or create opportunities to engage existing and new farmers in succession planning efforts.

Representative Projects

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Support farm-scale diversity of product types, both in-season and across seasons, and support the establishment and growth of a diversity of operations with regard to size, market, and operation type.	●	◐	●	●	●	◐

Representative Sub-Strategies / Project Ideas

- Develop models to assist in the management of farm-scale diversity for small and medium-sized operations.
- Strengthen opportunities for producing, marketing, and exporting specialty agricultural products.
- Support the development of environmental markets and incentives that are aligned with both the functional and financial needs of farms.
- Research carbon sequestration potential of regional agricultural sector in advance of potential establishment of credit trading markets.
- Research water quality improvement potential of regional agricultural sector in advance of potential establishment of credit trading markets.

Representative Projects

- Upstate Growers and Packers Cooperative Local Produce Initiative—NYFVI Grant helped form partnership which allowed local produce cooperative to sell products in large grocery chains nearby.
- Larry's Custom Meats Processing Plant Expansion—NYFVI grant helped fund plant for local livestock processing, and led to nearly five-fold increase in plant capacity.
- Finger Lakes Small Business Expansion Fund—Creation of a $1.15 million investment pool targeting seven companies in identified key industries (including the Once Again Nut Butter processing facility) geographically distributed throughout region.

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Educate the non-farming community about the economic, environmental, and social impact that the agricultural sector has on the region.	◐	◐	●	●	●	●

Representative Sub-Strategies / Project Ideas

- Align a network for direct and specific educational opportunities, where new farmers have access to experienced producers, lenders, employers, etc.
- Support efforts to document the economic impact of agriculture and forestry throughout the region.
- Expand access to service programs specifically oriented toward small farms.
- Create or expand opportunities to build a regional food "identity" focused on the Finger Lakes region.
- Facilitate relationships between the agricultural and arts communities (e.g. craftspeople, literary, visual arts, etc.) to incorporate food-related issues in their work.

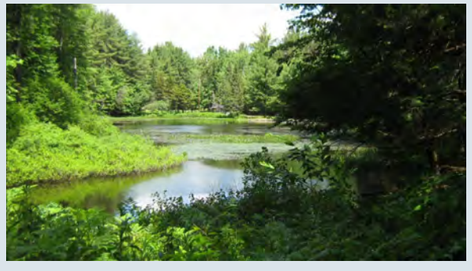
Representative Projects

- Conference Sessions—continue efforts to educate economic development stakeholders on agricultural issues through sessions at the Local Government Workshop.
- Agricultural Events—support regional agricultural initiatives such as the Wyoming County Dairy Institute, Agri-Palooza, and Celebrate-Ag (taken from G/FLRPC's 2012 CEDS).
- Dairy Profit Teams—NYFVI grant helped fund pilot program where dairy farmers get one-on-one attention with a group of industry consultants in all different areas to help efficiently and cooperatively offer solutions tailored to individual issues.
- Livingston County Annual Decision-Makers' Tour of Agriculture—Increasing exposure between planning/zoning commissioners and farm operators.

Forestry

Subject Area Goal

Increase the viability, accessibility, and ecological contribution of forests, while decreasing waste and dependence on external inputs.



Opportunities

- Preservation of region's historic character
- Environmental protection through forest land design and practice
- Alternative energy sources
- Strategic land use policies & programs

Challenges

- Rising costs
- Limitations of government structures to adequately protect forests
- Development pressure
- Lack of public understanding of value

Variables

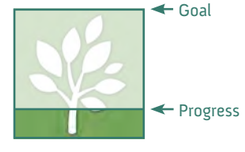
- Availability of capital
- National / global markets
- Erratic weather

Indicators and Targets

Indicators	Baseline Value (2010)	Short-Term Target* (2020)	Mid-Term Target* (2035)	Long-Term Target* (2050)
Ratio of percent of forests by tree size class • Small • Medium • Large	• 16% • 21% • 63%	No change	No change	No change
Amount of biomass in live trees	60,937,524 short tons	5% increase	10% increase	15% increase
Number of forest interior indicator bird species (survey blocks containing at least three indicator species)	21 survey blocks	49 survey blocks	144 survey blocks	240 survey blocks
Invasive Species Index (custom index tracking three species: European woodwasp, hemlock woolly adelgid, and emerald ash borer)	8.5	no change	6.5	4
Wildfire occurrences	3,885 wildfires	5% reduction	10% reduction	15% reduction

*All % reductions or increases are related to the 2010 baseline values, not the previous target.

Achievement to Date



Forestry

Subject Area Goal

Increase the viability, accessibility, and ecological contribution of forests, while decreasing waste and dependence on external inputs.

Priority Broad Strategies

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

	Evaluation Criteria					
	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Broad Strategy **Support efforts to increase equitable forest recreation opportunities and urban forestry/green infrastructure initiatives.**	●	●	●	●	●	◐

Representative Sub-Strategies / Project Ideas

- Advance the availability and affordability of scalable plug-and-play bio-energy production systems, and provide standards for selling excess power into the grid.
- Establish local policy incentives for community-scale bio-energy generation and distribution.
- Develop purchase agreements for the sale of bio-energy produced by the agricultural and forestry sectors to the power grid.

Representative Projects

- Encourage networking opportunities for community tree boards.
- Encourage use and sharing of a standardized community tree inventory database.

Broad Strategy **Support watershed, riparian, shoreline, and habitat protection and restoration efforts to increase resiliency and diversity of the native species ecosystem and delicate watersheds.**	◐	◐	●	●	●	●

Representative Sub-Strategies / Project Ideas

- Encourage stronger landscape connectivity and forest management rehabilitation practices that can support adaptation and increase resilience of individual species and nature systems at the landscape level (2500 acre units).
- In partnership with Finger Lakes Partnership for Regional Invasive Species Management (FL-PRSIM), continue to support programs at all levels of government to combat invasive pests and diseases, like the Emerald Ash Borer.
- Provide near-term funding for NYSDEC Forest Resource Assessment and Wildlife Action Plans to practice adaptive management for climate adaptation and target early responses to major stressors on forest related to climate change.
- Encourage farmers to participate in NY CREP and similar programs to receive compensation for protecting/restoring natural features

Representative Projects

- New York Green's "Green Genesee Road Map" pilot project—replicate for other counties throughout region

Broad Strategy **Educate the general public, landowners/industry professionals, and decision-makers regarding the relationships between watershed land uses, forest management, water quality protection and rural economic viability, and forest-related sustainability issues.**	●	◐	●	●	◐	◐

Representative Sub-Strategies / Project Ideas

- Increase consideration of environmental issues at all levels of economic decision-making.
- Phase out subsidies for development patterns and production methods that are environmentally harmful/ socially inequitable in favor of supporting systems and policies that internalize environmental and social costs and reward responsible growth.
- Increase the use of silvicultural BMPs through direct financial incentives to landowners.
- Support retention and recruitment of sustainable timber harvesters.

Representative Projects

- Continue to support and encourage participation by County SWCDs in NYSDEC/NRCS Environmental Quality Incentives Program (EQIP) Forestry initiative.

Broad Strategy **Encourage the valuation of ecological services provided by regional forest resources.**	●	◐	●	◐	◐	◐

Representative Sub-Strategies / Project Ideas

- Encourage forestry carbon offset programs, (with minimal transaction and compliance costs) with eligible activities including avoided clearing, sustainable forest management, and reforestation.
- Expand and refine standardized methods of quantifying carbon flow in and out of forest resource carbon pools (living biomass, dead wood, soils, and harvested products) to allow for expanded, meaningful participation in carbon offset markets.

Representative Projects

- New York Green's "Green Genesee Road Map" pilot project- replicate for other counties throughout region.

Finger Lakes Regional Sustainability Plan

Finger Lakes Regional Sustainability Plan

Funded by NYSERDA - Cleaner, Greener Communities Program

Overall Public Meeting #1 - Meeting Minutes & Presentation

Finger Lakes Regional Sustainability Plan

Finger Lakes Regional Sustainability Plan

Public Meeting #1

January 2013

FUNDED BY: NYSERDA – CLEANER, GREENER COMMUNITIES PROGRAM

Agenda

1. **Welcome and Opening Remarks**
2. **Introduction to the project**
3. **Themes and Goals**
4. **Story of place**
5. **Sustainability Indicators**
6. **Next steps**
7. **Q&A**

PROJECT INTRODUCTION

Project Introduction

Background: Cleaner-Greener Communities Program:

- Announced by Governor Cuomo in his 2011 State of the State Address
- CGC supports the creation/implementation of regional sustainability plans
- Two phase program:
  - Phase I: Regional Sustainability Planning Grants ($10 million)
  - Phase II: Regional Sustainability Plan Implementation Grants ($90 million)
- Phase I is currently underway in all regions and Phase II is expected to launch later in 2013, the timing is still under review

Climate Change Commitment:

"reduce greenhouse gas emissions to 80% below 1990 levels by 2050"

Project Introduction

Sustainability Plan Scope (Phase 1):

- Baseline assessment of the region including Green House Gas (GHG) Inventory for the Region
- Incorporation of existing local planning efforts
- Long-term and short-term sustainability goals
- Climate change adaptation
- Identification of necessary actions
- Implementation strategy
- Stakeholder involvement

Project Introduction

Phase II:

- Launches in 2013
- Three annual rounds of ~$30 million
- Will fund projects that
  - Reduce GHG emissions
  - Support the achievement of the region's sustainability goals as identified in their plans
  - Are not eligible for current NYSERDA offerings
  - Prioritized through the regional sustainability plan

Project Introduction

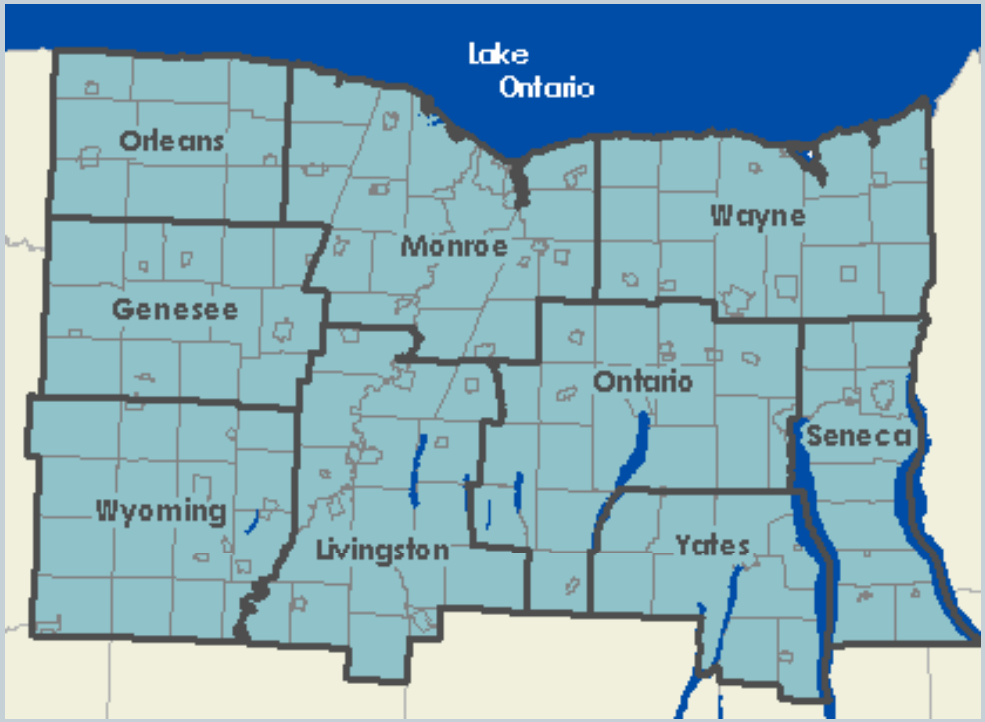
Things to Remember:

- The plan is not a bid for Phase II funds
- Unique opportunity
- Looking for a truly comprehensive planning process
- Must be realistically implementable
- Alignment with Regional Economic Development Plan
- This is your plan

Project Introduction

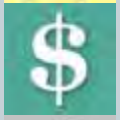
Finger Lakes Region:

- Monroe
- Orleans
- Genesee
- Wyoming
- Livingston
- Ontario
- Yates
- Seneca
- Wayne



Stakeholder Groups

Agriculture & Forestry



Economic Development

Energy

Materials & Waste Management

Transportation, Land Use, & Livable Communities

Water Management

Stakeholder Group Roles

- Provided input into indicators and identifying data sources (Meeting 1 – October 2012)
- Discussion of targets (Meeting 2 – November 2012)
- Implementation of strategies (Meeting 3 – January 2013)
- Review draft report (January-February 2013)

All meeting information from Meetings 1 & 2 can be found on the website listed below under the appropriate Stakeholder Group

http://sustainable-fingerlakes.org/

Project Introduction

Schedule:

	2012			2013		
TASK	October	November	December	January	February	March
Baseline Assessment						
Stakeholder Meeting #1	X					
Sustainability Indicators / Inventory						
Target Establishment						
Stakeholder Meeting #2		X				
Public Meeting #1				X		
Implementation Strategy						
Stakeholder Meeting #3				X		
Public Meeting #2					X	
Draft Sustainability Plan						
Final Sustainability Plan						

PROJECT THEMES & GOALS

Sustainability Definition

Sustainability *involves three interrelated components: environment, economy and society.*

These pillars are linked – the stability of one reinforces the strength of the other two. Sustainability planning for a community, local government or region integrates the three pillars of sustainability through collaborative work within a framework that supports long-term considerations, fosters innovation, and results in a healthy, safe and affordable place to live, work and play for all residents.

Project Themes/Goals

- Improve accessibility, connectivity and mobility
- Preserve, protect and improve natural resources and their connections
  - ✓ air quality
  - ✓ water quality
  - ✓ prime / productive farmland
  - ✓ forests
  - ✓ open space
  - ✓ environmentally sensitive areas
- Maintain, protect and improve the functionality and disaster resiliency of existing infrastructure systems and acknowledge the links between systems
  - ✓ transportation
  - ✓ water
  - ✓ energy
  - ✓ communication
  - ✓ solid waste

Project Themes/Goals

- Improve public health and quality of life
- Respect local planning efforts and retain individual community character
- Build partnerships between local governments, the private sector, regional institutions and the public
- Build sustainability capacity and understanding through outreach and education
- Improve climate adaptation

STORY OF PLACE

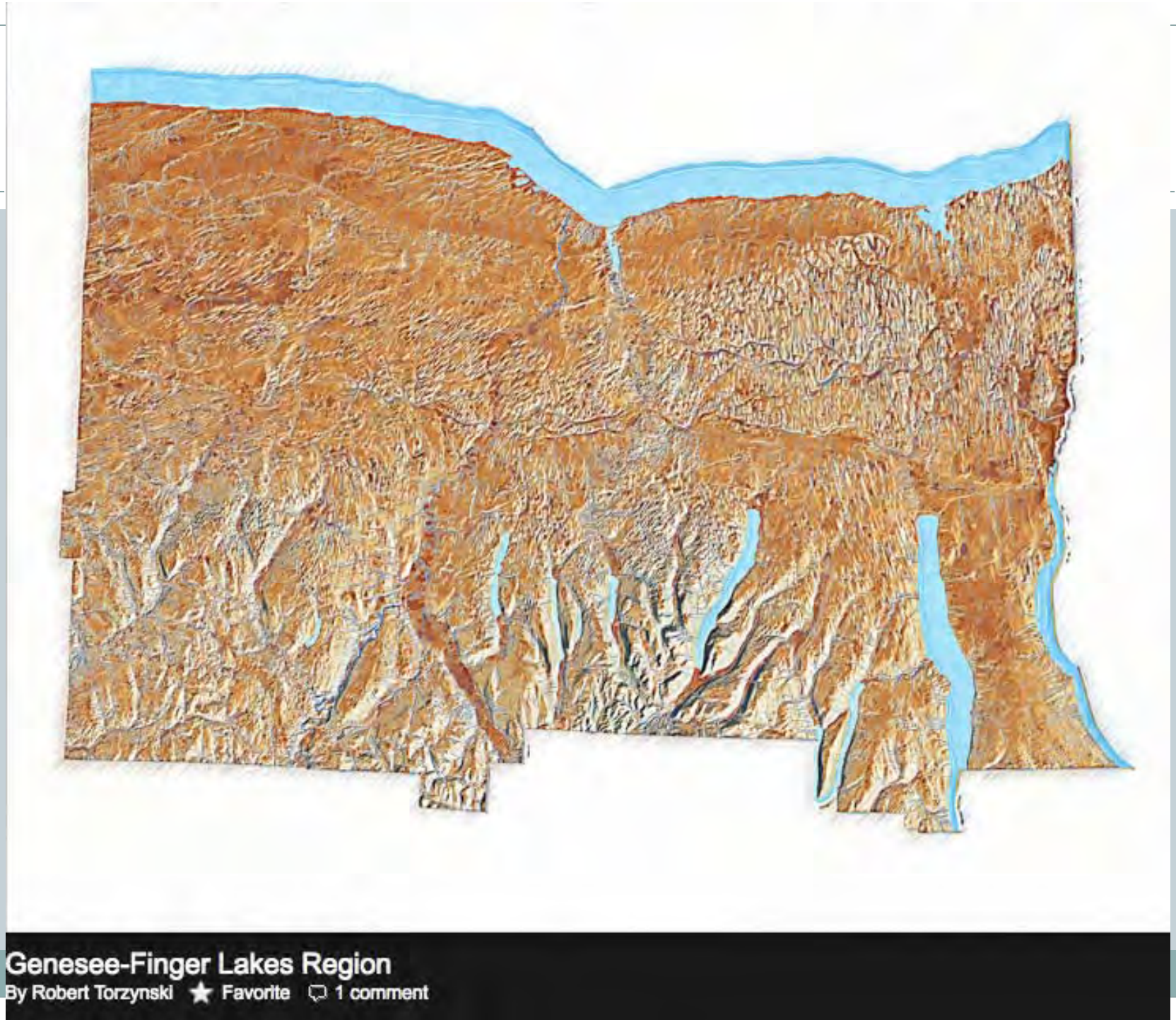
Story of Place

Rationale:

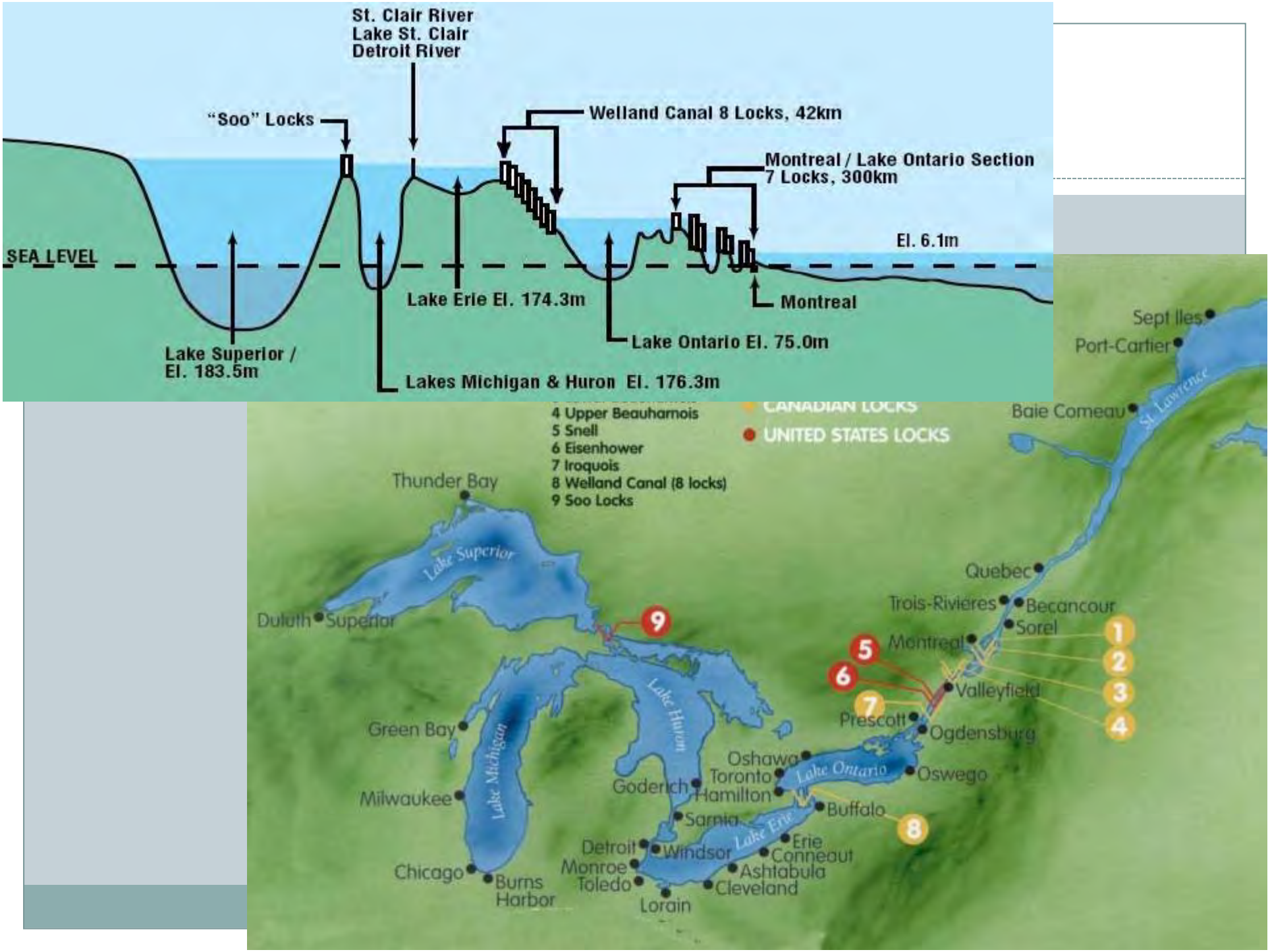
Communities that maintain their vitality, their ability to attract investment and resources and are able to evolve through time, have three things in common:

1. They know who they are – their uniqueness
2. They develop a narrative to convey who they uniquely are
3. They embed this narrative and uniqueness into everything they do


North Country
Clinton
Franklin
St Lawrence
Jefferson
Essex
Lewis
Hamilton
Warren
Washington
Oswego
Oneida
Herkimer
Fulton
Saratoga
Mohawk Valley
Montgomery
Capital District
Schenectady
Rensselaer
Albany
Schoharie
Otsego
Onondaga
Central New York
Madison
Cayuga
Cortland
Chenango
Tompkins
Schuyler
Finger Lakes
Niagara
Orleans
Monroe
Wayne
Genesee
Ontario
Seneca
Yates
Wyoming
Livingston
Erie
Western New York
Chautauqua
Cattaraugus
Allegany
Steuben
Chemung
Tioga
Broome
Southern Tier
Delaware
Greene
Columbia
Ulster
Sullivan
Dutchess
Hudson Valley
Putnam
Orange
Westchester
Rockland
Long Island
Nassau
Suffolk
New York
New York City
Richmond
Kings
Queens


Genesee-Finger Lakes Region
By Robert Torzynski ★ Favorite 1 comment

Lake Ontario Drainage Basin


St. Clair River
Lake St. Clair
Detroit River
"Soo" Locks
Welland Canal 8 Locks, 42km
Montreal / Lake Ontario Section
7 Locks, 300km
SEA LEVEL
El. 6.1m
Lake Erie El. 174.3m
Montreal
Lake Ontario El. 75.0m
Lake Superior /
El. 183.5m
Lakes Michigan & Huron El. 176.3m
4 Upper Beauharnois
5 Snell
6 Eisenhower
7 Iroquois
8 Welland Canal (8 locks)
9 Soo Locks
CANADIAN LOCKS
UNITED STATES LOCKS
Thunder Bay
Lake Superior
Duluth
Superior
Green Bay
Lake Michigan
Milwaukee
Chicago
Burns
Harbor
Lake Huron
Goderich
Sarnia
Detroit
Windsor
Monroe
Toledo
Lorain
Lake Erie
Cleveland
Erie
Conneaut
Ashtabula
Oshawa
Toronto
Hamilton
Lake Ontario
Buffalo
Oswego
Prescott
Ogdensburg
Valleyfield
Montreal
Trois-Rivieres
Becancour
Sorel
Quebec
Baie Comeau
Port-Cartier
Sept Iles
St. Lawrence
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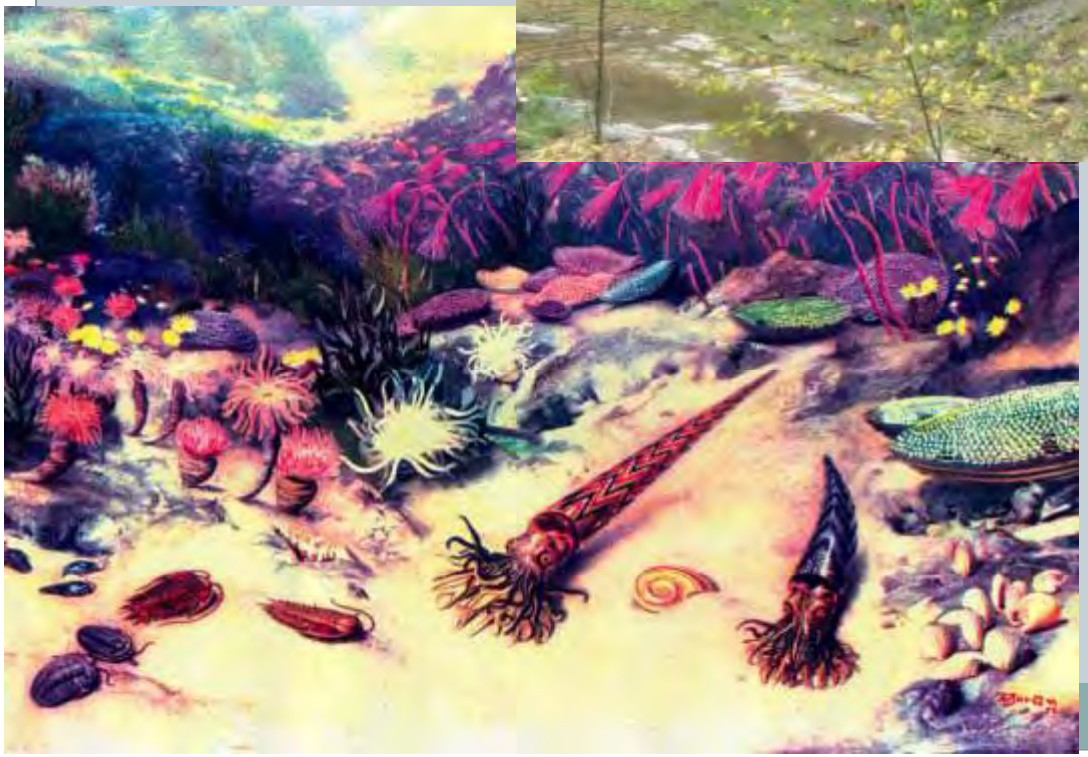
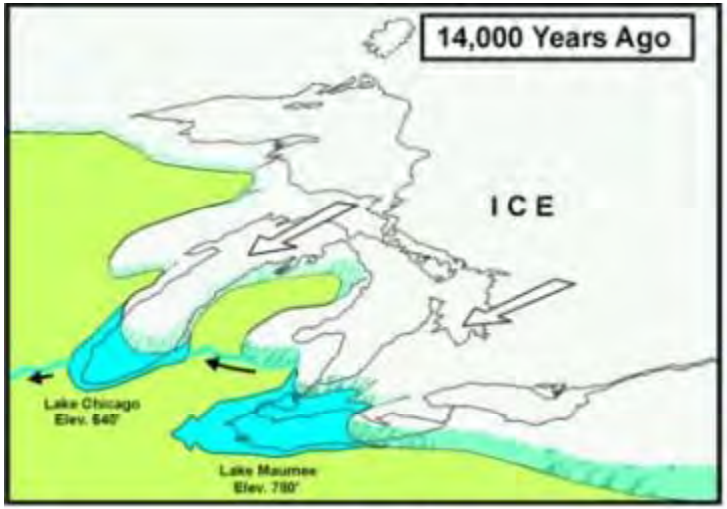
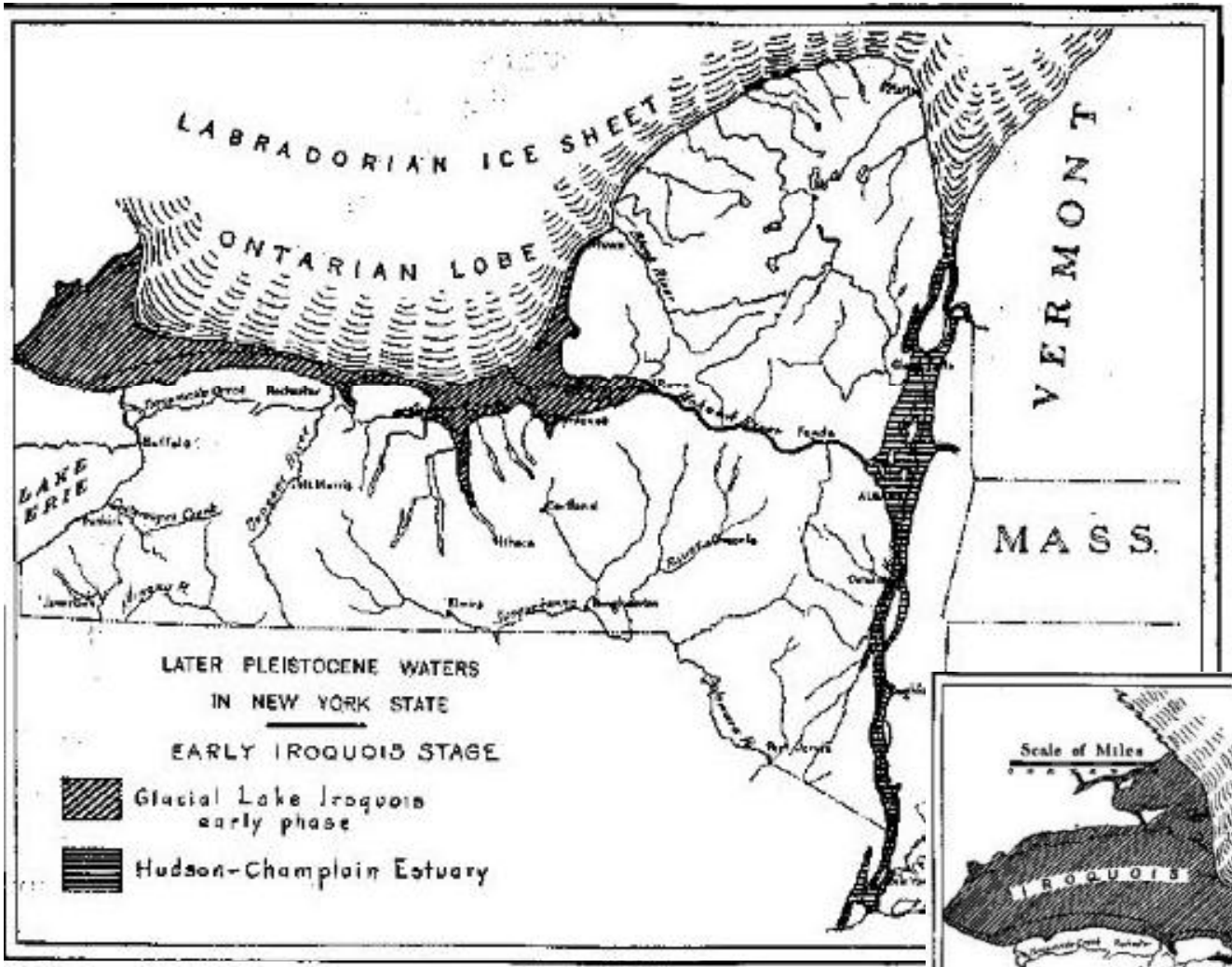


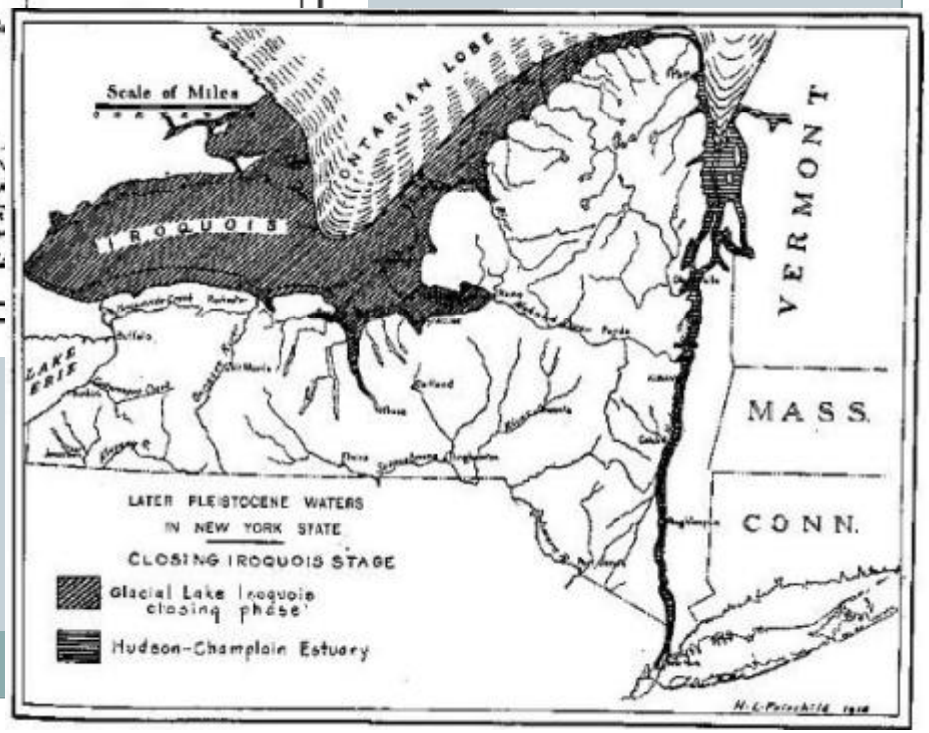

14,000 Years Ago
ICE
Lake Chicago
Elev. 640'
Lake Maumee
Elev. 780'

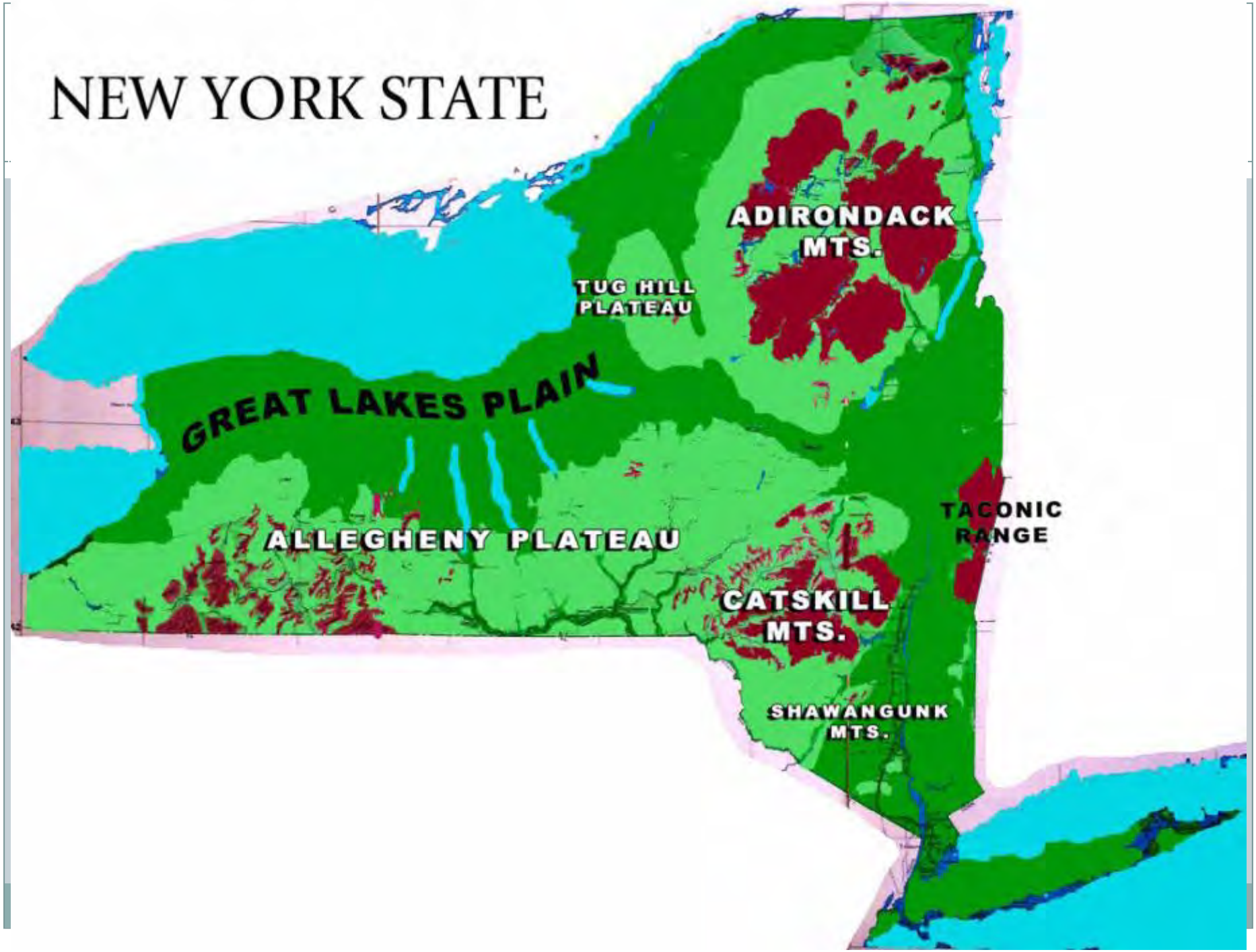

9,000 Years Ago
ICE
Lake
Algonquin
Elev. 605'
Early Lake Erie
Elev. 540'
Early Lake
Ontario


7,000 Years Ago
ICE
Lake Stanley
Elev. 200'
Lake Chippewa
Elev. 230'
Early Lake Ontario
Early Lake Erie
Elev. 540'

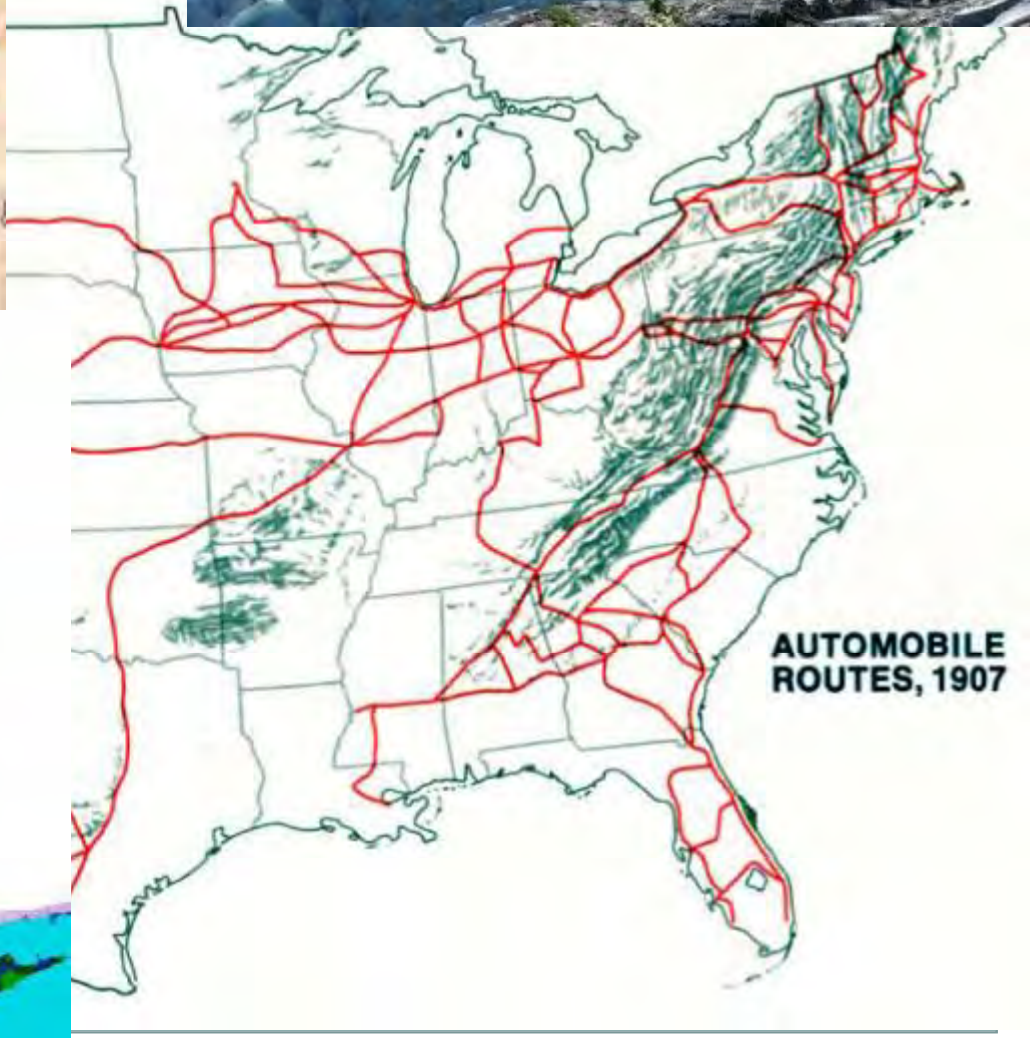

4,000 Years Ago
Nipissing Stage
Elev. 605'
Ottawa River
St. Lawrence River
Illinois
River
U.S. Army Corps of Engineers, Detroit District


LABRADORIAN ICE SHEET
ONTARIAN LOBE
VERMONT
MASS.
LAKE ERIE
LATER PLEISTOCENE WATERS
IN NEW YORK STATE
EARLY IROQUOIS STAGE
Glacial Lake Iroquois
early phase
Hudson-Champlain Estuary

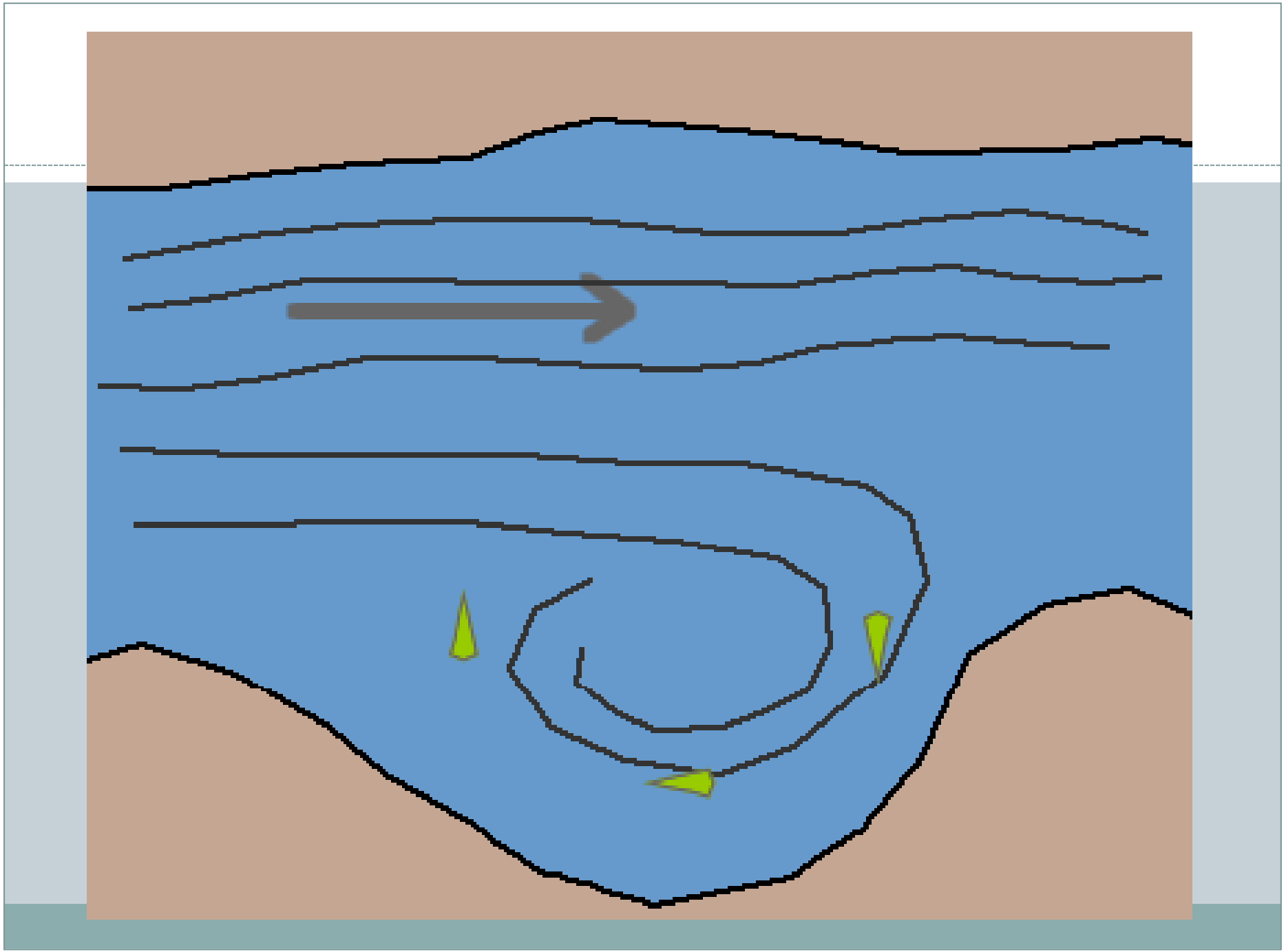

Scale of Miles
ONTARIAN LOBE
IROQUOIS
VERMONT
MASS.
CONN.
LAKE ERIE
LATER PLEISTOCENE WATERS
IN NEW YORK STATE
CLOSING IROQUOIS STAGE
Glacial Lake Iroquois
closing phase
Hudson-Champlain Estuary

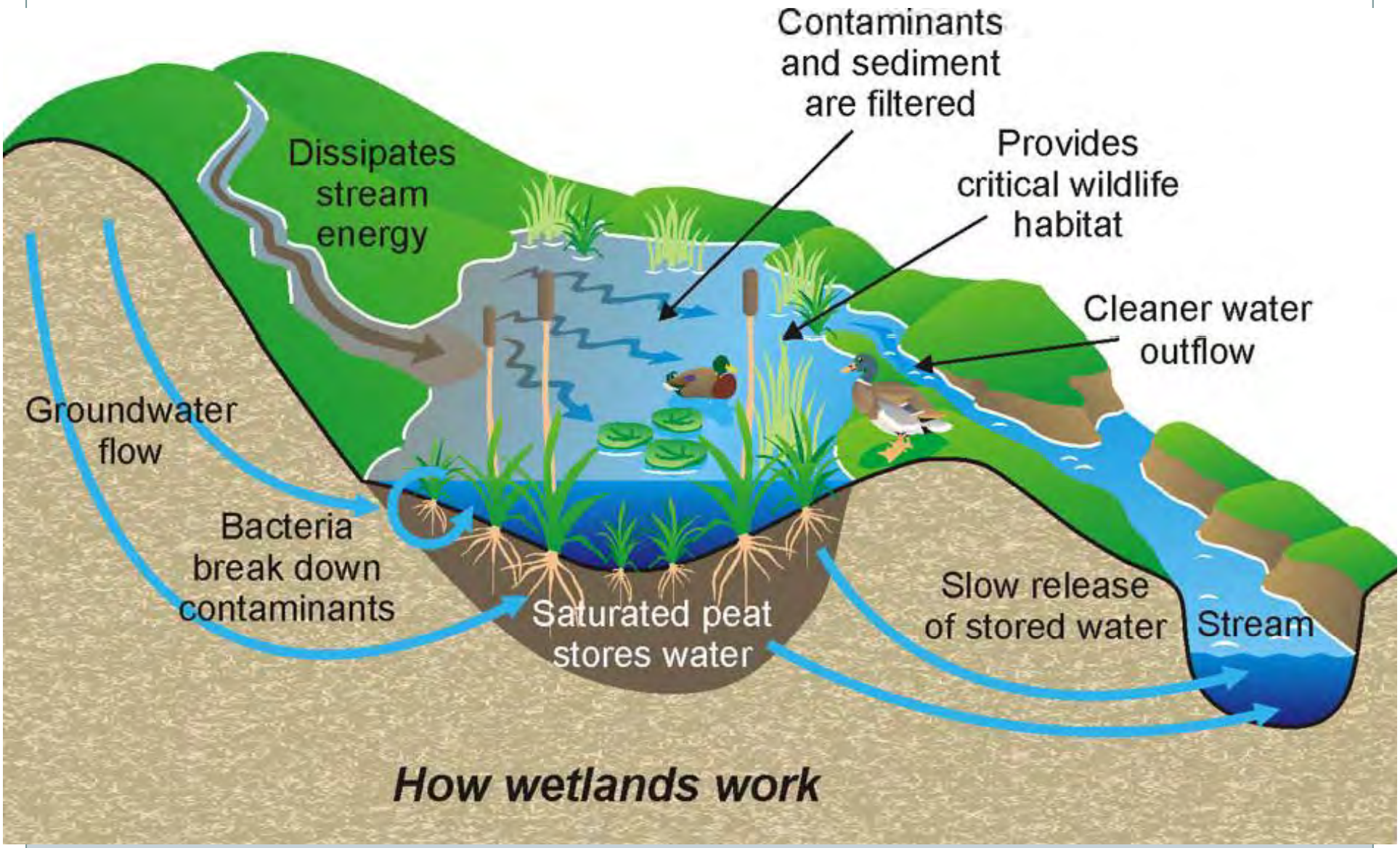

NEW YORK STATE
ADIRONDACK MTS.
TUG HILL PLATEAU
GREAT LAKES PLAIN
ALLEGHENY PLATEAU
TACONIC RANGE
CATSKILL MTS.
SHAWANGUNK MTS.


Hodenosaunee Trail
Present-day boundaries
St. Lawrence River
Lake Champlain
Lake Ontario
Oneida
Mohawk
Cayuga
Seneca
Onondaga
Lake Erie
N
W
E
S


AUTOMOBILE ROUTES, 1907

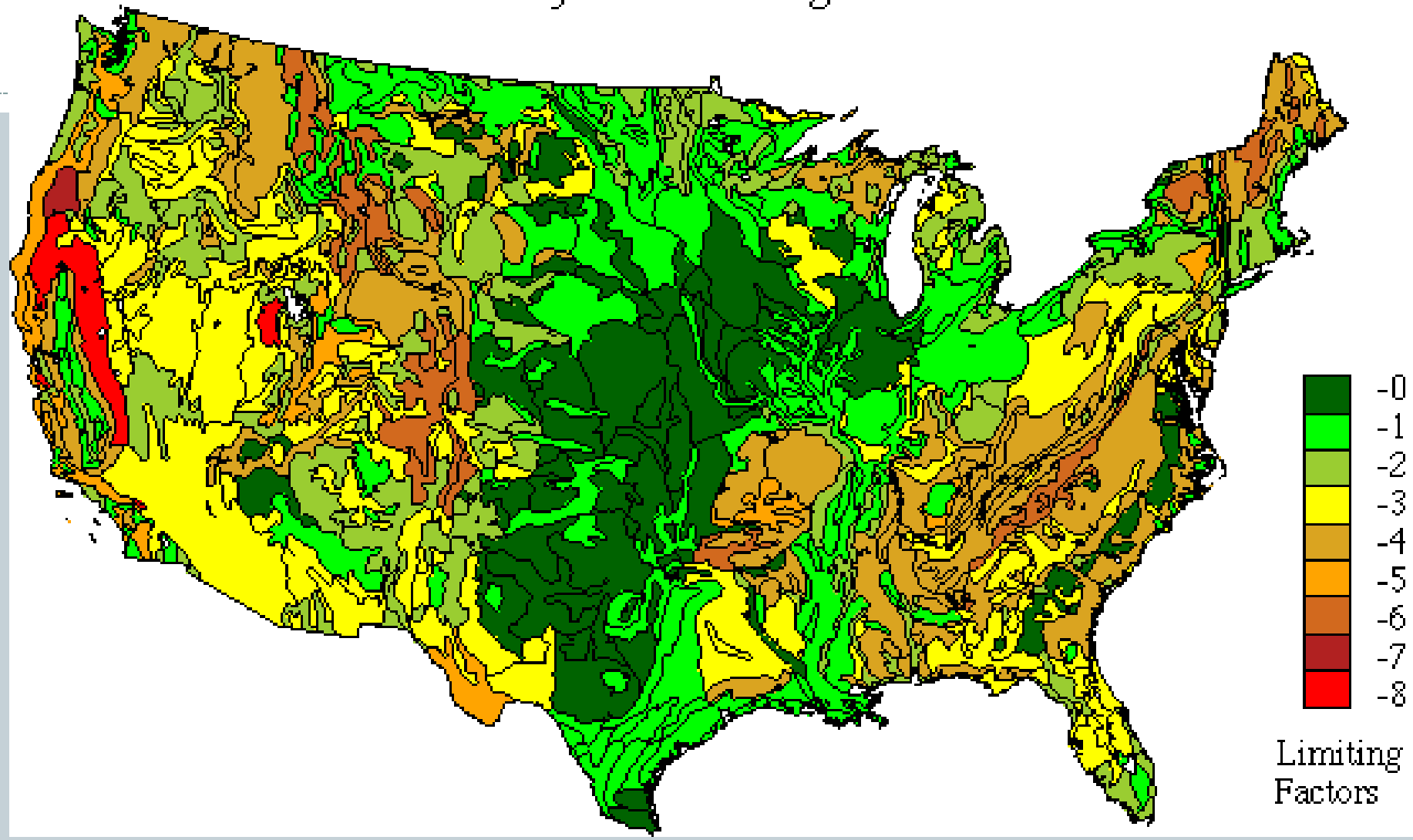

NEW YORK STATE
ADIRONDACK MTS.
TUG HILL PLATEAU
GREAT LAKES PLAIN
ALLEGHENY PLATEAU
TACONIC RANGE
CATSKILL MTS.
SHAWANGUNK MTS.

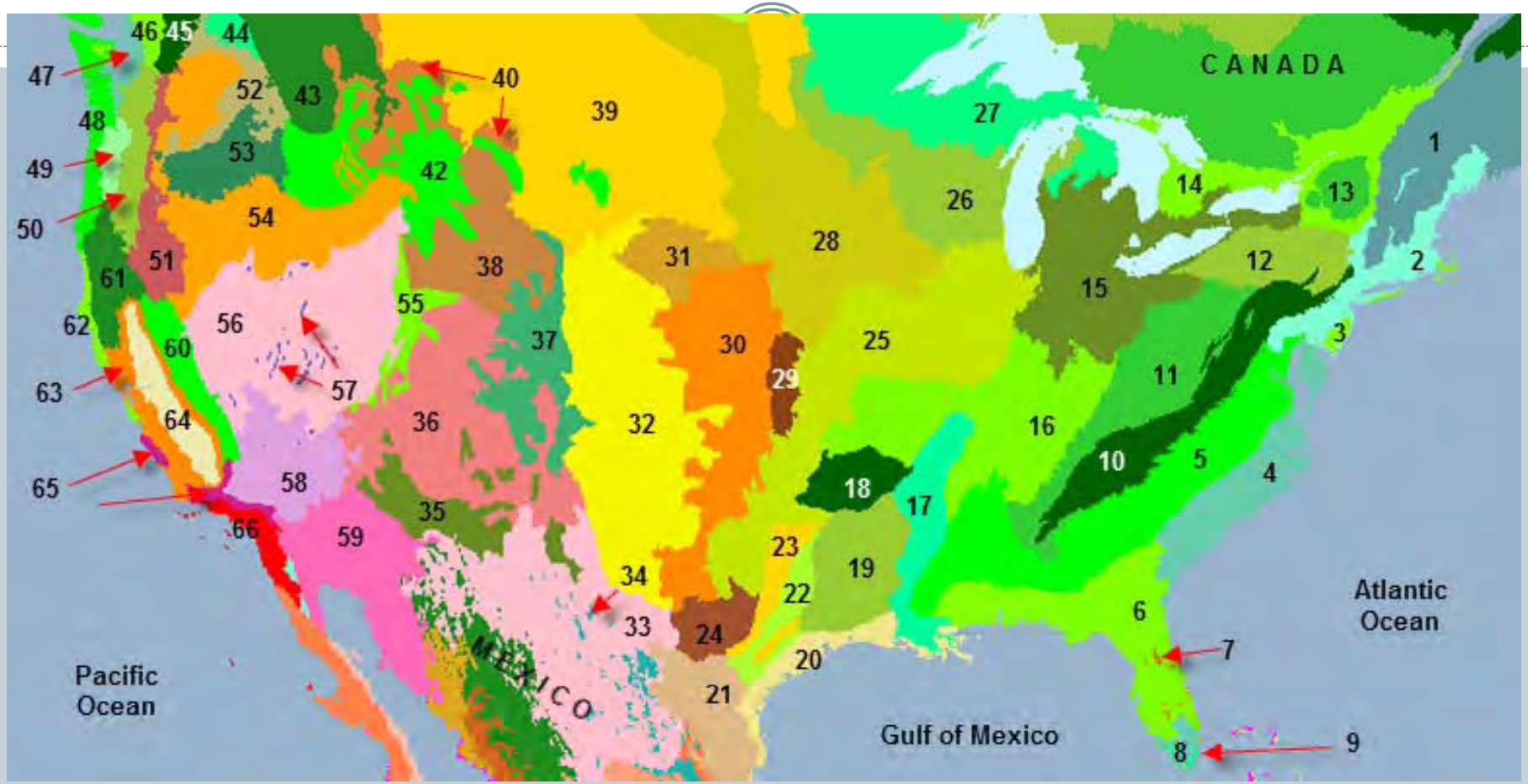



Contaminants and sediment are filtered
Provides critical wildlife habitat
Dissipates stream energy
Cleaner water outflow
Groundwater flow
Bacteria break down contaminants
Saturated peat stores water
Slow release of stored water
Stream
How wetlands work

UN/FAO Soils Map of the U.S.

Soils Ranked by FCC Limiting Factors




CANADA
Pacific Ocean
Atlantic Ocean
Gulf of Mexico
MEXICO
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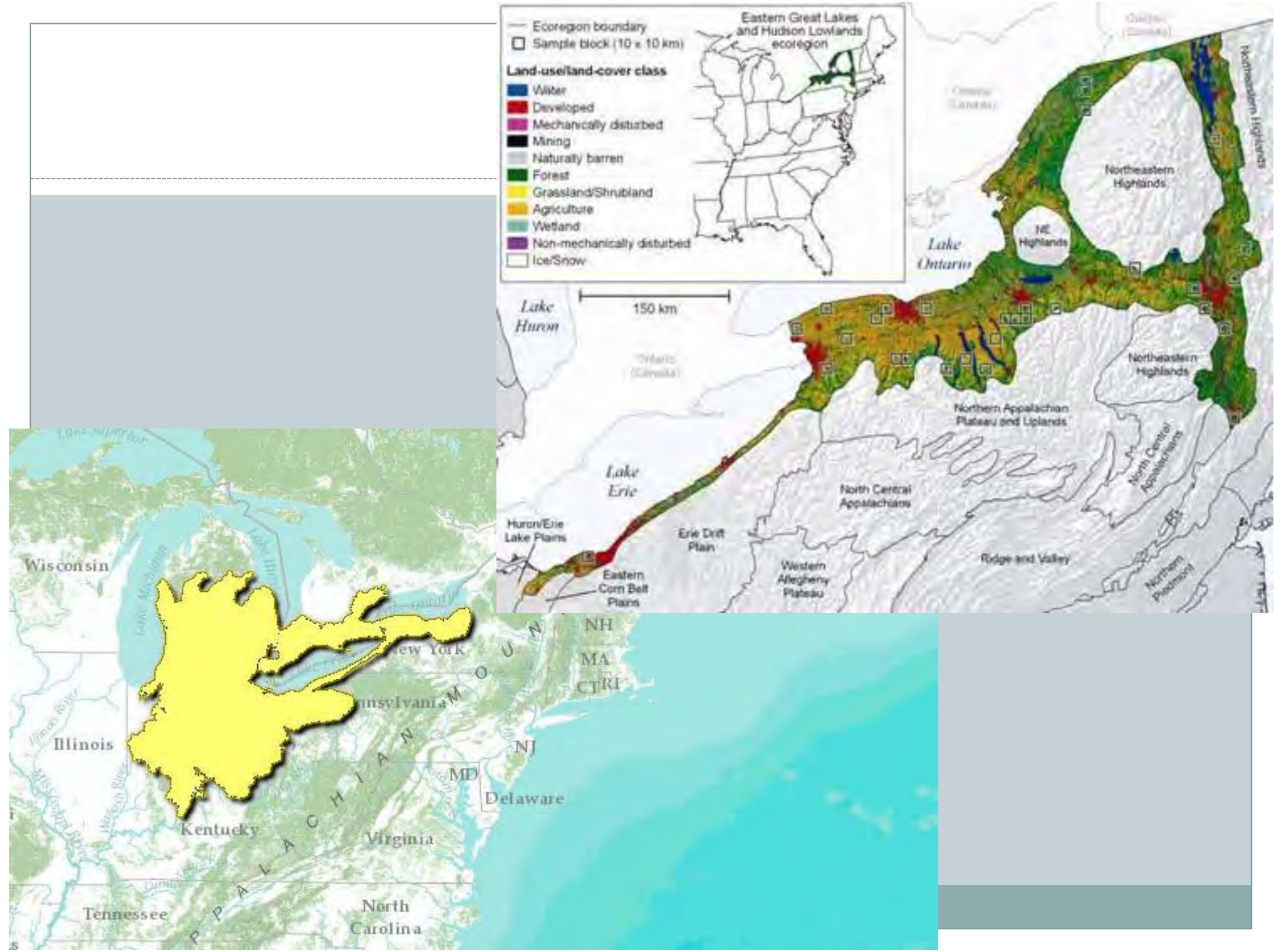
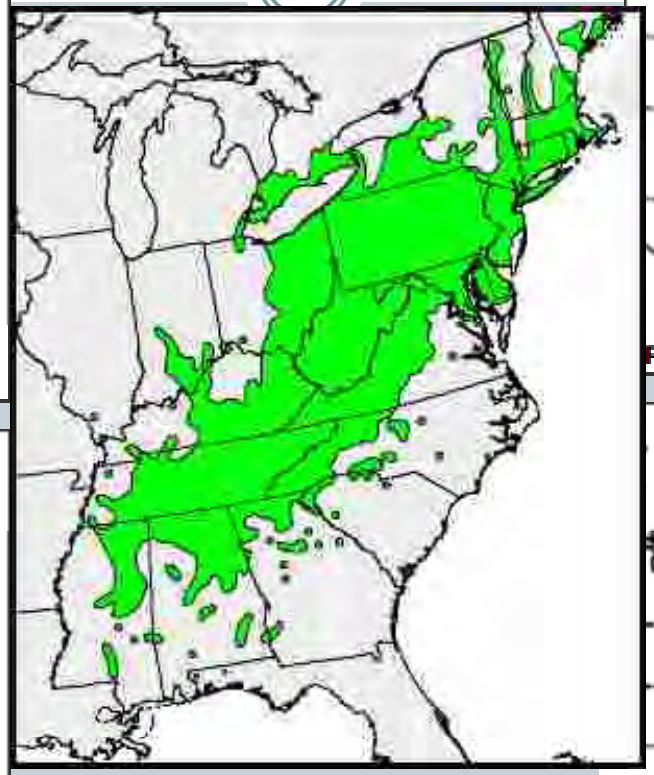

Ecoregion boundary
Sample block (10 x 10 km)
Land-use/land-cover class
Water
Developed
Mechanically disturbed
Mining
Naturally barren
Forest
Grassland/Shrubland
Agriculture
Wetland
Non-mechanically disturbed
Ice/Snow
Eastern Great Lakes and Hudson Lowlands ecoregion
150 km
Lake Ontario
Lake Huron
Lake Erie
Northeastern Highlands
NE Highlands
Northeastern Highlands
Northern Appalachian Plateau and Uplands
North Central Appalachians
North Central Appalachians
Huron/Erie Lake Plains
Erie Drift Plain
Eastern Corn Belt Plains
Western Allegheny Plateau
Ridge and Valley
Northern Piedmont
Wisconsin
Illinois
Kentucky
Tennessee
North Carolina
Virginia
MD
Delaware
NJ
NH
MA
CT
RI
APPALACHIAN MOUNTAINS

Figure 6-5. Range of black spruce.



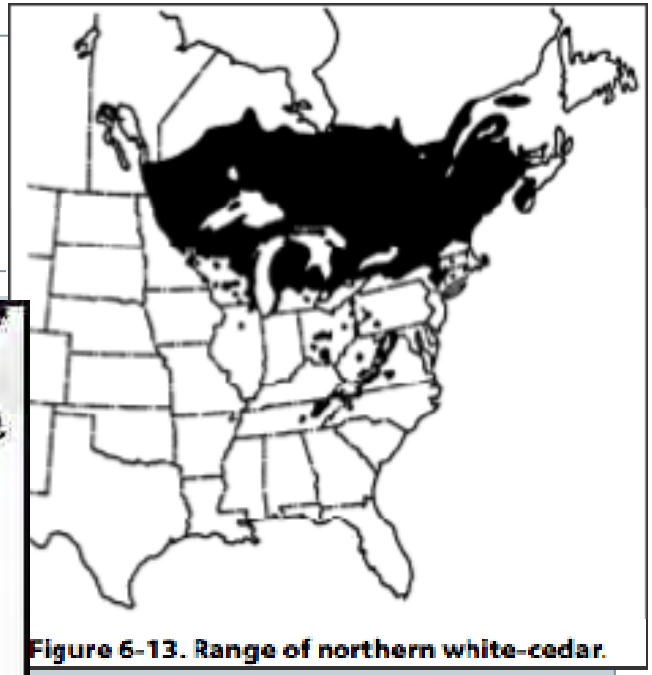
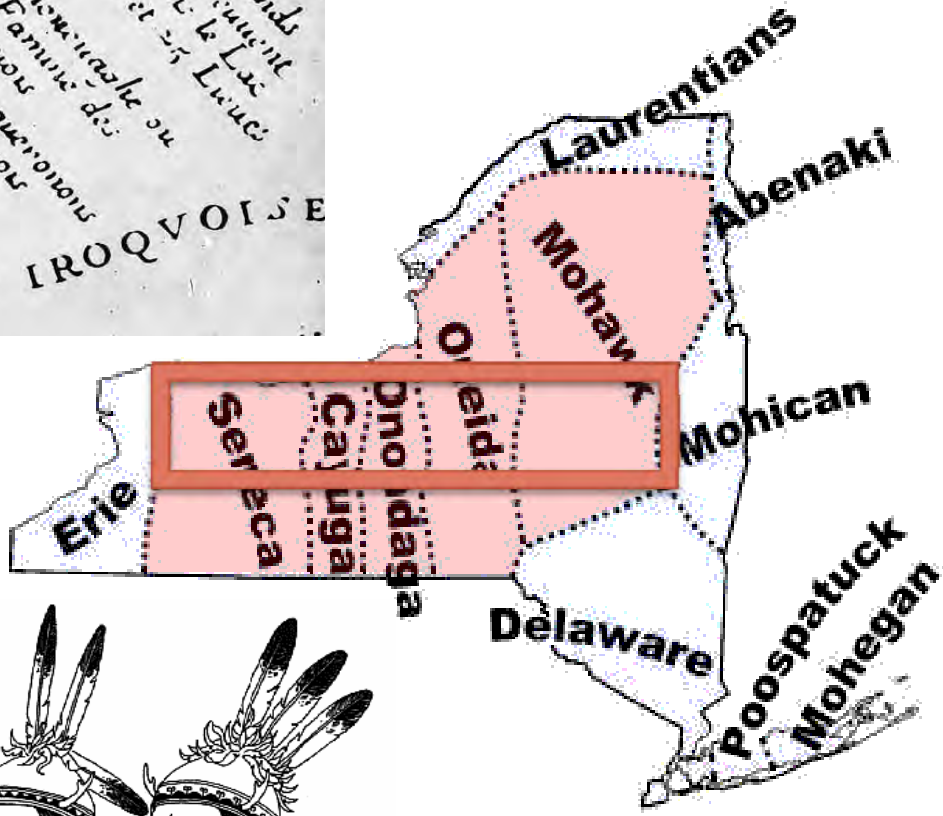


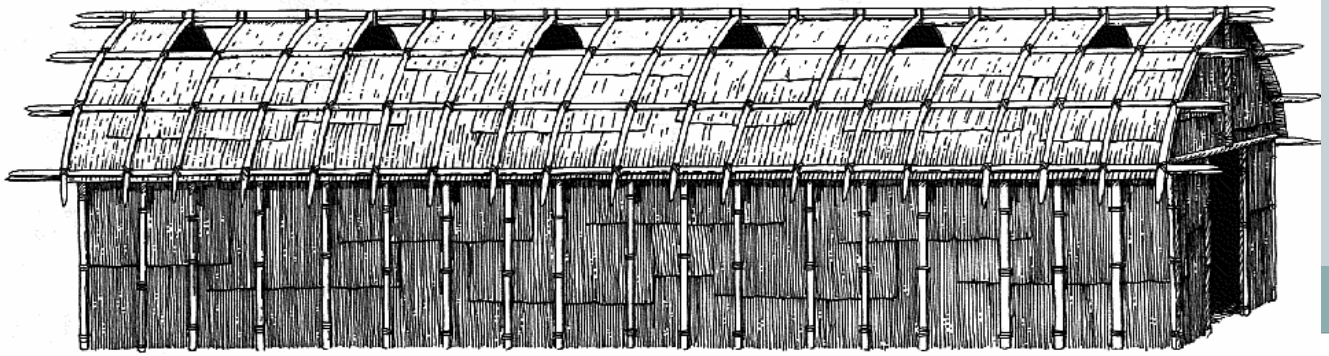
Figure 6-13. Range of northern white-cedar.

Figure 6-7. Range of bur oak.

Figure 6-8. Range of eastern white pine.

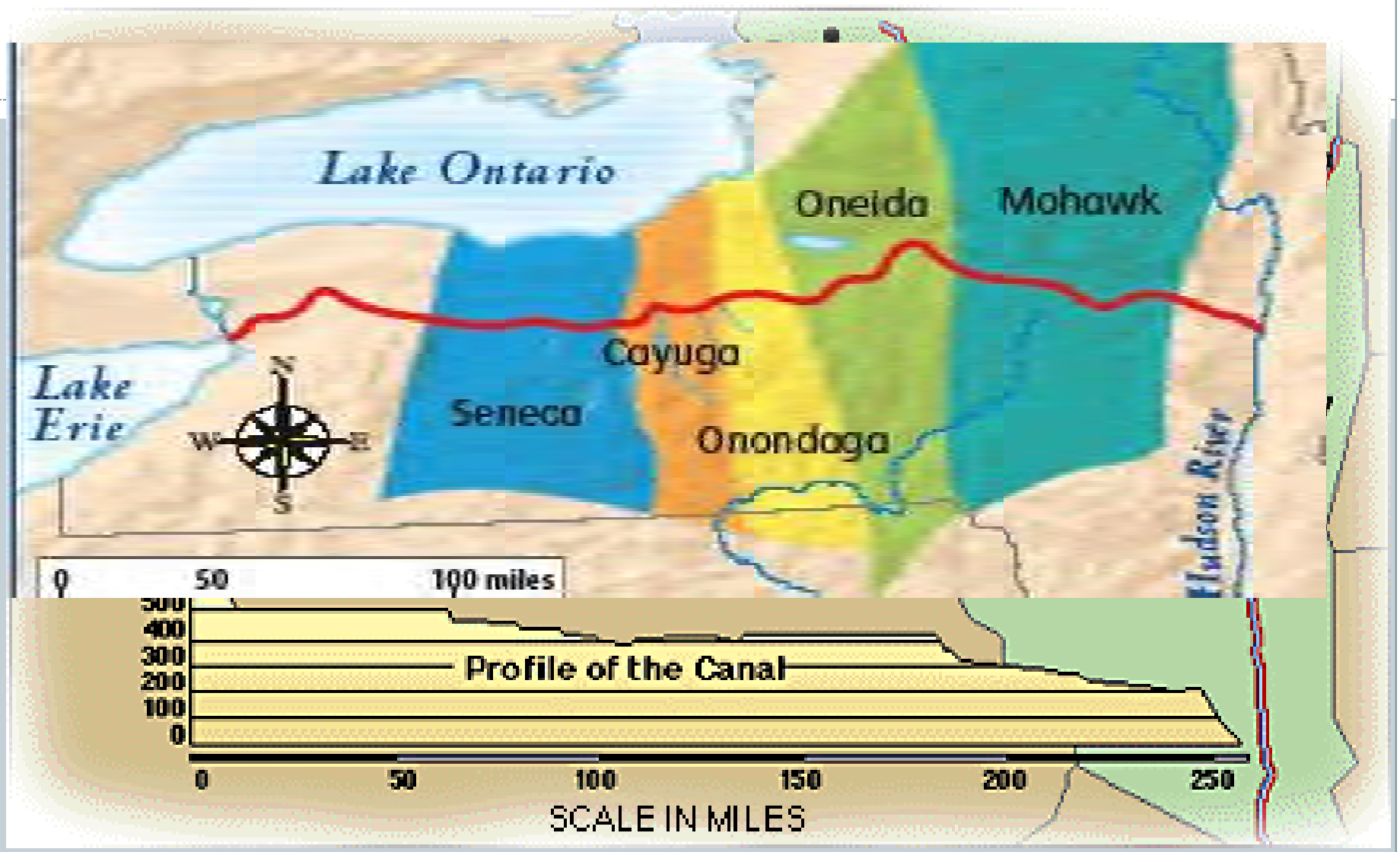

ONTARIO
Niagara
Tsonontouan
des Iroquois
Goyoguenorons
des Iroquois
Onontaguerronons
des Iroquois
LES CINQ NATIONS IROQVOISE

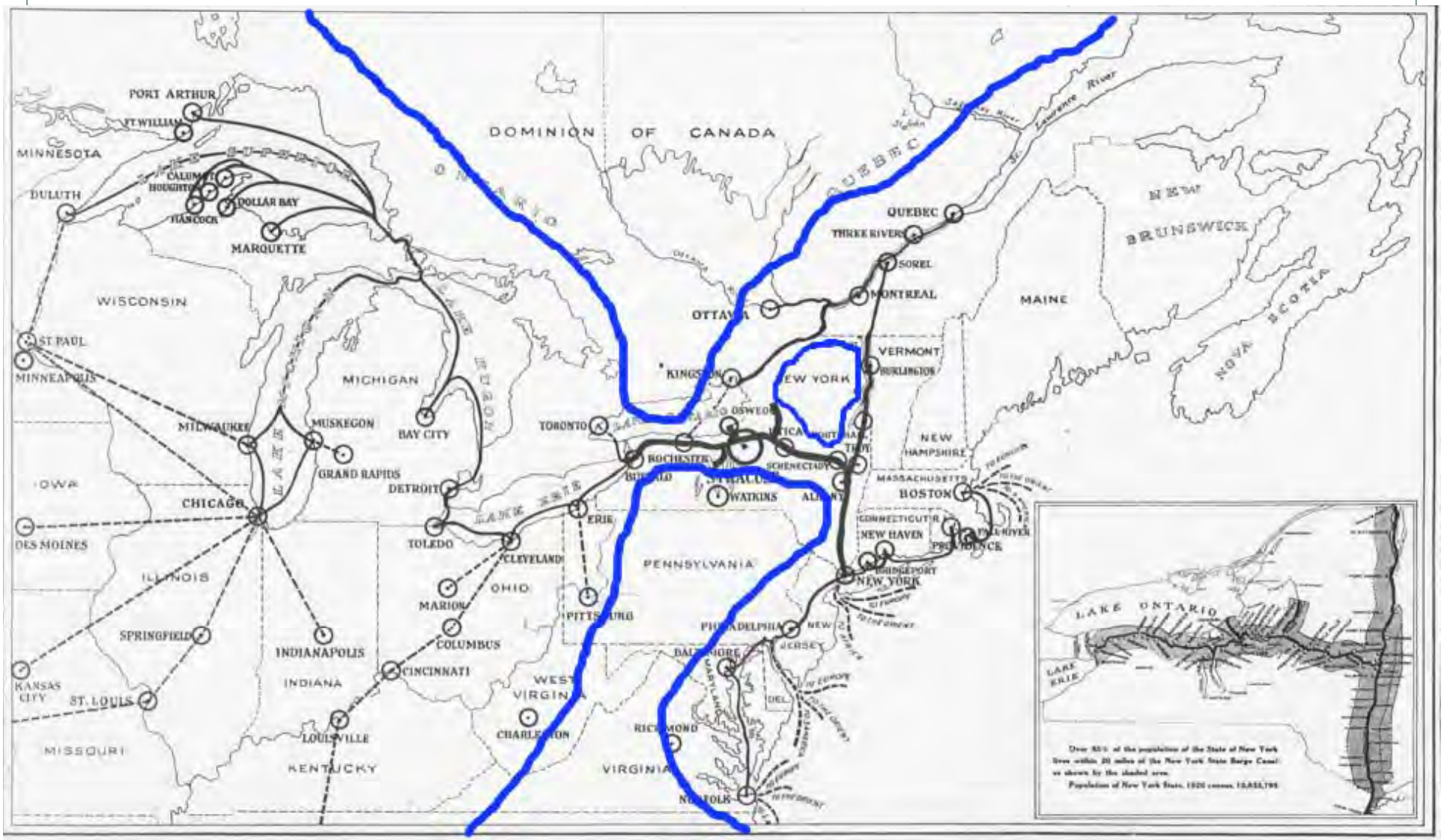

Laurentians
Abenaki
Mohawk
Mohican
Erie
Seneca
Delaware
Poospatuck
Mohegan



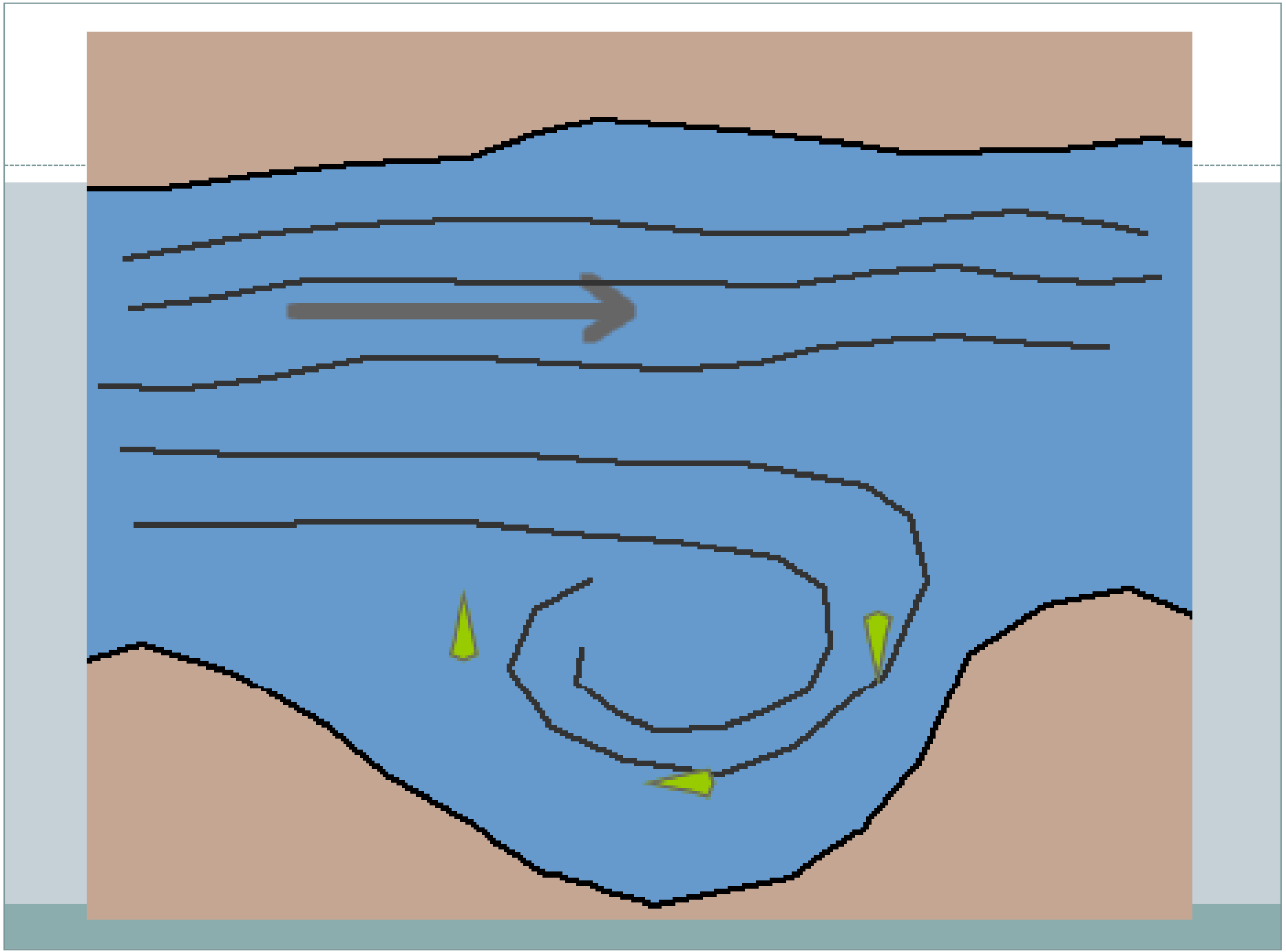

45
L. Taronto
Les Piquets
Toiaiagon
Cinatthehiagon
Kentio
Tarouate
Lac Ohate
R. Kabaroks
R. des Outaouac
Fort Frontenac
le G. de Frontenac
Portage
I Cagoutin
I Katarasqo
I Ganonkouaque
LAC DE FRONTENAC
ONTARIO
Les plus Grands
Bastiman trouvent
Frontenac dans le Lac
plus bas
Cahihouarouhe ou
la Fameuse des
Iroquois
Onontaguerronons
des Iroquois
Goyoguenorons
des Iroquois
Tsonontouan
des Iroquois
Kalvuagoga
des Iroquois
Sonnontouan
des Iroquois
Niagara
Sault
Carte de
L. Erie
LES CINQ NATIONS IROQVOISE
Les Iroquois font leurs Pechos dans
tous les Marais ou Estangs qui bordent
ce Lac d'ou ils tirent leur principale
Subsistence
Sesquahana
Fort
PENSYLVANIE


Hudson Bay
NEW FRANCE
L. Superior
L. Huron
L. Michigan
L. Erie
Wolfe
Amherst
Quebec
Montreal
Ft. Louisbourg
(Jun. 8–Jul. 26, 1758)
Ft. Beausejour
Port Royal
Ft. Ticonderoga
(Jul. 8, 1758)
Ft. Frontenac
(Aug. 27, 1758)
Ft. William Henry
(Aug. 9, 1757)
Ft. Niagara
(Jul. 29, 1759)
Ft. Oswego
Ft Stanwix
Albany
Boston
Detroit
New York
Braddock's defeat
(Aug. 9, 1755)
Ft. Duquesne
Philadelphia
Ft. Necessity
(Jul. 3, 1754)
Ft. Cumberland
Atlantic Ocean
Williamsburg
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
Charleston
Savannah
SPANISH FLORIDA
St. Augustine
Mexico
French claims
British claims
Spanish claims
Disputed British-Spanish claims
Disputed British-French claims
British victories
French victories
Forts
British troops movements

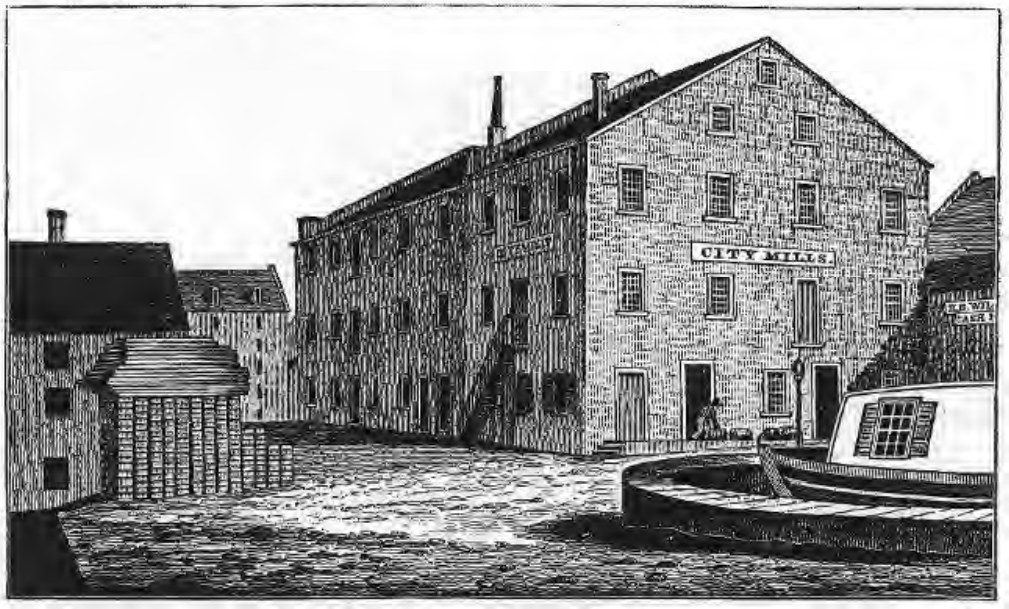

Lake Ontario
Oneida
Mohawk
Cayuga
Lake Erie
Seneca
Onondaga
Hudson River
N
W
E
S
0
50
100 miles
400
300
200
100
0
Profile of the Canal
0
50
100
150
200
250
SCALE IN MILES

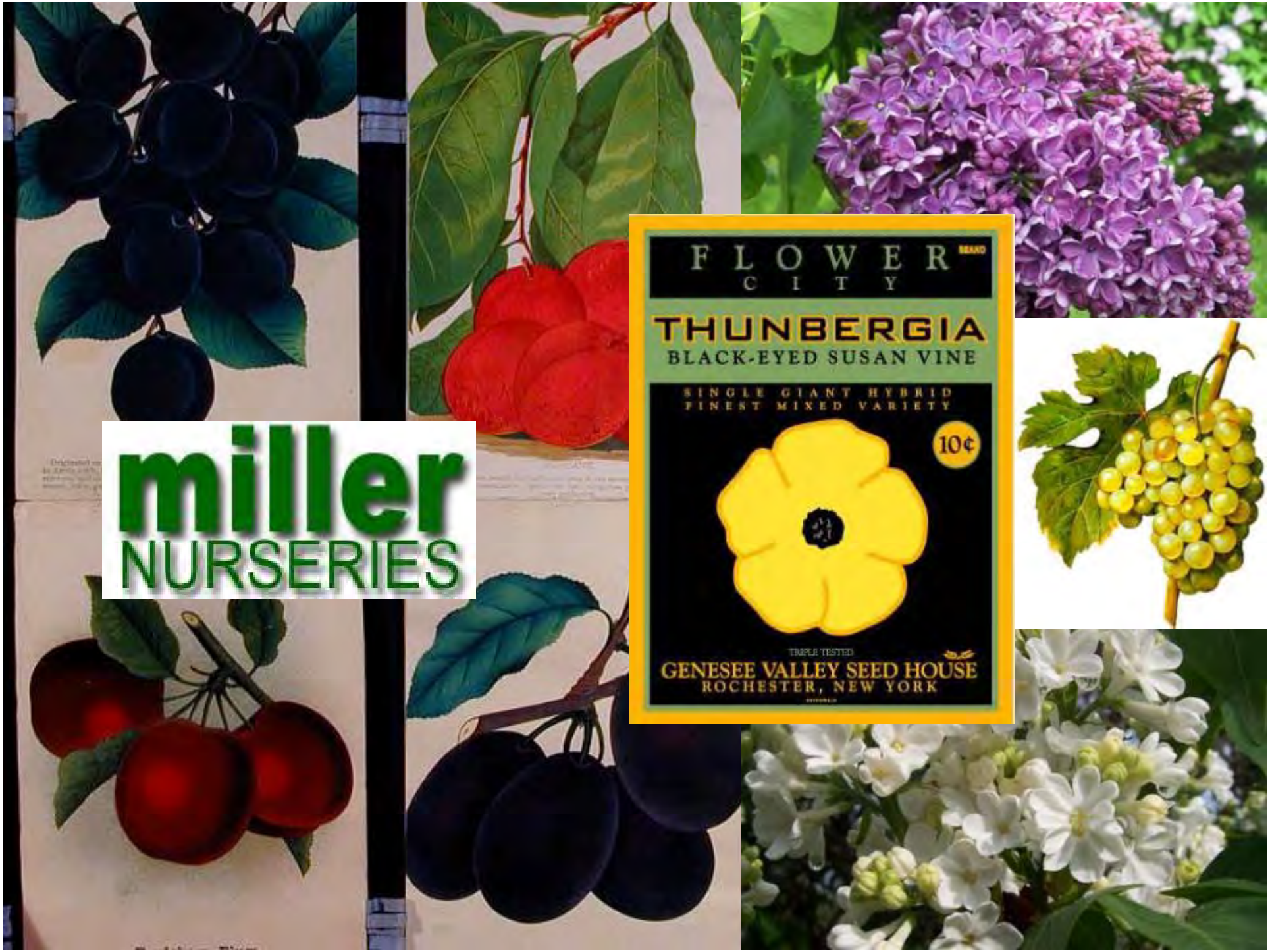

DOMINION OF CANADA
PORT ARTHUR
FT WILLIAM
MINNESOTA
DULUTH
CALUMET
HOUGHTON
HANCOCK
DOLLAR BAY
MARQUETTE
WISCONSIN
ST PAUL
MINNEAPOLIS
MILWAUKEE
MUSKEGON
BAY CITY
MICHIGAN
GRAND RAPIDS
DETROIT
CHICAGO
IOWA
DES MOINES
ILLINOIS
SPRINGFIELD
KANSAS CITY
ST. LOUIS
MISSOURI
INDIANAPOLIS
INDIANA
LOUISVILLE
KENTUCKY
CINCINNATI
COLUMBUS
MARION
OHIO
TOLEDO
CLEVELAND
ERIE
PITTSBURG
WEST VIRGINIA
CHARLESTON
RICHMOND
VIRGINIA
NORFOLK
PENNSYLVANIA
PHILADELPHIA
NEW JERSEY
BALTIMORE
MARYLAND
DEL.
NEW YORK
BRIDGEPORT
NEW HAVEN
CONNECTICUT
PROVIDENCE
FALL RIVER
BOSTON
MASSACHUSETTS
NEW HAMPSHIRE
VERMONT
BURLINGTON
MAINE
NOVA SCOTIA
NEW BRUNSWICK
QUEBEC
THREE RIVERS
SOREL
MONTREAL
OTTAWA
KINGSTON
TORONTO
ONTARIO
LAKE ONTARIO
LAKE ERIE
LAKE HURON
LAKE MICHIGAN
LAKE SUPERIOR
ROCHESTER
BUFFALO
SYRACUSE
WATKINS
SCHENECTADY
ALBANY
UTICA
OSWEGO
TROY
NEW YORK
TO EUROPE
TO THE ORIENT
TO BOSTON
TO THE ORIENT
TO EUROPE
TO THE ORIENT
TO EUROPE
TO THE ORIENT
LAKE ONTARIO
LAKE ERIE
Over 80% of the population of the State of New York lives within 20 miles of the New York State Barge Canal as shown by the shaded area.
Population of New York State, 1920 census, 10,833,795


New York
City



FLOUR CITY




miller
NURSERIES
FLOWER
CITY
THUNBERGIA
BLACK-EYED SUSAN VINE
SINGLE GIANT HYBRID
FINEST MIXED VARIETY
10¢
TRIPLE TESTED
GENESEE VALLEY SEED HOUSE
ROCHESTER, NEW YORK

The Best OF NEW YORK STATE APPLES

McINTOSH
(Sweet with a tart tang, very juicy)

EMPIRE
(Unique sweet/tart taste, very juicy)

CRISPIN
(Delicately spicy and sweet, very juicy and crisp)

GALA
(Mildly sweet flavor, super crisp)

MACOUN
(Extra sweet with a mild, tart taste, very juicy)

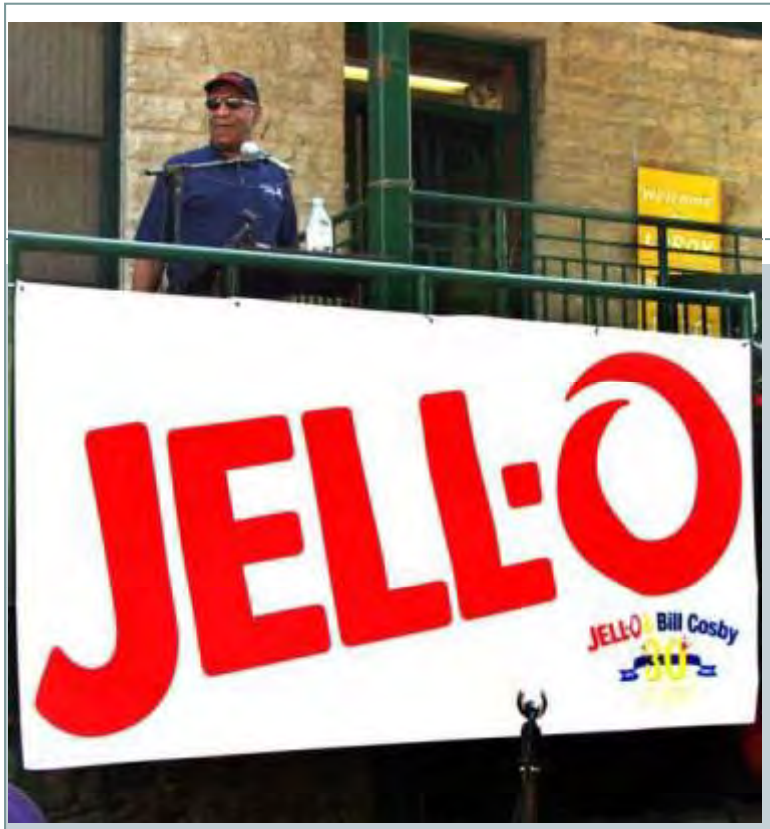
HONEYCRISP
(Sweet, tart, juicy, super crisp)

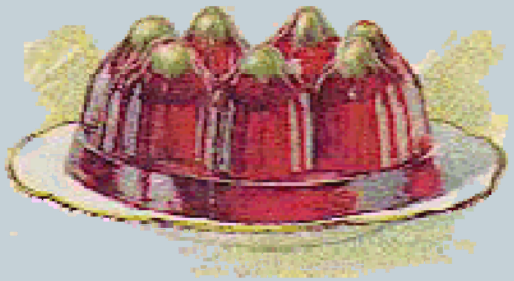
RED DELICIOUS
(Extra sweet flavor, crisp, yellow flesh)

JONAGOLD
(Honey sweet with a hint of tartness, juicy)

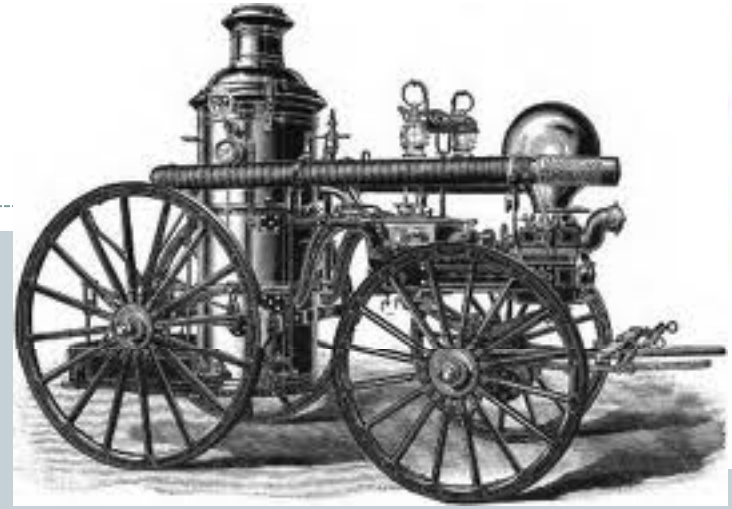
GOLDEN DELICIOUS
(Mild, sweet flavor, very crisp)

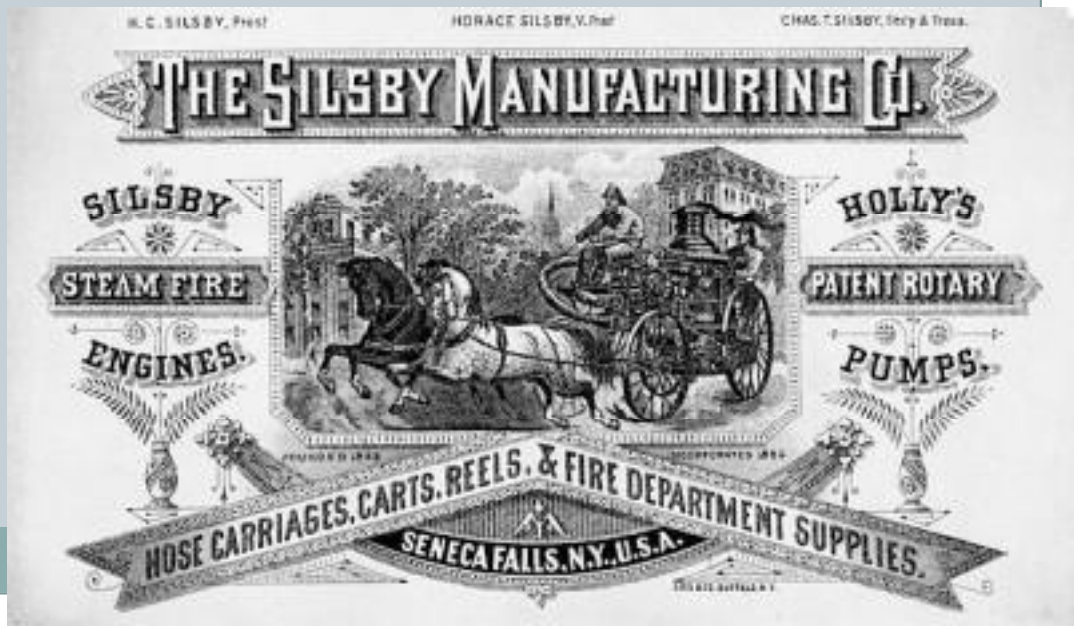
GINGERGOLD
(Sweet, yet mildly tart, fine textured and crisp)


JELL-O
JELL-O Bill Cosby



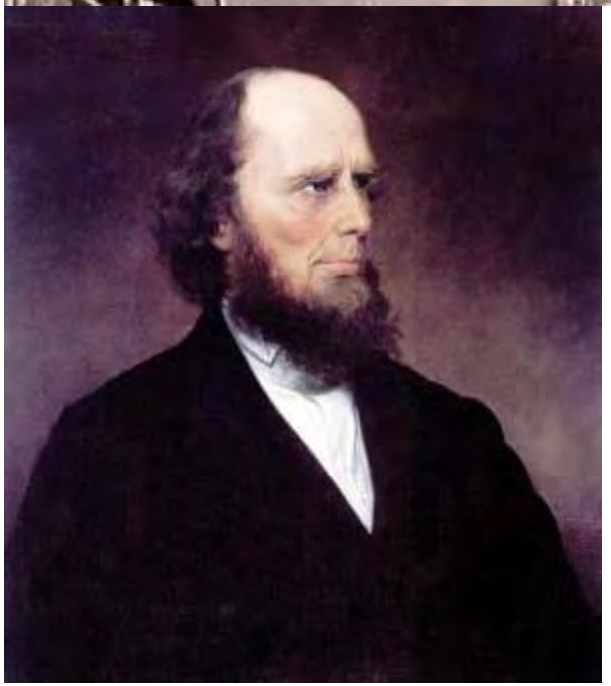

cherry
ARTIFICIAL FLAVOR
JELL-O
GELATIN DESSERT
4 1/2-Cup Servings
NET WT 3 OZ (85g)

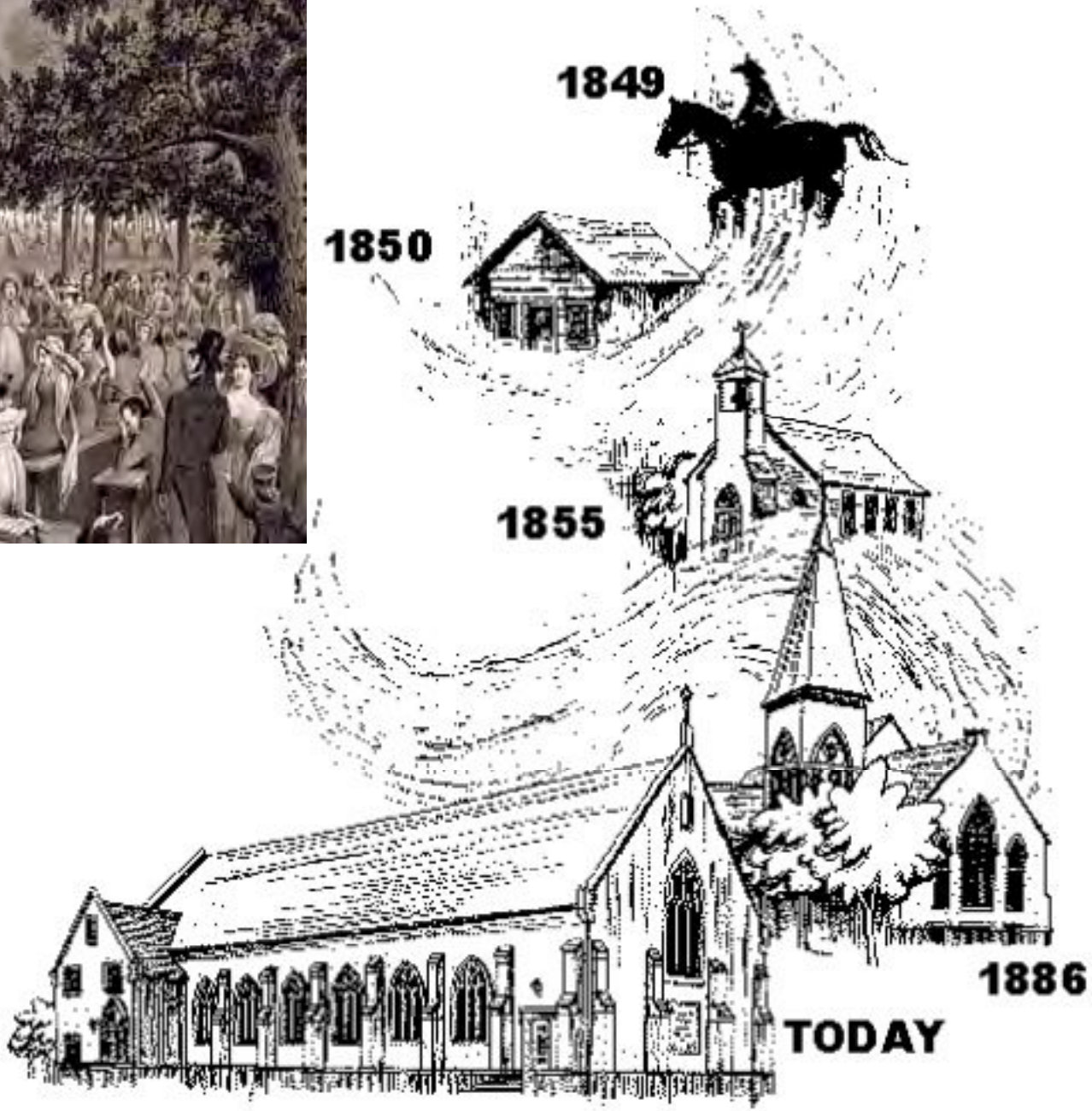


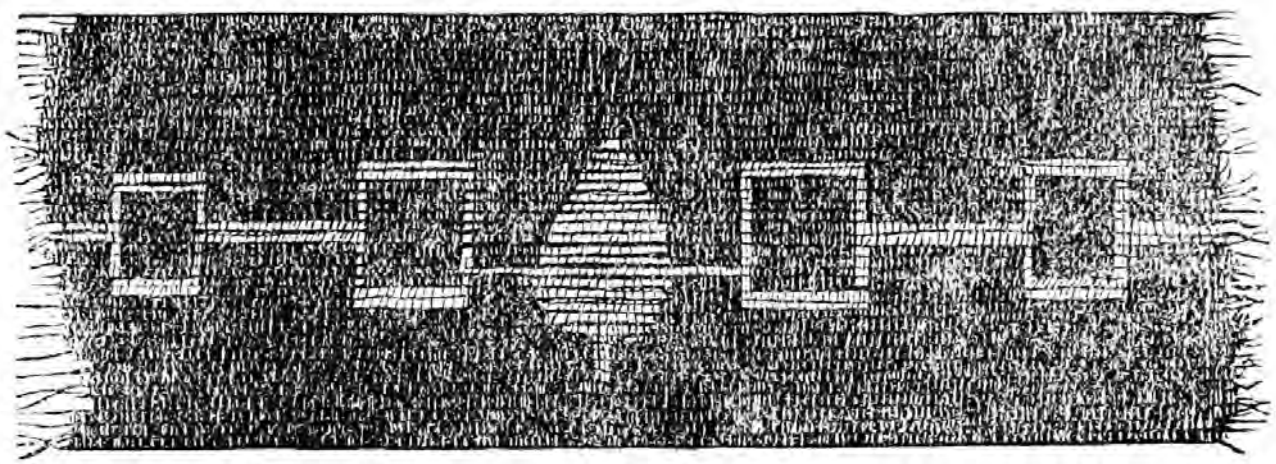

H. C. SILSBY, Pres't
HORACE SILSBY, V. Pres't
CHAS. T. SILSBY, Sec'y & Treas.
THE SILSBY MANUFACTURING CO.
SILSBY
STEAM FIRE
ENGINES.
HOLLY'S
PATENT ROTARY
PUMPS.
HOSE CARRIAGES, CARTS, REELS, & FIRE DEPARTMENT SUPPLIES.
SENECA FALLS, N.Y. U.S.A.

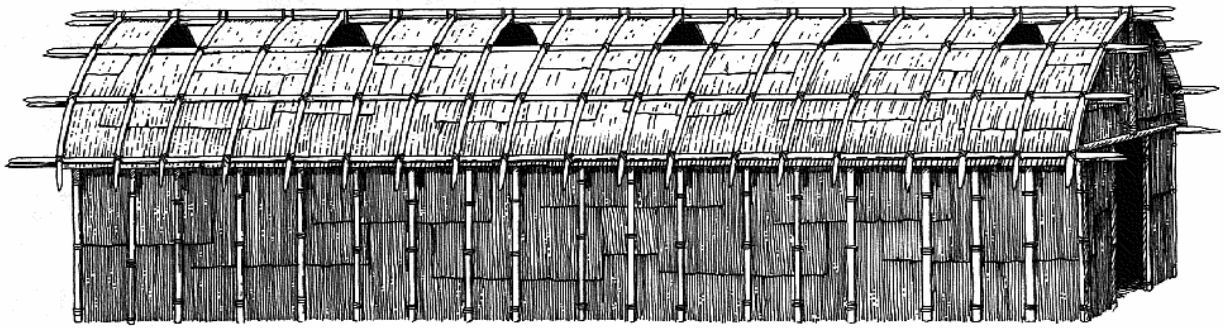

CIVIL ENGINEERING


Canal Boats going over Aqueduct.
Rochester, N.Y.
VintageRochester.blogspot.com



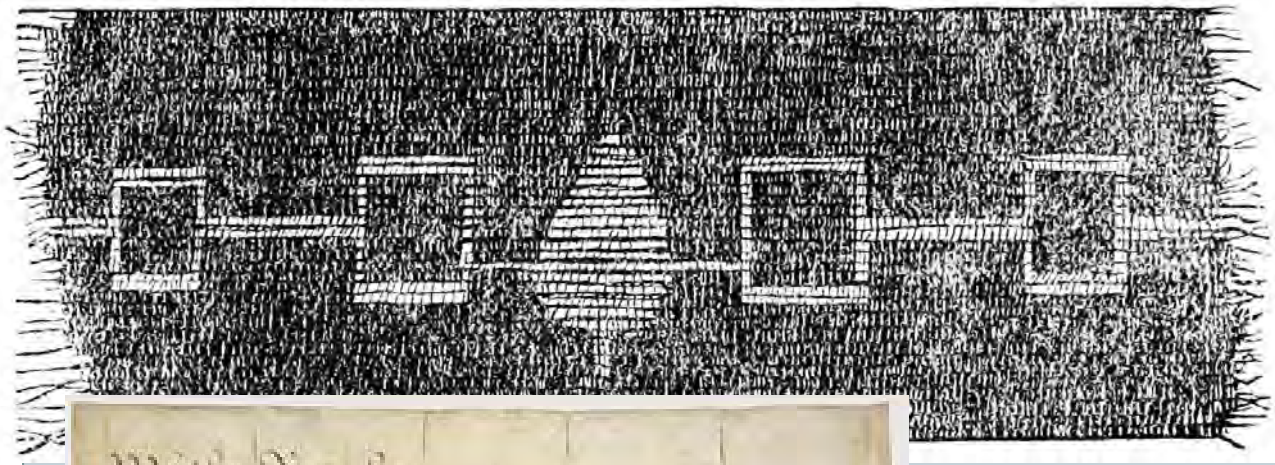

1849
1850
1855
1886
TODAY





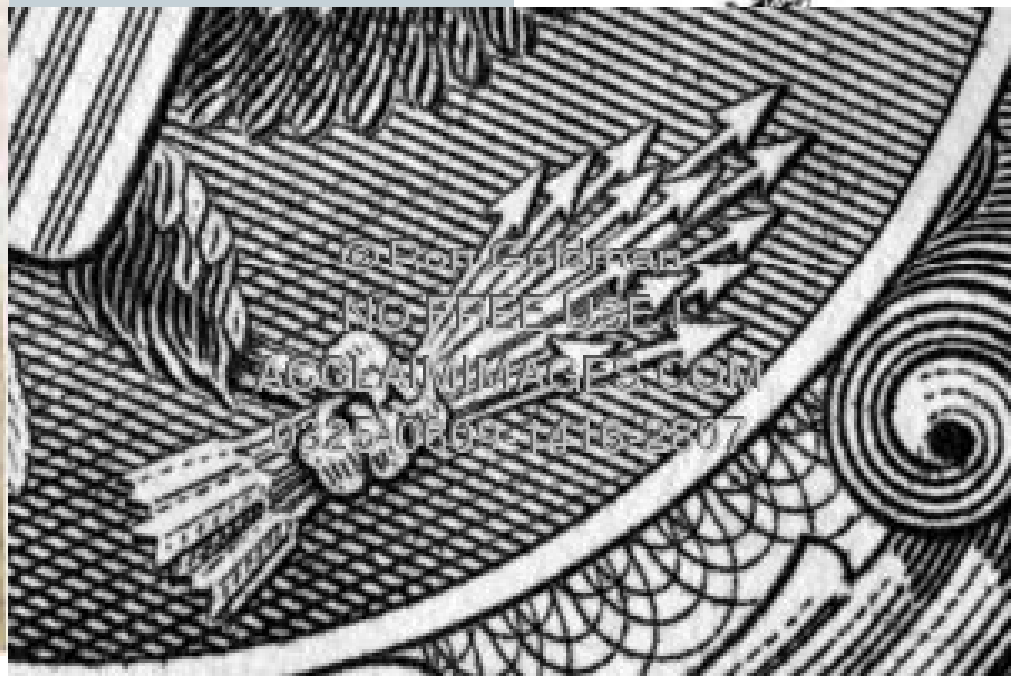
The Six Nations Confederacy was and is likened to a longhouse.

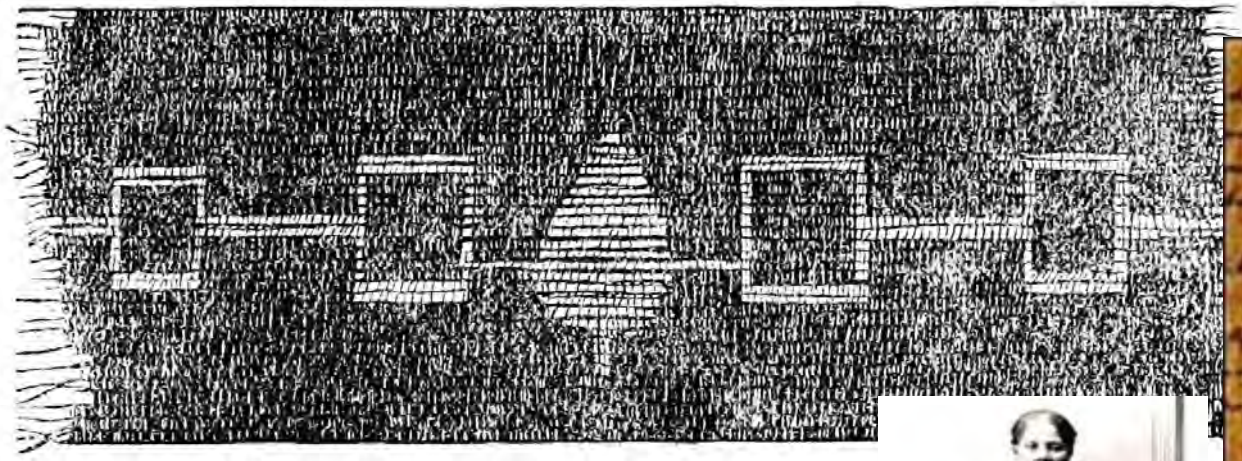
Copyright (c) 1991 by John Kahionhes Fadden




UNITED STATES OF AMERICA
$1
HAUDENOSAUNEE
GREAT LAW OF PEACE


We the People






Declaration of Sentiments
"We hold these truths to be self-evident; that all men and women are created equal..."


We the People


PROCLAMATION OF EMANCIPATION
By the President of the United States of America.


WELCOME TO
WATERLOO N.Y.
THE BIRTHPLACE OF
MEMORIAL DAY
MAY 5th
1866
VISIT THE MEMORIAL DAY
MUSEUM AT 35 E.MAIN ST.


NORTH STAR.
VOL. 9.
ROCHESTER, N. Y., FRIDAY, FEBRUARY 23, 1850.

WOMEN'S RIGHTS

The equality of Haudenosaunee women was assured from the formation of the Confederacy. The first person to accept the Peacemaker's message was a woman, *Jikonhsaseh*. She secured the rights, responsibilities, and roles Haudenosaunee women continue to enjoy. Matrilineal heritage in Haudenosaunee society, where clan and nation are inherited through mothers, establishes great respect for women's contributions to society.

The freedom of Haudenosaunee women and the power they wielded in their political life influenced the women's suffrage movement through leaders such as Elizabeth Cady Stanton, Matilda Joslyn Gage, and Lucretia Mott. Their personal relationships with people from the Haudenosaunee nation were a great inspiration to them in their suffrage campaign.

A BALANCE OF POWER

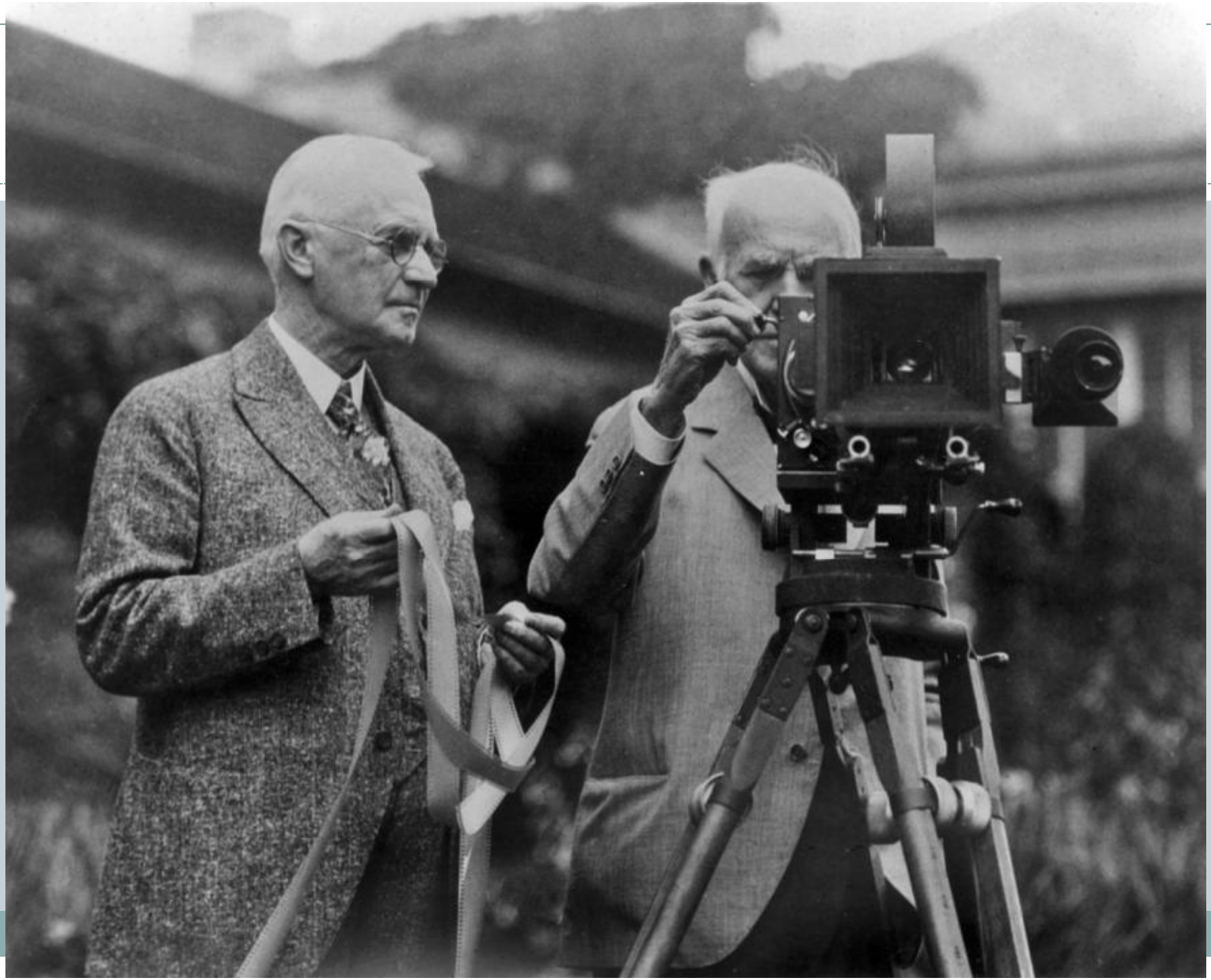
Haudenosaunee women and men have complementary roles. By sharing and checking one another's responsiblities, the clan mother and the chief achieve a balance of power. Through their entwined civil roles, they work to preserve peace for the clan, the nation, and ultimately for the Confederacy of the Six Nations.

Wegmans


Our commitment to diversity
Success and Opportunity for All
Learn More »


ROCHESTER FRUIT & VEGETABLE CO.
Wegmans history
It All Started in 1916...
View Timeline »


French's
XEROX
Kodak
WESTERN UNION
Bausch & Lomb
Champion
GANNETT
It's all within reach.
BAUSCH + LOMB



The Kodak Camera.

"You press the button, - - - - we do the rest."

The only camera that anybody can use without instructions. Send for the Primer, free.

The Kodak is for sale by all Photo stock dealers.

The Eastman Dry Plate and Film Co.,

Price $25.00—Loaded for 100 Pictures. ROCHESTER, N. Y.

A full line Eastman's goods always in stock at LOEBER BROS., 111 Nassau Street, New York.


THE KODAK CAMERA.
"You press the button, -
- - - we do the rest."
t anybody can use
nd for the Primer,
l Photo stock dealers.
Film Co.,
CHESTER, N. Y.
R BROS., 111 Nassau
Kodak
5X optical zoom
KODAK AF 5x Optical Aspheric Lens
35mm - 175mm (Equivalent)
12 MEGAPIXELS
1990-5036/1571

Bausch & Lomb

BAUSCH + LOMB

kingsofpast.com

COURTESY: BAUSCH & LOMB

Bausch & Lomb

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Bausch & Lomb

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BAUSCH + LOMB

Bausch & Lomb

BAUSCH + LOMB

COURTESY: BAUSCH & LOMB

XEROX®

XEROX®

Champion

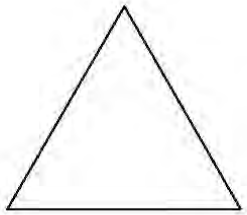
Story of Place

"DEMOCRATIZING"

MAKING PARTICIPATION IN THE BENEFITS OF SOCIETY AVAILABLE TO ALL

"EDDYING'

A PLACE WHERE COLLECTING, SETTLING, NURTURING, AND ENRICHING CAN OCCUR



"INNOVATING"

FINDING SOLUTIONS FOR LOCAL PROBLEMS THAT ARE RELEVANT FOR A LARGER WORLD

SUSTAINABILITY INDICATORS

Sustainability Indicators

Indicators

2 sets

- NYSERDA
- Place-Sourced

Criteria

- Informs policy or investment
- Data availability
- Ability to replicate/ trend over time
- Three Pillars: Environment/Economy/Society

Ranking

- Took all indicators provided by NYSERDA for consideration and those generated by stakeholders
- Put through evaluation criteria to arrive at recommended indicators

Sustainability Indicators

Agriculture & Forestry

NYSERDA	PLACE-SOURCED
Acres of agricultural land in non-agricultural use	Direct farm sales per capita
	Use of external inputs
	Diversity of production (Shannon's Diversity Index)
	Ration of percent of forests by tree size class
	Amount of biomass in live trees
	Biodiversity of bird species: Number of survey blocks where bird species were observed
	Invasive Species Index
	Number of forest fires

Sustainability Indicators

Economic Development

NYSERDA	PLACE-SOURCED
Housing + Transportation Affordability Index	Successful commercialization of technologies and associated jobs
Jobs created by sector • Government • Private • Agriculture • Unclassified	Increased venture capital investment
	Jobs created by sector • Food Manufacturing • Alternative Energy • Materials Science

Sustainability Indicators

Energy

NYSERDA	PLACE-SOURCED
Regional energy usage per capita	Regional energy self-reliance
Total installed renewable energy capacity	Regional energy generation per capita
	Availability, accessibility, affordability of renewable energy
	Energy efficiency

Sustainability Indicators

Materials & Waste Management

NYSERDA	PLACE-SOURCED
Solid waste generated per year • Total for region • Per capita	Solid waste diverted after reduction (not landfilled, incinerated, or exported) • Total for region • Per capita
Total reduction in materials usage	
Total waste by category • Municipal Solid Waste • Industrial Non-Hazardous Waste • C&D Debris •Bio-Solids • Tires	

Sustainability Indicators

Transportation, Land Use, & Livable Communities

NYSERDA	PLACE-SOURCED
Total percentage of people commuting via walking, biking, transit, and carpooling	Transportation energy consumption per capita
Vehicle miles travelled per capita	% income spent on transportation
Per capita land consumption	Infrastructure within flood zones (100 year) • Miles of principal arterials • Bridges
	Freight tonnage moved • By truck • By train
	Rate of poverty
	Proportion of residents living in existing population centers

Sustainability Indicators

Water Management

NYSERDA	PLACE-SOURCED
Water demand per capita (per 1,000 people) • Total Withdrawals Fresh • Public Supply Fresh • Domestic from Public Supply • Irrigation Total Fresh	% of breach WQ samples exceeding state thresholds
Total number of impaired waters	% of impaired waters with TMDL requirements
	Concentrations of pollutants in the Finger Lakes • Total Phosphates • Total Nitrogen
	% of breach WQ samples exceeding state thresholds

Sustainability Indicators

Climate Change Adaptation

NYSERDA	PLACE-SOURCED
The degree to which climate change and adaptation is discussed within required Hazard Mitigation Plans	Reduction in Agricultural losses attributable to temperature, drought and flooding
	Reduction in # of residents put at risk from loss of critical infrastructure for more than one day

Sustainability Indicators

Governance

NYSERDA	PLACE-SOURCED
% of regional population living in areas with local energy codes exceeding state requirements, and/or regulations for benchmarking and retrofitting private buildings	Number of communities with Comprehensive Plans less than 5 years old
Number of Climate Smart Communities within region	

Sustainability Indicators

GHG Emissions

GHG Emissions

NYSERDA	PLACE-SOURCED
CO2e emitted •Total for region •Per capita	*Captured in subject areas*
CO2e emitted by emission source •Residential energy consumption •Commercial energy consumption •Industrial energy consumption •Transportation •Transmission losses •Industrial processes •Ozone depleting sources •Solid waste management •Wastewater treatment •Agriculture	

NEXT STEPS

Next Steps

- Develop targets and strategies
- Next Public Meeting to be held at the end of February 2013 (Exact date and location to be determined)
- Keep an eye on the website!

http://sustainable-fingerlakes.org/

- Questions, comments, concerns? Contact Tara Boggio at tara.boggio@tylin.com

Questions??

THANK YOU

MEETING TITLE	Public Meeting #1 - East	
DATE AND TIME	January 15, 2013 6-8pm	
ATTENDEES	Bill Molinere	T&M Solar Solutions
	Marjorie Torelli	New York Product Stewardship Council
	Adam Maurer	Finger Lakes Institute
	Lisa Cleckner	Finger Lakes Institute
	Sarah Meyer	Finger Lakes Institute
	Amanda Shaw	HWS, Education Dept.
	Grey Searles	HWS, Communications
	Kevin Gallagher	
	Bill Myers	Keuka College
	Robert Schiesser	SLPWA, Town of Starkey Planning Board
	Barbara Schiesser	SLPWA 0 on board Secretary Starkey Citizens for Clean & Health Environment (SCCHE)
	Ellen Metherell	Seneca BioEnergy
	Bill Gray	Seneca BioEnergy
	Myles Gray	Seneca BioEnergy
	Douglas Knipple	Finger Lakes Zero Waste Coalition, Inc.
	Michael Yarger	
	David Shaw	Finger Lakes Times
	Alan Isselhard	
	Rev. John S. Frank	
	Meredith Smith	
	Chris Guider	
	Glenn Everdyke	
	Adam Smith	
	Sophie Paillard-Elkin	
	Dwight Harrienger	Stantec Consulting, Inc.
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S (Aileen Maguire & Kevin Kelley), Regenesis (Ben Haggard)

Story of Place Framework and Exercise

- See power point presentation from November 14th.
- Sustainability Definition:
  - ***Sustainability*** *involves three interrelated components: environment, economy and society.*
    These pillars are linked – the stability of one reinforces the strength of the other two. Sustainability planning for a community, local government or region integrates the three pillars of sustainability through collaborative work within a framework that supports long-term considerations, fosters innovation, and results in a healthy, safe and affordable place to live, work and play for all residents.

- 5 Capitals:
  - Natural, Social, Human, Built/manufactured, and Financial Capital
- Regional Themes/Goals:
  - Improve accessibility, connectivity and mobility
  - Preserve, protect and improve natural resources
    - air quality
    - water quality
    - prime farmland
    - forests
    - open space
  - Maintain, protect and improve the functionality and disaster resiliency of existing infrastructure systems and acknowledge the links between systems
    - transportation
    - water
    - energy
    - communication
    - solid waste
  - Improve public health
  - Respect local planning efforts and retain individual community character
  - Build partnerships between local governments, the private sector, regional institutions and the public
  - Build sustainability capacity and understanding through outreach and education

Story of Place

Joel Glanzberg from Regenesis presented the draft Story of Place for the Finger Lakes Region. He noted that the story is generated from several sources: extensive historical research, dozens of phone interviews with a variety of people from the Finger Lakes area, several site visits and targeted input from the consultant team. The following is a summary of this presentation.

<u>General Comments on why we look at the Story of Place:</u>

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- <u>Finger Lakes Observations are as follows:</u>
- Watersheds – natural boundaries (Lake Ontario, Finger Lakes, Great Lakes) are different than political boundaries.
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  - All Great Lakes drain into Lake Ontario
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- Great Lakes Plain – how things moved
  - Rail and vehicle routes (straight through mountains) = roadway across the state
  - Animal trails
  - A place where people and products grew and adapted – enrichments
- Eco-Region – plants and animals (low lands)

- Region is like an eddy – or a wetland in a watershed - place where things filter in, take root, adapt, and transform before being release back out
- UN/FAO soil map of the US – our Region (-1) very good soil, rich soils – all due to climate and water, first large open space accessible to people, crops, and animals, also is a good source of agriculture
- Native trees – black spruce, burnt oak, white cedar, eastern white pine, chestnut – mild soil climate – good
- 'People of the Longhouse' settlers in NY
- Gateway to mid-west
- In-between waterways
- Many people and industries populated our Region – people, towns/villages, agriculture, industries
- Connections – built NY as a port and NYC as an international port
- Eric Canal built on top of Mohawk Trail – Civil Engineering was developed and learned in England – developed technologies for future uses
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- Religious movements – Spiritualism, 7th Day Baptist, Mormon, Methodists (Shakers, Quakers) taught morals, circuit riders to churches
- Birth of democracy – formed the 'Great Law of Peace', Peace Makers
- 5 Nations of the Iroquois – lead to our Constitution (Franklin and Jefferson both learned and used the system)
- Large movements happened here – Women's Rights, Abolition, etc.
- Industries – Seneca Falls – technology developed for pumps – water source – pump capital of the World – Fire Engines
- Wegman's, Kodak, Jell-o, Bausch & Lomb, Gannett, Western Union, Xerox, French's, Champion, Genesee Brewing Company
    - Wegman's – local foods, informative about food, community ties
    - Kodak – film, digital cameras
    - Xerox – printers
    - Champion – first hooded sweatshirt, reversible t-shirt, mesh fabric
    - Genesee Brewing Company – wheat industry , Whiskey Rebellion
    - Bausch & Lomb - contacts
    - Many of the companies here acted as that eddy – they took ideas, developed them further, than sent them out to the country/world as products.

Story of Place – Reflections

- Have seen when the region was really great, but it's not great anymore → some companies have made the mistake of "resting on their laurels"
- Even though Kodak has declined, many successful start-ups have emerged from their workforce → businesses, institutions, systems, etc. can become unsustainable at a certain scale
- Hope found in our highly educated workforce that is known for innovation
- When 1st digital camera was delivered to the Pentagon, Kodak received many accolades, including endorsement by the Air Force as the first place they turn whenever looking at new imaging technology → later Kodak struggled with how to advance that technology → failed to democratize it the way they did the first film-based cameras
- The historic expansion of European influence in the region has permanently changed the ecology of North America (land ownership and management practices changed), as is the

case whenever a new people group arrives in a new land → even the earliest Native Americans changed the landscape

How can we use the Story of Place to impact our businesses, organizations, or communities, especially with respect to sustainability?

- Viewed as a natural unit
  - Inconsistent with planning unit
  - Greater focus on rural/agriculture rather than corporate innovation
- Concern about extraction – based industry
  - Also opposite movement (i.e. landfill)
- Agriculture, tourism, higher education should be focus
- Collaboration among higher education (RIT, CU)
  - Agriculture innovation, energy innovation
- Geothermal opportunities
- Concentration of wealth around threatening issues and opportunities – potential exploitation
- Upstate different than NYC/downstate – greater collaboration, sharing of ideas – less competitive
  - More stable than other regions (i.e. Sunbelt)
- Small-sale businesses more apt to collaborate (i.e. B&B's, wineries)
- Develop new products from waste
  - Nexus of farming and education
- Impediments: financing, advancing ideas, start-ups, etc.
- Need for carbon budget/monetization of hyrdo carbon
- Workforce issues: adjusting education expectations/opportunities, training
- Concerns that urban areas are driving process
- Transporting people to/thru the region using alt. energy or alt. modes – still need to preserve practicality of goods movement locally.

Other Comments

- Ensure that members of the US Green Building Council are involved
- Concerned that Stakeholder Meetings are not open to the public

Next Steps

The next steps are to begin developing targets for the indicators chosen to advance, and strategies for helping move toward the targets. The public will be kept informed through documents being available on the website, and a second public meeting in late February.

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

MEETING TITLE	Public Meeting #1 - West	
DATE AND TIME	January 15, 2013 6-8pm	
ATTENDEES	Felipe Oltramari	Genesee Co. Dept. of Planning
	Jill Babinski	Genesee Co. Dept. of Planning
	Peggy Grayson	Glow SWMC
	Peter Lent	Oatka Creek Watershed Committee
	Mary Kay Barton	Citizens Power Alliance
	Dan Schuth	Orleans Co. Soil & Water Con. Dist.
	Andrew Goldstein	Cascades Recovery
	Mary Pat Hancock	Genesee County
	Lisa M. Compton	Oatka Creek Watershed Committee
	Esther Leadley	Genesee Co. Legs & G/FLRPC
	Donna Rae Sutherland	GCC
	Greg Albert	G/FLRPC
	Bill Malinere	T&M Solar Solutions
	Marjorie Torelli	NY Product Stewardship Council
	Adam Maurer	Finger Lakes Institute
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

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        - Bausch & Lomb - contacts
    - Many of the companies here acted as that eddy – they took ideas, developed them further, than sent them out to the country/world as products.

Story of Place – Reflections

- 'Triad' Exercise
    - Holland Land Office – Batavia, NY
    - Focuses on implementation
    - History of success
    - Helps think more regionally
    - *How do we market it to the public?*
    - No set plan, only strategies
    - Get people on board w/the SOP – tell the same story; starts conversations
    - Consideration of everyone's values (each county) = Branding
    - *Scale (how to relate)*
        - Concentration and distribution
        - Urban centers (geology
        - Regional contributions
        - Needs
        - Un-built Infrastructure
        - Competition (innovation)
        - Places play vital roles within the region

- Indicators (measureable)
    - Place sourced indicators (on region in NY doing NYSERDA and place sourced indicators)
        - All available on the website
    - All indicators have data available
    - Measure over time to see if we are closer to reaching our Sustainability Plan/Goal

Question/Answer

- Who are part of the Stakeholder Groups? What are they?
    - Agencies, organizations, businesses, institutions, government, etc.
    - 6 Groups
- Schedule
    - 2 months left
    - What happens after March?
        - Story of Place within Communities
        - Phase II funding source
        - What the Regions makes of it – Implementation
- Importance of sharing the Story of Place (SOP)?
    - Meaningful way to brand Region
    - Energize and bring communities/people together
- Role of Plan in schools?
    - Has come up in Stakeholders Meetings
    - Is it critical in moving forward in the Region/State?
    - Make part of the Plan – Children's Involvement
- Genesee County Comprehensive/Strategic Plan
    - In place for 15 years
    - Public forum – show people how the Plan works, who is involved, etc.
    - Possibly include SOP
    - Collaboration?

Next Steps

The next steps are to begin developing targets for the indicators chosen to advance, and strategies for helping move toward the targets. The public will be kept informed through documents being available on the website, and a second public meeting in late February.

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

Tara Boggio, Public Involvement Lead, T.Y. Lin International – tara.boggio@tylin.com; 585-512-2000
David Zorn, Program Manager, GFLRPC - dave.zorn@gflrpc.org; 585-454-0190 x14

MEETING TITLE	Public Meeting #1 - Central	
DATE AND TIME	January 16th, 2013 6-8 pm	
ATTENDEES	Justin Roj	Monroe County
	Manuel Soja	RIT
	Roger Brown	RRCDC
	Anne Howard	RIT
	Chuck Rettig	BCWC
	Sally Howard	FMCE
	Brian Milburn	RIT
	Shenna Stuart	All Out Marketing
	Tony Favro	GRC
	Julia Hayden	Connecticut College
	Michael Bouwmeester	Ingalls Planning & Design
	Len Garth	HVA
	Carl Ceccanti	Buffalo Energy
	Mike Terrori	
	Mark VerSchoctine	Binghamton University – Student
	Remy D	RIT
	Larry Simpson	Blue Springs Energy
	Alex Pieerce	Municipal Planning Dept. Nunda Liv. Co.
	Mike Haugh	CMH Consulting: Center for Environment
	Allan Isselhard	
	Terance Calcagno	
	Greg Albert	G/FLRPC
	Michael Burrett	
	Rasin Moser	Self
	Charlie Valeska	Irondequoit Conservation Board
	Dan Morgenstein	Meyers Environmental
	Anthony Carter	Self
	Jules Chiavaroli	RIT
	Meg Malone	RIT
	Frank Nejan	Sierra Club
	Paul Sawyko	Water Education Collaborative
	Mark Maddalin	SWBR Architects
	Dmitry Liapitch	RIT Recycling Dept. MS Sustainable Eng.
	David Zorn	G/FLRPC
	Kaznyo Moser	Self
	Rochelle Bell	MC Planning
	Dave Beinetti	SWBR Architects
	Enid Cardinal	RIT
	Sarah Yaworsty	
	Thomas J. Hryvniak	Genesee Gorge Clean-Up
	Toni Stewart	
	Jeff Lowen	
	Mark Oswald	RIT Student – Environ. Action League
	Jane Peers	
	Nathanial Jones	RIT – Rochester Compost

ATTENDEES	Debbie Bauer	RIT
	Scott Hawker	RIT
	Sourabh Jain	RIT
	Ray Cipriano	UB
	Bill Relyea	
	Roy Wood	Kodak
	Mike Parker	Conesus Lake Assoc. Charlotte Comm. Association
	Linda Vera	NYSEDC
	Craig Shearer	Lane Enterprises
	Kate Kremer	Sierra Club – Great Lakes
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

Welcome & Introductions

- Consultant team members – C&S (Tim Hughes & Aileen Maguire), Regenesis (Joel Glanzberg & Ben Haggard), TYLI (Tara Boggio & Sarah Yap), Developmental Economics Group/ Regenerative Alliance (Carol Sanford), Erin Henry (Harvard Business School)

Story of Place Framework and Exercise

- See power point presentation from November 14th.
- Sustainability Definition:
  - ***Sustainability*** *involves three interrelated components: environment, economy and society.*
    These pillars are linked – the stability of one reinforces the strength of the other two. Sustainability planning for a community, local government or region integrates the three pillars of sustainability through collaborative work within a framework that supports long-term considerations, fosters innovation, and results in a healthy, safe and affordable place to live, work and play for all residents.
- 5 Capitals:
  - Natural, Social, Human, Built/manufactured, and Financial Capital
- Regional Themes/Goals:
  - Improve accessibility, connectivity and mobility
  - Preserve, protect and improve natural resources
    - air quality
    - water quality
    - prime farmland
    - forests
    - open space
  - Maintain, protect and improve the functionality and disaster resiliency of existing infrastructure systems and acknowledge the links between systems
    - transportation
    - water
    - energy
    - communication
    - solid waste
  - Improve public health
  - Respect local planning efforts and retain individual community character
  - Build partnerships between local governments, the private sector, regional institutions and the public

- Build sustainability capacity and understanding through outreach and education

Story of Place

Joel Glanzberg from Regenesis presented the draft Story of Place for the Finger Lakes Region. He noted that the story is generated from several sources: extensive historical research, dozens of phone interviews with a variety of people from the Finger Lakes area, several site visits and targeted input from the consultant team. The following is a summary of this presentation.

General Comments on why we look at the Story of Place:

- Places have reoccurring patterns (socially, economically, culturally) – and identifying these patterns is helpful to knowing who we are as a region
- Seeing region as a whole helps to develop unique attributes and find our natural strengths – something to build from

- Finger Lakes Observations are as follows:
- Watersheds – natural boundaries (Lake Ontario, Finger Lakes, Great Lakes) are different than political boundaries.
- Lake Ontario is unique versus the other Great Lakes
  - Lower water level due to Niagara Falls
  - All Great Lakes drain into Lake Ontario
- Shale and limestone help geological elements for our Region – prime farmland
- Glacier movements created Lake Ontario and land carved by 5,000 ft of ice
- Great Lakes Plain – how things moved
  - Rail and vehicle routes (straight through mountains) = roadway across the state
  - Animal trails
  - A place where people and products grew and adapted – enrichments
- Eco-Region – plants and animals (low lands)
- Region is like an eddy – or a wetland in a watershed - place where things filter in, take root, adapt, and transform before being release back out
- UN/FAO soil map of the US – our Region (-1) very good soil, rich soils – all due to climate and water, first large open space accessible to people, crops, and animals, also is a good source of agriculture
- Native trees – black spruce, burnt oak, white cedar, eastern white pine, chestnut – mild soil climate – good
- 'People of the Longhouse' settlers in NY
- Gateway to mid-west
- In-between waterways
- Many people and industries populated our Region – people, towns/villages, agriculture, industries
- Connections – built NY as a port and NYC as an international port
- Eric Canal built on top of Mohawk Trail – Civil Engineering was developed and learned in England – developed technologies for future uses
- Brought art and education to the region
- Flour city – produced grain (wheat) – water power source
- First industrial city to be fed by water access/connections
- Pioneer in agriculture

- Religious movements – Spiritualism, 7th Day Baptist, Mormon, Methodists (Shakers, Quakers) taught morals, circuit riders to churches
- Birth of democracy – formed the 'Great Law of Peace', Peace Makers
- 5 Nations of the Iroquois – lead to our Constitution (Franklin and Jefferson both learned and used the system)
- Large movements happened here – Women's Rights, Abolition, etc.
- Industries – Seneca Falls – technology developed for pumps – water source – pump capital of the World – Fire Engines
- Wegman's, Kodak, Jell-o, Bausch & Lomb, Gannett, Western Union, Xerox, French's, Champion, Genesee Brewing Company
    - Wegman's – local foods, informative about food, community ties
    - Kodak – film, digital cameras
    - Xerox – printers
    - Champion – first hooded sweatshirt, reversible t-shirt, mesh fabric
    - Genesee Brewing Company – wheat industry , Whiskey Rebellion
    - Bausch & Lomb - contacts
    - Many of the companies here acted as that eddy – they took ideas, developed them further, than sent them out to the country/world as products.

Story of Place – Reflections

- Capture story of governance
- Educate people on Sustainability
- Eddying - -> compact communities vs. sprawl
- Social and cultural aspects of Sustainability
- Cities divorced from socials, intellectual, economics, inputs and outputs
- Automobiles now a hindrance, 100 years ago were innovations
    - Social problem
    - Global warming
- Ways to counteract
- General Motors – Eddying concept
- Surface subway approach?
- Environmental impacts
    - Invasive species in danger
    - Waterway connections – tracking in invasive exotic species and interrupt natural species
    - Swallow-wart – Charlotte area
- More precipitation – longer growing season, less snow, extreme weather constraints
- Active transportation
    - Different kinds of energy
    - Agriculture will change
    - More bike lanes, more pedestrians
    - Climate change – more urban changes
    - Sewer overflow into Great Lakes
- 2/3 largest food producers – most fresh water
    - Area can support 'high tech'
    - Pay attention and protect resources
    - Innovation

Question /Answer/Final Thoughts

- Renewable fuel capacity – collection
  - Seneca AG Bio
  - Capturing data on renewable energies and power generation
  - Get public involved? New media?
  - Need for education
- Collect baseline data, funding for people to create, public to create projects to fit into Plan, public involvement to further strategies (measureable progress)
- What is the vision of Sustainability? What is it? How was it developed and by who?
  - Stakeholder group
  - Public outreach – feedback
  - Consortium – representatives from all 9 counties
  - Further discussion after meeting – Aileen and Tara
- How did we get to 80%?
  - Statewide number, goal for all of New York State
  - 1990-2050 – state determined and was given to us.
  - Everyone moving to reduce GHGE
- Water management indicators – assumption we don't have water quality issues
  - Water withdrawal provisions from our Region
  - Can over time, will they be taken away?
  - Energy consumption: making/creating clean water (Water protection policies)
- Prioritize strategies – importance's
- Connectivity outside of the Region
- How to spend the $100 million ($90 million over 3 years for all of NYS)
  - Identify alternative funding sources
  - Seed money
  - Prioritize (solve problems)
  - Keep moving forward

Next Steps

The next steps are to begin developing targets for the indicators chosen to advance, and strategies for helping move toward the targets. The public will be kept informed through documents being available on the website, and a second public meeting in late February.

It was my intention that these minutes reflect the general discussion during the meeting. Please contact me regarding any additions, deletions or changes to these minutes.

Finger Lakes Regional Sustainability Plan

Funded by NYSERDA - Cleaner, Greener Communities Program

Overall Public Meeting #2 - Meeting Minutes & Presentation

Finger Lakes Regional Sustainability Plan

Agriculture

Subject Area Goal

Increase the viability, accessibility, and ecological contribution of farms, while decreasing waste and dependence on external inputs.

Opportunities

- Stonger connections with urban markets
- Mostly family-owned farms—better suited to sustainable models
- Environmental protection through farmland design and practice
- Rise of local farmers markets
- Slow food / locavore / organic movements
- Strategic land use policies and programs

Challenges

- Rising costs
- Rapidly-evolving technologies
- Development pressure (slow-paced sprawl)
- Aging farm owners
- Succession planning
- Public perception and nuisances

Variables

- Availability of capital
- Quality workforce
- Consumption patterns and consumer tastes
- National / global markets
- Erratic weather

Comments (place sticky notes below)

Agriculture

Subject Area Goal

Increase the viability, accessibility, and ecological contribution of farms, while decreasing waste and dependence on external inputs.

Finger Lakes Regional Sustainability Plan

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy / Representative Sub-Strategies / Project Ideas	Representative Projects	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Broad Strategy **Support the development of an efficient and productive regional food system.**		●	●	●	●	●	●
Representative Sub-Strategies / Project Ideas • Support the expansion of regional processing and distribution facilities • Increase regional farms' sales to regional institutional buyers. • Increase regional farms' direct sales to consumers.	**Representative Projects** • Headwaters food hub • Finger Lakes food processing cluster initiative • Muller Quaker Yogurt plant • Rochester Public Market planned expansion • Corn stalk nitrogen testing pilot project						
Broad Strategy **Educate the non-farming community about the economic, environmental, and social impact that the agricultural sector has on the region.**		◐	◐	●	●	●	●
Representative Sub-Strategies / Project Ideas • Support efforts to document the economic impact of agriculture and forestry throughout the region. • Expand access to service programs specifically oriented toward small farms. • Create or expand opportunities to build a regional food "identity" focused on the Finger Lakes region.	**Representative Projects** • Conference Sessions • Agricultural Events • Dairy Profit Teams						
Broad Strategy **Increase adoption of distributed bio-energy production technologies to increase production of renewable energy from farm and forest products.**		●	●	●	●	●	●
Representative Sub-Strategies / Project Ideas • Advance the availability and affordability of scalable plug-and-play bio-energy production systems, and provide standards for selling excess power into the grid. • Establish local policy incentives for community-scale bio-energy generation and distribution. • Develop purchase agreements for the sale of bio-energy produced by the agricultural and forestry sectors to the power grid.	**Representative Projects** • Farm Energy Sustainability Plans • Seneca AgBio Green Energy Park						
Broad Strategy **Support farm-scale diversity of product types, both in-season and across seasons, and support the establishment and growth of a diversity of operations with regard to size, market, and operation type.**		●	◐	●	●	●	◐
Representative Sub-Strategies / Project Ideas • Strengthen opportunities for producing, marketing, and exporting specialty agricultural products. • Research carbon sequestration potential of regional agricultural sector in advance of potential establishment of credit trading markets.	**Representative Projects** • Upstate Growers and Packers Cooperative Local Produce Initiative • Larry's Custom Meats Processing Plant Expansion • Finger Lakes Small Business Expansion Fund						
Broad Strategy **Reduce the conversion of quality farmland.**		●	●	●	●	●	◐
Representative Sub-Strategies / Project Ideas • Align local land use regulations with the functional and financial needs of farms. • Improve regulatory context for the purchase, lease, and/or transfer of development rights. • Facilitate farmer-landowner "matching".	**Representative Projects**						

NYSERDA Indicators and Targets

NYSERDA Indicators	Baseline Value (2010)	Short-Term Target (2020)	Mid-Term Target (2035)	Long-Term Target (2050)
• Acres of agricultural land in non-agricultural use	• 155,968 acres	• no change	• no change	• no change

Achievement to Date

Climate Change

Subject Area Goal

Improve performance and resiliency of community assets (buildings and infrastructure systems, natural systems, and agriculture and business systems) under normal and extreme conditions.

Opportunities

- More dynamic community centers and other local assets
- Ample intellectual, social, financial, natural, and economic resources
- Stronger relationships and networks resulting from community investment and resiliency pursuits
- Using educational institutions for research/education related to improved systems
- Re-purposing historic buildings to increase density and improve service delivery
- Leveraging assets and sharing resources across municipal borders

Challenges

- Improving resiliency of food supply
- Continued debate over causes of and responses to climate change
- Funding sources for infrastructure and systems investments
- Supplying services and resources in an emergency to rural areas
- Home rule creates inefficiencies and logistical challenges for inter-municipal coordination

Variables

- Potential increase in extreme weather events
- Food supply affected by variable temperatures, drought, and extreme weather events
- Available resources and capacity of local governments

Comments (place sticky notes below)

Climate Change

Subject Area Goal

Improve performance and resiliency of community assets (buildings and infrastructure systems, natural systems, and agriculture and business systems) under normal and extreme conditions.

Finger Lakes Regional Sustainability Plan

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

	Evaluation Criteria					
	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Broad Strategy: Create self-sufficient "places of refuge" in each community/neighborhood for critical resources, shelter and aid under normal and extreme conditions.	●	●	●	●	●	◐
Broad Strategy: Create localized networks for critical services (e.g., local food sources, micro-grids for energy, water, sewage, solid waste treatment, district heating, etc.) to complement existing centralized systems (at a larger scale than the "places of refuge").	●	●	●	◐	●	◐
Broad Strategy: Enhance mutual aid and support among neighboring communities, counties, and regions to share, develop, and create capabilities, resources, and special assets.	●	●	●	●	●	●
Broad Strategy: Upgrade existing assets (buildings and critical infrastructure, farms, fields, and forests, businesses) to better withstand extreme conditions.	●	●	●	●	●	◐

Representative Sub-Strategies / Project Ideas

Create self-sufficient "places of refuge" in each community/neighborhood for critical resources, shelter and aid under normal and extreme conditions.

- Enhance "places of refuge" in local historical/cultural centers to help preserve the sense of place for each community
- Provide medical service, education/training, and other services in these "places of refuge" for day-to-day activities

Representative Projects

Create self-sufficient "places of refuge" in each community/neighborhood for critical resources, shelter and aid under normal and extreme conditions.

- Coordinate research and development on emergency power alternatives
- Provide emergency power to healthcare/elderly facilities
- Provide emergency power to water and wastewater pumps

Representative Sub-Strategies / Project Ideas

Create localized networks for critical services (e.g., local food sources, micro-grids for energy, water, sewage, solid waste treatment, district heating, etc.) to complement existing centralized systems (at a larger scale than the "places of refuge").

- Create/deploy localized networks in rural as well as urban and suburban settlements, using local inputs (e.g., manure from farms).
- Develop and approve options for "islanding" these networks under extreme conditions to protect lives and livelihoods.

Representative Projects

Create localized networks for critical services (e.g., local food sources, micro-grids for energy, water, sewage, solid waste treatment, district heating, etc.) to complement existing centralized systems (at a larger scale than the "places of refuge").

- Coordinate research, development and commercialization of small-scale energy generation facilities (e.g., 2-4 farms)
- Coordinate car/ride share programs within and between communities

Representative Sub-Strategies / Project Ideas

Enhance mutual aid and support among neighboring communities, counties, and regions to share, develop, and create capabilities, resources, and special assets.

- Develop research, education, training, and continuing education to solve local problems
- Develop processes to identify and share critical resources (e.g., listing of willing and trained medical personal, strategic location of special response equipment for easy deployment).

Representative Projects

Enhance mutual aid and support among neighboring communities, counties, and regions to share, develop, and create capabilities, resources, and special assets.

- Create processes and information for shared medical personnel in emergencies
- Create processes and information for distribution of food, supplies, and medicine during emergencies

Representative Sub-Strategies / Project Ideas

Upgrade existing assets (buildings and critical infrastructure, farms, fields, and forests, businesses) to better withstand extreme conditions.

- Develop research, training and deployment of multiple strategies to upgrade existing assets.
- Develop research, development and evaluation of innovative approaches to regenerate natural systems (e.g., wetlands as buffer zones during flooding)

Representative Projects

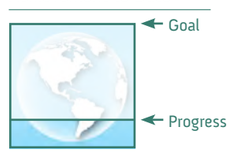
Upgrade existing assets (buildings and critical infrastructure, farms, fields, and forests, businesses) to better withstand extreme conditions.

- Coordinate research, development and deployment of new stream stabilization and hillside erosion control approaches
- Assess options for the relocation of vulnerable community assets and analyze impacts

NYSERDA Indicators and Targets

NYSERDA Indicators	Baseline Value (2010)	Short-Term Target (2020)	Mid-Term Target (2035)	Long-Term Target (2050)
• The degree to which climate change and adaptation is discussed within required hazard mitigation plans	• 0 out of 9 required county plans	• 9 out of 9 county plans	• 9 out of 9 county plans	• 9 out of 9 county plans

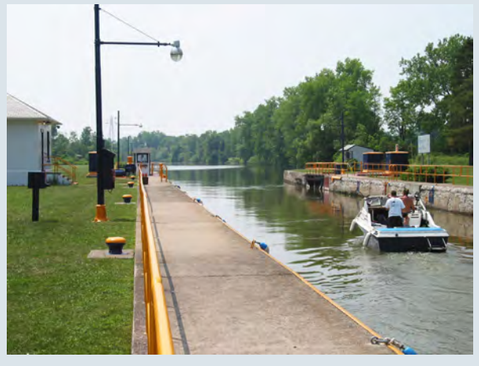
Achievement to Date



Economic Development

Subject Area Goal

Transform the economic landscape through embedding the region's uniqueness (the Story of Place), the Five Capitals, and resiliency into all policy and investment decisions.



Opportunities

- Embed the Story of Place into the region's decision-making framework
- Strong town-gown relationships
- Build on momentum established by REDC plans to promote regional thinking
- Build economic foundation on unique attributes rather than economic trends
- Develop local solutions that will benefit places beyond our boundaries
- Wealth of educational institutions serve as incubators of ideas/innovation
- Highly-skilled labor force

Challenges

- Need cautious approach to "hot sectors" and economic trends
- Moving beyond conventional models based exclusively on financial bottom line
- Current economic climate often leads to short-sighted policies and solutions
- Continuing to weather the transition from the "big 3" to fine-grained, small-scale businesses
- Concentration of poverty and continued disinvestment in urban areas
- Extremely mobile society results in high competition with other regions, states, and countries

Variables

- Trendy sectors at the national / global scale
- Unstable financial sector and access to capital
- State government and state economy-related impacts

Comments (place sticky notes below)

Economic Development

Subject Area Goal

Transform the economic landscape through embedding the region's uniqueness (the Story of Place), the Five Capitals, and resiliency into all policy and investment decisions.

Finger Lakes Regional Sustainability Plan

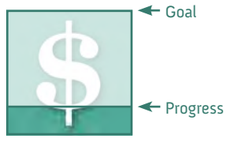
Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy / Representative Sub-Strategies / Project Ideas / Representative Projects	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Broad Strategy **Leverage the Story of Place to build community capacity, align and focus business development and branding**	●	●	●	●	○	●
Representative Sub-Strategies / Project Ideas • Promote "storytelling" events (through museums, schools, local media, professional associations, and other venues) that invite local people to share and deepen their understanding of what makes this region distinctive. • Use the Story of Place process initiated by this report to inform branding efforts for the region.						
Representative Projects						
Broad Strategy **Aggressively identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.**	●	●	◐	●	●	◐
Representative Sub-Strategies / Project Ideas • Network, collaborate and promote regional organizations that encourage and support entrepreneurship, technology transfer and small business • Increase collaboration between educational institutions and existing businesses to support innovation of products & services • Develop funding center to identify and connect emerging innovations with financial resources (seed, grants, venture capital, etc.)						
Representative Projects • Finger Lakes Business Accelerator Cooperative – interconnected network of business support services and incubation facilities, spanning all nine counties (REDC Plan) • Seneca AgBio Green Energy Park – a cluster of companies that convert agricultural byproducts and waste into biofuels and biomaterials (REDC Plan) • NY-BEST Commercialization Center – a consortium of companies and universities aimed at facilitating the creation and deployment of the next generation of energy storage technologies (REDC Plan)						
Broad Strategy **Invest in critical infrastructure to foster economic expansion and advance sustainable initiatives (access, function, resiliency)**	●	◐	●	●	●	◐
Representative Sub-Strategies / Project Ideas • Develop regional condition, capacity and vulnerability assessments and inventories for all critical infrastructure • Accelerate the development and adoption of independent, local networks of critical infrastructure (communications, energy, water, wastewater, micro-grid, etc.)						
Representative Projects • Mill Seat Landfill Bioreactor • Ontario County Alternative Energy Park Infrastructure • Lyons Industrial Park Development Multi modal transportation and logistics site • Portageville Freight Rail Bridge Replacement Project						
Broad Strategy **Expand and align training and education initiatives to target strategic sectors and meet the needs of existing and emerging industries.**	◐	◐	●	●	●	◐
Representative Sub-Strategies / Project Ideas • Connect private industry with the educational system to stimulate early awareness and interest in manufacturing career opportunities and align programs to deliver qualified candidates • Develop education and re-training networks to enable displaced or under-employed workers to fill strategic regional employment needs.						
Representative Projects • Golisano Institute for Sustainability at RIT—sustainability in product development (REDC Plan) • Multiple Pathways to Middle Skills Jobs—training for students and unemployed workers (REDC Plan) • Finger Lakes Community College Viticulture and Wine Technology Facility—designed to help meet the urgent and growing demands for skilled workers by the region's vineyards (REDC Plan)						
Broad Strategy **Enrich and market the unique natural, cultural, agricultural, and destination assets of the region.**	○	○	●	●	●	●
Representative Sub-Strategies / Project Ideas • Develop, network, and promote the region's growing wine, culinary, agricultural, and food micro-enterprises. • Strengthen and support the development of the Finger Lakes' diverse water resources and recreational tourism opportunities, allowing greater access and promoting year-round use. • Support the efforts of regional partners in identifying and securing funding for tourism promotion						
Representative Projects • Value Added Direct to Market Grants Program—provide funding that enables farms to build new structures, buy equipment, renovate buildings, and access working capital (REDC Plan) • Little Theatre Renovation—improvements that will preserve the theater as premier venue for independent/ foreign films (REDC Plan) • Finger Lakes Boating Museum—waterfront improvements and construction of Museum and Visitors Center on Seneca Lake in Geneva (REDC Plan)						

NYSERDA Indicators and Targets

NYSERDA Indicators	Baseline Value (2010)	Short-Term Target (2020)	Mid-Term Target (2035)	Long-Term Target (2050)
• Housing + Transportation Affordability Index • Jobs created by sector	• 52.07% • 532,997 jobs	• 51% • 10% increase	• 50% • 12.5% increase	• 48% • 15% increase

Achievement to Date



Energy

Subject Area Goal

Increase the generation and distribution of regional renewable energies while using energy efficient and alternative energy resources, along with conservation methods, to decrease the reliance on fossil fuels and outside energy sources and to become a self-sustainable region.

Opportunities

- Various renewable/alternative energy sources that reduce dependence on fossil fuels
- Focus on sustainable demand/consumption, not just replacing fossil fuels with other sources
- Economic development—R&D, manufacturing, operations, etc. for renewable/alternative sources
- Reduced environmental impacts—cleaner air, cleaner water
- Waste-to-energy research and development (landfills, farms, etc.)
- Mutually beneficial relationship with other subject areas

Challenges

- Balancing renewable/alternative sources with environmental/ecological impact
- Consensus between municipalities, organizations, and the public
- Securing sufficient public and private investment
- Developing incentives (financial and otherwise) for voluntary guidelines and programs
- Achieving a viable cost/benefit ratio for new energy sources
- Visual and landscape blight of different energy installations
- Developing effective public policies
- Developing technology for energy storage and distribution
- Resistance to change
- Need for reliable, technology-neutral education resources to combat misinformation

Variables

- Success of other subject areas
- Unstable energy markets
- Public perception/acceptance of various energy sources and techniques
- Success of research and development efforts

Comments (place sticky notes below)

Energy

Subject Area Goal

Increase the generation and distribution of regional renewable energies while using energy efficient and alternative energy resources, along with conservation methods, to decrease the reliance on fossil fuels and outside energy sources and to become a self-sustainable region.

Finger Lakes Regional Sustainability Plan

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Develop, produce and employ renewable energy (wind, hydroelectric, solar, geothermal and bio-energy)	●	●	●	◐	◐	◐

Representative Sub-Strategies / Project Ideas

- Develop and promote the adoption of local policies that accommodate the development of on-site and community renewable energy generation
- Explore and develop innovative funding and financing options for the development of renewable energy production
- Research the potential for and promote the use of public-private partnerships and/or purchase power agreements to encourage the development of renewable energy generation
- Increase availability and geographic coverage of alternative public fueling stations using electricity, hydrogen, bio-fuel, CNG, ethanol, LNG, or propane.
- Support research and development, deployment of pilot projects to validate technology and eventual commercialization of new renewable energy technology (i.e. on-site anaerobic digester system or mid-scale wind projects)
- Educate the public and municipal officials on the benefits of renewable energy generation and address the perceived negative impacts

Representative Projects

- Innovacracy – innovative crowd source funding model to support early stage technology development and commercialization (REDC Plan)
- Seneca AgBio Green Energy Park – funding to expand this innovative program for agricultural and renewable energy production. The facility process grape agricultural waste and produces grape seed oil and biodiesel. (REDC Plan)

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Develop policies, incentives and education programs to promote energy conservation and efficiency	◐	●	●	●	●	●

Representative Sub-Strategies / Project Ideas

- Promote and incentivize energy auditing/measurement and verification, commissioning and the implementation of energy conservation and efficiency measures
- Develop and promote the adoption of local codes and policies that exceed the minimum requirements of the NYS Energy Conservation Construction Code
- Educate and promote energy conservation and efficiency measures to municipalities, businesses and residents highlighting the benefits of simple measures (i.e. maximize the use of daylight, use of occupancy sensors, installation of energy efficient lighting and adjusting temperature controls)
- Support research and development, deployment of pilot projects to validate technology and eventual commercialization of Net-Zero energy technologies
- Promote the use of alternate transportation
- Promote the awareness of alternative fuels and technology

Representative Projects

- Golisano Institute for Sustainability at RIT – funding to enable the equipment of research labs to support research and development that embodies the principles of sustainability in product development (REDC Plan)
- New York State Pollution Prevention Institute at RIT – a resource that enables companies to reduce chemical use, increase the efficient use of raw materials, energy and water and reduce emissions and waste generation (REDC Plan)
- The FLREDC will continue to support, monitor and promote projects that improve energy efficiency (REDC Plan)

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Upgrade the existing conventional energy production and distribution in an a sustainable way	◐	●	●	●	◐	●

Representative Sub-Strategies / Project Ideas

- Upgrade the transmission infrastructure to reduce distribution loss
- Increase the use of demand response program to better manage supply and consumption
- Promote distributed generation

Representative Projects

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Develop and implement micro-grid technologies that integrate the advantages of independent local production and distribution systems with the storage and distribution capacity of a large grid	●	●	●	○	○	○

Representative Sub-Strategies / Project Ideas

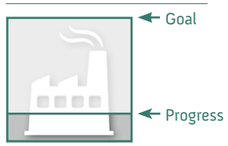
- Support research and development, deployment of pilot projects to validate technology and eventual commercialization
- Explore and develop innovative approaches to address Microgrid financing, ownership and service models

Representative Projects

NYSERDA Indicators and Targets

NYSERDA Indicators	Baseline Value (2010)	Short-Term Target (2020)	Mid-Term Target (2035)	Long-Term Target (2050)
• Regional energy consumption per capita • Total installed renewable energy capacity	• 186 MMBtu • 3,495,768 MMBtu (9% of region's total demand)	• 20% reduction • 20% of region's total demand provided by renewable energy	• 35% reduction • 35% of region's total demand provided by renewable energy	• 50% reduction • 50% of region's total demand provided by renewable energy

Achievement to Date

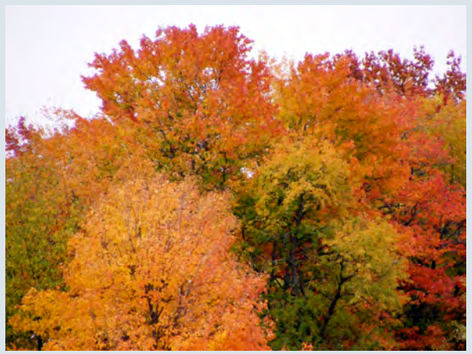


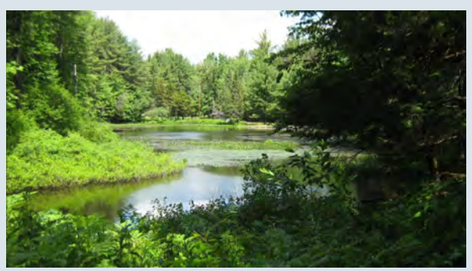
Forestry

Finger Lakes Regional Sustainability Plan

Subject Area Goal

Increase the viability, accessibility, and ecological contribution of forests, while decreasing waste and dependence on external inputs.





Opportunities

- Preservation of region's historic character
- Environmental protection through forest land design and practice
- Alternative energy sources
- Strategic land use policies & programs

Challenges

- Rising costs
- Limitations of government structures to adequately protect forests
- Development pressure (slow-paced sprawl)
- Lack of public understanding of value

Variables

- Availability of capital
- National / global markets
- Erratic weather

Comments (place sticky notes below)

Forestry

Subject Area Goal

Increase the viability, accessibility, and ecological contribution of forests, while decreasing waste and dependence on external inputs.

Finger Lakes Regional Sustainability Plan

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy / Representative Sub-Strategies / Project Ideas	Representative Projects	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Broad Strategy **Increase adoption of distributed bio-energy production technologies to increase production of renewable energy from farm and forest products.**		●	●	●	●	●	●
Representative Sub-Strategies / Project Ideas • Advance the availability and affordability of scalable plug-and-play bio-energy production systems, and provide standards for selling excess power into the grid. • Establish local policy incentives for community-scale bio-energy generation and distribution. • Develop purchase agreements for the sale of bio-energy produced by the agricultural and forestry sectors to the power grid.	Representative Projects • Farm Energy Sustainability Plans • Seneca AgBio Green Energy Park						
Broad Strategy **Encourage the valuation of ecological services provided by regional forest resources.**		●	◐	●	◐	◐	◐
Representative Sub-Strategies / Project Ideas • Encourage forestry carbon offset programs with eligible activities including avoided clearing, sustainable forest management, and reforestation. • Expand and refine standardized methods of quantifying carbon flow in and out of forest resource carbon pools to allow for expanded, meaningful participation in carbon offset markets.	Representative Projects						
Broad Strategy **Educate the general public, landowners/industry professionals, and decision-makers regarding the relationships between watershed land uses, forest management, water quality protection and rural economic viability, and forest-related sustainability issues.**		●	◐	●	●	◐	◐
Representative Sub-Strategies / Project Ideas • Phase out subsidies for development patterns and production methods that are environmentally harmful and socially inequitable in favor of supporting systems and policies that internalize environmental and social costs and reward responsible growth. • Increase the use of silvicultural BMPs through direct financial incentives to landowners. • Support retention and recruitment of sustainable timber harvesters.	Representative Projects						
Broad Strategy **Support efforts to increase equitable forest recreation opportunities and urban forestry/green infrastructure initiatives.**		●	●	●	●	●	◐
Representative Sub-Strategies / Project Ideas • Encourage networking opportunities for community tree boards. • Encourage use and sharing of a standardized community tree inventory database.	Representative Projects						
Broad Strategy **Support watershed, riparian, shoreline, and habitat protection and restoration efforts to increase resiliency and diversity of the native species ecosystem and delicate watersheds.**		◐	◐	●	●	●	●
Representative Sub-Strategies / Project Ideas • Fight invasive pests and diseases. • Support and improve wildfire management services. • Promote consolidation of water resource management agencies from county and municipal into watershed units of governance, funded by water purveyors.	Representative Projects						

Land Use and Livability

Subject Area Goal

Increase the sustainability and livability of the Finger Lakes region by revitalizing the region's traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.

Opportunities

- Protection of farmland and rural/scenic character
- Revitalization of cities, villages, and rural hamlets
- Cost savings on infrastructure and service delivery
- Reverse disinvestment in existing neighborhoods, infrastructure
- Pendulum beginning to swing back to desire for authentic, close-knit, walkable communities
- Human-scaled design supports local/small businesses, diversity of housing and cultural amenities, transportation options
- More equitable/efficient/sustainable tax structures
- Educating policy makers and the public about transportation-land use connection

Challenges

- Home rule limits effectiveness of regional planning
- Inefficient land use pattern results in high energy consumption and high cost of maintaining infrastructure/services
- Land use policies that promote auto-oriented, single-use development
- Competing priorities of adjacent communities
- Struggling urban areas discourage people from locating in walkable/bikeable neighborhoods
- Access to funding for comprehensive plans, zoning codes, design standards, etc.
- Conventional development costs are largely externalized and thus overlooked in favor of short-term benefits
- Development pressure threatens long-term viability of farms needed for sustainable food system

Variables

- Fuel costs
- Land values based on evolving housing demand and tax structures
- State/federal funding dedicated to local/regional planning initiatives

Comments (place sticky notes below)

Land Use and Livability

Subject Area Goal

Increase the sustainability and livability of the Finger Lakes region by revitalizing the region's traditional centers, concentrating development in areas with existing infrastructure and services, and protecting undeveloped lands from urban encroachment.

Finger Lakes Regional Sustainability Plan

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Revitalize existing centers and prioritize the value of placemaking	●	◐	●	◐	●	◐

Representative Sub-Strategies / Project Ideas
- Adopt design standards or other flexible zoning techniques to promote placemaking.
- Encourage the adaptive reuse of vacant existing buildings.
- Encourage "buy-local" campaigns to help support local businesses.
- Invest in improvements to the public realm (streetscapes, plazas, parks) in strategic areas to promote private sector investment.

Representative Projects
- Penn Yan / Keuka Lake waterfront development—mixed use redevelopment of former brownfield (REDC Plan)
- Village of Albion Main Street revitalization
- College Town development project—mixed-use development adjacent to University of Rochester (REDC Plan)
- I-Square—mixed-use town center development in Irondequoit (REDC Plan)

Broad Strategy						
Support and preserve rural centers and the character of rural areas	●	◐	●	◐	●	◐

Representative Sub-Strategies / Project Ideas
- Implement land use tools such as purchase of development rights (PDR) transfer of development rights (TDR), conservation easements and other incentives to preserve agricultural lands and open spaces in perpetuity.
- Discourage extension of sewer lines into rural areas.
- Inventory lands and parcels of significant ecological and/or scenic value coordinate with local land conservancies to protect highest value lands.

Representative Projects
- Promotion and protection of Canandaigua Lake watershed improvements, such as new wetlands, stormwater management techniques and measures
- Sustainable Keuka Lake—develop model land use regulations, training and public outreach; creation of a water quality internship program
- Canandaigua Lake Water Trail highlights the natural resources of Canandaigua Lake and promote active living (REDC Plan)

Broad Strategy						
Encourage diversity of our communities to bring about a greater mixture of uses, people, ages and incomes	◐	◐	●	◐	○	●

Representative Sub-Strategies / Project Ideas
- Eliminate funding and regulatory barriers that constrain the ability to do mixed use development.
- In making land use decisions, consider residential access to parks, transportation choices, cultural assets, jobs and services to develop "complete communities."
- Encourage "Universal Design" for new residential development and redevelopment, which accommodates a range of abilities.

Representative Projects

Broad Strategy						
Create healthy, safe and sustainable communities	◐	◐	●	◐	●	◐

Representative Sub-Strategies / Project Ideas
- Utilize local academic institutions to raise public awareness of the value and importance of sustainability and embed it into local culture.
- Encourage development practices and projects that help establish connected sidewalk networks, particularly in centers, to make them more walkable.
- Encourage creative strategies, such as farmers' markets and small local markets, to provide access to affordable, healthy foods in areas without convenient access to grocery stores.

Representative Projects
- Lyons to Port Byron Canalway Trail—30-mile segment between Lyons and Port Byron (REDC Plan)
- FoodLink Food Hub—improve regional food supply to institutions and local corner stores (REDC Plan)
- Seneca Falls Canal Harbor improvement project
- Finger Lakes Regional Green Products and Services Guide
- Establish LEED certified green schools

Broad Strategy						
Encourage regional cooperation and coordination	◐	◐	●	◐	◐	◐

Representative Sub-Strategies / Project Ideas
- Incorporate major findings and recommendations from this Plan into decision-making on the part of the Regional Economic Development Council.
- Regional authorities (e.g. county sewer districts) should adopt policies where decision-making incorporates sustainability considerations, and not just revenue generation.
- Encourage cooperation and better coordination of planning and zoning across municipal boundaries to achieve consistent development patterns

Representative Projects
- Revisions to and implementation of the Finger Lakes Regional Sustainability Plan

NYSERDA Indicators and Targets

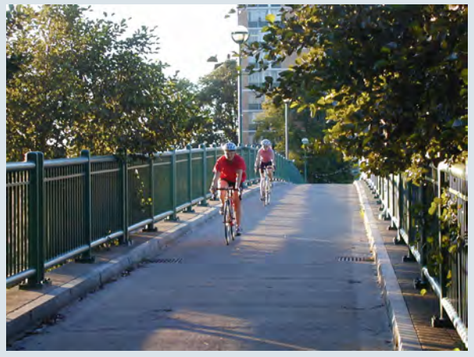
NYSERDA Indicators	Baseline Value (2010)	Short-Term Target (2020)	Mid-Term Target (2035)	Long-Term Target (2050)
• Per capita land consumption	• 0.25 acres	• no change	• 3% reduction	• 5% reduction

Achievement to Date

Transportation

Subject Area Goal

Provide an equitable transportation system that maximizes efficiency, addresses disaster resiliency, provides mode choice and reduces dependence on fossil fuels.



Opportunities

- GHG emission reduction
- Improved public health through active transportation
- Outreach/promotion of available programs and services
- Increased resilience for individuals/households when multiple modes are viable for their daily needs
- Expand on recent momentum in expanding bicycle infrastructure
- Human-scaled design supports local/small businesses
- Educating policy makers and the public about transportation - land use connection

Challenges

- Minimal congestion discourages alternative modes
- Land use policies that promote auto-oriented, single-use development
- Struggling urban areas discourage people from locating in walkable/bikeable neighborhoods
- Access to funding for sustainable transportation projects
- Current lack of critical mass to support transit modes beyond bus service
- Negative perception of public transit

Variables

- Fuel costs
- Availability of federal and state funding

Comments (place sticky notes below)

Transportation

Subject Area Goal

Provide an equitable transportation system that maximizes efficiency, addresses disaster resiliency, provides mode choice and reduces dependence on fossil fuels.

Finger Lakes Regional Sustainability Plan

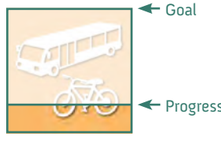
Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy / Representative Sub-Strategies / Project Ideas	Representative Projects	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
		Evaluation Criteria					
Broad Strategy **Maintain and improve the functionality, safety and efficiency of the existing transportation infrastructure**		◐	◐	●	◐	●	◐
• Conduct infrastructure assessments and develop asset management plans to identify and prioritize preservation and maintenance projects • Improve the functionality of intersections and interchange to increase safety, reduce delay and improve mobility • Identify and implement Transportation System Management and Operations (TSMO) projects in the areas of technology, coordination and demand	• Replace the Portage Bridge on Norfolk Southern's Southern Tier rail line to eliminate a major weight & speed restriction (GTC LRTP 2035, REDC Strategic Plan) • Construct an interchange at Kendrick Road as part of the I-390 Southern Corridor Project to reduce delays/ emissions & serve the expansion of the area (GTC LRTP 2035, REDC Strategic Plan) • NYS Route 96 Corridor – Victor, Ontario County – link traffic signals on the Route 96 corridor with the Regional Traffic Operations Center through fiber optic & wireless means (GTC LRTP 2035)						
Broad Strategy **Provide for and promote alternative modes of transportation**		●	●	●	◐	●	◐
• Enhance and expand bicycle and pedestrian infrastructure to close gaps and create connections between destinations • Evaluate the feasibility of broad car-sharing and bike-sharing programs • Evaluate the feasibility for Bus Rapid Transit (BRT), light rail or fixed transit service serving major employers/destinations	• Construct the Rochester Intermodal Station for interregional rail & bus services at the site of the current Amtrak station (GTC LRTP 2035) • Develop and implement and marketing and promotional campaign for the Greater Rochester Regional Commuter Choice Program (roceasyride.org) • Promote the Active Transportation Summit to educate about and encourage active transportation option						
Broad Strategy **Promote the development and adoption of alternative fuels**		◐	◐	●	◐	◐	◐
• Promote the research and development of advanced technology vehicles (i.e. electric hybrid and fuel cell) • Encourage the development of publically accessible alternative fuel and charging stations, including truck stop electrification facilities • Encourage alternative fuel fleet vehicles (public and private fleets)	• Install alternative fuel charging stations at service areas along the Thruway						
Broad Strategy **Leverage transportation system assets to encourage economic development**		◐	◐	●	◐	●	●
• Develop and promote recreational and cultural tourism projects • Develop efficient connections between modes of freight transportation (intermodal rail-truck transfer facility and new/improved rail access points) • Preserve and improve access to the freight transportation system for existing and emerging industries	• Extend Erie Canalway Trail for 30 miles between towns of Lyons & Port Byron through the Montezuma National Wildlife Refuge (REDC Strategic Plan) • Lyons Freight Village/Industrial Park—Multi-modal, multi-business facility that will allow regional businesses to utilize the most cost effective transportation option for importing or exporting (GFLRPC Comp Econ Dev Strategy, GTC Freight & Goods Movement Study) • Determine feasibility of improvements noted in Seneca Army Depot Industrial Rail Facility Concept Plan (GFLRPC Comp Econ Dev Strategy, GTC Freight & Goods Movement Study)						
Broad Strategy **Promote nodal development**		●	●	●	◐	◐	◐
• Support development that fully considers and integrates transportation needs (i.e. transit supportive, cluster) for multiple modes • Develop incentives to promote nodal development in existing population and employment centers • Identify and implement demonstration projects that address concerns and perceived negative aspects of nodal development	• Support Main Street revitalization projects that will emphasize local community engagement within their business attraction & revitalization efforts as well promoting nodal development • Keuka Lake Waterfront project - Consists of a mixed-use redevelopment of a 14.7 acre brownfield site at the north end of Keuka Lake & adjacent to historic Penn Yan (REDC Strategic Plan)						

NYSERDA Indicators and Targets

NYSERDA Indicators	Baseline Value (2010)	Short-Term Target (2020)	Mid-Term Target (2035)	Long-Term Target (2050)
• Total percentage of people commuting via walking, biking, transit, and carpooling • Vehicle miles travelled per capita • Per capita land consumption	• 15% • 9,472 miles • 0.25 acres	• 16% • 1% reduction • no change	• 18% • 3% reduction • 3% reduction	• 20% • 5% reduction • 5% reduction

Achievement to Date



Materials and Waste Management

Subject Area Goal

Decrease the generation of waste, increase the recovery and reuse of materials currently in the discard stream, manage materials using a highest-and-best-use framework, and create economic opportunities and improved environmental stewardship as a result.

Opportunities

- Shift perception from "waste management" to "sustainable materials management"
- Energy production for small scale operations and the larger grid
- Product packaging advancements
- Increased composting, both large and small scale
- Change perception of waste to recognize various reuse and recycle outcomes
- Collaboration with agricultural and industrial operations

Challenges

- Reduce the lifecycle impacts across the materials supply chain
- Lack of local or regional waste tracking systems
- Prioritizing investment in reduction, reuse, recycling and composting over disposal
- Mitigating impacts of imported waste
- Inspiring sustainable choices - greatest impacts come from collective decisions of households

Variables

- Fluctuating levels of imported waste
- Technologic advances for reuse/recycle/disposal of materials
- Transportation/fuel costs

Comments (place sticky notes below)

Materials and Waste Management

Subject Area Goal

Decrease the generation of waste, increase the recovery and reuse of materials currently in the discard stream, manage materials using a highest-and-best-use framework, and create economic opportunities and improved environmental stewardship as a result.

Finger Lakes Regional Sustainability Plan

Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy / Representative Sub-Strategies / Project Ideas	Representative Projects	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Broad Strategy **Reduce the amount of solid waste generated in the region**		●	●	●	●	◐	◐
Representative Sub-Strategies / Project Ideas • Target incoming waste. • Develop local innovative approaches to: 1) Reduced packaging techniques, 2) new sustainable materials for packaging, and 3) source reduction policy initiatives	Representative Projects						
Broad Strategy **Address financial barriers through new revenue and business models**		◐	●	●	◐	◐	◐
Representative Sub-Strategies / Project Ideas • Develop incentive programs to encourage materials use/reuse vs. disposal (e.g., carbon credit policies, Pay-as-You-Throw programs) • Product stewardship programs • Develop financing opportunities for pilot projects that validate new waste reduction and diversion technology	Representative Projects						
Broad Strategy **Increase the percentage of materials reused, recycled, and composted within the region**		◐	◐	●	●	◐	●
Representative Sub-Strategies / Project Ideas • Develop local markets for recyclables • Provide on-site composting vessels to the region's colleges, schools, hospitals, nursing homes, manufacturing plants and other facilities with cafeterias • Move toward composting, digestion, and appropriate land-application solutions for bio solids and other organic materials	Representative Projects • Limit your waste challenge—a community challenge encouraging families to limit their waste though recycling, composting, and decreasing overconsumption. • Revised curbside pick-up program—provide proper bins for recyclable and compostable materials, also increasing efficiency in vehicle fleet. • Construct rail sidings to major regional landfills—possible reuse of existing rail infrastructure as well as reduced truck traffic and increased efficiency. (GTC LRTP)						
Broad Strategy **Promote comprehensive sustainable materials management education, awareness, and research services**		◐	◐	●	●		◐
Representative Sub-Strategies / Project Ideas • Develop metrics and education strategies to define and articulate the true value of materials • Leverage, support and promote regional organizations that provide research and education in efficient materials use, reduction of waste and energy efficiency	Representative Projects • Material generation and disposal reporting system for non-residential sectors—web-based software system for non-residential waste generators to report data on materials they generate and dispose of off-site. (CNY Regional Sustainability Plan) • Pre- and post-consumer organics management education programs—programs for both public and businesses sectors to learn about proper organic waste management practices.						
Broad Strategy **Expand reuse to include construction and demolition (C&D) debris and building development opportunities**		◐	◐	●	◐		◐
Representative Sub-Strategies / Project Ideas • Increase construction and demolition (C&D) recycling operations • Encourage building deconstruction and subsequent material reuse and recycling, as opposed to building demolition	Representative Projects						

NYSERDA Indicators and Targets

NYSERDA Indicators	Baseline Value (2010)	Short-Term Target (2020)	Mid-Term Target (2035)	Long-Term Target (2050)
• Total solid waste generated per capita • Solid waste diverted (i.e. not landfilled or exported) per capita	• 6.95 tons • Data not available	• 15% reduction • 35% reduction of total solid waste generated	• 25% reduction • 50% reduction of total solid waste generated	• 35% reduction • 55% reduction of total solid waste generated

Achievement to Date

Water Management

Subject Area Goal

Improve and protect the water environment with respect to quality, quantity, and availability; promote and understand the value of our water reservoirs, watercourses, and built infrastructure; maximize the social, economic, and ecological potential of our water resources toward equitable sharing of their benefits for both the short and long terms.

Opportunities

- Maximizing water's benefits in a way that ensures its preservation
- Preserving natural state of wetlands and other waterbodies mitigates storm impacts
- Deepen the knowledge of Region's water resources
- Equitable distribution of costs and benefits of water resources
- Rewarding developers for enhanced designs that mitigate impacts
- Increase in tourism with increased quality of waterbodies
- Greater municipal cooperation
- Mitigating impacts of natural gas drilling and other resource extraction efforts
- Balancing water needs of agricultural operations with minimizing residential development in rural areas
- Cheap and ample resource can be taken for granted

Challenges

- Mitigating impacts and removal of invasive species
- Poorly-designed development and agricultural operations that increase runoff and pollutants in waterbodies
- Watershed boundaries and river/stream corridors rarely coincide with political boundaries (home rule)

Variables

- Erratic weather as it relates to replenishing waterbodies and water table
- Competing interests in St. Lawrence Seaway
- Highly-mobile society constantly threatens to introduce new invasive species
- Market forces for other resources (i.e. natural gas) impact demand for and quality of water
- Changing pollutants challenge capabilities of water treatment facilities

Comments (place sticky notes below)

Water Management

Subject Area Goal

Improve and protect the water environment with respect to quality, quantity, and availability; promote and understand the value of our water reservoirs, watercourses, and built infrastructure; maximize the social, economic, and ecological potential of our water resources toward equitable sharing of their benefits for both the short and long terms.

Finger Lakes Regional Sustainability Plan

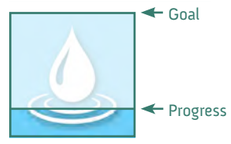
Connection with criteria: ● Strong ◐ Moderate ○ Marginal

Broad Strategy	Representative Sub-Strategies / Project Ideas	Representative Projects	Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility
Create a better understanding of the region's water balance.	• Track USGS-compiled and published "Water Use County Data" • Create a repository of rainfall/runoff data and models		◐	●	●	◐	●	●
Promote Regional Standardization of Regulations and Management	• Promote community vision planning • Improve onsite wastewater treatment systems	• Establish the Genesee River Institute • Preparation Of A Strategy For A Sustainable Keuka Lake • Countywide Drainage District in Orleans County	◐	●	●	○	●	●
Promote Green Infrastructure to Reduce Reliance on Grey Infrastructure	• Preserve open space • Provide financial incentives to increase green infrastructure or reduce the amount of stormwater runoff		◐	●	◐	◐	●	◐
Improve the Regional Application of Energy Resources to Water Resources	• Encourage organizations that can improve water-related energy practices. • Decrease energy usage by water-related utilities. • Generate renewable energy from used water.		◐	●	●	○	●	○

NYSERDA Indicators and Targets

NYSERDA Indicators	Baseline Value (2010)	Short-Term Target (2020)	Mid-Term Target (2035)	Long-Term Target (2050)
• Water demand per capita (per 1,000 people) • Total number of impaired waters	• 0.866 Mgal/day • 49 impaired waters	• 5% decrease • 2% decrease	• 15% decrease • 10% decrease	• 20% decrease • 20% decrease

Achievement to Date



MEETING TITLE	Public Meeting #2 – All Locations	
DATE AND TIME	February 25th, 26th, and 28th, 2013	
ATTENDEES	Kevin Rooney	Wayne Co. Highway
	Sandy Keller	LWV-WC
	Al Isselhard	GLCC
	Johnny Roger	Wayne Co. Fisherman Society
	Bill Santee	
	Hilda Santee	
	Bob McNary	Wayne Co. Planning & Econ. Dev.
	Jack O'Donnell	Zotos International
	Ora Rothfuss	Wayne Co. Planning
	Ken Miller	Town of Palmyra
	Berry Gherr	PYC
	Adeeb Saba	Arista Power
	Jim Marquette	Wayne Co.
	Brian Manktelow	Town of Lyons
	Linda Stevenson	Sun & Record
	Geoege Stevenson	Town of Newark
	Glen Silver	CCSC
	Peg Churchill	WCIDA
	Linda Ochs	CCSC
	Ram Shrivastara	Larsen Engineers
	Terry VanStean	
	Gerald Lederthies	Pease Corp.
	Jerry Sackett	Sackett Farms Taxpayer
	Mary Hancock	Genesee Co. Leg.
	David Lefeber	Town of Avon
	Mary Kay Barton	Citizen Power Alliance
	Dan Schuth	Orleans Soil & Water
	Shelley Stein	Genesee Co. Leg.
	Donna Salmon	
	Shula Hess	New York Green & Genesee Co.
	Dennis Kirby	Orleans Soil & Water
	Art Buckley	Wyoming Co. Planning
	Norm Pawlak	Bergen Planning
	Julie Pacatte	Batavia Development Corp.
	William Boula	Barilla
	Sandra McCausland	
	Ralph Vanttouter	NYSDOH
	Zack DeClerck	City Resident
	Kathy Crane	Socially Good Business
	Mark Morton	Sustainable Rochester -20/20
	Jason Haremza	City of Rochester
	Barb Boyce	
	Zack Sokolow	Finger Lakes Resident
	Rochelle Bell	Public

ATTENDEES	Ron Wezler	Monroe Co. Planning
	Tom Goodwin	Brighton Sustainability Oversight
	Justin Roj	Monroe Co. Planning
	Rasin Moser	MCDES
	Ken Kudla	Public
	Paul Tanke	
	Natalie Knepper	Socially Good Business
	Joseph	All
	Stacey Decker	Town of Penfield EEAC
	Giles Erickson	
	Meredith Smith	
	Mark Oswald	RIT
	Kevin Gallagher	
	David Klein	The Nature Conservancy
	Ton Lafontain	Town of Penfield
	Paul Sawyko	Water Education Collaboration
	Tom Kicior	G/FLRPC
	Kenin Marks	Rochester Community Bikes
	Kate Quinn	
	Bill Moehle	Supervisor, Town of Brighton
	Meagn Dellavilla	Socially Good Behavior
	Patty Love	Rochester Permaculture Center
	Peter Lent	Oatka Creek Watershed
	C.A Burke	FLCC Consv. Prog. Student
	Jim Bittker	Sustainable Performance Consulting
	Rev. John S. Frank	Green Earth Ministries
	Tim Beardsloe	Conesus, NY
	Anne Spaulding	Rochester, NY
	Rick Vertloh	OCWC/Scottsville
	Mike Haugh	Center for Environmental Initiatives
	Mike Barnard	Livonia, NY
ORGANIZED BY	Tara Boggio, T.Y. Lin International (TYLI)	

General Introduction

The last rounds of Public Meetings for the Finger Lakes Regional Sustainability Plan were held in Lyons, NY on Monday February 25th, Batavia, NY on Tuesday February 26th, and Rochester, NY on Thursday February 27th. There was a great turn out with many comments based on the information provided by each subject area on broad strategies, summary/overviews, and ongoing projects within the Region. In total about 80 people attended the meetings between the 3 nights.

Below are the comments, by Subject Area, from all three public meetings:

Agriculture

- Promote agricultural learning in public schools – school gardens, study of local eco systems, and cultural richness of the farmer – to bring young people to the profession.

- More CA's/organic bio-dynamic focused look to bioneers organization for guidance also promo to urban farming.
- More urban farming especially in 'food deserts'
- Stop sprawl. No more tax breaks for sprawl.
- Challenge: provide tax incentives to small scale/family owned farms.
- Small scale local food processing.
- Keep products local – less travel.
- Change codes at all levels so that food can be grown everywhere for personal consumption and for sale.
- Provide free soil testing for residents
- Stop requiring raised beds in the City.
- Decentralize food production so that small urban plots on under used land become food forests for the neighborhood.
- Plant edible landscape plants instead of plants with no food value.
- Opportunities – Access: What about needs of underserved economically disadvantaged and connections to stated opportunities.
- Need to balance agriculture with the negative effects it can have on water quality. Needs to be a balance. Agriculture should not be exempt from land use regulations intended to improve water quality.
- Is there an organic slaughter-house in the Region? If not, one should be located in a central place that is easily accessible by the Regions farmers.
- Campaign to get Wegmans/Tops/other grocery stores to stock more locally made food products.
- If there is true global warming, we will become the center of agriculture.
- We also need to think differently about species of plants.
- More convenient CSA pickup locations.
- Access to urban farming and connect with local schools.
- Encourage more farms to table restaurants. (example: Tap + Table)
- Test and rate crops (especially organic) for toxic residues, nerve poisons, and endocrine disruptors.
- Challenges: aging farm owners.
- Program to create legacy of farming so that farms will not fall out of production. Survey of farmers ages and generations.
- Connect with families/organizations that would take over operations and maintain character of operation.
- Create transition.
- Create projects to determine areas of Region with poor access to quality food.
- Use information to create strategies to locate farmer markets and determine where better food/access is headed.
- Tax incentives – 'no' taxes unless land is sold when assessment applied.
- An ecological framework that is connected including farmland, wetlands, streams, corridors is the foundation necessary for any other strategy to truly be sustainable. If this is not developed and preserved, all other strategies are not actually sustainable.
- Deteriorating roads and bridges prevent access to markets.
- Higher transportation costs due to less heavy weight permit roads.
- Support decision maker's tour and work of Genesee County Chamber of Agriculture Committee.
- Project: Food Incubator/Accelerator – developing concept in Batavia. Value distribution processing packaging at Harvestee Ave Industrial Centre.

- Consider TDR banks. Improve NYS process of purchase development rights.
- Youth – 4H, FFA

- Wayne County has Merril farm and potential to make biogas power near the Butler Area. The digester can serve the agriculture and food waste.
- Support transfer of development rights purchase of development rights. Identify discreet funding streams for conservation easements.
- Where are the small towns-rural details from a cooperative extension in our back yards?
- Educate in local penny savers with a weekly topic.
- Improve technology to capture energy
- Strategy:
    - Roadway Green Space – Between Macedon and Palmyra along Rt. 31, there is a ¾ mile stretch of green space between the road and the canal that averages 180' in width. Along this stretch there is a path neat the canal and overhead power lines. At a minimum of 100' width, 9 acres are easily available for agriculture. If necessary, ample water is available on site. The only other accommodation needed is access for some fishing and parking for up to 6 vehicles. This location is very close to active farming. Currently the space is grass that requires periodic mowing.
- Any shifts in climate will most significantly shift agriculture. Educating the farmer on how to successfully implement, re mediate or circumvent "new" farming situations should be a lead strategy. New crops, changes in technique, and prevention are of utmost important.
- Also as climate changes slowly so does the movement of the people and the amount of food source required. From your agricultural outline it appears static.
- Throughout, the emphasis should be on **an individual/family's self sustaining plans** and education for all types of farmers.
- *Designations of land areas that circumvent Home Rule should not be decided by the group nor should they be funded as such.*

Climate Change Adaptation

- More education – some people are still not convinced that it exists.
- Reverse 6 month research and go back to heirloom based food stuffs (seeds) to tolerate climate viability and emphasize diversity of growing stock.
- Universities can also create programs to train work force and help generate local jobs. Go beyond research and education.
- Have local universities develop climate change modeling coursework/programs as well as resilient design research and learning programs.
- TV picture of someone washing car with a pail of water and sponge.
- Ban fracking in NYS. How can this initiative be going on at the same time that fracking is being considered? It doesn't even make sense to be considering fracking – the environment and the economy both suffer in the long term whenever it is allowed.
- Improve sources of emergency power. Make them accessible to communities to use in major emergencies.
- Improve power and transportation realizing that monster storms are becoming more common and must be provided for in advance.
- There is much science based research that remains to be done, some of which has only just begun to address hydraulic fracking, including, heath issues and environmental issues such as water quality and quantity. Do not rush to fracking. Do not lift ban until more debate and science is available and thoroughly vetted and having received public and stakeholder input.

- Fracking distracts policy makers from allocating resources towards greener energy options and the technology and job creation associated with it.
- Home rule promotes unique protectiveness of areas, history, and public safety and what that musicality's and its comprehensive plan deems unique and should not be usurped.
- Preserve and protect forest lands.
- Home rule is the last right of protection for a citizen. It should not be considered a challenge.
- Variable: Industrialization due to drilling/mining gas or other resources.
- CO^2 is in our volcano eruptions.
- The science is not settled. Wasting billions of dollars on 'unreliable' (what the government calls 'renewable' like wind and solar is 'a cul-de-sac' that will take us nowhere. (See www.energypresentation.info/) Industrial winds massive tower heights and sprawling footprints is the worst waste of money and case of habitat fragmentation and sprawl there is.
- Continue to fund agriculture research to improve/reduce negative impacts of growing food and fiber to climate.
- Lyons Village streets in two areas get flooded – needs GIGP grants to build rain gardens. Storm water management using green technology. Big shale along line roads to allow infiltration of water to the ground.
- Planning for crops, etc. need to consider for warmer temperatures.
- Medical Reserve Corp (MRC)
- The focus of this section was mainly on **EXTREME** climate change; more focus should be given to natural shifts.
- Again, education of the masses as to what to have, what to do and what is available is based on their community. Communities cannot "take care" of all; education of self sustenance and preparedness is key for emergency situations.
- **Historic building should not be dual purposed without the input from the Federal, NYS and local levels of government.**
- Sharing among and between communities should only be with the agreement of these communities and not left to this board nor the plan to decide. Will this become a legal document and what are the ramifications?

Economic Development

- Increase interest and investment by more of citizenship for creative input regarding challenges and processes for solution.
- Brownfield redevelopment.
- Downtown/compact mixed use development.
- Bring education about permaculture (design science) into all levels of education.
- Fund free training on regenerative design, edible landscaping, home steading, which will lead to more small food related businesses.
- Stop giving tax breaks (comida) to projects not adding jobs.
- Government entities should enter into agreements so they won't compete in degrading standards for construction/development. Establish median standards.
- Develop and/or improve train transport within the region for tourism.
- Institutionalize sustainability in economic development by establishing a standing local body charged with reviewing economic development plans from a sustainability perspective. Each proposal should include a brief analysis by this body.

- Funding center needs extremely high priority. The community is sick of technology talent and needs to be culturalized, both from universities and people who leave careers at the 'Big 3'.
- Support efforts of FAME (Finger Lakes Advanced Manufacturer Enterprises) to increase the pipline of young people interested and trained in manufacturing.
- Require class breaks.
- Require a better system of checks and balances.
- Accountability first then funding.
- SEQR should not be completed by IDA's.
- Collaboration better higher education and business is key.
- Address invasive species in water and impact on tourism.
- People/society (Human (individual) and Social (community) Capital.
- Place/Environment (Natural and Built (Infrastructure) Capital.
- Economy (Financial Capital)
- Not all economics are good.
- Add: Transportation to invest in critical infrastructure to foster economic expansion.
- Project: City of Batavia – Vibrant Batavia Community Network – based on positive story telling of place. City Community Improvement Plan.
- Project: City of Batavia BOA (Batavia Opportunity Area)
- Cooperative Sourcing and procurement – emphasis on local procurement.
- Lyons – Canal Park: Develop small hydropower system to power lights at the existing Canal Park – Solar powered kiosks is convey. 'Peppermint' Capital of NY. Increase summer visitors to come to Lyons – see green technology and history of village.
- Agencies and organization already in place – let's make connections instead of new creativity. Identify these across the spectrum of a project.
- Attracting businesses should be based on cost effective savings for the businesses, employers and employees.
- IDA's should have more stringent enforceable requirements when promising public funds or abatement of taxes. There should be timetables with limits as well as measurable outcomes for employment and especially mandated claw backs.

Energy

- Develop this state as a green state and example for NE States.
- Stop fracking increase true return on investment and true cost of alternative/renewable vs. hydrocarbon/traditional fuel/energy sources.
- Ban fracking in NYS.
- Change code so that anyone can install solar and wind without worry about whether it meets the architectural review board's idea of beauty.
- Support the development of a new locally owned energy cooperative that generated energy through personal solar panels and wind. So homeowner's pays for electricity and utility installs and maintains the panels at no cost to building owners.
- Subsidize solar panels to reduce pay off time.
- Municipal LED lighting replacement programs.
- No fracking – environmental impacts.
- Only true renewable – they must prove productivity, efficiency, maximize energy variables while minimizing impact. Should focus on individual energy independence. Cost efficient.

- Do not upgrade the transformers just for renewable headed to NYC while ignoring cheap hydro from Canada. Transmission cost from NYC should not be impacted upon our area/Region.
- Energy storage abandoned mines create sealed pressure chambers. Use an intermediate power source (solar, wind) to run air pumps to increase pressure when needed. Use stored pressure to run generators.
- Business, hospitals, colleges should either install solar or pay more for energy.
- Environmental impact of upgrading to more energy efficient technologies needs to be considered. For example, what happens to the florescent light that is still usable but that has been replaced by a CFL or LED? Large scale upgrade projects must be creating waste. What happens to that waste? Isn't it sometimes better to use a product to the end of its productive life and then replace it?
- Encourage increase in solar and wind power opportunities. Provide incentives to install and maintain these systems. If additional power is generated from local efforts use it to lower our energy bills – not sent the power to NYC at a reduced rate for them.
- Instead of a perpetual indecision in gas drilling by HVITF, end the process, ban the technology and then put resources and efforts to renewable.
- More use of geothermal by making incentives to private and commercial operations.
- Affordable green housing initiatives.
- Senior housing modifications.
- Help municipalities and businesses achieve higher levels of energy conservation by indentifying buildings at the highest level. Qualifications for LEED standings – perhaps grants and funding for the differences between n good energy connections and LEED standings.
- Cost of service to rural business needs if farms require more electric capacity – no build plan in place.
- Industrial wind power is the biggest scam to ever come down the pike. It is not economically, environmentally, or scientifically sound energy policy. It has exorbitant costs for negligible benefits. The only thing reliably generated by industrial wind is complete and utter civil discard. (Read: The Wind Farm Scam, See: http://energypresentatin.info/)
- Beware of anything to do with the 'grid' especially smart meters. Especially of National Grid – a British company.
- Install solar panel farms for village and town near the treatment plant. Become energy independent by productivity equal amounts of KWH as the town of Lyons consumes.
- Canal Locks uses microhydro. Reinstall small turbine. LED – lights on Canal Park.
- Increase tourism with Green Tours.
- Concern over smart meters – 'Big Brother', hacking.
- Concern over wind generation impacts.
- Support capturing locally generated b=power, not wind energy, and being able to utilize it in case of energy. Regional Self-reliance.
- Promote energy efficiency and conservation.
- Promote access to energy sources for residents.
- Energy is a priority subject area.
- Preference for hydro-electric.
- Do not promote wind generation.
- Renewables (Wind) = unreliable.
- Need to understand new technology and benefits with nuclear power (small and mid-scale – modular/mini-nuclear 'incapable of melt down')

- Need to overcome negative perception of nuclear power – educate.
- Need R & D on Modular/mini-nuclear power plant.
- Strongly support renewable energy, cleaner air and water, discourage landfills – too many in area.
- Encourage municipal/public/private working together.
- Ban hydro-fracking to protect our water, environment for tourism.
- Develop public education.
- Issue of saved energy produced by wind and solar.
- Grid issues very important.
- Consider Lake Champlain and Hudson River – Power express – hydro-electric power from Quebec. To benefit Mid-Hudson and other Regions.
- Wayne County model (WISP) active in Town of Ontario (CED's)
- All energy forms should be evaluated on a continuum to their renewable qualities in comparison to their capacity to produce usable energy when needed. Many current renewables have a dirty side requiring backup or are not cost effectively deliverable. Some take up too much agricultural land and companies are placing **other use stipulations** on these lands! Some are being placed and promoted where there are no real source of energy but enough money is made from subsidies to compensate the company financially.
- The State should realign their facilitation of the transportation or deliverability of this energy. Technology cannot deliver land intensive energy to distant areas of high populations via transmissions without loss calculated by *said* distance. Hydro via cable from Canada should not be excluded but directly compared to other forms.
- **Rolling brown outs and blackout** should be examined and planned for by each community. These have become a reality for many other countries and states as one relies on the current status of renewable deliverability. Community planning should exist before proceeding!
- Transmission upgrades for bottlenecked energy should not be paid for by the locality providing it but by the people receiving it; unless they are one in the same. Example- Western NY more than met their renewable requirement with Hydro; yet we have to pay for upgrades to deliver wind energy to NYC. Western NY may, on a good day, generate 20% of capacity *at most at any given time; while 9% is bottlenecked and the rest is hampered or lost due to distance of deliverability.* **Wasted energy is not clean energy**. *Renewable resources at this time should be generated at the local level for the local level. AND individual/family energy self sufficiency should be promoted.* **Knowledge is power!!**

Forestry

- Speed up processes for research on invasive species eradication and implement widely so we have healthy forests left. Somebody in a place of power read Secret Life of Plants and Secrets of the Soil. And anything written by Philip Calahan.
- For every tree knocked down for development, the developer should have to plant another.
- Challenge: Develop land use standards for trees and approving any new permits for development.
- Land Use Policy is not up to this committee – it is a municipal decision – home rule.
- Stop destroying mountain tops. Mandatory path to forests for wind farms placed where there is no wind to where energy is bottle necked.
- Challenge: keeping large scale industrialized operations in appropriate Regions only.
- Place environment first.

- Opportunity: Re-learn the corrected structure of the forest.
- Support the work of local permaculturalists to teach more people about edible forest gardening (i.e. fund classes that are free to the community) www.barefootpermaculure.com
- What are the opportunities to address challenges in terms of stakeholder partnerships between academic institutions (including faculty students) and needs EOP, capital, and markets?
- Have individual credit not titles.
- There are billions of mature trees, forests, wood lots that need thinning due to over growing – this product is going for waste.
- Ecological frameworks and networks – pilot project here in Genesee County. Mapping of natural resources and corridors – dropping to municipal level to incorporate into Comprehensive Plan and zoning incorporated energy consumption and generation.
- Wood is the best renewable we have plenty of.
- Many business opportunities – large and small.
- Basic to forestry – lots of acres taxed to provide education = loss of forest to productive acres. Change tax strategies.
- Best Management Practices (BMP)
- Critical for our area – so much need for youth, public, landowners, and education.
- Climate change impact on species and educating the public should be key. Giving financial CREDIT for sustaining a forest should be considered.
- Giving out pine trees to plant should be expanded to important species and their impacts on the eco system.
- Disease and species management should be available for all.

Land Use and Livability

- Increase active transportation opportunities in communities.
- Identify important view shed that the community believes should be preserved.
- Implement strategies to preserve important view sheds.
- Develop opportunities for people to appreciate view sheds.
- Increase emphasis and accessibility of public transport.
- Green infrastructure municipal code education.
- Subsurface construction as escalating percent of all new projects.
- Bury all electric lines.
- Unaccountable authorities (i.e. Monroe County Water Authority) extending infrastructure into rural areas, leading to continued sprawl.
- Significant state investment in projects that contradict 'smart growth' principles (i.e. STAMP in the Town of Alabama)
- The word 'encourage' is too vague and squish for strategies
- Change how city and town planning is done so that new buildings cannot be considered until there is some very low (5%) vacancy rate in the Region.
- Change city and town codes so that truly sustainable living is possible even if conventional ideas of beauty are not upheld (i.e. solar panels and wind turbines, gardens and fences should be easy to put anywhere).
- Challenge: No home rule – there are no unique needs economically, economically, and socially.

- Opportunities: human scale design. Include social dynamic of extended families and multi-generation households.
- Accessory units and mother-in-law options need to be addressed in land use planning, zoning, etc.
- Brownfield planning and development.
- Downtown/Main Street projects.
- Updates to Comprehensive Plans to incorporate Sustainability
- Mixed use.
- Can we get planning to go beyond each town border?
- Challenge: Home rule is not a challenge. It is a citizen's last defense of protection and for their environment.
- Rural Area Strategy: Why discourage sewer lines? It would provide for cleaner waste treatments.
- Cooperation: Educational programs in schools and volunteer programs.
- Land use changes and decreased cannot be determined by this group – it requires SEQR and municipalities.
- Create a region-wide tax on development of previously undeveloped land with 2 goals: discourage development on virgin land and provide revenue to subsidize inner-city brownfield re-development.
- Let market determine land use – not agricultural markets political hammer.
- Unfortunately, for all of residents, walk able communities were lost when Wal-Mart and Home Depot came to town and build outside of our cities. Changing back could be next to impossible – like closing the barn door after the horses are already out. Home rule/town's zoning laws should be respected.
- Property tax cost deterrent to land in agriculture. Farm producers taxed off their land. Equity in property tax to use of services.
- Base problem – taxes. NYS highest taxes in US. Suggestion: 10-20-30 year contract with NO taxes on active farm land with provision that if land will cost seller 1 ½ times sale price (outside of agriculture) this could provide the viewpoint to green areas.
- Develop a robust home modification program to support aging in place to pressure neighborhoods and meet customer desires.
- Offer affordable and infill green housing programs.
- Public Health: understandably/truly of health issues and their relationship to the natural and built environment in terms of water agriculture access and transportation access.
- Take a drive around Wayne County, how sad the deterioration of hamlets and small villages but need for grass roofs accepting restoration – where is the money and facilitation for this. Transportation such a problem. Any models (nationwide) to use as a reference?
- Traveling farmer markets – only 5 in Wayne County.
- Change town codes that have a minimum lot size.
- Collegetown is too car-centric.
- Brownfield before Greenfield. We have a lot of brownfields and vacancies.
- No more demolition.
- Stop development as if exists. Keep land wild/healthy. If develop, make it green/earth friendly. Use progressive in design development programs at centers so people get out and experience natural world and then value natural world.
- STAMP should be located at the large vacant lots at Eastman Business Park.
- Less surface parking. Less parking in general, let people walk.

- Stop building exurbs when we have room for new housing.
- Sprawl in the name of economic develop is ironic.

- Preservation and brownfields.
- In the past, more people tried to remain stationary when the housing taxes were lower for the family that did not move; the valuation was not reassessed until one moved therefore rewarded staying in a community! Learn from History.
- **Land use and Home Rule should not be realigned or usurped via this plan.** Communities are unique as are their needs. The plan should provide a potential for sharing surplus and modeling examples of successes; not interfere.

Material Management

- Create more recycling/household hazard waste collection facilities.
- Need city drop off center for ecopark. Monroe County ecopark is too hard to get to without a car.
- Develop centers with newest technologies to process waste and recycled materials and someone look into the conversion of landfill waste into fuel through plasma gasification (it is being used in the Armed Forces).
- Add Styrofoam to curbside service.
- Some good talk of composting on TV – need more.
- Ban plastic bags.
- Educate about proper Monroe County recycling procedures.
- Large covered bins needed.
- Recycling is not optional but required: enforce our laws here.
- Educate the population better.
- Force recyclers who throw out their own efforts.
- Reduce the price of repurposed products.
- Challenge: Fully define toxic waste as based on all a products elements.
- Make it more economically attractive for businesses to use recycled items. Sometimes they now cost more than new items.
- Encourage people to do things that save energy and recycle materials.
- Go Green reports on Home Composting.
- Reports on cost savings of air drying clothes rather than always using the dryer. Tie to savings for people.
- Require restaurants (both local and fastfood), grocery stores, and any other business in the food industry to compost food waste. Make it a law and enforce it.
- Monitor dangerous or questionable wastes.
- Instead of funding giant pieces of diesel equipment, fund home composting and education public on how. This is at the very least meant to refer to how 'yard waste' are handled (i.e. leaves)
- Legislate reusable, minimal, and/or compostable packaging for all products including fast foods.
- Project: RIT Sustainable package project concept.
- Village produce compost using thesis study – it will reduce hourly cost and make recyclable product.
- Landfill vs. incinerators has the technology evolved?

- Address environmental justice issues associated with the impacts of waste.

- Against rail infrastructure to support waste management – negative impacts associated with transportation of waste and permanency of site.
- Greater value associated with reuse/recycling of materials rather than landfill waste.
- Promote reducing/eliminating organics in landfills.
- Establish representative projects for show and tell money or negotiation opportunities.
- Rail siding can promote importing need rules.
- Educate, demonstrate, and establish a position 'cabinet' in local government and local stakeholder education.
- ARC with their 'work groups'.
- Rails to landfills perpetuate permanent landfill infrastructure – very bad idea. Stop burying and burning recyclables. Prohibit organics from entering landfills and generating methane.
- 6,095 tons of solid waste per capita??? Where is this number coming from? What does it include? Industry waste as well?
- Reuse/Recycle/Compost should be a broad educational strategy. If an area recycles more, it should be compensated accordingly instead of "fined/taxed/fee'd" all the time. Intermittent positive reinforcement works wonders.

Transportation

- Convert to mass transit with pricing incentives, taxes, tax rebates, anything and make city more human model track. Make buses super efficient in operation. Develop technology and infrastructure for bio-diesel. More trains/buses for commercial and travel less trucks.
- Pedestrian safety. Encourage light reflective sidewalks.
- More RTS express buses.
- More E/W, N/S routes.
- Shuttles between dense walkable areas.
- Stop building new roads. Stop widening roads to add car lanes.
- Flip flop street parking and bike lanes. Get bikes out of the door zone. Green lanes.
- Sharrows go in the middle of the lane, not against the curb.
- Commuter rail – ER/Fairport/City
- Bike infrastructure is too dicey. Municipalities need to work together.
- RTS bus routes are redundant and semi-functional. Hard to read schedule and routs. Impossible if a tourist.
- Safety – safe neighborhoods.
- Sheriff and surveillance cameras.
- More car and bike sharing programs (i.e. expand zipcar around city)
- Easier and more accessible bus schedules.
- Pedestrian safety.
- If you build it, they will come. Good bike/pedestrian infrastructure creates critical mass. Don't wait for the mass to build.
- Increase pedestrian marking, signals near expressway exits.
- Plow Lehigh Valley trail in winter for RIT students.
- Buffer bike lanes when possible. All in the door zone.
- Encourage employers to provide racks, lockers, showers.

- Funding for biking and walking needs to happen.
- RGRTA needs to become user friendly and an option – think Jazz Festival Transportation.

- It's 2013 and this community is spending $100 million on an expressway interchange – this says a lot about community priorities.
- Misplaced priorities.
- NYSERDA Indicators and Targets: figurers are way too low. Try 2010 – 15%, 2020 – 25%, and 2035 – 50% and larger reduction in vehicular mile. We need to get much more serious about light rail transit – offering excellent alternatives to auto dependencies.
- The Kendrick/390 project is not really sustainable in the long term. The more car-centric infrastructure we build, the more we drive. Many UR and RIT cyclists will be discouraged to ride because of high speed traffic. Protected bike lanes must be a part of this project. How many cyclists do you see on West and East Henrietta Roads around 390? Kendrick is currently a safe haven for bike commuters crossing 390. Consider traffic calming and cycle tracks.
- Cars, congestion, land use policies are not getting people out of cars. Bus service from Monroe/Ontario not an option due to limited service in spite of going to a major employment center/universities.
- Where are the commuter services?
- Last week the D&C had 20 pages of information on cars. Locals are addicted to their cars. How do we change this behavior? How to impact individuals to lower carbon footprint besides fuel costs? Congestion and land use policies aren't making the connection. What are local policy makers doing on a regional level to work together to increase stream-lining and increasing connectivity of multi-modal transportation options? How is this being addressed with major employment centers and destinations?
- Challenge: Safety in public transportation.
- Opportunity: Develop more connection centers (Park & Ride) and transit to industrial center regions.
- Provide bus shelters for ride sharers at all thruway and interstate exits and entrances.
- Monorail over light rail. Build out from highest use ways as conspicuous demo role models.
- Promote human powered transportation by developing tails, paths, bike lanes, and sidewalks that connect communities for shorter distances.
- How do local municipalities overcome the 'NIMBY' concerns that trail projects, especially rail to trail projects will cause crime or other issues in their neighborhoods?
- Studies demonstrate that the reality is very different, crime and property values, but too often the fears remain.
- Need to invest in multi-modal solutions through greater federal funding in the TIP.
- Struggling Urban Areas: so many of Rochester's neighborhoods would be excellent location choices for walkable/bicycleable lifestyles if it weren't for the increasable concentrated poverty and depressing decrepit conditions. It would be great to see social sustainability considered in this study.
- Social sustainability meaning to threat and value that poor and indigent in our community as we would aim to respect our natural resource sustainability within social sustainability is an incomplete visual and goal.
- Local – Genesee County cost per road is over $5/ride if all costs are considered.
- Repair roads and bridges of state. Reduce high weight vehicles on county and town roads. Keep heavy weight vehicles on state routes. Invest in crumbling infrastructure. Food moves by trucks.

- Wyoming County – The Silver Lake Trail Council has been trying to get a bike path added around the small lake for years. Roads have been re-paved but paths were not added. Red

tape with NYS bureaucracies have kept plan locked up in planning and I hasn't happened. The plan is already drawn up and would go around Silver Lake and ultimately connect to Letchworth State Park (just a couple miles away).

- Drain canal extra early and deeper the canal (maintain proper depth) and use it as an economic asset to move goods, as well as for recreation. Could tie rail service to canal. Electrified railways utilize a power caddy for sustainability of infinite travel without stopping. Could be used for small vehicles with limited horsepower at low voltage and current, using ramps to link to surface roads. Need stainless steel spikes and corrosion resistant plates (power caddy).
- Project: Batavia Opportunity Area brownfield trails, greener paths.
- Multi-modal improvements to the city infrastructure.
- Do not promote 'high speed' rail.
- Heavy import of waste impacts roads.
- Heavy transport of water/fresh or contaminated negatively impacts roads.
- Winter and salt/sand do enough damage.
- Stop/ban hydro-fracking.
- I do not see a strategy for disaster resiliency. Living through the NYC Blackout of the mid 1960's, I know that public transit was not a solution; walking was dangerous and difficult *in the dark*.
- Mass transit – on where did the trolley go to?
- While biking and walking are your focus; improving safety and lighting should precede this. No one will venture out on foot where there is a serious threat for personal safety.

Water Management

- TV photo of a little water in a bowl then fingers or spatula wish around before rinse.
- Water conservation programs enforced in all arenas.
- No fracking.
- Water recycling technology and implementation.
- Challenge: developing public increase in water is perceived as an unlimited resource but is a major economic development resource.
- Address invasive species in Lakes.
- Support center for environmental incentive creation of a 'Genesee Riverkeeper' as a means of (1) promoting community knowledge of an involvement in the River, shore lines, Ontario and Finger Lakes; (2) monitoring the quality of regional water bodies; (3) coordinating the efforts of numerous organizations with interests in this arena; and (4) attractive local and national funding via the "Riverkeepers' brand.
- Mitigate fracking impact on ground water.
- Require testing by the company prior to fracking and constant monitoring.
- Not self mandatory.
- Encourage public agencies to manage water with drawls to avoid adverse impacts to aquatic resources, such as fish and mussels.
- Challenges: Increase support for organic farming. These people are local experts and eager to contribute to quality of life in Region while growing local, sustainable food. Already doing water quality protection.

- Challenge: Maintain data base of water quality to identify potential contamination issues.
- Outlaw the metering of grass and non-edible landscaping.

    - Outlaw the use of all lawn chemical applications.
    - Who determines equitable distribution? Costs? Policies? Who balances needs of agriculture vs. cities? Who has the hammer?
- Equitable? Why it's our natural regional, ours to use and achieve maximum economic gain from. CAFO regulations on dairies – improve greatly, water quality – strategy in place now – not a challenge.
- Big increase in educational efforts.
- Boost education efforts that shows/demonstrates how valuable our water resources are – lack of understand in this tremendous local area vs world issues.
- Canals very important resources – develop with green technology – mini-hydro power, solar panels.
- Against fracking and potential impacts of water quality.
- Important for Region to maintain water quality.
- Strategy: Improve water quality and promote multi-municipal water front lot sewer lines.
- Project: 4-Bay sewerline in NE Wayne County.
- Protection of groundwater and smaller waterways; all waterways and all NYS residents are equally important. Protection from fracking, water usage for fracking in this State and others especially on protected land, disturbances of waterways for large land intensive projects, pollution in all forms including use of brine on roads and use of contaminated land for roadways (This should also be placed under waste management.) Mitigation should not be only financial compensation.
- Suggested Strategy edits in red:
    - Preserve existing ecosystem services and Promote green infrastructure to reduce reliance on grey infrastructure
        - Encourage net zero pervious surfaces
        - Preserve open space
        - Provide financial incentives to increase green infrastructure or reduce the amount of stormwater runoff
        - Create a regional aquatic invasive species prevention/monitoring and response
        - Streambank remediation and buffering
        - Implement agricultural best management practices for water quality
        - Implement road ditch and highway maintenance best management practices for water quality
    - Increase water use efficiency
        - Decrease water waste/loss in water transport systems
        - Promotion and public education targeting water re-use and reducing overall water use
        - Re-conceive wastewater from a water "waste" to a water "source"
        - Implement best management practices to improve the water use efficiency of crop irrigation and landscaping practices

General/Story of Place Comments

- Missing collective overview documents.
- Apply for grants in each category on one form.

- Glossary of terms: REDC, 5 Capitals, Hot Sectors, Big 3, USGS, Placemaking, PDR & TDR, GHG

- Projects and education aimed at recommending improvements to local laws.
- Overarching strategy – Seven Generation Sustainability.

- *I do have concern as to the integrity of the municipal comprehensive plans, Home Rule and how each municipality is participating in this plan and will be impacted by this plan.*
- The municipalities were invited to one joint meeting on February 21. Did they give written comments or were they also give removable/reusable sticky notes as the public?
- Did they view the same outline as the title suggests they did not- "Public Meeting Boards"?
- How will you include municipalities and the public in the finalization of the draft?
- Who will develop the timetable and implementation?
- Will the municipalities and public have input into the final form and legal substance;**as well as THE PLAN being required to complete a SEQR such that the appropriate State Agencies can weigh in, as well as local governments and the public/ratepayer who are ultimately funding this.**

Appendices
Part 2—Existing Conditions

APPENDIX B1: TIER I GHG INVENTORY

	REDC Regions	Counties	HDD (5-yr avg)	CDD (5-yr avg)	Employment (2010 avg)	Population (2010)	VMT (millions)	Occupied housing units	Number of Occupied Households Using Each Heating Fuel								Electricity Consumption		
									Natural gas	Bottled, tank, or LP gas	Electricity	Fuel oil, kerosene, etc.	Coal or coke	Wood	Solar energy	Other fuel	No fuel used	NYISO Zone	GWh/Zone	GWh/region
	Sources:		Weather Underground (65F ref)		NYS Dept. of Labor	US Census Bureau	2005 FHWA		American Community Survey (2008-2010 3-yr average)									NYISO Map	NYISO (2011)	
0	**New York State**				**8,341,310**	**19,378,102**	**141,348**	**7,221,564**	**3,920,557**	**222,795**	**639,532**	**2,178,016**	**19,382**	**136,879**	**1,430**	**61,449**	**41,524**			**162,787**
1	**Western New York**		**6,609**	**747**	**612,357**	**1,399,677**	**13,832**	**573,780**	**468,695**	**20,051**	**41,870**	**20,608**	**1,856**	**15,921**	**0**	**3,822**	**957**			**13,848.2**
2		Allegany				48,946	472	18,844	9,564	1,699	1,768	1,623	794	3,089	0	301	6	b	9,963.0	490.1
3		Cattaraugus				80,317	854	32,757	16,742	4,036	4,300	2,824	439	3,881	0	489	46	a	15,440.0	794.3
4		Chautauqua				134,905	1,563	55,348	38,743	3,483	6,979	1,719	153	3,168	0	1,018	85	a	15,440.0	1,334.2
5		Erie				919,040	9,248	378,811	335,109	6,556	22,432	7,787	399	4,308	0	1,491	729	a	15,440.0	9,088.9
6		Niagara				216,469	1,695	88,020	68,537	4,277	6,391	6,655	71	1,475	0	523	91	a	15,440.0	2,140.8
7	**Finger Lakes**		**6,570**	**752**	**532,994**	**1,217,156**	**13,250**	**474,137**	**332,814**	**28,202**	**56,091**	**35,103**	**2,847**	**14,495**	**0**	**3,342**	**1,243**			**12,297.0**
8		Genesee				60,079	1,205	23,865	13,896	2,649	2,103	3,622	185	1,154	0	256	0	a	15,440.0	594.2
9		Orleans				42,883	346	15,873	6,575	2,714	1,788	3,146	72	1,426	0	131	21	a	15,440.0	424.1
10		Monroe				744,344	7,680	292,539	239,750	4,477	34,072	9,899	125	1,875	0	1,548	793	b	9,963.0	7,453.2
11		Wayne				93,772	722	36,497	19,449	3,968	4,645	5,517	231	2,323	0	307	57	b	9,963.0	939.0
12		Wyoming				42,155	288	15,242	7,139	1,599	2,149	1,778	464	1,852	0	226	35	a	15,440.0	416.9
13		Livingston				65,393	854	24,063	11,638	3,314	3,401	2,872	249	2,104	0	451	34	a	15,440.0	646.7
14		Ontario				107,931	1,464	43,627	25,873	4,647	5,227	4,876	467	2,025	0	277	235	b	9,963.0	1,080.7
15		Yates				25,348	195	9,184	2,722	2,308	1,379	1,330	234	1,151	0	48	12	c	16,396.0	310.5
16		Seneca				35,251	497	13,247	5,772	2,526	1,327	2,063	820	585	0	98	56	c	16,396.0	431.8
17	**Southern Tier**		**7,025**	**568**	**263,974**	**657,909**	**7,405**	**263,509**	**133,742**	**22,288**	**29,633**	**47,903**	**5,215**	**21,638**	**116**	**2,520**	**454**			**7,686.5**
18		Steuben				98,990	1,366	41,013	22,124	4,802	3,819	3,543	1,847	4,233	0	581	64	c	16,396.0	1,212.5
19		Schuyler				18,343	186	7,482	1,499	1,738	866	1,898	495	882	0	97	7	c	16,396.0	224.7
20		Chemung				88,830	918	35,681	26,112	1,362	3,005	2,617	528	1,754	0	257	46	c	16,396.0	1,088.1
21		Tompkins				101,564	748	38,446	19,415	4,023	6,964	4,807	564	2,200	24	355	94	c	16,396.0	1,244.1
22		Tioga				51,125	689	20,634	6,220	1,750	1,727	8,011	915	1,911	0	100	0	c	16,396.0	626.2
23		Broome				200,600	2,452	79,993	52,690	4,635	8,323	9,818	460	3,334	20	511	202	c	16,396.0	2,457.2
24		Chenango				50,477	482	19,922	3,276	1,944	2,981	7,737	288	3,396	25	270	5	e	7,773.0	427.4
25		Delaware				47,980	564	20,338	2,406	2,034	1,948	9,472	118	3,928	47	349	36	e	7,773.0	406.3
26	**Central New York**		**6,618**	**808**	**336,266**	**791,939**	**8,433**	**307,363**	**195,862**	**21,016**	**36,616**	**34,537**	**2,517**	**13,421**	**50**	**2,655**	**689**			**9,422.8**
27		Onondaga				467,026	4,951	185,031	139,742	4,886	24,682	10,669	730	2,502	50	1,242	528	c	16,396.0	5,720.6
28		Cayuga				80,026	822	31,764	15,830	4,035	2,937	5,594	408	2,396	0	543	21	c	16,396.0	980.2
29		Cortland				49,336	673	17,795	8,956	1,473	2,141	3,151	471	1,462	0	112	29	c	16,396.0	604.3
30		Madison				73,442	801	26,752	11,302	2,603	2,453	7,442	576	2,078	0	264	34	e	7,773.0	621.9
31		Oswego				122,109	1,185	46,021	20,032	8,019	4,403	7,681	332	4,983	0	494	77	c	16,396.0	1,495.7
32	**Mohawk Valley**		**7,096**	**670**	**193,086**	**500,155**	**5,686**	**198,701**	**89,372**	**12,570**	**19,464**	**58,939**	**696**	**14,207**	**39**	**2,737**	**677**			**4,350.1**
33		Fulton				55,531	397	22,896	9,292	1,494	1,676	7,586	40	2,005	0	803	0	f	11,275.0	516.3
34		Herkimer				64,519	852	26,478	11,206	1,524	3,260	7,539	135	2,445	0	306	63	e	7,773.0	546.3
35		Montgomery				50,219	853	20,196	9,275	905	1,678	6,315	135	1,343	0	526	19	f	11,275.0	466.9
36		Oneida				234,878	2,371	91,332	55,184	3,955	8,795	18,930	161	3,020	39	684	564	e	7,773.0	1,988.9
37		Otsego				62,259	671	24,862	3,999	3,378	2,344	11,346	118	3,413	0	243	21	e	7,773.0	527.2
38		Schoharie				32,749	542	12,937	416	1,314	1,711	7,223	107	1,981	0	175	10	f	11,275.0	304.5
39	**North Country**		**9,032**	**372**	**151,343**	**433,193**	**4,364**	**166,636**	**38,995**	**13,627**	**25,850**	**64,837**	**559**	**20,746**	**21**	**1,539**	**462**			**8,519.4**
40		Clinton				82,128	808	31,359	3,115	1,075	8,805	14,850	108	2,974	0	316	116	d	5,510.0	5,510.0
41		Essex				39,370	596	16,235	1,099	1,602	2,687	8,402	34	2,294	0	117	0	f	11,275.0	366.0
42		Franklin				51,599	441	18,790	1,157	1,176	2,096	11,511	190	2,467	0	150	43	e	7,773.0	436.9
43		Hamilton				4,836	119	2,381	100	431	177	1,153	0	481	0	11	28	f	11,275.0	45.0
44		Jefferson				116,229	1,259	44,796	18,446	5,230	7,060	9,853	174	3,354	0	577	102	e	7,773.0	984.2
45		Lewis				27,087	257	10,601	942	1,132	695	4,637	19	3,110	2	33	31	e	7,773.0	229.4
46		St. Lawrence				111,944	884	42,474	14,136	2,981	4,330	14,431	34	6,066	19	335	142	e	7,773.0	947.9
47	**Capital Region**		**6,519**	**814**	**492,397**	**1,079,207**	**12,263**	**431,114**	**228,567**	**24,044**	**51,596**	**104,022**	**919**	**17,914**	**203**	**3,080**	**769**			**9,969.0**
48		Albany				304,204	3,726	122,869	85,735	2,543	16,403	15,094	108	2,005	60	557	364	f	11,275.0	2,828.3
49		Columbia				63,096	848	25,584	2,792	2,107	3,658	14,731	128	1,885	0	241	42	f	11,275.0	586.6
50		Greene				49,221	811	18,443	1,097	1,761	2,164	11,681	100	1,540	0	100	0	g	10,478.0	392.7
51		Rensselaer				159,429	1,533	64,110	30,093	3,996	7,323	18,838	80	3,090	59	476	155	f	11,275.0	1,482.3
52		Saratoga				219,607	2,277	88,009	48,574	7,369	10,683	16,886	180	3,570	31	660	56	f	11,275.0	2,041.8
53		Schenectady				154,727	1,539	58,423	42,792	1,404	5,593	7,660	0	637	17	274	46	f	11,275.0	1,438.6
54		Warren				65,707	943	28,795	12,336	2,408	3,168	8,429	185	1,746	36	398	89	f	11,275.0	610.9
55		Washington				63,216	587	24,881	5,148	2,456	2,604	10,703	138	3,441	0	374	17	f	11,275.0	587.8
56	**Mid-Hudson**		**5,936**	**926**	**857,286**	**2,290,851**	**25,850**	**812,813**	**341,995**	**26,847**	**74,537**	**348,647**	**1,668**	**12,996**	**146**	**4,422**	**1,555**			**19,849.0**
57		Dutchess				297,488	3,180	107,419	27,027	3,807	12,850	59,891	359	2,406	28	808	243	g	10,478.0	2,373.3
58		Orange				372,813	4,696	124,621	57,994	5,313	11,704	45,465	437	2,346	21	1,085	256	g	10,478.0	2,974.2
59		Putnam				99,710	3,085	35,260	2,509	1,193	6,631	23,844	86	814	0	164	19	g	10,478.0	795.5
60		Rockland				311,687	2,731	98,283	86,620	1,078	6,530	3,350	19	310	0	190	186	g	10,478.0	2,486.5
61		Sullivan				77,547	784	30,251	1,011	4,711	3,881	17,710	203	2,607	0	118	10	e	7,773.0	656.6
62		Ulster				182,493	2,208	70,441	13,226	5,586	6,799	40,529	203	3,475	41	515	67	g	10,478.0	1,455.9
63		Westchester				949,113	9,166	346,538	153,608	5,159	26,142	157,858	361	1,038	56	1,542	774	i + h	9,107.0	9,107.0

	REDC Regions	Counties	HDD (5-yr avg)	CDD (5-yr avg)	Employment (2010 avg)	Population (2010)	VMT (millions)	Occupied housing units	Number of Occupied Households Using Each Heating Fuel									Electricity Consumption		
									Natural gas	Bottled, tank, or LP gas	Electricity	Fuel oil, kerosene, etc.	Coal or coke	Wood	Solar energy	Other fuel	No fuel used	NYISO Zone	GWh/Zone	GWh/region
64	**New York City**		**4,776**	**1,194**	**3,590,842**	**8,175,133**	**23,739**	**3,056,088**	**1,712,346**	**42,053**	**251,460**	**975,471**	**2,572**	**2,103**	**753**	**35,830**	**33,500**			**54,283.0**
65		Bronx				1,385,108	4,721	473,368	144,343	4,773	31,516	283,026	671	249	62	4,202	4,526	j	54,283.0	9,197.1
66		New York				1,585,873	4,278	734,354	249,028	9,676	130,990	306,577	885	245	366	19,210	17,377	j	54,283.0	10,530.2
67		Queens				2,230,722	7,839	775,202	514,846	10,984	40,548	198,160	252	544	71	5,634	4,163	j	54,283.0	14,812.0
68		Kings				2,504,700	4,899	909,727	661,823	15,009	44,002	173,487	721	941	230	6,546	6,968	j	54,283.0	16,631.2
69		Richmond				468,730	2,002	163,437	142,306	1,611	4,404	14,221	43	124	24	238	466	j	54,283.0	3,112.4
70	**Long Island**		**5,224**	**954**	**1,185,356**	**2,832,882**	**31,735**	**937,573**	**378,257**	**12,020**	**52,519**	**488,197**	**437**	**3,339**	**102**	**1,461**	**1,241**			**22,562.0**
71		Nassau				1,339,532	11,920	442,625	209,468	3,736	21,721	205,660	140	754	24	474	648	k	22,562.0	10,668.5
72		Suffolk				1,493,350	19,815	494,948	168,789	8,284	30,798	282,537	297	2,585	78	987	593	k	22,562.0	11,893.5

REDC Regions	Employment (2010 avg)	Population (2010)	Number of Occupied Households Using Each Heating Fuel					Residential Consumption per Fuel Source (MMBtu)					VMT (millions)	Transportation Consumption per Vehicle Type (MMBtu)				Electricity Consumption (GWh)
			Natural gas	Bottled, tank, or LP gas	Fuel oil, kerosene, etc.	Coal or coke	Wood	Natural gas	Bottled, tank, or LP gas	Fuel oil, kerosene, etc.	Coal or coke	Wood		LDV - Automobiles	LDV - Light Trucks	Medium-Duty Vehicles	Heavy-Duty Vehicles	
Sources:	NYS Dept. of Labor	US Census Bureau	American Community Survey (2008-2010 3-yr avg)					EIA (2009) - for statewide data only					2005 DOT					NYISO (2011)
New York State	8,215,901	19,378,102	3,920,557	222,795	2,178,016	19,382	136,879	413600000	21100000	129500000	100000	50500000	141,348	353517946	401528240	35365270	73159910	162,787
Western New York	612,357	1,399,677	468,695	20,051	20,608	1,856	15,921	49445079	1898948	1225306	9576		13,832	34595403	39293709	3460859	7159457	13,848
Finger Lakes	532,994	1,217,156	332,814	28,202	35,103	2,847	14,495	35110284	2670896	2087147	14689		13,250	33138268	37638685	3315090	6857906	12,297
Southern Tier	263,974	657,909	133,742	22,288	47,903	5,215	21,638	14109141	2110805	2848206	26906		7,405	18521326	21036656	1852839	3832955	7,686
Central New York	336,266	791,939	195,862	21,016	34,537	2,517	13,421	20662504	1990339	2053493	12986		8,433	21090826	23955113	2109887	4364709	9,423
Mohawk Valley	193,086	500,155	89,372	12,570	58,939	696	14,207	9428318	1190453	3504382	3591		5,686	14222077	16153538	1422750	2943234	4,350
North Country	151,343	433,193	38,995	13,627	64,837	559	20,746	4113786	1290557	3855064	2884		4,364	10914568	12396845	1091873	2258750	8,519
Capital Region	492,397	1,079,207	228,567	24,044	104,022	919	17,914	24112725	2277109	6184917	4742		12,263	30670836	34836157	3068253	6347275	9,969
Mid-Hudson	857,286	2,290,851	341,995	26,847	348,647	1,668	12,996	36078836	2542569	20729777	8606		25,850	64652432	73432700	6467708	13379706	19,849
New York City	3,590,842	8,175,133	1,712,346	42,053	975,471	2,572	2,103	180644308	3982667	57999342	13270		23,739	59372822	67436081	5939545	12287100	54,283
Long Island	1,185,356	2,832,882	378,257	12,020	488,197	437	3,339	39904303	1138365	29027111	2255		31,735	79370041	90149067	7940029	16425489	22,562

Residential Heating Emission Rates	Carbon (kg/MMBtu)	CH_4 (kg/MMBtu)	CH_4 (kg/TJ)	N_20 (kg/MMBtu)	N_20 (kg/TJ)
Natural gas	14.5	0.001	1	0.001	1
Bottled, tank, or LP gas	17.19	0.001	1.1	0	0
Fuel oil, kerosene, etc.	19.33	0.001	1.4	0	0
Coal or coke	26	0.155	147	0	0
Wood	35.5	0.983	932	0	0

Transportation Emission Rates	CO_2 (kg/MMBtu)	CO_2 (kg/TJ)	CH_4 (g/mi)	CH_4 (mg/km)	N_20 (g/mi)	N_20 (mg/km)
Gasoline	73.07	69300	0.121	75	0.040	25
Diesel	78.13	74100	0.006	4	0.005	3
Weighted Average	73.32	69540	0.115	71.45	0.038	23.9

(IPCC Guidelines for National Greenhouse Gas Inventories 2006)

Transportation Conversions	Fuel Economy (mi/gal)	% of Total VMT
LDV-Automobiles	22.6	48.7%
LDV-Light Trucks	18.1	44.3%
Medium-Duty Vehicles	16.7	3.6%
Heavy-Duty Vehicles	7.4	3.3%

(Oak Ridge National Laboratory)

Transportation Conversions	Energy Content (btu/gal)	NYS Usage per NYSERDA
Gasoline	115400	95%
Diesel	128700	5%
Weighted Average	116065	

(Wikipedia.org)

Electricity Emission Rates	CO_2e (lb/MWh)
NY State Average	826

(NYSERDA RGGI Operating Plan)

Global Warming Potential	CO_2e
Carbon Dioxide (CO_2)	1
Methane (CH_4)	21
Nitrous Oxide (N_2O)	310

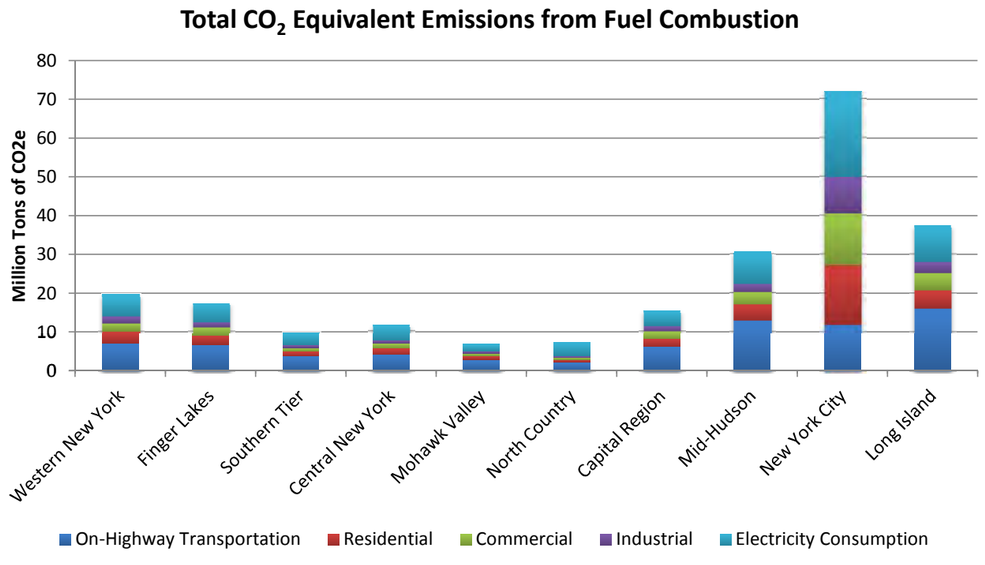
(EPA Regional Greenhouse Gas Inventory Guidance)

Greenhouse Gas Emissions from Fuel Combustion	Million Tons of CO_2 Emissions					Million Tons of CH_4 Emissions (in CO_2 equivalent)					Million Tons of N_20 Emissions (in CO_2 equivalent)				
	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption*	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption
NYS (2007)	93.51	40.69	29.83	21.07	54.01	0.290	0.600	0.160	0.020	0.040	3.620	0.160	0.060	0.050	0.180
Western New York	6.83	3.13	2.22	1.57	5.72	0.037	0.001	0.012	0.001	n/a	0.182	0.018	0.004	0.004	n/a
Finger Lakes	6.54	2.41	1.94	1.37	5.08	0.035	0.001	0.010	0.001	n/a	0.174	0.013	0.004	0.003	n/a
Southern Tier	3.66	1.20	0.96	0.68	3.17	0.020	0.001	0.005	0.001	n/a	0.097	0.005	0.002	0.002	n/a
Central New York	4.16	1.51	1.22	0.86	3.89	0.022	0.001	0.007	0.001	n/a	0.111	0.007	0.002	0.002	n/a
Mohawk Valley	2.81	0.91	0.70	0.50	1.80	0.015	0.000	0.004	0.000	n/a	0.075	0.003	0.001	0.001	n/a
North Country	2.15	0.63	0.55	0.39	3.52	0.012	0.000	0.003	0.000	n/a	0.057	0.001	0.001	0.001	n/a
Capital Region	6.06	2.06	1.79	1.26	4.12	0.033	0.001	0.010	0.001	n/a	0.161	0.009	0.004	0.003	n/a
Mid-Hudson	12.76	3.91	3.11	2.20	8.20	0.069	0.002	0.017	0.002	n/a	0.340	0.013	0.006	0.005	n/a
New York City	11.72	15.40	13.04	9.21	22.42	0.063	0.007	0.070	0.009	n/a	0.312	0.065	0.026	0.022	n/a
Long Island	15.67	4.69	4.30	3.04	9.32	0.085	0.002	0.023	0.003	n/a	0.417	0.014	0.009	0.007	n/a

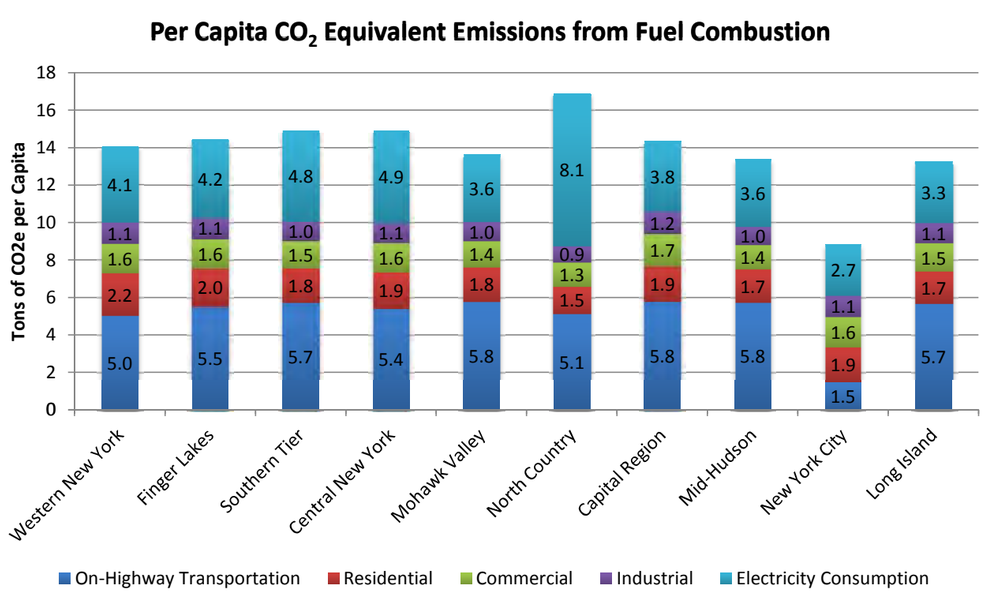
Note: Electricty consumption emissions are represented as CO_2e. CH_4 and N_2O could not be broken out using the data used.

Source: NYS GHG Emissions Inventory and Forecasts for the 2009 State Energy Plan (only used for the statewide emissions figures above)

Fuel Combustion (Inc. Net Imports of Electricity)	Million tons of CO_2 Equivalent Emissions					
	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
Western New York	7.05	3.15	2.24	1.58	5.72	19.73
Finger Lakes	6.75	2.42	1.95	1.37	5.08	17.57
Southern Tier	3.77	1.20	0.97	0.68	3.17	9.80
Central New York	4.30	1.52	1.23	0.87	3.89	11.80
Mohawk Valley	2.90	0.91	0.71	0.50	1.80	6.81
North Country	2.22	0.63	0.55	0.39	3.52	7.32
Capital Region	6.25	2.06	1.80	1.27	4.12	15.50
Mid-Hudson	13.17	3.93	3.14	2.21	8.20	30.64
New York City	12.10	15.47	13.13	9.24	22.42	72.36
Long Island	16.17	4.70	4.34	3.05	9.32	37.58
Total	74.68	36.00	30.05	21.14	67.23	



Fuel Combustion (Inc. Net Imports of Electricity)	Tons of CO_2 Equivalent Emissions Per Capita					
	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
Western New York	5.04	2.25	1.60	1.13	4.09	14.10
Finger Lakes	5.55	1.99	1.60	1.13	4.17	14.44
Southern Tier	5.74	1.83	1.47	1.03	4.83	14.89
Central New York	5.43	1.92	1.55	1.09	4.91	14.90
Mohawk Valley	5.79	1.83	1.41	0.99	3.59	13.62
North Country	5.13	1.46	1.28	0.90	8.12	16.90
Capital Region	5.79	1.91	1.67	1.17	3.82	14.36
Mid-Hudson	5.75	1.71	1.37	0.96	3.58	13.37
New York City	1.48	1.89	1.61	1.13	2.74	8.85
Long Island	5.71	1.66	1.53	1.08	3.29	13.26
Total	51.40	18.45	15.09	10.61	43.14	



Western New York	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
CO_2	6.83	3.13	2.22	1.57	5.72	19.47
CH_4	0.037	0.001	0.012	0.001	n/a	0.052
N_2O	0.182	0.018	0.004	0.004	n/a	0.208
Total	7.049	3.146	2.240	1.576	5.719	**19.729**

Finger Lakes	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
CO_2	6.54	2.41	1.94	1.37	5.08	17.33
CH_4	0.035	0.001	0.010	0.001	n/a	0.048
N_2O	0.174	0.013	0.004	0.003	n/a	0.194
Total	6.752	2.422	1.949	1.371	5.079	**17.573**

Southern Tier	Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
CO_2	3.66	1.20	0.96	0.68	3.17	9.67
CH_4	0.020	0.001	0.005	0.001	n/a	0.026
N_2O	0.097	0.005	0.002	0.002	n/a	0.106
Total	3.774	1.205	0.965	0.679	3.175	**9.797**

Central New York	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
CO_2	4.16	1.51	1.22	0.86	3.89	11.65
CH_4	0.022	0.001	0.007	0.001	n/a	0.030
N_2O	0.111	0.007	0.002	0.002	n/a	0.123
Total	4.297	1.519	1.230	0.865	3.892	**11.803**

Mohawk Valley	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
CO_2	2.81	0.91	0.70	0.50	1.80	6.71
CH_4	0.015	0.000	0.004	0.000	n/a	0.020
N_2O	0.075	0.003	0.001	0.001	n/a	0.081
Total	2.898	0.913	0.706	0.497	1.797	**6.811**

North Country	Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
CO_2	2.15	0.63	0.55	0.39	3.52	7.24
CH_4	0.012	0.000	0.003	0.000	n/a	0.015
N_2O	0.057	0.001	0.001	0.001	n/a	0.061
Total	2.224	0.634	0.554	0.389	3.519	**7.319**

Capital Region	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
CO_2	6.06	2.06	1.79	1.26	4.12	15.28
CH_4	0.033	0.001	0.010	0.001	n/a	0.044
N_2O	0.161	0.009	0.004	0.003	n/a	0.177
Total	6.249	2.065	1.801	1.267	4.117	**15.499**

Mid-Hudson	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
CO_2	12.76	3.91	3.11	2.20	8.20	30.18
CH_4	0.069	0.002	0.017	0.002	n/a	0.089
N_2O	0.340	0.013	0.006	0.005	n/a	0.364
Total	13.173	3.926	3.136	2.206	8.198	**30.638**

New York City	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
CO_2	11.72	15.40	13.04	9.21	22.42	71.78
CH_4	0.063	0.007	0.070	0.009	n/a	0.148
N_2O	0.312	0.065	0.026	0.022	n/a	0.425
Total	12.097	15.468	13.134	9.239	22.419	**72.357**

Long Island	On-Highway Transportation	Residential	Commercial	Industrial	Electricity Consumption	Total
CO_2	15.67	4.69	4.30	3.04	9.32	37.02
CH_4	0.085	0.002	0.023	0.003	n/a	0.112
N_2O	0.417	0.014	0.009	0.007	n/a	0.448
Total	16.171	4.702	4.335	3.050	9.318	**37.577**

APPENDIX B2: TIER II GHG INVENTORY

NYSERDA

Cleaner Greener Communities / Climate Smart Communities Regional Level GHG Reporting Template

Instructions

Please use this template to report summary regional GHG inventories to NYSERDA as part of your final deliverables for the regional GHG inventory. Fill it out and rename the sheet "**REDC_NAME.CGC Final GHG Inventory.2010.xlxs**".

In this template there are two tabs, "Emissions by Source" and the "Roll Up Report". Emissions by Source shows all direct and indirect emissions sources considered by the GHG Working Group for inclusion in the inventory, and the Roll Up Report reflects the consensus decision for which sources are to be included when totaling the regions GHG inventory into a single number . The final submission should the two tabs for the REDC in total, and two additional tabs for each county separately. For county tab names, please rename "REDC" to the name of the county.

We understand each region will have its own custom way of managing data and calculations so please cut and paste summary results from from your own data sheets into this template. Although you may create dynamic links to this template from your analysis sheets when filling it out, please submit this template without these links.

Protocol Compliance Statements. In the REDC level tabs only, please fill in Columns P through R, and indicate if your methods adhered to methods in Column O that summarize NY GHG Working Group consensus decisions with "Rec" standing for the recommended methods and "Alt" standing for an acceptable alternative methods. Its not required that all methods adhere to the recommended or alternate methods, but please indicate any deviations, justifications, findings, or recommendations you have for additional methods to consider. It may help you to select Columns O-P and choose the "wrap text" format to help you read the methods.

Please Fill in the Summary Table on the Cover Sheet tab to the right at the conclusion of filling out there data sheets. You may dynamically link these numbers to the other sheets in this template.

Color Coding- in general a Green cell requires a value or entry, a while cell is optional.

Reporting Region	Finger Lakes

REDC Emissions Summary CO2e Roll Up Numbers (MTCDE of MTCO2e)		Population	MTCO2e per capita
Genesee	1,136,082	60,079	18.91
Livingston	922,787	65,393	14.11
Monroe	8,978,673	744,344	12.06
Ontario	1,830,439	107,931	16.96
Orleans	426,168	42,883	9.94
Seneca	551,568	35,251	15.65
Wayne	924,795	93,772	9.86
Wyoming	989,391	42,155	23.47
Yates	360,016	25,348	14.20
REDC in Total	16,119,918	**1,217,156**	**13.24**
REDC in Total	**16,119,918**		

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	Finger Lakes

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL, not included in Gross Total
	DO NOT Report Data in these cells

Reporting Template CGC. Emissions in MTCDE (MTCO2e)							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam		1,003,997			Yes	Consumption	MMBTU	15,093,554
FL Direct Residental Fuel Consumption	Natural Gas	2,457,416				Yes	Consumption	MMBTU	46,303,439
FL Direct Residental Fuel Consumption	Propane / LPG	205,344				Yes	Consumption	MMBTU	3,247,626
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	216,103				Yes	Consumption	MMBTU	2,912,087
FL Direct Residental Fuel Consumption	Wood	10,565			502,028	Yes	Consumption	MMBTU	5,352,108
	Commercial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		964,950			Yes	Consumption	MMBTU	14,506,538
FL Commercial Direct Fuel Consumption	Natural Gas	1,592,903				Yes	Consumption	MMBTU	30,013,998
FL Commercial Direct Fuel Consumption	Propane / LPG	52,185				Yes	Consumption	MMBTU	825,329
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	141,697				Yes	Consumption	MMBTU	1,909,428
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	1,275				Yes	Consumption	MMBTU	12,404
FL Commercial Direct Fuel Consumption	Wood	2,269			107,827	Yes	Consumption	MMBTU	1,149,538
	Industrial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		569,720			Yes	Consumption	MMBTU	8,564,870
FL Industrial Title V Consumption	Natural Gas	280,745				Yes	Consumption	MMBTU	5,289,881
FL Industrial Title V Consumption	Propane / LPG	156				Yes	Consumption	MMBTU	2,459
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	926				Yes	Consumption	MMBTU	12,484
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	11,903				Yes	Consumption	MMBTU	157,965
FL Industrial Title V Consumption	Coal	196,030				Yes	Consumption	MMBTU	2,082,610
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply	**Energy Generation and Supply**								
FL Elec Generation GHG Analysis	Coal	1,535,272				No	Generation	MMBTU	15,706,588
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	92,952				No	Generation	MMBTU	1,751,439
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	2,227				No	Generation	MMBTU	30,014
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	9,417				No	Generation	MMBTU	124,973
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	854			169,315	No	MSW Combusted	MMBTU	3,251,672
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							7,331,091
FL Electricity Consumption	Electricity T/D Losses		147,750			Yes	Losses	MMBTU	2,221,201
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	615,180				Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	33,983				Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**								
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			
Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	37,292				Yes			
Not Reported	Chemical Manufacturing					Yes			
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**								
FL Industrial Sources	All Refrigerants- except SF6	278,673				Yes			

Transportation Energy	**On-road**								
FL Emission Summary - Onroad	Motor Gasoline (E-10)	4,273,549			310,163	Yes	Consumption	MMBTU	65,172,504
FL Emission Summary - Onroad	Diesel	771,313				Yes	Consumption	MMBTU	10,530,485
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	Rail								
FL Emission Summary - Rail	Diesel	105,505				Yes	Consumption	MMBTU	1,421,471
FL Emission Summary - Rail	Coal Consumption	7				Yes	Consumption	MMBTU	280
FL Emission Summary - Rail	Electric								
	Marine								
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	16,434				Yes	Consumption	MMBTU	218,101
	Air								
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	47,122				No	Consumption	MMBTU	660,343
	Off-road Mobile								
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	772,613				Yes	Consumption	MMBTU	10,835,100
Waste Management	**Solid Waste Management**								
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	596,684		326,347	201,744	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	1,016,144
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	3,089,899
	Sewage Treatment						MSW Sent for Incineration	Tonnes	-
FL Waste water	Central WWTPs and Septic Systems	120,000				Yes	MSW incinerated in Boundary	Tonnes	-
Agriculture	**Livestock**								
GHF_FL_Agriculture	Enteric Fermentation	713,507				Yes			
GHF_FL_Agriculture	Manure management	137,649				Yes			
GHF_FL_Agriculture	**Crop Production and Soil Management**								
GHF_FL_Agriculture	Use of Fertilizer	61,934				Yes			
Not Reported	Crop Residue Incineration					No			
Land Use and Forestry									
GHG_FL_Forest	Urban Forest Annual Reserve	251,202				No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	173,110,876				No			

Grand Totals	Gross Totals	13,107,154	2,686,417	326,347	1,291,077	**16,119,918**
	Total with Aircraft	13,154,277	2,686,417	326,347	1,291,077	**16,167,041**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarification

Protocol Compliance Report Summary of Protocol Decisions for Required Tier II Source (Green Box Sources) "Rec" - recommended, "Alt" means acceptable alternative	Adherence		
	Yes	No	Brief Description of Method and Issues
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Size	X		Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Siz	X		Recommended method used
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Siz	X		Recommended method used
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Siz	X		Recommended method used
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Siz	X		Recommended method used
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended method.	X		Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended metho	X		Recommended method used
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt Allocation based on Home Heating, HDD, and Employment only.	X		Recommended method used
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt Allocation based on Home Heating, HDD, and Employment only.	X		Recommended method used: includes all Fuel Oil
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt Allocation based on Home Heating, HDD, and Employment only.	X		All fuel oil included in Row 24 totals
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt Allocation based on Home Heating, HDD, and Employment only.	X		Recommended method used
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt Allocation based on Home Heating, HDD, and Employment only.	X		Recommended method used
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) allocate SEDS EIA data based allocated by industrial employment	X		Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewic industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additiona allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewic industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additiona allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
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(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall b reported. For overlap, prioritize EIA 923 Database.	X		EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall b reported. For overlap, prioritize EIA 923 Database.	X		EIA 923 database used
	X		EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall b reported. For overlap, prioritize EIA 923 Database.	X		EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. Wood CO2 emissions reported optionally as biogenic CO2, Ch4 and N2 Emissions required to be reported to Scope 1	X		EIA 923 database used: none to report
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. MSW CO2 emissions split as 44% reported as Scope 1 as part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html. All Ch4 and N2O shall be reported under required Scope 1.	X		EIA 923 database used
(Rec) - Acquire utility specific estimate of T/D (in %) and apply that to all consumption (res/commercial/industrial). Report emissions as Scope 2 using region EGRID emission factors consistent with all Scope 2 calculations. (Alt) use a statewide average T/D loss of 5.28% as documented by EPA's EGRID reporting for New York.	X		Alternative method used as stated
(Rec) - Acquire utility specific estimate of T/D (in %), compute as percentage of total residential/commercial/industrial/energy generation. Report as Scope 1 CH4 emissions. (Alt) use a statewide average of 1.8% as documented by National Grid in 2010 PSC Reporting.	X		Alternative method used as stated
(Rec) - acquire utility specific estimate and report as SF6. (Alt) Apportion NYSERDA 2009 Emission Inventory Total for the state to counties based ration of EIA reported total electricity demand to computed regional or county demand for all sectors.	X		Based on conversations with P Groth and J Yeinger, used national 2010 emission inventory total (alternative method)
	X		Nothing to report
	X		Nothing to report
	X		Nothing to report
	X		Nothing to report
	X		Nothing to report
(Rec) Direct Allocation from from EPA MMR only. Small Sources to not to be included at this time.	X		Nothing to report
	X		Nothing to report
	X		Nothing to report
	X		Recommended method used
	X		Nothing to report
(Rec) Use EPA 2009 Draft Guidance method. Allocate national per/capita emissions to counties based on population. Methods include mobile refrigeration	X		Recommended method used

(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggio). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggio) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region- appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions.	X		Recommended method used
(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggio). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggio) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region- appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions on the ethanol line item.	X		Recommended method used
Optional- Include regional E-85 consumption if you have it, and debit against your gasoline estimate create using VMT. Allocate 15% as gasoline to be reported a Scope 1, and 85% as ethanol to be reported as optional biogenic.	X		Not available
Optional- Include regional biodiesel consumption if you have it, and debit against your diesel estimate create using VMT. Because biodiesel blends change, allocate option biogenic component on this line item only, and retain the diesel fraction on the diesel line item.	X		Not available
Today this will be zero, but as NYSERDA pushes to electrify on-road transportation we will want to report here, debiting against electricity consumption in the other sectors as appropriate.	X		Not available
Freight and Passenger. (Rec) Use direct provider fuel consumption data allocated spatially to location of routes (Alt) Use Nyserda 2002 estimates of Diesı consumption by county directly.	X		Alternative method used
Passenger and Commuter (Rec) Use direct provider electricity consumption data allocated spatially to location of routes (Alt) None identified.	X		Recommended method used Nothing to report
Rec - USE NYSDEC 2007 data from the state emission inventory for the small and pleasure craft categories reported by county (data on Wiggio). For commercial distillate and bunkers, No consensus method identified- please document methods used.	X X X		Recreational boating included in non-road data using NONROAD modeling CO2 emissions calculated by multiplying EPA estimated annual SO2 emission rate by ratio of CO2 to SO2 emissions for applicable fuel.
Optional Scope 1- Estimate Landing and Take off Cycle emissions using a dispersion model such as EDMS, or with related data from the NYSDEC for the 2007 state emission inventory. Optional Scope 3, use FAA statistics on departure miles from regional airport, allocate jet fuel use to it, then allocate to counties by fraction of population served	X		Scope 1 option, using EDMS. Totals are also included in GHG Inventory reporting as part of Sustainability Plan
Rec - USE NYSDEC 2007 NONROAD data from the state emission inventory (data on Wiggio) for all categories except small marine.	X		Recommended Method used as stated, but includes recreational marine
This is fugitive CH4 emissions from landfills. There are two required Scopes. Scope 1 - Estimate of actual emissions in regional boundary. (rec) use MMR or Title 5 (annual landfill reporting) data directly for facilities (data on Wiggio). For recently closed landfills or for areas without reported data, use a First Order Decay model to estimate emissions. Scope 3- emissions footprint attributed to current waste generation regardless of where it is treated. (rec) Estimate county level MSW and C/D waste generation and apply a representative FOD model with prevailing CH4 captures rates forward-casted 50 years to estimate the footprint.	X		Scope 1 reported as actual 2010 waste facility emissions reported (EPA MRR). Scope 3 calculated and reported as recommended, assuming an average 75% methane capture rate
Rec - for any MSW incinerated that does not generate grid connected power, compute emissions. MSW CO2 emissions split. 44% shall be reported as Scope 1 a part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html. All Ch4 and N2O shall be reported under required Scope 1	X		None Reported
Determine population covered by WWTPs. (Rec)- Use the ICLEI Local Government Operations Protocol and apply to all facilities in the region. (Alt) use methods as described in the EPA 2009 Draft GHG guidance to translate populations served into emissions using default data. Determine population covered by Septic Systems, and apply the default emissions / capita as described in the ICLEI Local Government Operations Protocol.		X	Based on conversations with P. Groth and J. Yeinger, used State Inventory Tool and regional population, allocated to county by population
(Rec) Methods as described in the EPA 2009 guidance and executed in the EPA's State Inventory Tool. Use locally resolved fertilizer, crop, and livestock population from either the 2007 Ag census or the US NASS system to get county-level data and make calculations for each county.	X X X X		Recommended method used Recommended method used Recommended method used None reported
Optional Source and Sink. Use methods described in the EPA 2009 Guidance. Use local forest inventory data, or use the US Forest Services online inventory tool for forests. For carbon stock factors use the National Council for Air and Stream Improvement's Carbon On-Line Estimator.	X		As stated
(NCASI 2008) Use the		X	Baseline Total calculated using method recommended and reported for information, change is not reported or relevant to WG discussions

Sum Totals in columns for all EXCEPT ANY FORESTRY SINKS. Totals in the Scope 1 column can be a considered a physical roll up of emissions that occur i boundary, and is analogous to reporting that is done for state and federal GHG inventories, and for air quality management.

Value above MINUS and reported optional forestry sinks.

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Finger Lakes

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	1,003,997	999,114	672	4,211			
	Natural Gas	2,457,416	2,455,008	972	1,435			
	Propane / LPG	205,344	204,535	205	604			
	Distillate Fuel Oil (#1, #2, Kerosene)	216,103	215,378	183	542			
	Wood	10,565	-	3,597	6,968			
	Commercial Energy Consumption							
	Electricity / Steam	964,950	960,257	646	4,047			
	Natural Gas	1,592,903	1,591,342	630	930			
	Propane / LPG	52,185	51,979	52	154			
	Distillate Fuel Oil (#1, #2, Kerosene)	141,697	141,221	120	355			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	1,275	1,266	3	6			
	Wood	2,269	-	772	1,497			
	Industrial Energy Consumption							
	Electricity / Steam	569,720	566,949	381	2,390			
	Natural Gas	280,745	280,470	111	164			
	Propane / LPG	156	155	0	0			
	Distillate Fuel Oil (#1, #2, Kerosene)	926	923	1	2			
	Residual Fuel Oil (#4 and #6)	11,903	11,863	10	29			
	Coal	196,030	194,516	481	1,033			
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	147,750	147,032	99	620			
	Natural Gas T/D Losses	615,180		615,180				
	Use of SF6 in the Utility Industry	33,983						33,983
	Industrial Processes							
	Cement Production							
	Glass Production	37,292						
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	Product Use (ODS Substitutes)							
	All Refrigerants- except utility SF6	278,673					278,673	
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**							
	Motor Gasoline (E-10)	4,273,549	4,258,449	11,280	3,821			
	Diesel	771,313	768,758	1,899	655			
	Ethanol							
	Biodiesel							
	Rail							
	Diesel	105,505	105,151	264	90			
	Coal	7	7	0.02	0.01			
	Marine							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	16,434	16,379	41	14			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	772,613	769,937	1,998	678			
Waste Management	**Solid Waste Management**							
	Landfill Methane from FOD of waste generated	326,347	-	326,347	-			
	MSW incineration (non grid connected)							
	Sewage Treatment							
	Central WWTPs and Septic Systems (Total reflects rounding)	120,000		80,000	40,000			
Agriculture	**Livestock**							
	Enteric Fementation	713,507		713,507				
	Manure management	137,649		114,656	22,994			
	Crop Production and Soil Management							
	Use of Fertilizer	61,934			61,934			
	Crop Residue Incineration							
Grand Totals		16,119,918	13,740,690	1,874,107	155,173	-	278,673	33,983

Note: Red text represents text added to original template to provide additional information or clarification

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	Genesee County

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam		38,926			Yes	Consumption	MMBTU	585,195
FL Direct Residental Fuel Consumption	Natural Gas	100,316				Yes	Consumption	MMBTU	1,890,192
FL Direct Residental Fuel Consumption	Propane / LPG	18,666				Yes	Consumption	MMBTU	295,220
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	21,679				Yes	Consumption	MMBTU	292,139
FL Direct Residental Fuel Consumption	Wood	811			38,518	Yes	Consumption	MMBTU	410,640
	Commercial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		21,105			Yes	Consumption	MMBTU	317,278
FL Commercial Direct Fuel Consumption	Natural Gas	60,681				Yes	Consumption	MMBTU	1,143,380
FL Commercial Direct Fuel Consumption	Propane / LPG	5,473				Yes	Consumption	MMBTU	86,556
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	15,613				Yes	Consumption	MMBTU	210,395
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	97				Yes	Consumption	MMBTU	939
FL Commercial Direct Fuel Consumption	Wood	206			9,812	Yes	Consumption	MMBTU	104,604
	Industrial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		32,433			Yes	Consumption	MMBTU	487,578
FL Industrial Title V Consumption	Natural Gas	40,225				Yes	Consumption	MMBTU	757,926
FL Industrial Title V Consumption	Propane / LPG	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply	**Energy Generation and Supply**								
FL Elec Generation GHG Analysis	Coal	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	34,322				No	Generation	MMBTU	646,698
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	3				No	Generation	MMBTU	36
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	-			-	No	MSW Combusted	MMBTU	-
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							-
FL Electricity Consumption	Electricity T/D Losses		5,381			Yes	Losses	MMBTU	80,901
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	31,103				Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	1,238				Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**								
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			

Not Reported	Limestone Use					Yes				
Not Reported	Soda Ash Use					Yes				
Not Reported	Semi-Conductor Manufacturing					Yes				
FL Industrial Sources	Glass Production	-				Yes				
Not Reported	Chemical Manufacturing					Yes				
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**									
FL Industrial Sources	All Refrigerants- except SF6	13,755				Yes				
Transportation Energy	**On-road**									
FL Emission Summary - Onroad	Motor Gasoline (E-10)	401,644			29,150	Yes	Consumption	MMBTU	6,125,147	
FL Emission Summary - Onroad	Diesel	101,372				Yes	Consumption	MMBTU	1,366,032	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		
	Rail									
FL Emission Summary - Rail	Diesel	27,489				Yes	Consumption	MMBTU	370,427	
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-	
FL Emission Summary - Rail	Electric									
	Marine									
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU		
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-	
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-	
	Air									
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	1,860				No	Consumption	MMBTU	26,085	
	Off-road Mobile									
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	46,907				Yes	Consumption	MMBTU	651,759	
Waste Management	**Solid Waste Management**									
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	283,751		9,404	9,958	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	29,281	
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	729,041	
	Sewage Treatment						MSW Sent for Incineration	Tonnes	-	
FL Waste water	Central WWTPs and Septic Systems	4,660				Yes	MSW incinerated in Bounda	Tonnes	-	
Agriculture	**Livestock**									
GHF_FL_Agriculture	Enteric Fermentation	107,337				Yes				
GHF_FL_Agriculture	Manure management	21,478				Yes				
GHF_FL_Agriculture	**Crop Production and Soil Management**									
GHF_FL_Agriculture	Use of Fertilizer	8,082				Yes				
Not Reported	Crop Residue Incineration					No				
Land Use and Forestry										
GHG_FL_Forest	Urban Forest Annual Reserve	6,456				No				
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	18,521,295				No				

Grand Totals	Gross Totals	1,028,832	97,845	9,404	87,438	**1,136,082**
	Total with Aircraft	1,030,693	97,845	9,404	87,438	**1,137,942**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarificatior

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Genesee County

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	38,926	38,737	26	163			
	Natural Gas	100,316	100,218	40	59			
	Propane / LPG	18,666	18,593	19	55			
	Distillate Fuel Oil (#1, #2, Kerosene)	21,679	21,607	18	54			
	Wood	811	-	276	535			
	Commercial Energy Consumption							
	Electricity / Steam	21,105	21,002	14	89			
	Natural Gas	60,681	60,622	24	35			
	Propane / LPG	5,473	5,451	5	16			
	Distillate Fuel Oil (#1, #2, Kerosene)	15,613	15,561	13	39			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	97	96	0	0			
	Wood	206	-	70	136			
	Industrial Energy Consumption							
	Electricity / Steam	32,433	32,275	22	136			
	Natural Gas	40,225	40,185	16	23			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	5,381	5,355	4	23			
	Natural Gas T/D Losses	31,103		31,103				
	Use of SF6 in the Utility Industry	1,238						1,238
	Industrial Processes							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	Product Use (ODS Substitutes)							
	All Refrigerants- except utility SF6	13,755					13,755	
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**							
	Motor Gasoline (E-10)	401,644	400,224	1,060	359			
	Diesel	101,372	101,032	254	86			
	Ethanol							
	Biodiesel							
	Rail							
	Diesel	27,489	27,397	69	23			
	Coal							
	Marine							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	46,907	46,746	120	41			
Waste Management	**Solid Waste Management**							
	Landfill Methane from FOD of waste generated	9,404	-	9,404	-			
	MSW incineration (non grid connected)							
	Sewage Treatment							
	Central WWTPs and Septic Systems (Total reflects rounding)	4,660		3,107	1,553			
Agriculture	**Livestock**							
	Enteric Fementation	107,337		107,337				
	Manure management	21,478		17,777	3,701			
	Crop Production and Soil Management							
	Use of Fertilizer	8,082			8,082			
	Crop Residue Incineration							
Grand Totals		1,136,082	935,101	170,779	15,209	-	13,755	1,238

Note: Red text represents text added to original template to provide additional information or clarification

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	Livingston

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam		50,404			Yes	Consumption	MMBTU	757,749
FL Direct Residental Fuel Consumption	Natural Gas	86,966				Yes	Consumption	MMBTU	1,638,642
FL Direct Residental Fuel Consumption	Propane / LPG	24,173				Yes	Consumption	MMBTU	382,302
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	17,794				Yes	Consumption	MMBTU	239,781
FL Direct Residental Fuel Consumption	Wood	1,530			72,693	Yes	Consumption	MMBTU	774,980
	Commercial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		31,100			Yes	Consumption	MMBTU	467,546
FL Commercial Direct Fuel Consumption	Natural Gas	43,812				Yes	Consumption	MMBTU	825,521
FL Commercial Direct Fuel Consumption	Propane / LPG	5,902				Yes	Consumption	MMBTU	93,350
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	10,673				Yes	Consumption	MMBTU	143,821
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	112				Yes	Consumption	MMBTU	1,090
FL Commercial Direct Fuel Consumption	Wood	325			15,422	Yes	Consumption	MMBTU	164,413
	Industrial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		33,180			Yes	Consumption	MMBTU	498,811
FL Industrial Title V Consumption	Natural Gas	9,146				Yes	Consumption	MMBTU	172,326
FL Industrial Title V Consumption	Propane / LPG	40				Yes	Consumption	MMBTU	634
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply	**Energy Generation and Supply**								
FL Elec Generation GHG Analysis	Coal	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	-			-	No	MSW Combusted	MMBTU	-
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							-
FL Electricity Consumption	Electricity T/D Losses		6,675			Yes	Losses	MMBTU	100,343
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	19,700				Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	1,535				Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**								
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			

Not Reported	Limestone Use					Yes				
Not Reported	Soda Ash Use					Yes				
Not Reported	Semi-Conductor Manufacturing					Yes				
FL Industrial Sources	Glass Production	-				Yes				
Not Reported	Chemical Manufacturing					Yes				
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**									
FL Industrial Sources	All Refrigerants- except SF6	14,972				Yes				
Transportation Energy	**On-road**									
FL Emission Summary - Onroad	Motor Gasoline (E-10)	289,011			20,976	Yes	Consumption	MMBTU	4,407,479	
FL Emission Summary - Onroad	Diesel	77,407				Yes	Consumption	MMBTU	1,043,088	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		
	Rail									
FL Emission Summary - Rail	Diesel	2,698				Yes	Consumption	MMBTU	36,354	
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-	
FL Emission Summary - Rail	Electric									
	Marine									
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU		
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-	
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-	
	Air									
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	1,252				No	Consumption	MMBTU	17,523	
	Off-road Mobile									
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	45,099				Yes	Consumption	MMBTU	624,813	
Waste Management	**Solid Waste Management**									
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0		11,704	10,839	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	36,442	
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-	
	Sewage Treatment						MSW Sent for Incineration	Tonnes	-	
FL Waste water	Central WWTPs and Septic Systems	3,400				Yes	MSW incinerated in Bounda	Tonnes	-	
Agriculture	**Livestock**									
GHF_FL_Agriculture	Enteric Fermentation	105,152				Yes				
GHF_FL_Agriculture	Manure management	21,311				Yes				
GHF_FL_Agriculture	**Crop Production and Soil Management**									
GHF_FL_Agriculture	Use of Fertilizer	8,966				Yes				
Not Reported	Crop Residue Incineration					No				
Land Use and Forestry										
GHG_FL_Forest	Urban Forest Annual Reserve	9,040				No				
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	22,179,890				No				

Grand Totals	Gross Totals	789,724	121,359	11,704	119,930	**922,787**
	Total with Aircraft	790,976	121,359	11,704	119,930	**924,039**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarificatior

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Livingston County

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE

		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	50,404	50,159	34	211			
	Natural Gas	86,966	86,881	34	51			
	Propane / LPG	24,173	24,077	24	71			
	Distillate Fuel Oil (#1, #2, Kerosene)	17,794	17,734	15	45			
	Wood	1,530	-	521	1,009			
	Commercial Energy Consumption							
	Electricity / Steam	31,100	30,949	21	130			
	Natural Gas	43,812	43,769	17	26			
	Propane / LPG	5,902	5,879	6	17			
	Distillate Fuel Oil (#1, #2, Kerosene)	10,673	10,637	9	27			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	112	111	0	1			
	Wood	325	-	110	214			
	Industrial Energy Consumption							
	Electricity / Steam	33,180	33,019	22	139			
	Natural Gas	9,146	9,137	4	5			
	Propane / LPG	40	40	0	0			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	6,675	6,642	4	28			
	Natural Gas T/D Losses	19,700		19,700				
	Use of SF6 in the Utility Industry	1,535						1,535
	Industrial Processes							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	Product Use (ODS Substitutes)							
	All Refrigerants- except utility SF6	14,972					14,972	
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**							
	Motor Gasoline (E-10)	289,011	287,990	763	258			
	Diesel	77,407	77,147	194	66			
	Ethanol							
	Biodiesel							
	Rail							
	Diesel	2,698	2,689	7	2			
	Coal							
	Marine							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	45,099	44,944	116	39			
Waste Management	**Solid Waste Management**							
	Landfill Methane from FOD of waste generated	11,704	-	11,704	-			
	MSW incineration (non grid connected)							
	Sewage Treatment							
	Central WWTPs and Septic Systems (Total reflects rounding)	3,400		2,267	1,133			
Agriculture	**Livestock**							
	Enteric Fementation	105,152		105,152				
	Manure management	21,311		17,637	3,674			
	Crop Production and Soil Management							
	Use of Fertilizer	8,966			8,966			
	Crop Residue Incineration							
Grand Totals		922,787	731,804	158,362	16,113	-	14,972	1,535

Note: Red text represents text added to original template to provide additional information or clarification

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	Monroe

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam		583,141			Yes	Consumption	MMBTU	8,766,622
FL Direct Residental Fuel Consumption	Natural Gas	1,767,355				Yes	Consumption	MMBTU	33,301,091
FL Direct Residental Fuel Consumption	Propane / LPG	32,214				Yes	Consumption	MMBTU	509,489
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	60,502				Yes	Consumption	MMBTU	815,296
FL Direct Residental Fuel Consumption	Wood	1,345			63,906	Yes	Consumption	MMBTU	681,303
	Commercial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		630,471			Yes	Consumption	MMBTU	9,478,160
FL Commercial Direct Fuel Consumption	Natural Gas	1,231,571				Yes	Consumption	MMBTU	23,205,657
FL Commercial Direct Fuel Consumption	Propane / LPG	10,881				Yes	Consumption	MMBTU	172,082
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	50,196				Yes	Consumption	MMBTU	676,416
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	77				Yes	Consumption	MMBTU	747
FL Commercial Direct Fuel Consumption	Wood	395			18,753	Yes	Consumption	MMBTU	199,930
	Industrial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		305,578			Yes	Consumption	MMBTU	4,593,902
FL Industrial Title V Consumption	Natural Gas	84,189				Yes	Consumption	MMBTU	1,586,308
FL Industrial Title V Consumption	Propane / LPG	5				Yes	Consumption	MMBTU	85
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	926				Yes	Consumption	MMBTU	12,484
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	11,903				Yes	Consumption	MMBTU	157,965
FL Industrial Title V Consumption	Coal	93,268				Yes	Consumption	MMBTU	990,874
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply	**Energy Generation and Supply**								
FL Elec Generation GHG Analysis	Coal	960,843				No	Generation	MMBTU	9,829,896
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	52,696				No	Generation	MMBTU	992,917
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	1,627				No	Generation	MMBTU	21,918
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	9,417				No	Generation	MMBTU	124,973
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	285			56,563	No	MSW Combusted	MMBTU	1,086,281
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							339,986
FL Electricity Consumption	Electricity T/D Losses		88,417			Yes	Losses	MMBTU	1,329,211
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	435,860				Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	20,336				Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**								
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			
Not Reported	Limestone Use					Yes			
Not Reported	Soda Ash Use					Yes			
Not Reported	Semi-Conductor Manufacturing					Yes			
FL Industrial Sources	Glass Production	-				Yes			
Not Reported	Chemical Manufacturing					Yes			
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**								
FL Industrial Sources	All Refrigerants- except SF6	170,421				Yes			
Transportation Energy	**On-road**								
FL Emission Summary - Onroad	Motor Gasoline (E-10)	2,319,392			168,335	Yes	Consumption	MMBTU	35,371,200
FL Emission Summary - Onroad	Diesel	354,771				Yes	Consumption	MMBTU	4,780,696
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU	
Not Reported	Biodiesel					No	Consumption	MMBTU	
Not Reported	Electricity Consumption					No	Consumption	MMBTU	
	Rail								
FL Emission Summary - Rail	Diesel	38,049				Yes	Consumption	MMBTU	512,727
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-
FL Emission Summary - Rail	Electric								
	Marine								
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU	
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	9,247				Yes	Consumption	MMBTU	122,719
	Air								
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	41,295				No	Consumption	MMBTU	578,610
	Off-road Mobile								
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	361,546				Yes	Consumption	MMBTU	5,108,287
Waste Management	**Solid Waste Management**								
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0		208,035	123,375	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	647,758
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-
	Sewage Treatment						MSW Sent for Incineration	Tonnes	-
FL Waste water	Central WWTPs and Septic Systems	86,175				Yes	MSW incinerated in Boundar	Tonnes	-
Agriculture	**Livestock**								
GHF_FL_Agriculture	Enteric Fermentation	14,562				Yes			
GHF_FL_Agriculture	Manure management	2,150				Yes			
GHF_FL_Agriculture	**Crop Production and Soil Management**								
GHF_FL_Agriculture	Use of Fertilizer	5,697				Yes			
Not Reported	Crop Residue Incineration					No			
Land Use and Forestry									
GHG_FL_Forest	Urban Forest Annual Reserve	184,750				No			
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	19,500,731				No			

Grand Totals	Gross Totals	7,163,032	1,607,606	208,035	430,933	**8,978,673**
	Total with Aircraft	7,204,327	1,607,606	208,035	430,933	**9,019,969**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarification

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Monroe County

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE

		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	583,141	580,304	390	2,446			
	Natural Gas	1,767,355	1,765,624	699	1,032			
	Propane / LPG	32,214	32,088	32	95			
	Distillate Fuel Oil (#1, #2, Kerosene)	60,502	60,299	51	152			
	Wood	1,345	-	458	887			
	Commercial Energy Consumption							
	Electricity / Steam	630,471	627,404	422	2,644			
	Natural Gas	1,231,571	1,230,364	487	719			
	Propane / LPG	10,881	10,838	11	32			
	Distillate Fuel Oil (#1, #2, Kerosene)	50,196	50,028	43	126			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	77	76	0	0			
	Wood	395	-	134	260			
	Industrial Energy Consumption							
	Electricity / Steam	305,578	304,092	204	1,282			
	Natural Gas	84,189	84,106	33	49			
	Propane / LPG	5	5	0	0			
	Distillate Fuel Oil (#1, #2, Kerosene)	926	923	1	2			
	Residual Fuel Oil (#4 and #6)	11,903	11,863	10	29			
	Coal	93,268	92,548	229	491			
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	88,417	87,987	59	371			
	Natural Gas T/D Losses	435,860		435,860				
	Use of SF6 in the Utility Industry	20,336						20,336
	Industrial Processes							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	Product Use (ODS Substitutes)							
	All Refrigerants- except utility SF6	170,421					170,421	
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**							
	Motor Gasoline (E-10)	2,319,392	2,311,196	6,122	2,074			
	Diesel	354,771	353,580	889	301			
	Ethanol							
	Biodiesel							
	Rail							
	Diesel	38,049	37,921	95	32			
	Coal							
	Marine							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	9,247	9,216	23	8			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	361,546	360,290	938	319			
Waste Management	**Solid Waste Management**							
	Landfill Methane from FOD of waste generated	208,035	-	208,035	-			
	MSW incineration (non grid connected)							
	Sewage Treatment							
	Central WWTPs and Septic Systems (Total reflects rounding)	86,175		57,450	28,725			
Agriculture	**Livestock**							
	Enteric Fementation	14,562		14,562				
	Manure management	2,150		1,816	334			
	Crop Production and Soil Management							
	Use of Fertilizer	5,697			5,697			
	Crop Residue Incineration							
Grand Totals		8,978,673	8,010,753	729,055	48,109	-	170,421	20,336

Note: Red text represents text added to original template to provide additional information or clarification

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	Ontario

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam		100,919			Yes	Consumption	MMBTU	1,517,168
FL Direct Residental Fuel Consumption	Natural Gas	187,569				Yes	Consumption	MMBTU	3,534,230
FL Direct Residental Fuel Consumption	Propane / LPG	32,884				Yes	Consumption	MMBTU	520,078
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	29,308				Yes	Consumption	MMBTU	394,945
FL Direct Residental Fuel Consumption	Wood	1,428			67,876	Yes	Consumption	MMBTU	723,622
	Commercial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		109,174			Yes	Consumption	MMBTU	1,641,268
FL Commercial Direct Fuel Consumption	Natural Gas	131,266				Yes	Consumption	MMBTU	2,473,364
FL Commercial Direct Fuel Consumption	Propane / LPG	11,154				Yes	Consumption	MMBTU	176,412
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	24,420				Yes	Consumption	MMBTU	329,073
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	283				Yes	Consumption	MMBTU	2,755
FL Commercial Direct Fuel Consumption	Wood	421			20,004	Yes	Consumption	MMBTU	213,260
	Industrial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		63,660			Yes	Consumption	MMBTU	957,024
FL Industrial Title V Consumption	Natural Gas	120,837				Yes	Consumption	MMBTU	2,276,846
FL Industrial Title V Consumption	Propane / LPG	110				Yes	Consumption	MMBTU	1,741
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply	**Energy Generation and Supply**								
FL Elec Generation GHG Analysis	Coal	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	146			28,867	No	MSW Combusted	MMBTU	554,396
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							-
FL Electricity Consumption	Electricity T/D Losses		15,932			Yes	Losses	MMBTU	239,520
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	61,902				Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	3,664				Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**								
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			

Not Reported	Limestone Use					Yes				
Not Reported	Soda Ash Use					Yes				
Not Reported	Semi-Conductor Manufacturing					Yes				
FL Industrial Sources	Glass Production	37,292				Yes				
Not Reported	Chemical Manufacturing					Yes				
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**									
FL Industrial Sources	All Refrigerants- except SF6	24,711				Yes				
Transportation Energy	**On-road**									
FL Emission Summary - Onroad	Motor Gasoline (E-10)	516,572			37,491	Yes	Consumption	MMBTU	7,877,822	
FL Emission Summary - Onroad	Diesel	106,684				Yes	Consumption	MMBTU	1,438,072	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		
	Rail									
FL Emission Summary - Rail	Diesel	1,036				Yes	Consumption	MMBTU	13,962	
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-	
FL Emission Summary - Rail	Electric									
	Marine									
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU		
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-	
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-	
	Air									
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	459				No	Consumption	MMBTU	6,450	
	Off-road Mobile									
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	79,324				Yes	Consumption	MMBTU	1,105,904	
Waste Management	**Solid Waste Management**									
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0		37,122	17,890	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	115,586	
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-	
	Sewage Treatment						MSW Sent for Incineration	Tonnes	-	
FL Waste water	Central WWTPs and Septic Systems	8,123				Yes	MSW incinerated in Bounda	Tonnes	-	
Agriculture	**Livestock**									
GHF_FL_Agriculture	Enteric Fermentation	97,147				Yes				
GHF_FL_Agriculture	Manure management	19,073				Yes				
GHF_FL_Agriculture	**Crop Production and Soil Management**									
GHF_FL_Agriculture	Use of Fertilizer	8,421				Yes				
Not Reported	Crop Residue Incineration					No				
Land Use and Forestry										
GHG_FL_Forest	Urban Forest Annual Reserve	10,361				No				
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	29,726,656				No				

Grand Totals	Gross Totals	1,503,632	289,686	37,122	172,128	**1,830,439**
	Total with Aircraft	1,504,090	289,686	37,122	172,128	**1,830,898**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarificatior

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Ontario County

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	100,919	100,429	68	423			
	Natural Gas	187,569	187,385	74	110			
	Propane / LPG	32,884	32,755	33	97			
	Distillate Fuel Oil (#1, #2, Kerosene)	29,308	29,210	25	73			
	Wood	1,428	-	486	942			
	Commercial Energy Consumption							
	Electricity / Steam	109,174	108,643	73	458			
	Natural Gas	131,266	131,138	52	77			
	Propane / LPG	11,154	11,110	11	33			
	Distillate Fuel Oil (#1, #2, Kerosene)	24,420	24,338	21	61			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	283	281	1	1			
	Wood	421	-	143	278			
	Industrial Energy Consumption							
	Electricity / Steam	63,660	63,350	43	267			
	Natural Gas	120,837	120,718	48	71			
	Propane / LPG	110	110	0	0			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	15,932	15,855	11	67			
	Natural Gas T/D Losses	61,902		61,902				
	Use of SF6 in the Utility Industry	3,664						3,664
	Industrial Processes							
	Cement Production							
	Glass Production	37,292						
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	Product Use (ODS Substitutes)							
	All Refrigerants- except utility SF6	24,711					24,711	
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**							
	Motor Gasoline (E-10)	516,572	514,746	1,363	462			
	Diesel	106,684	106,360	234	91			
	Ethanol							
	Biodiesel							
	Rail							
	Diesel	1,036	1,033	3	1			
	Coal							
	Marine							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	79,324	79,050	204	69			
Waste Management	**Solid Waste Management**							
	Landfill Methane from FOD of waste generated	37,122	-	37,122	-			
	MSW incineration (non grid connected)							
	Sewage Treatment							
	Central WWTPs and Septic Systems (Total reflects rounding)	8,123		5,415	2,708			
Agriculture	**Livestock**							
	Enteric Fementation	97,147		97,147				
	Manure management	19,073		15,804	3,269			
	Crop Production and Soil Management							
	Use of Fertilizer	8,421			8,421			
	Crop Residue Incineration							
Grand Totals		1,830,439	1,526,511	220,283	17,978	-	24,711	3,664

Note: Red text represents text added to original template to provide additional information or clarification

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	Orleans

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam		29,567			Yes	Consumption	MMBTU	444,492
FL Direct Residental Fuel Consumption	Natural Gas	49,121				Yes	Consumption	MMBTU	925,549
FL Direct Residental Fuel Consumption	Propane / LPG	19,791				Yes	Consumption	MMBTU	313,012
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	19,487				Yes	Consumption	MMBTU	262,595
FL Direct Residental Fuel Consumption	Wood	1,037			49,257	Yes	Consumption	MMBTU	525,124
	Commercial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		9,501			Yes	Consumption	MMBTU	142,835
FL Commercial Direct Fuel Consumption	Natural Gas	17,789				Yes	Consumption	MMBTU	335,187
FL Commercial Direct Fuel Consumption	Propane / LPG	3,474				Yes	Consumption	MMBTU	54,943
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	8,402				Yes	Consumption	MMBTU	113,224
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	23				Yes	Consumption	MMBTU	227
FL Commercial Direct Fuel Consumption	Wood	158			7,512	Yes	Consumption	MMBTU	80,085
	Industrial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		20,395			Yes	Consumption	MMBTU	306,603
FL Industrial Title V Consumption	Natural Gas	8,011				Yes	Consumption	MMBTU	150,951
FL Industrial Title V Consumption	Propane / LPG	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply	**Energy Generation and Supply**								
FL Elec Generation GHG Analysis	Coal	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	-			-	No	MSW Combusted	MMBTU	-
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							202,204
FL Electricity Consumption	Electricity T/D Losses		3,461			Yes	Losses	MMBTU	52,027
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	10,548				Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	796				Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**								
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			

Not Reported	Limestone Use					Yes				
Not Reported	Soda Ash Use					Yes				
Not Reported	Semi-Conductor Manufacturing					Yes				
FL Industrial Sources	Glass Production	-				Yes				
Not Reported	Chemical Manufacturing					Yes				
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**									
FL Industrial Sources	All Refrigerants- except SF6	9,818				Yes				
Transportation Energy	**On-road**									
FL Emission Summary - Onroad	Motor Gasoline (E-10)	108,783			7,895	Yes	Consumption	MMBTU	1,658,969	
FL Emission Summary - Onroad	Diesel	22,121				Yes	Consumption	MMBTU	298,095	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		
	Rail									
FL Emission Summary - Rail	Diesel	184				Yes	Consumption	MMBTU	2,479	
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-	
FL Emission Summary - Rail	Electric									
	Marine									
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU		
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-	
FL Emission Summary -Com Marine	Residual Fuels	7,187				Yes	Consumption	MMBTU	95,382	
	Air									
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	138				No	Consumption	MMBTU	1,952	
	Off-road Mobile									
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	36,869				Yes	Consumption	MMBTU	512,632	
Waste Management	**Solid Waste Management**									
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	134,789		6,935	7,108	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	21,593	
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	742,837	
	Sewage Treatment						MSW Sent for Incineration	Tonnes	-	
FL Waste water	Central WWTPs and Septic Systems	6,662				Yes	MSW incinerated in Bounda	Tonnes	-	
Agriculture	**Livestock**									
GHF_FL_Agriculture	Enteric Fermentation	17,831				Yes				
GHF_FL_Agriculture	Manure management	2,599				Yes				
GHF_FL_Agriculture	**Crop Production and Soil Management**									
GHF_FL_Agriculture	Use of Fertilizer	5,616				Yes				
Not Reported	Crop Residue Incineration					No				
Land Use and Forestry										
GHG_FL_Forest	Urban Forest Annual Reserve	7,679				No				
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	10,336,977				No				

Grand Totals	Gross Totals	356,309	62,923	6,935	71,772	**426,168**
	Total with Aircraft	356,448	62,923	6,935	71,772	**426,306**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarificatior

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Orleans County

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	29,567	29,423	20	124			
	Natural Gas	49,121	49,073	19	29			
	Propane / LPG	19,791	19,714	20	58			
	Distillate Fuel Oil (#1, #2, Kerosene)	19,487	19,422	17	49			
	Wood	1,037	-	353	684			
	Commercial Energy Consumption							
	Electricity / Steam	9,501	9,455	6	40			
	Natural Gas	17,789	17,772	7	10			
	Propane / LPG	3,474	3,460	3	10			
	Distillate Fuel Oil (#1, #2, Kerosene)	8,402	8,374	7	21			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	23	23	0	0			
	Wood	158	-	54	104			
	Industrial Energy Consumption							
	Electricity / Steam	20,395	20,295	14	86			
	Natural Gas	8,011	8,003	3	5			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	3,461	3,444	2	15			
	Natural Gas T/D Losses	10,548		10,548				
	Use of SF6 in the Utility Industry	796						796
	Industrial Processes							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	Product Use (ODS Substitutes)							
	All Refrigerants- except utility SF6	9,818					9,818	
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**							
	Motor Gasoline (E-10)	108,783	108,399	287	97			
	Diesel	22,121	22,047	55	19			
	Ethanol							
	Biodiesel							
	Rail							
	Diesel	184	183	0	0			
	Coal							
	Marine							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	7,187	7,163	18	6			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	36,869	36,741	95	32			
Waste Management	**Solid Waste Management**							
	Landfill Methane from FOD of waste generated	6,935	-	6,935	-			
	MSW incineration (non grid connected)							
	Sewage Treatment							
	Central WWTPs and Septic Systems (Total reflects rounding)	6,662		4,441	2,221			
Agriculture	**Livestock**							
	Enteric Fementation	17,831		17,831				
	Manure management	2,599		2,192	407			
	Crop Production and Soil Management							
	Use of Fertilizer	5,616			5,616			
	Crop Residue Incineration							
Grand Totals		426,168	362,992	42,930	9,632	-	9,818	796

Note: Red text represents text added to original template to provide additional information or clarification

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	Seneca

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam		31,853			Yes	Consumption	MMBTU	478,860
FL Direct Residental Fuel Consumption	Natural Gas	43,270				Yes	Consumption	MMBTU	815,314
FL Direct Residental Fuel Consumption	Propane / LPG	18,484				Yes	Consumption	MMBTU	292,334
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	12,823				Yes	Consumption	MMBTU	172,791
FL Direct Residental Fuel Consumption	Wood	427			20,277	Yes	Consumption	MMBTU	216,169
	Commercial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		29,024			Yes	Consumption	MMBTU	436,326
FL Commercial Direct Fuel Consumption	Natural Gas	18,880				Yes	Consumption	MMBTU	355,747
FL Commercial Direct Fuel Consumption	Propane / LPG	3,909				Yes	Consumption	MMBTU	61,825
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	6,661				Yes	Consumption	MMBTU	89,764
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	321				Yes	Consumption	MMBTU	3,119
FL Commercial Direct Fuel Consumption	Wood	78			3,726	Yes	Consumption	MMBTU	39,720
	Industrial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		10,002			Yes	Consumption	MMBTU	150,364
FL Industrial Title V Consumption	Natural Gas	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Propane / LPG	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply	**Energy Generation and Supply**								
FL Elec Generation GHG Analysis	Coal	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	423			83,885	No	MSW Combusted	MMBTU	1,610,995
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							-
FL Electricity Consumption	Electricity T/D Losses		4,125			Yes	Losses	MMBTU	62,015
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	8,750				Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	753				Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**								
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			

Not Reported	Limestone Use					Yes				
Not Reported	Soda Ash Use					Yes				
Not Reported	Semi-Conductor Manufacturing					Yes				
FL Industrial Sources	Glass Production	-				Yes				
Not Reported	Chemical Manufacturing					Yes				
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**									
FL Industrial Sources	All Refrigerants- except SF6	8,071				Yes				
Transportation Energy	**On-road**									
FL Emission Summary - Onroad	Motor Gasoline (E-10)	168,910			12,259	Yes	Consumption	MMBTU	2,575,910	
FL Emission Summary - Onroad	Diesel	38,377				Yes	Consumption	MMBTU	517,143	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		
	Rail									
FL Emission Summary - Rail	Diesel	596				Yes	Consumption	MMBTU	8,034	
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-	
FL Emission Summary - Rail	Electric									
	Marine									
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU		
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-	
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-	
	Air									
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	267				No	Consumption	MMBTU	3,771	
	Off-road Mobile									
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	55,889				Yes	Consumption	MMBTU	779,111	
Waste Management	**Solid Waste Management**									
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0		6,775	5,843	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	21,095	
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-	
	Sewage Treatment						**MSW Sent for Incineration**	**Tonnes**	-	
FL Waste water	Central WWTPs and Septic Systems	2,986				Yes	MSW incinerated in Bounda	Tonnes	-	
Agriculture	**Livestock**									
GHF_FL_Agriculture	Enteric Fermentation	64,553				Yes				
GHF_FL_Agriculture	Manure management	10,340				Yes				
GHF_FL_Agriculture	**Crop Production and Soil Management**									
GHF_FL_Agriculture	Use of Fertilizer	5,712				Yes				
Not Reported	Crop Residue Incineration					No				
Land Use and Forestry										
GHG_FL_Forest	Urban Forest Annual Reserve	4,805				No				
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	7,724,579				No				

Grand Totals	Gross Totals	469,789	75,004	6,775	125,989	**551,568**
	Total with Aircraft	470,056	75,004	6,775	125,989	**551,835**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarificatior

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Seneca County

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	31,853	31,698	21	134			
	Natural Gas	43,270	43,228	17	25			
	Propane / LPG	18,484	18,411	18	54			
	Distillate Fuel Oil (#1, #2, Kerosene)	12,823	12,780	11	32			
	Wood	427	-	145	281			
	Commercial Energy Consumption							
	Electricity / Steam	29,024	28,882	19	122			
	Natural Gas	18,880	18,862	7	11			
	Propane / LPG	3,909	3,894	4	11			
	Distillate Fuel Oil (#1, #2, Kerosene)	6,661	6,639	6	17			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	321	318	1	2			
	Wood	78	-	27	52			
	Industrial Energy Consumption							
	Electricity / Steam	10,002	9,953	7	42			
	Natural Gas	-	-	-	-			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	4,125	4,105	3	17			
	Natural Gas T/D Losses	8,750		8,750				
	Use of SF6 in the Utility Industry	753						753
	Industrial Processes							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	Product Use (ODS Substitutes)							
	All Refrigerants- except utility SF6	8,071					8,071	
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**							
	Motor Gasoline (E-10)	168,910	168,313	446	151			
	Diesel	38,377	38,248	96	33			
	Ethanol							
	Biodiesel							
	Rail							
	Diesel	596	594	1	1			
	Coal							
	Marine							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	55,889	55,695	145	49			
Waste Management	**Solid Waste Management**							
	Landfill Methane from FOD of waste generated	6,775	-	6,775	-			
	MSW incineration (non grid connected)							
	Sewage Treatment							
	Central WWTPs and Septic Systems (Total reflects rounding)	2,986		1,991	995			
Agriculture	**Livestock**							
	Enteric Fementation	64,553		64,553				
	Manure management	10,340		8,986	1,353			
	Crop Production and Soil Management							
	Use of Fertilizer	5,712			5,712			
	Crop Residue Incineration							
Grand Totals		551,568	441,621	92,029	9,094	-	8,071	753

Note: Red text represents text added to original template to provide additional information or clarification

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	Wayne

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam		45,997			Yes	Consumption	MMBTU	691,490
FL Direct Residental Fuel Consumption	Natural Gas	145,548				Yes	Consumption	MMBTU	2,742,466
FL Direct Residental Fuel Consumption	Propane / LPG	28,985				Yes	Consumption	MMBTU	458,420
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	34,232				Yes	Consumption	MMBTU	461,287
FL Direct Residental Fuel Consumption	Wood	1,692			80,378	Yes	Consumption	MMBTU	856,904
	Commercial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		26,550			Yes	Consumption	MMBTU	399,135
FL Commercial Direct Fuel Consumption	Natural Gas	55,006				Yes	Consumption	MMBTU	1,036,438
FL Commercial Direct Fuel Consumption	Propane / LPG	5,309				Yes	Consumption	MMBTU	83,971
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	15,403				Yes	Consumption	MMBTU	207,556
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	78				Yes	Consumption	MMBTU	760
FL Commercial Direct Fuel Consumption	Wood	269			12,792	Yes	Consumption	MMBTU	136,376
	Industrial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		20,402			Yes	Consumption	MMBTU	306,712
FL Industrial Title V Consumption	Natural Gas	9,580				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Propane / LPG	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply	**Energy Generation and Supply**								
FL Elec Generation GHG Analysis	Coal	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	51,754,929
FL Elec Generation GHG Analysis	Natural Gas	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	-			-	No	MSW Combusted	MMBTU	-
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							-
FL Electricity Consumption	Electricity T/D Losses	-	5,410			Yes	Losses	MMBTU	81,325
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	29,585				Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	949				Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**								
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			

Not Reported	Limestone Use					Yes				
Not Reported	Soda Ash Use					Yes				
Not Reported	Semi-Conductor Manufacturing					Yes				
FL Industrial Sources	Glass Production	-				Yes				
Not Reported	Chemical Manufacturing					Yes				
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**									
FL Industrial Sources	All Refrigerants- except SF6	21,469				Yes				
Transportation Energy	**On-road**									
FL Emission Summary - Onroad	Motor Gasoline (E-10)	265,959			19,303	Yes	Consumption	MMBTU	4,055,928	
FL Emission Summary - Onroad	Diesel	27,253				Yes	Consumption	MMBTU	442,298	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		
	Rail									
FL Emission Summary - Rail	Diesel	28,083				Yes	Consumption	MMBTU	378,425	
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-	
FL Emission Summary - Rail	Electric									
	Marine									
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU		
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-	
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-	
	Air									
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	526				No	Consumption	MMBTU	7,364	
	Off-road Mobile									
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	64,124				Yes	Consumption	MMBTU	897,883	
Waste Management	**Solid Waste Management**									
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	178,143		34,819	15,543	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	108,417	
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	1,618,021	
	Sewage Treatment						MSW Sent for Incineration	Tonnes	-	
FL Waste water	Central WWTPs and Septic Systems	4,808				Yes	MSW incinerated in Bounda	Tonnes	-	
Agriculture	**Livestock**									
GHF_FL_Agriculture	Enteric Fermentation	39,678				Yes				
GHF_FL_Agriculture	Manure management	7,275				Yes				
GHF_FL_Agriculture	**Crop Production and Soil Management**									
GHF_FL_Agriculture	Use of Fertilizer	6,333				Yes				
Not Reported	Crop Residue Incineration					No				
Land Use and Forestry										
GHG_FL_Forest	Urban Forest Annual Reserve	19,169				No				
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	20,231,860				No				

Grand Totals	Gross Totals	791,618	98,358	34,819	128,015	**924,795**
	Total with Aircraft	792,144	98,358	34,819	128,015	**925,321**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarificatior

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Wayne County

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	45,997	45,773	31	193			
	Natural Gas	145,548	145,406	58	85			
	Propane / LPG	28,985	28,871	29	85			
	Distillate Fuel Oil (#1, #2, Kerosene)	34,232	34,117	29	86			
	Wood	1,692	-	576	1,116			
	Commercial Energy Consumption							
	Electricity / Steam	26,550	26,421	18	111			
	Natural Gas	55,006	54,952	22	32			
	Propane / LPG	5,309	5,289	5	16			
	Distillate Fuel Oil (#1, #2, Kerosene)	15,403	15,351	13	39			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	78	78	0	0			
	Wood	269	-	92	178			
	Industrial Energy Consumption							
	Electricity / Steam	20,402	20,303	14	86			
	Natural Gas	9,580	9,571	4	6			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	5,410	5,383	4	23			
	Natural Gas T/D Losses	29,585		29,585				
	Use of SF6 in the Utility Industry	949						949
	Industrial Processes							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	Product Use (ODS Substitutes)							
	All Refrigerants- except utility SF6	21,469					21,469	
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**							
	Motor Gasoline (E-10)	265,959	265,019	702	238			
	Diesel	27,253	27,162	68	23			
	Ethanol							
	Biodiesel							
	Rail							
	Diesel	28,083	27,988	70	24			
	Coal							
	Marine							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	64,124	63,902	166	56			
Waste Management	**Solid Waste Management**							
	Landfill Methane from FOD of waste generated	34,819	-	34,819	-			
	MSW incineration (non grid connected)							
	Sewage Treatment							
	Central WWTPs and Septic Systems (Total reflects rounding)	4,808		3,205	1,603			
Agriculture	**Livestock**							
	Enteric Fementation	39,678		39,678				
	Manure management	7,275		6,125	1,149			
	Crop Production and Soil Management							
	Use of Fertilizer	6,333			6,333			
	Crop Residue Incineration							
Grand Totals		924,795	775,584	115,312	11,481	-	21,469	949

Note: Red text represents text added to original template to provide additional information or clarification

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	Wyoming

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam		91,616			Yes	Consumption	MMBTU	1,377,307
FL Direct Residental Fuel Consumption	Natural Gas	55,511				Yes	Consumption	MMBTU	1,045,955
FL Direct Residental Fuel Consumption	Propane / LPG	12,136				Yes	Consumption	MMBTU	191,943
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	11,463				Yes	Consumption	MMBTU	154,466
FL Direct Residental Fuel Consumption	Wood	1,401			66,582	Yes	Consumption	MMBTU	709,832
	Commercial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		99,474			Yes	Consumption	MMBTU	1,495,442
FL Commercial Direct Fuel Consumption	Natural Gas	25,462				Yes	Consumption	MMBTU	479,772
FL Commercial Direct Fuel Consumption	Propane / LPG	2,698				Yes	Consumption	MMBTU	42,674
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	6,260				Yes	Consumption	MMBTU	84,356
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	198				Yes	Consumption	MMBTU	1,924
FL Commercial Direct Fuel Consumption	Wood	271			12,861	Yes	Consumption	MMBTU	137,114
	Industrial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		67,979			Yes	Consumption	MMBTU	1,021,967
FL Industrial Title V Consumption	Natural Gas	8,757				Yes	Consumption	MMBTU	165,008
FL Industrial Title V Consumption	Propane / LPG	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Coal	102,762				Yes	Consumption	MMBTU	1,091,736
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply	**Energy Generation and Supply**								
FL Elec Generation GHG Analysis	Coal	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	5,935				No	Generation	MMBTU	111,824
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	177				No	Generation	MMBTU	2,390
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	-			-	No	MSW Combusted	MMBTU	-
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							6,788,901
FL Electricity Consumption	Electricity T/D Losses	-	15,078			Yes	Losses	MMBTU	226,673
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	13,480				Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	1,244				Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**								
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			

Not Reported	Limestone Use					Yes				
Not Reported	Soda Ash Use					Yes				
Not Reported	Semi-Conductor Manufacturing					Yes				
FL Industrial Sources	Glass Production	-				Yes				
Not Reported	Chemical Manufacturing					Yes				
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**									
FL Industrial Sources	All Refrigerants- except SF6	9,652				Yes				
Transportation Energy	**On-road**									
FL Emission Summary - Onroad	Motor Gasoline (E-10)	131,001			9,508	Yes	Consumption	MMBTU	1,997,798	
FL Emission Summary - Onroad	Diesel	22,222				Yes	Consumption	MMBTU	360,648	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		
	Rail									
FL Emission Summary - Rail	Diesel	6,281				Yes	Consumption	MMBTU	84,384	
FL Emission Summary - Rail	Coal Consumption	7				Yes	Consumption	MMBTU	280	
FL Emission Summary - Rail	Electric									
	Marine									
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU		
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-	
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-	
	Air									
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	343				No	Consumption	MMBTU	4,835	
	Off-road Mobile									
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	42,643				Yes	Consumption	MMBTU	592,030	
Waste Management	**Solid Waste Management**									
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0		6,449	6,987	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	20,082	
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-	
	Sewage Treatment						MSW Sent for Incineration	Tonnes	-	
FL Waste water	Central WWTPs and Septic Systems	2,102				Yes	MSW incinerated in Bounda	Tonnes	-	
Agriculture	**Livestock**									
GHF_FL_Agriculture	Enteric Fermentation	202,771				Yes				
GHF_FL_Agriculture	Manure management	41,772				Yes				
GHF_FL_Agriculture	**Crop Production and Soil Management**									
GHF_FL_Agriculture	Use of Fertilizer	8,699				Yes				
Not Reported	Crop Residue Incineration					No				
Land Use and Forestry										
GHG_FL_Forest	Urban Forest Annual Reserve	7,974				No				
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	28,953,598				No				

Grand Totals	Gross Totals	708,794	274,148	6,449	95,938	**989,391**
	Total with Aircraft	709,137	274,148	6,449	95,938	**989,734**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarificatior

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Wyoming County

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	91,616	91,171	61	384			
	Natural Gas	55,511	55,457	22	32			
	Propane / LPG	12,136	12,089	12	36			
	Distillate Fuel Oil (#1, #2, Kerosene)	11,463	11,424	10	29			
	Wood	1,401	-	477	924			
	Commercial Energy Consumption							
	Electricity / Steam	99,474	98,990	67	417			
	Natural Gas	25,462	25,438	10	15			
	Propane / LPG	2,698	2,688	3	8			
	Distillate Fuel Oil (#1, #2, Kerosene)	6,260	6,239	5	16			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	198	196	0	1			
	Wood	271	-	92	179			
	Industrial Energy Consumption							
	Electricity / Steam	67,979	67,649	45	285			
	Natural Gas	8,757	8,749	3	5			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	102,762	101,968	252	542			
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	15,078	15,005	10	63			
	Natural Gas T/D Losses	13,480		13,480				
	Use of SF6 in the Utility Industry	1,244						1,244
	Industrial Processes							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	Product Use (ODS Substitutes)							
	All Refrigerants- except utility SF6	9,652					9,652	
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**							
	Motor Gasoline (E-10)	131,001	130,538	346	117			
	Diesel	22,222	22,148	55	19			
	Ethanol							
	Biodiesel							
	Rail							
	Diesel	6,281	6,260	16	5			
	Coal	7	7	0	0			
	Marine							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	42,643	42,496	110	37			
Waste Management	**Solid Waste Management**							
	Landfill Methane from FOD of waste generated	6,449	-	6,449	-			
	MSW incineration (non grid connected)							
	Sewage Treatment							
	Central WWTPs and Septic Systems (Total reflects rounding)	2,102		1,401	701			
Agriculture	**Livestock**							
	Enteric Fementation	202,771		202,771				
	Manure management	41,772		34,551	7,221			
	Crop Production and Soil Management							
	Use of Fertilizer	8,699			8,699			
	Crop Residue Incineration							
Grand Totals		989,391	698,511	260,250	19,735	-	9,652	1,244

Note: Red text represents text added to original template to provide additional information or clarification

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	Yates

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE						Rolled Up?	Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic		Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam		31,574			Yes	Consumption	MMBTU	474,672
FL Direct Residental Fuel Consumption	Natural Gas	21,760				Yes	Consumption	MMBTU	410,000
FL Direct Residental Fuel Consumption	Propane / LPG	18,009				Yes	Consumption	MMBTU	284,826
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	8,815				Yes	Consumption	MMBTU	118,788
FL Direct Residental Fuel Consumption	Wood	895			42,542	Yes	Consumption	MMBTU	453,534
	Commercial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		8,551			Yes	Consumption	MMBTU	128,549
FL Commercial Direct Fuel Consumption	Natural Gas	8,435				Yes	Consumption	MMBTU	158,932
FL Commercial Direct Fuel Consumption	Propane / LPG	3,384				Yes	Consumption	MMBTU	53,515
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	4,068				Yes	Consumption	MMBTU	54,823
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	87				Yes	Consumption	MMBTU	843
FL Commercial Direct Fuel Consumption	Wood	146			6,945	Yes	Consumption	MMBTU	74,036
	Industrial Energy Consumption								
FL Electricity Consumption	Electricity / Steam		16,091			Yes	Consumption	MMBTU	241,908
FL Industrial Title V Consumption	Natural Gas	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Propane / LPG	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Coal	-				Yes	Consumption	MMBTU	-
FL Industrial Title V Consumption	Wood	-			-	Yes	Consumption	MMBTU	-
Energy Generation and Supply	**Energy Generation and Supply**								
FL Elec Generation GHG Analysis	Coal	574,429				No	Generation	MMBTU	5,876,692
FL Elec Generation GHG Analysis	Nuclear	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Natural Gas	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	421				No	Generation	MMBTU	5,670
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	-				No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	Wood / Biomass	-			-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	-			-	No	MSW Combusted	MMBTU	-
FL Elec Generation GHG Analysis	Other Wind and Hydro	-							-
FL Electricity Consumption	Electricity T/D Losses	-	3,272			Yes	Losses	MMBTU	49,186
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	4,251				Yes	Losses	MMBTU	
FL Electricity Consumption	Use of SF6 in the Utility Industry	3,468				Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**								
Not Reported	Cement Production					Yes			
Not Reported	Iron and Steel Production					Yes			
Not Reported	Ferroalloy Production					Yes			
Not Reported	Aluminum Production					Yes			
Not Reported	Paper and Pulp					Yes			

Not Reported	Limestone Use					Yes				
Not Reported	Soda Ash Use					Yes				
Not Reported	Semi-Conductor Manufacturing					Yes				
FL Industrial Sources	Glass Production	-				Yes				
Not Reported	Chemical Manufacturing					Yes				
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**									
FL Industrial Sources	All Refrigerants- except SF6	5,804				Yes				
Transportation Energy	**On-road**									
FL Emission Summary - Onroad	Motor Gasoline (E-10)	72,278			5,246	Yes	Consumption	MMBTU	1,102,252	
FL Emission Summary - Onroad	Diesel	21,106				Yes	Consumption	MMBTU	284,413	
Not Reported	Ethanol (E-85)					No	Consumption	MMBTU		
Not Reported	Biodiesel					No	Consumption	MMBTU		
Not Reported	Electricity Consumption					No	Consumption	MMBTU		
	Rail									
FL Emission Summary - Rail	Diesel	1,089				Yes	Consumption	MMBTU	14,681	
FL Emission Summary - Rail	Coal Consumption	-				Yes	Consumption	MMBTU	-	
FL Emission Summary - Rail	Electric									
	Marine									
FL Emission Summary -Com Marine	Gasoline					Yes	Consumption	MMBTU		
FL Emission Summary -Com Marine	Distillate Fuels	-				Yes	Consumption	MMBTU	-	
FL Emission Summary -Com Marine	Residual Fuels	-				Yes	Consumption	MMBTU	-	
	Air									
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	981				No	Consumption	MMBTU	13,752	
	Off-road Mobile									
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	40,212				Yes	Consumption	MMBTU	562,680	
Waste Management	**Solid Waste Management**									
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	0		5,103	4,201	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	15,890	
Not Reported	MSW incineration (non grid connected)					Yes	MSW+CD Processed	Tonnes	-	
	Sewage Treatment						MSW Sent for Incineration	Tonnes	-	
FL Waste water	Central WWTPs and Septic Systems	1,085				Yes	MSW incinerated in Bounda	Tonnes	-	
Agriculture	**Livestock**									
GHF_FL_Agriculture	Enteric Fermentation	64,475				Yes				
GHF_FL_Agriculture	Manure management	11,651				Yes				
GHF_FL_Agriculture	**Crop Production and Soil Management**									
GHF_FL_Agriculture	Use of Fertilizer	4,407				Yes				
Not Reported	Crop Residue Incineration					No				
Land Use and Forestry										
GHG_FL_Forest	Urban Forest Annual Reserve	969				No				
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	15,935,289				No				

Grand Totals	Gross Totals	295,424	59,488	5,103	58,933	**360,016**
	Total with Aircraft	296,406	59,488	5,103	58,933	**360,997**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarificatior

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Yates County

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	31,574	31,421	21	132			
	Natural Gas	21,760	21,738	9	13			
	Propane / LPG	18,009	17,938	18	53			
	Distillate Fuel Oil (#1, #2, Kerosene)	8,815	8,786	7	22			
	Wood	895	-	305	591			
	Commercial Energy Consumption							
	Electricity / Steam	8,551	8,509	6	36			
	Natural Gas	8,435	8,427	3	5			
	Propane / LPG	3,384	3,370	3	10			
	Distillate Fuel Oil (#1, #2, Kerosene)	4,068	4,055	3	10			
	Residual Fuel Oil (#4 and #6)	-						
	Coal	87	86	0	0			
	Wood	146	-	50	96			
	Industrial Energy Consumption							
	Electricity / Steam	16,091	16,013	11	67			
	Natural Gas	-	-	-	-			
	Propane / LPG	-	-	-	-			
	Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-			
	Residual Fuel Oil (#4 and #6)	-	-	-	-			
	Coal	-	-	-	-			
	Wood	-		-	-			
	Energy Generation and Supply							
	Electricity T/D Losses	3,272	3,256	2	14			
	Natural Gas T/D Losses	4,251		4,251				
	Use of SF6 in the Utility Industry	3,468						3,468
	Industrial Processes							
	Cement Production							
	Glass Production							
	Iron and Steel Production							
	Ferroalloy Production							
	Aluminum Production							
	Paper and Pulp							
	Limestone Use							
	Soda Ash Use							
	Semi-Conductor Manufacturing							
	Product Use (ODS Substitutes)							
	All Refrigerants- except utility SF6	5,804					5,804	
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**							
	Motor Gasoline (E-10)	72,278	72,022	191	65			
	Diesel	21,106	21,035	53	18			
	Ethanol							
	Biodiesel							
	Rail							
	Diesel	1,089	1,086	3	1			
	Coal							
	Marine							
	Gasoline							
	Distillate	-	-	-	-			
	Residual Fuel Oil	-	-	-	-			
	Off-road Mobile							
	All Fuels (Diesel and Gasoline)	40,212	40,072	104	35			
Waste Management	**Solid Waste Management**							
	Landfill Methane from FOD of waste generated	5,103	-	5,103	-			
	MSW incineration (non grid connected)							
	Sewage Treatment							
	Central WWTPs and Septic Systems (Total reflects rounding)	1,085		723	362			
Agriculture	**Livestock**							
	Enteric Fementation	64,475		64,475				
	Manure management	11,651		9,766	1,885			
	Crop Production and Soil Management							
	Use of Fertilizer	4,407			4,407			
	Crop Residue Incineration							
Grand Totals		360,016	257,814	85,108	7,822	-	5,804	3,468

Note: Red text represents text added to original template to provide additional information or clarification

Electricity Consumption GHG Emissions

County	# Households[2]	Population[2]	MWh	MMBTU[3]	CO2e (Metric Tons)[1] CO2	CH4	N2O	Total
New York State[4]	**7,317,755**	**19,378,102**	**144,624,000**					
Finger Lakes	**482,693**	**1,217,156**	**11,185,511**	**38,164,962**	**2,526,320**	**1,698**	**10,648**	**2,538,667**
Genesee	23,728	60,079	407,401	1,390,052	92,014	62	388	92,464
Livingston	24,409	65,393	505,307	1,724,106	114,127	77	481	114,685
Monroe	300,422	744,344	6,693,635	22,838,683	1,511,801	1,016	6,372	1,519,190
Ontario	43,019	107,931	1,206,172	4,115,459	272,422	183	1,148	273,753
Orleans	16,119	42,883	261,996	893,930	59,173	40	249	59,463
Seneca	13,393	35,251	312,295	1,065,549	70,534	47	297	70,878
Wayne	36,585	93,772	409,536	1,397,337	92,496	62	390	92,948
Wyoming	15,501	42,155	1,141,476	3,894,717	257,810	173	1,087	259,070
Yates	9,517	25,348	247,693	845,129	55,943	38	236	56,216

Sector	% of total	Population	MWh	MMBTU[3]	CO2e (Metric Tons)[1] CO2	CH4	N2O	Total
Finger Lakes		**1,217,156**	**19,860,801**	**67,765,055**	**4,485,691**	**3,016**	**18,907**	**4,507,614**
Residential	**22%**		**4,423,668**	**15,093,554**	**999,114**	**672**	**4,211**	**1,003,997**
Genesee	0.9%	60,079	171,511	585,195	38,737	26	163	38,926
Livingston	1.1%	65,393	222,084	757,749	50,159	34	211	50,404
Monroe	12.9%	744,344	2,569,350	8,766,622	580,304	390	2,446	583,141
Ontario	2.2%	107,931	444,656	1,517,168	100,429	68	423	100,919
Orleans	0.7%	42,883	130,273	444,492	29,423	20	124	29,567
Seneca	0.7%	35,251	140,346	478,860	31,698	21	134	31,853
Wayne	1.0%	93,772	202,664	691,490	45,773	31	193	45,997
Wyoming	2.0%	42,155	403,666	1,377,307	91,171	61	384	91,616
Yates	0.7%	25,348	139,118	474,672	31,421	21	132	31,574
Commercial[5]	**21%**		**4,251,623**	**14,506,538**	**960,257**	**646**	**4,047**	**964,950**
Genesee	0.5%	60,079	92,989	317,278	21,002	14	89	21,105
Livingston	0.7%	65,393	137,030	467,546	30,949	21	130	31,100
Monroe	14.0%	744,344	2,777,890	9,478,160	627,404	422	2,644	630,471
Ontario	2.4%	107,931	481,028	1,641,268	108,643	73	458	109,174
Orleans	0.2%	42,883	41,863	142,835	9,455	6	40	9,501
Seneca	0.6%	35,251	127,880	436,326	28,882	19	122	29,024
Wayne	0.6%	93,772	116,980	399,135	26,421	18	111	26,550
Wyoming	2.2%	42,155	438,289	1,495,442	98,990	67	417	99,474
Yates	0.2%	25,348	37,676	128,549	8,509	6	36	8,551
Industrial	**13%**		**2,510,220**	**8,564,870**	**566,949**	**381**	**2,390**	**569,720**
Genesee	0.7%	60,079	142,901	487,578	32,275	22	136	32,433
Livingston	0.7%	65,393	146,193	498,811	33,019	22	139	33,180
Monroe	6.8%	744,344	1,346,396	4,593,902	304,092	204	1,282	305,578
Ontario	1.4%	107,931	280,488	957,024	63,350	43	267	63,660
Orleans	0.5%	42,883	89,860	306,603	20,295	14	86	20,395
Seneca	0.2%	35,251	44,069	150,364	9,953	7	42	10,002
Wayne	0.5%	93,772	89,892	306,712	20,303	14	86	20,402
Wyoming	1.5%	42,155	299,521	1,021,967	67,649	45	285	67,979
Yates	0.4%	25,348	70,899	241,908	16,013	11	67	16,091

Notes

1. CO2e calculated based on regional electricity consumption provided by National Grid , NYSEG, RG&E and municiple electricity providers using alternative method and eGRID 2012 NYUP emission factors.

2. 2010 US Census
3. 1 MWh = 3.412 MMBtu
4. New York State Totals from EIA New York http://www.eia.gov/electricity/state/newyork/
5. Commercial totals include commerical and government sectors

Grid Losses (Energy and Emissions) from Electricity Consumption[1]

County	MWh	MMBTU[3]	CO2e (Metric Tons) CO2	CH4	N2O	Total
Finger Lakes	**650,997**	**2,221,201**	**147,032**	**99**	**620**	**147,750**
Genesee	23,711	80,901	5,355	4	23	5,381
Livingston	29,409	100,343	6,642	4	28	6,675
Monroe	389,570	1,329,211	87,987	59	371	88,417
Ontario	70,199	239,520	15,855	11	67	15,932
Orleans	15,248	52,027	3,444	2	15	3,461
Seneca	18,176	62,015	4,105	3	17	4,125
Wayne	23,835	81,325	5,383	4	23	5,410
Wyoming	66,434	226,673	15,005	10	63	15,078
Yates	14,416	49,186	3,256	2	14	3,272

1. CO2e calculated based on regional electricity consumption emissions and eGRID 2012 reported Eastern Grid loss rate of 5.82%

Electrical Transmission and Distribution--SF6 Emissions

County	MWh[2]	CO2e (Metric Tons)[1] SF6[3]
United States[1,2]	**3,884,000,000**	**11,800,000**
Finger Lakes	**11,185,511**	**33,983**
Genesee	407,401	1,238
Livingston	505,307	1,535
Monroe	6,693,635	20,336
Ontario	1,206,172	3,664
Orleans	261,996	796
Seneca	247,693	753
Wyoming	312,295	949
Wayne	409,536	1,244
Yates	1,141,476	3,468

1. CO2e calculated based on ratio of regional and national electricity consumption and reported national SF6 emissions.
2. U.S.Electricity end use consumption from EIA Annual Review, 2010 http://www.eia.gov/totalenergy/data/annual/showtext.cfm?t=ptb0801
3. U.S. SF6 emissions from U.S. Greenhouse Gas Inventory Report for 2010:http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html

Electricity Consumption Vs. Generation

Total kwh consumption estimate for Finger Lakes in 2010:	**11,185,511**
Total kwh consumption + Grid Loss estimate for Finger Lakes in 2010:	**11,836,507**
Total kwh generated in Finger Lakes in 2010:	**7,001,975**
Total estimated kwh imported into Finger Lakes in 2010:	**4,834,532**

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL Electricity Consumption1_3_2013.xlsx
Date:
11/14/2012

Electricity Generation GHG Emissions

	Total Fuel Consumption[1]	Units	Total Fuel Consumption (MMBTU)	MWh Generated	CO2e (Metric Tons)[1] Non-biogenic CO2	CH4	N2O	Non biogenic Total	Biogenic Total[3]	
New York State[2]				**136,961,654**	**41,583,758**					
Coal				13,582,766						
Natural Gas				48,915,545						
Fuel Oil, Kerosene, etc.				2,004,975						
Landfill				NA						
Nuclear				41,869,535						
Hydro				25,471,697						
Other renewables				4,814,548						
Finger Lakes: Total				**13,306,437**	**3,422,712**	**7,784**	**17,009**	**3,447,505**	**169,315**	**9.715%** Generation in NYS
Genesee				57,533	34,291	14	20	34,324	-	
Livingston				-	-	-	-	-	-	
Monroe				526,735	1,017,347	2,374	5,146	1,024,867	56,563	
Ontario				-	-	-	-	-	-	
Orleans				74,670	-	37	108	146	28,867	
Seneca				139,808	-	108	315	423	-	
Wayne				4,948,363	-	-	-	-	-	
Wyoming				695,869	-	-	-	-	-	
Yates				558,997	576,682	1,360	2,920	580,962	-	
Finger Lakes: Renewable Energy Total				**1,024,551**	**-**	**219**	**635**	**854**	**169,315**	
Coal	**313,708**	**short tons**	**15,706,588**	**912,841**	**1,523,853**	**3,628**	**7,790**	**1,535,272**	**-**	
Genesee	-		-	-	-	-	-	-		
Livingston	-		-	-	-	-	-	-		
Monroe	79,849		9,829,896	368,866	953,697	2,271	4,876	960,843		
Ontario	-		-	-	-	-	-	-		
Orleans	-		-	-	-	-	-	-		
Seneca	-		-	-	-	-	-	-		
Wayne	-		-	-	-	-	-	-		
Wyoming	-		-	-	-	-	-	-		
Yates	233,859		5,876,692	543,975	570,157	1,358	2,915	574,429		
Distillate Fuel Oil (#1, 2, or 4)	**2,564**	**barrels**	**30,014**	**1,656**	**2,220**	**2**	**6**	**2,227**	**-**	
Genesee	-		36	-	3	0	0	3		
Livingston	-		-	-	-	-	-	-		
Monroe	1,172		21,918	822	1,621	1	4	1,627		
Ontario	-		-	-	-	-	-	-		
Orleans	-		-	-	-	-	-	-		
Seneca	-		-	-	-	-	-	-		
Wayne	-		-	-	-	-	-	-		
Wyoming	411		2,390	306	177	0	0	177		
Yates	981		5,670	527	419	0	1	421		
Landfill Gas[3]	**5,910,789**	**mcf**	**3,251,672**	**273,107**	**-**	**219**	**635**	**854**	**169,315**	
Genesee	-		-	-	-	-	-	-		
Livingston	-		-	-	-	-	-	-		
Monroe	1,984,751		1,086,281	88,109	-	73	212	285	56,563	
Ontario	1,028,564		554,396	45,190	-	37	108	146	28,867	
Orleans	-		-	-	-	-	-	-		
Seneca	2,897,474		1,610,995	139,808	-	108	315	423	83,885	
Wayne	-		-	-	-	-	-	-		
Wyoming	-		-	-	-	-	-	-		
Yates	-		-	-	-	-	-	-		
Natural Gas	**703,196**	**mcf**	**1,751,439**	**109,906**	**92,861**	**37**	**54**	**92,952**	**-**	
Genesee	360,980		646,698	57,533	34,288	14	20	34,322		
Livingston	-		-	-	-	-	-	-		
Monroe	232,039		992,917	38,184	52,644	21	31	52,696		
Ontario	-		-	-	-	-	-	-		
Orleans	-		-	-	-	-	-	-		
Seneca	-		-	-	-	-	-	-		
Wayne	-		-	-	-	-	-	-		
Wyoming	110,177		111,824	14,189	5,929	2	3	5,935		
Yates	-		-	-	-	-	-	-		
Nuclear	**0**	**short tons**	**51,754,929**	**4,948,363**	**-**	**-**	**-**	**-**	**-**	
Genesee	-		-	-	-	-	-	-		
Livingston	-		-	-	-	-	-	-		
Monroe	-		-	-	-	-	-	-		
Ontario	-		-	-	-	-	-	-		
Orleans	-		-	-	-	-	-	-		
Seneca	-		-	-	-	-	-	-		
Wayne	-		51,754,929	4,948,363	-	-	-	-		
Wyoming	-		-	-	-	-	-	-		
Yates	-		-	-	-	-	-	-		
Residual Fuel Oil	**4,055**	**short tons**	**124,973**	**4,659**	**9,385**	**8**	**23**	**9,417**	**-**	
Genesee	-		-	-	-	-	-	-		
Livingston	-		-	-	-	-	-	-		
Monroe	4,055		124,973	4,659	9,385	8	23	9,417		
Ontario	-		-	-	-	-	-	-		
Orleans	-		-	-	-	-	-	-		
Seneca	-		-	-	-	-	-	-		
Wayne	-		-	-	-	-	-	-		

Wyoming		-	-	-	-	-	-	-	
Yates		-	-	-	-	-	-	-	
Hydro[4]	**0**	**0**	**542,190**	**55,575**	**-**	**-**	**-**	**-**	**-**
Genesee		-	-	-	-	-	-	-	
Livingston		-	-	-	-	-	-	-	
Monroe		-	339,986	34,849	-	-	-	-	
Ontario		-	-	-	-	-	-	-	
Orleans		-	202,204	20,726	-	-	-	-	
Seneca		-	-	-	-	-	-	-	
Wayne		-	-	-	-	-	-	-	
Wyoming		-	-	-	-	-	-	-	
Yates		-	-	-	-	-	-	-	
Wind[4]	**0**	**0**	**6,788,901**	**695,869**	**-**	**-**	**-**	**-**	**-**
Genesee		-	-	-	-	-	-	-	
Livingston		-	-	-	-	-	-	-	
Monroe		-	-	-	-	-	-	-	
Ontario		-	-	-	-	-	-	-	
Orleans		-	-	-	-	-	-	-	
Seneca		-	-	-	-	-	-	-	
Wayne		-	-	-	-	-	-	-	
Wyoming		-	6,788,901	695,869	-	-	-	-	
Yates		-	-	-	-	-	-	-	

Notes

1. CO2e calculated based on regional electricity generation data from 2010 EIA Form 923 reported energy use by facility, using fuel type emission factors from EPA's Manditory Reporting Rule(MRR)*

*Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2, http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf

2. New York State Energy Generated and CO2e Emission Totals from EIA New York http://www.eia.gov/electricity/state/newyork/

3. CO2 from landfill gas are considered a source of biogenic (renewable) emissions, not to be included in GHG emission totals:

**Table B2, "Methodology for Allocating Municipal Solid Waste to Biogenic/Non-Biogenic Energy" http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html

4. Renewable sources highlighted in green

GHG Emissions from Natural Gas Electricity Generation Transmission and Distribution Losses[1]

	% T&D Loss	Total Natural Gas (mcf)	CH4 Losses in mcf	CH4 Losses in lbs	Total CO2e
Natural Gas T&D Losses	1.8%	703,196	12,658	567,057.25	5,401
Genesee	1.8%	360,980	6,498	291,094.27	2,773
Livingston	1.8%	-	-	-	-
Monroe	1.8%	232,039	4,177	187,116.25	1,782
Ontario	1.8%	-	-	-	-
Orleans	1.8%	-	-	-	-
Seneca	1.8%	-	-	-	-
Wayne	1.8%	-	-	-	-
Wyoming	1.8%	110,177	1,983	88,846.73	846
Yates	1.8%	-	-	-	-

Notes

1. CO2e from T&D losses calculated based on ratio of estimated % fuel loss and total CO2e estimated from natural gas use for electricity generation within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL Elec Generation GHG Analysis 1_14_13.xlsx
Date:
1/14/2013

Residential Building Emissions from Stationary Combustion

			CO2e (Metric Tons)[1]				
	# Households[2]	mmBTU[2]	CO2	CH4	N2O	Total	Biogenic Total[3]
New York State	**7,317,755**	**595,650,000**	**31,788,580**	**50,832**	**103,983**	**31,943,395**	**4,633,720**
Natural Gas	3,972,785	399,700,000	21,192,094	8,394	12,391	21,212,878	
Bottled, Tank, or LP gas	225,680	22,200,000	1,398,156	1,399	4,129	1,403,684	
Fuel Oil, Kerosene, etc.	2,207,233	124,300,000	9,193,228	7,831	23,120	9,224,179	
Wood	138,599	49,400,000	-	33,197	64,319	97,516	4,633,720
Coal	19,542	50,000	5,102	12	25	5,138	
% Finger Lakes	**6.6%**	**9.7%**	**9.0%**	**9.8%**	**9.2%**	**9.0%**	
Finger Lakes	**482,693**	**57,823,387**	**2,875,751**	**4,959**	**9,554**	**2,890,264**	**502,028**
Natural Gas	339,434	46,303,439	2,455,008	972	1,435	2,457,416	
Bottled, Tank, or LP gas	28,481	3,247,626	204,535	205	604	205,344	
Fuel Oil, Kerosene, etc.	35,486	2,912,087	215,378	183	542	216,103	
Wood	14,648	5,352,108	-	3,597	6,968	10,565	502,028
Coal	2,704	8,126	829	2	4	835	
Genesee County	**23,728**	**2,888,698**	**140,469**	**353**	**703**	**141,525**	**38,518**
Natural Gas	13,816	1,890,192	100,218	40	59	100,316	
Bottled, Tank, or LP gas	2,634	295,220	18,593	19	55	18,666	
Fuel Oil, Kerosene, etc.	3,601	292,139	21,607	18	54	21,679	
Wood	1,147	410,640	-	276	535	811	38,518
Coal	184	507	52	0	0	52	
Livingston County	**24,409**	**3,036,410**	**128,764**	**595**	**1,176**	**130,535**	**72,693**
Natural Gas	11,805	1,638,642	86,881	34	51	86,966	
Bottled, Tank, or LP gas	3,362	382,302	24,077	24	71	24,173	
Fuel Oil, Kerosene, etc.	2,913	239,781	17,734	15	45	17,794	
Wood	2,134	774,980	-	521	1,009	1,530	72,693
Coal	253	707	72	0	0	73	
Monroe County	**300,422**	**35,307,529**	**1,858,046**	**1,241**	**2,166**	**1,861,453**	**63,906**
Natural Gas	246,211	33,301,091	1,765,624	699	1,032	1,767,355	
Bottled, Tank, or LP gas	4,598	509,489	32,088	32	95	32,214	
Fuel Oil, Kerosene, etc.	10,166	815,296	60,299	51	152	60,502	
Wood	1,926	681,303	-	458	887	1,345	63,906
Coal	128	350	36	0	0	36	
Ontario County	**43,019**	**5,174,162**	**249,481**	**618**	**1,223**	**251,322**	**67,876**
Natural Gas	25,512	3,534,230	187,385	74	110	187,569	
Bottled, Tank, or LP gas	4,582	520,078	32,755	33	97	32,884	
Fuel Oil, Kerosene, etc.	4,808	394,945	29,210	25	73	29,308	
Wood	1,997	723,622	-	486	942	1,428	67,876
Coal	460	1,286	131	0	1	132	
Orleans County	**16,119**	**2,026,486**	**88,229**	**409**	**820**	**89,457**	**49,257**
Natural Gas	6,677	925,549	49,073	19	29	49,121	
Bottled, Tank, or LP gas	2,756	313,012	19,714	20	58	19,791	
Fuel Oil, Kerosene, etc.	3,195	262,595	19,422	17	49	19,487	
Wood	1,448	525,124	-	353	684	1,037	49,257
Coal	73	204	21	0	0	21	
Seneca County	**13,393**	**1,498,943**	**74,657**	**192**	**394**	**75,244**	**20,277**
Natural Gas	5,836	815,314	43,228	17	25	43,270	
Bottled, Tank, or LP gas	2,554	292,334	18,411	18	54	18,484	
Fuel Oil, Kerosene, etc.	2,086	172,791	12,780	11	32	12,823	
Wood	591	216,169	-	145	281	427	20,277
Coal	829	2,335	238	1	1	240	
Wayne County	**36,585**	**4,519,734**	**208,461**	**692**	**1,372**	**210,524**	**80,378**
Natural Gas	19,496	2,742,466	145,406	58	85	145,548	
Bottled, Tank, or LP gas	3,978	458,420	28,871	29	85	28,985	
Fuel Oil, Kerosene, etc.	5,530	461,287	34,117	29	86	34,232	
Wood	2,329	856,904	-	576	1,116	1,692	80,378
Coal	232	657	67	0	0	67	
Wyoming County	**15,501**	**2,103,566**	**79,109**	**521**	**1,022**	**80,652**	**66,582**
Natural Gas	7,260	1,045,955	55,457	22	32	55,511	
Bottled, Tank, or LP gas	1,626	191,943	12,089	12	36	12,136	
Fuel Oil, Kerosene, etc.	1,808	154,466	11,424	10	29	11,463	
Wood	1,883	709,832	-	477	924	1,401	66,582
Coal	472	1,370	140	0	1	141	
Yates County	**9,517**	**1,267,859**	**48,535**	**339**	**679**	**49,552**	**42,542**
Natural Gas	2,821	410,000	21,738	9	13	21,760	
Bottled, Tank, or LP gas	2,392	284,826	17,938	18	53	18,009	
Fuel Oil, Kerosene, etc.	1,378	118,788	8,786	7	22	8,815	
Wood	1,193	453,534	-	305	591	895	42,542
Coal	73	710	72	0	0	73	

Notes:

1. CO2e calculated based on allocation of EIA 2010 Residential Energy use in New York*, using fuel type emission factors from EPA's Manditory Reporting Rule(MRR)**

*http://www.eia.gov/state/seds/sep_sum/html/pdf/sum_btu_com.pdf

**Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2, http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf

2. New York State, regional and county residential energy totals allocated based on 2007 - 2010 ACS data for type of residence and heating fuel type, 2010 US Census data used for total occupied units, and HDD determined based on NOAA New York State climate divisions. fuel use by structure size determined though EPA study provided to GHG Inventory Protocol group.

3. CO2 from Wood products are considered a source of biogenic emissions, not to be included in GHG emission totals

GHG Emissions from Natural Gas Use Transmission and Distribution Losses[1]

	% T&D Loss	Total Natural Gas (mcf)	CH4 Losses in mcf	CH4 Losses in lbs	Total CO2e
Natural Gas T&D Losses	**1.8%**	**45,042,256.11**	**810,761**	**36,322,075**	**345,984**
Genesee	1.8%	1,838,708.48	33,097	1,482,734.52	14,124
Livingston	1.8%	1,594,009.33	28,692	1,285,409.13	12,244
Monroe	1.8%	32,394,057.24	583,093	26,122,567.76	248,829
Ontario	1.8%	3,437,967.35	61,883	2,772,376.87	26,408
Orleans	1.8%	900,339.68	16,206	726,033.92	6,916
Seneca	1.8%	793,106.79	14,276	639,561.31	6,092
Wayne	1.8%	2,667,768.45	48,020	2,151,288.48	20,492
Wyoming	1.8%	1,017,465.83	18,314	820,484.45	7,815
Yates	1.8%	398,832.96	7,179	321,618.90	3,064

Notes

1. CO2e from T&D losses calculated based on ratio of estimated % fuel loss and total residential natural gas use within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL Residential Direct Energy Sources 1_3_13.xlsx
Date:
1/4/2013

Commercial Energy Use Emissions

				CO2e (Metric Tons)[1]				
	Workers[2]	Sq Footage[2]	mmBTU[1]	CO2	CH4	N2O	Total	Biogenic Total[3]
New York State	**6,618,037**	**6,018,827,593**	**431,800,000**	**24,923,838**	**21,323**	**46,590**	**24,991,751**	
Natural Gas	4,005,538	3,519,948,423	294,100,000	15,593,182	6,176	9,117	15,608,475	
Bottled, Tank, or LP gas	227,624	183,398,128	6,600,000	415,668	416	1,228	417,311	
Fuel Oil, Kerosene, etc.	2,225,226	2,200,987,287	120,400,000	8,904,784	7,585	22,394	8,934,764	
Wood3	139,846	97,326,344	10,600,000	-	7,123	13,801	20,924	994,280
Coal	19,802	17,167,411	100,000	10,204	23	50	10,277	
%	**6%**	**6%**	**8%**	**7%**	**7%**	**6%**	**7%**	
Finger Lakes	**384,093**	**366,488,593**	**33,910,696**	**1,785,808**	**1,578**	**2,942**	**1,790,328**	
Natural Gas	320,904	305,344,394	30,013,998	1,591,342	630	930	1,592,903	
Bottled, Tank, or LP gas	21,102	21,072,894	825,329	51,979	52	154	52,185	
Fuel Oil, Kerosene, etc.	27,841	27,460,747	1,909,428	141,221	120	355	141,697	
Wood3	10,561	10,577,475	1,149,538	-	772	1,497	2,269	107,827
Coal	3,685	2,033,084	12,404	1,266	3	6	1,275	
Genessee County	**16,610**	**18,025,185**	**1,545,875**	**81,730**	**113**	**227**	**82,071**	
Natural Gas	10,732	11,646,888	1,143,380	60,622	24	35	60,681	
Bottled, Tank, or LP gas	2,046	2,220,251	86,556	5,451	5	16	5,473	
Fuel Oil, Kerosene, etc.	2,797	3,035,768	210,395	15,561	13	39	15,613	
Wood3	891	967,221	104,604	-	70	136	206	9,812
Coal	143	155,057	939	96	0	0	97	
Livingston County	**13,681**	**14,449,170**	**1,228,195**	**60,397**	**143**	**284**	**60,824**	
Natural Gas	7,891	8,334,214	825,521	43,769	17	26	43,812	
Bottled, Tank, or LP gas	2,247	2,373,224	93,350	5,879	6	17	5,902	
Fuel Oil, Kerosene, etc.	1,947	2,056,699	143,821	10,637	9	27	10,673	
Wood3	1,427	1,506,718	164,413	-	110	214	325	15,422
Coal	169	178,314	1,090	111	0	1	112	
Monroe County	**271,326**	**252,527,276**	**24,254,832**	**1,291,306**	**675**	**1,138**	**1,293,119**	
Natural Gas	253,978	236,381,368	23,205,657	1,230,364	487	719	1,231,571	
Bottled, Tank, or LP gas	4,743	4,414,095	172,082	10,838	11	32	10,881	
Fuel Oil, Kerosene, etc.	10,486	9,759,913	676,416	50,028	43	126	50,196	
Wood3	1,986	1,848,655	199,930	-	134	260	395	18,753
Coal	132	123,244	747	76	0	0	77	
Ontario County	**34,524**	**36,566,189**	**3,194,864**	**166,868**	**228**	**450**	**167,545**	
Natural Gas	23,576	24,970,360	2,473,364	131,138	52	77	131,266	
Bottled, Tank, or LP gas	4,234	4,484,879	176,412	11,110	11	33	11,154	
Fuel Oil, Kerosene, etc.	4,443	4,705,889	329,073	24,338	21	61	24,420	
Wood3	1,845	1,954,353	213,260	-	143	278	421	20,004
Coal	426	450,708	2,755	281	1	1	283	
Orleans County	**7,722**	**7,235,274**	**583,665**	**29,629**	**72**	**146**	**29,847**	
Natural Gas	3,644	3,414,335	335,187	17,772	7	10	17,789	
Bottled, Tank, or LP gas	1,504	1,409,354	54,943	3,460	3	10	3,474	
Fuel Oil, Kerosene, etc.	1,744	1,633,688	113,224	8,374	7	21	8,402	
Wood3	790	740,508	80,085	-	54	104	158	7,512
Coal	40	37,389	227	23	0	0	23	
Seneca County	**7,785**	**7,321,173**	**550,175**	**29,713**	**44**	**92**	**29,850**	
Natural Gas	3,819	3,591,519	355,747	18,862	7	11	18,880	
Bottled, Tank, or LP gas	1,671	1,571,756	61,825	3,894	4	11	3,909	
Fuel Oil, Kerosene, etc.	1,365	1,283,663	89,764	6,639	6	17	6,661	
Wood3	387	364,005	39,720	-	27	52	78	3,726
Coal	543	510,230	3,119	318	1	2	321	
Wayne County	**18,554**	**17,092,694**	**1,465,102**	**75,669**	**132**	**264**	**76,065**	
Natural Gas	10,767	10,557,540	1,036,438	54,952	22	32	55,006	
Bottled, Tank, or LP gas	2,197	2,153,957	83,971	5,289	5	16	5,309	
Fuel Oil, Kerosene, etc.	3,054	2,994,804	207,556	15,351	13	39	15,403	
Wood3	1,286	1,260,999	136,376	-	92	178	269	12,792
Coal	1,251	125,394	760	78	0	0	78	
Wyoming County	**9,112**	**8,706,196**	**745,840**	**34,560**	**111**	**218**	**34,889**	
Natural Gas	4,887	4,843,636	479,772	25,438	10	15	25,462	
Bottled, Tank, or LP gas	1,094	1,084,882	42,674	2,688	3	8	2,698	
Fuel Oil, Kerosene, etc.	1,217	1,206,329	84,356	6,239	5	16	6,260	
Wood3	1,268	1,256,536	137,114	-	92	179	271	12,861
Coal	646	314,813	1,924	196	0	1	198	
Yates County	**4,779**	**4,565,437**	**342,149**	**15,938**	**60**	**122**	**16,120**	
Natural Gas	1,610	1,604,535	158,932	8,427	3	5	8,435	
Bottled, Tank, or LP gas	1,365	1,360,494	53,515	3,370	3	10	3,384	
Fuel Oil, Kerosene, etc.	787	783,994	54,823	4,055	3	10	4,068	
Wood3	681	678,479	74,036	-	50	96	146	6,945
Coal	336	137,936	843	86	0	0	87	

Notes:

1. CO2e calculated based on allocation of EIA 2010 Commercial Energy use in New York*, using fuel type emission factors from EPA's Manditory Reporting Rule(MRR)**

*http://www.eia.gov/state/seds/sep_sum/html/pdf/sum_btu_com.pdf

*Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2, http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf

2. New York State, regional and county commercial energy totals allocated based on NYS 2010 Department of Labor statistics for each county, the CBECS average floor space per worker, and 2010 HDD based on NOAA climate divisions

3. CO2 from Wood products are considered a source of biogenic emissions, not to be included in GHG emission totals
4. Renewable sources highlighted in green

GHG Emissions from Natural Gas Use Transmission and Distribution Losses[1]

	% T&D Loss	Total Natural Gas (mcf)	CH4 Losses in mcf	CH4 Losses in lbs	Total CO2e
Natural Gas T&D Losses	**1.8%**	**29,196,495.67**	**525,537**	**23,544,054.11**	**224,268**
Genesee	1.8%	1,112,237.15	20,020	896,908.04	8,543
Livingston	1.8%	803,035.61	14,455	647,567.92	6,168
Monroe	1.8%	22,573,596.15	406,325	18,203,347.93	173,395
Ontario	1.8%	2,405,996.38	43,308	1,940,195.48	18,481
Orleans	1.8%	326,057.04	5,869	262,932.40	2,505
Seneca	1.8%	346,057.51	6,229	279,060.78	2,658
Wayne	1.8%	1,008,208.23	18,148	813,019.12	7,744
Wyoming	1.8%	466,704.13	8,401	376,350.21	3,585
Yates	1.8%	154,603.47	2,783	124,672.24	1,188

Notes
1. CO2e from T&D losses calculated based on ratio of estimated % fuel loss and total commercial natural gas use within the region.

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
WNY Commercial Energy Emissions 1_4_13.xlsx
Date:
1/4/2013

Industrial Energy Use Emissions

		CO2e (Metric Tons)[1]				
	mmBTU[2]	CO_2	CH_4	N_2O	Total	Biogenic Total[3]
New York State[2]	**142,674,216**	**8,707,842**	**14,208**	**28,311**	**8,750,361**	**219,731**
Natural Gas	100,184,192	5,311,766	2,104	3,106	5,316,975	
LPG	381,677	24,038	24	71	24,133	
Distillate Fuel Oil (#1, #2, Kerosene)	2,866,662	211,235	181	533	211,949	
Heating Oil #1	*1,103,236*	*80,812*	*70*	*205*	*81,087*	
Heating Oil #2	*1,763,426*	*130,423*	*111*	*328*	*130,862*	
Residual Fuel Oil (#4 and #6)	14,565,792	1,093,813	918	2,709	1,097,440	
Heating Oil #4	*1,300,971*	*97,625*	*82*	*242*	*97,949*	
Heating Oil #6	*13,264,821*	*996,188*	*836*	*2,467*	*999,491*	
Coal	12,699,950	1,193,241	2,934	6,299	1,202,474	
Bituminous Coal	*11,911,597*	*1,112,543*	*2,752*	*5,908*	*1,121,203*	
Anthracite Coal	*169,701*	*17,571*	*39*	*84*	*17,694*	
Coke	*618,652*	*63,127*	*143*	*307*	*63,577*	
Wood[3]	2,342,544	-	1,574	3,050	4,624	219,731
MSW[5]	9,633,400	873,749	6,474	12,543	892,766	
Solid Other						
Liquid Other						
%	**5%**	**6%**	**4%**	**4%**	**6%**	
Finger Lakes	**7,545,399**	**487,927**	**603**	**1,229**	**489,759**	**-**
Natural Gas	5,289,881	280,470	111	164	280,745	
LPG	2,459	155	0	0	156	
Distillate Fuel Oil (#1, #2, Kerosene)	12,484	923	1	2	926	
Heating Oil #1	-	-	-	-	-	
Heating Oil #2	*12,484*	*923*	*1*	*2*	*926*	
Residual Fuel Oil (#4 and #6)	157,965	11,863	10	29	11,903	
Heating Oil #4	-	-	-	-	-	
Heating Oil #6	*157,965*	*11,863*	*10*	*29*	*11,903*	
Coal	2,082,610	194,516	481	1,033	196,030	
Bituminous Coal	*2,082,610*	*194,516*	*481*	*1,033*	*196,030*	
Anthracite Coal	-	-	-	-	-	
Coke	-	-	-	-	-	
Wood[3]	-	-	-	-	-	-
MSW	-	-	-	-	-	
Solid Other						
Liquid Other						
Genesee County	**757,926**	**40,185**	**16**	**23**	**40,225**	
Natural Gas	757,926	40,185	16	23	40,225	
LPG	-	-	-	-	-	
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	
Heating Oil #1	-	-	-	-	-	
Heating Oil #2	-	-	-	-	-	
Residual Fuel Oil (#4 and #6)	-	-	-	-	-	
Heating Oil #4	-	-	-	-	-	
Heating Oil #6	-	-	-	-	-	
Coal	-	-	-	-	-	
Bituminous Coal	-	-	-	-	-	
Anthracite Coal	-	-	-	-	-	
Coke	-	-	-	-	-	
Wood[3]	-	-	-	-	-	
MSW	-	-	-	-	-	

Solid Other					
Liquid Other					
Livingston County	**172,960**	**9,177**	**4**	**5**	**9,186**
Natural Gas	172,326	9,137	4	5	9,146
LPG	634	40	0	0	40
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-
Heating Oil #1	-	-	-	-	-
Heating Oil #2	-	-	-	-	-
Residual Fuel Oil (#4 and #6)	-	-	-	-	-
Heating Oil #4	-	-	-	-	-
Heating Oil #6	-	-	-	-	-
Coal	-	-	-	-	-
Bituminous Coal	-	-	-	-	-
Anthracite Coal	-	-	-	-	-
Coke	-	-	-	-	-
Wood[3]	-	-	-	-	-
MSW	-	-	-	-	-
Solid Other					
Liquid Other					
Monroe County	**2,747,714**	**189,445**	**273**	**572**	**190,291**
Natural Gas	1,586,308	84,106	33	49	84,189
LPG	85	5	0	0	5
Distillate Fuel Oil (#1, #2, Kerosene)	12,484	923	1	2	926
Heating Oil #1	-	-	-	-	-
Heating Oil #2	*12,484*	*923*	*1*	*2*	*926*
Residual Fuel Oil (#4 and #6)	157,965	11,863	10	29	11,903
Heating Oil #4	-	-	-	-	-
Heating Oil #6	*157,965*	*11,863*	*10*	*29*	*11,903*
Coal	990,874	92,548	229	491	93,268
Bituminous Coal	*990,874*	*92,548*	*229*	*491*	*93,268*
Anthracite Coal	-	-	-	-	-
Coke	-	-	-	-	-
Wood[3]	-	-	-	-	-
MSW	-	-	-	-	-
Solid Other					
Liquid Other					
Ontario County	**2,278,588**	**120,828**	**48**	**71**	**120,947**
Natural Gas	2,276,846	120,718	48	71	120,837
LPG	1,741	110	0	0	110
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-
Heating Oil #1	-	-	-	-	-
Heating Oil #2	-	-	-	-	-
Residual Fuel Oil (#4 and #6)	-	-	-	-	-
Heating Oil #4	-	-	-	-	-
Heating Oil #6	-	-	-	-	-
Coal	-	-	-	-	-
Bituminous Coal	-	-	-	-	-
Anthracite Coal	-	-	-	-	-
Coke	-	-	-	-	-
Wood[3]	-	-	-	-	-
MSW	-	-	-	-	-
Solid Other					
Liquid Other					
Orleans County	**150,951**	**8,003**	**3**	**5**	**8,011**
Natural Gas	150,951	8,003	3	5	8,011

LPG	-	-	-	-	-	
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	
Heating Oil #1	-	-	-	-	-	
Heating Oil #2	-	-	-	-	-	
Residual Fuel Oil (#4 and #6)	-	-	-	-	-	
Heating Oil #4	-	-	-	-	-	
Heating Oil #6	-	-	-	-	-	
Coal	-	-	-	-	-	
Bituminous Coal	-	-	-	-	-	
Anthracite Coal	-	-	-	-	-	
Coke	-	-	-	-	-	
Wood[3]	-	-	-	-	-	-
MSW	-	-	-	-	-	
Solid Other						
Liquid Other						
Seneca County	**-**	**-**	**-**	**-**	**-**	
Natural Gas	-	-	-	-	-	
LPG	-	-	-	-	-	
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	
Heating Oil #1	-	-	-	-	-	
Heating Oil #2	-	-	-	-	-	
Residual Fuel Oil (#4 and #6)	-	-	-	-	-	
Heating Oil #4	-	-	-	-	-	
Heating Oil #6	-	-	-	-	-	
Coal	-	-	-	-	-	
Bituminous Coal	-	-	-	-	-	
Anthracite Coal	-	-	-	-	-	
Coke	-	-	-	-	-	
Wood[3]	-	-	-	-	-	-
MSW	-	-	-	-	-	
Solid Other						
Liquid Other						
Wayne County	**180,517**	**9,571**	**4**	**6**	**9,580**	
Natural Gas	180,517	9,571	4	6	9,580	
LPG	-	-	-	-	-	
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	
Heating Oil #1	-	-	-	-	-	
Heating Oil #2	-	-	-	-	-	
Residual Fuel Oil (#4 and #6)	-	-	-	-	-	
Heating Oil #4	-	-	-	-	-	
Heating Oil #6	-	-	-	-	-	
Coal	-	-	-	-	-	
Bituminous Coal	-	-	-	-	-	
Anthracite Coal	-	-	-	-	-	
Coke	-	-	-	-	-	
Wood[3]	-	-	-	-	-	-
MSW	-	-	-	-	-	
Solid Other						
Liquid Other						
Wyoming County	**1,256,744**	**110,717**	**256**	**547**	**111,519**	
Natural Gas	165,008	8,749	3	5	8,757	
LPG	-	-	-	-	-	
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	
Heating Oil #1	-	-	-	-	-	
Heating Oil #2	-	-	-	-	-	

Residual Fuel Oil (#4 and #6)	-	-	-	-	-	
Heating Oil #4	-	-	-	-	-	
Heating Oil #6	-	-	-	-	-	
Coal	1,091,736	101,968	252	542	102,762	
Bituminous Coal	*1,091,736*	*101,968*	*252*	*542*	*102,762*	
Anthracite Coal	-	-	-	-	-	
Coke	-	-	-	-	-	
Wood[3]	-	-	-	-	-	-
MSW	-	-	-	-	-	
Solid Other						
Liquid Other						
Yates County	**-**	**-**	**-**	**-**	**-**	
Natural Gas	-	-	-	-	-	
LPG	-	-	-	-	-	
Distillate Fuel Oil (#1, #2, Kerosene)	-	-	-	-	-	
Heating Oil #1	-	-	-	-	-	
Heating Oil #2	-	-	-	-	-	
Residual Fuel Oil (#4 and #6)	-	-	-	-	-	
Heating Oil #4	-	-	-	-	-	
Heating Oil #6	-	-	-	-	-	
Coal	-	-	-	-	-	
Bituminous Coal	-	-	-	-	-	
Anthracite Coal	-	-	-	-	-	
Coke	-	-	-	-	-	
Wood[3]	-	-	-	-	-	-
MSW	-	-	-	-	-	
Solid Other						
Liquid Other						

Notes

1. CO2e calculated based on regional Title V Air Quality Permitting energy data provided to the CGC GHG Protocol Working Group from the NYSDEC (August 2012), using fuel type emission factors from EPA's Manditory Reporting Rule(MRR)*

*Federal Register / Vol. 74, No. 209 / Friday, October 30, 2009 / Rules and Regulations, Table C-1 and Table C-2, http://epa.gov/climatechange/emissions/downloads09/GHG-MRR-FinalRule.pdf

2. New York State, regional and county actual energy totals reported for all Title V sources within the area. Electricity generation and landfill emissions were excluded as they are calculated and counted separately in waste and electric consumption and generation

3. CO2 from Wood products are considered a source of biogenic emissions, not to be included in GHG emission totals

4. Renewable sources highlighted in green

5. MSW(Municipal Solid Waste) emissions are included in waste calculations

GHG Emissions from Natural Gas Use Transmission and Distribution Losses[1]

	% T&D Loss	Total Natural Gas (mcf)	CH4 Losses in mcf	CH4 Losses in lbs	Total CO2e
Natural Gas T&D Losses	**1.8%**	**5,145,798.98**	**92,624**	**4,149,572.30**	**39,527**
Genesee	1.8%	737,281.61	13,271	594,543.89	5,663
Livingston	1.8%	167,632.68	3,017	135,179.00	1,288
Monroe	1.8%	1,543,100.88	27,776	1,244,356.55	11,853
Ontario	1.8%	2,214,830.98	39,867	1,786,039.70	17,013
Orleans	1.8%	146,839.49	2,643	118,411.37	1,128
Seneca	1.8%	-	-	-	-
Wayne	1.8%	175,599.71	3,161	141,603.60	1,349
Wyoming	1.8%	160,513.62	2,889	129,438.18	1,233
Yates	1.8%	-	-	-	-

Notes

1. CO2e from T&D losses calculated based on ratio of estimated % fuel loss and total industrial natural gas use within the region. Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Industrial Emissions 1-4-13.xlsx

Date:

1/4/2013

Industrial GHG Emissions

2010 Emissions reported as part of EPA MRR Program

Region	Source	Process	CO2e (Metric Tons) Emissions by Type[1] CO2	CH4	N2O	CF4	C2F6	CHF3	Total CO2e
New York State									
Finger Lakes									**37,292**
Genesee County	None								
Livingston County	None								
Monroe County	None								
Ontario County	GUARDIAN INDUSTRIES CORP	Glass Production	X	X	X				37,292
Orleans County	None								
Seneca County	None								
Wayne County	None								
Wyoming County	None								
Yates County	None								

Notes:

1. Emissions from industrial uses and general combustion are not reported separately by type, only total CO2e is reported separately.

Ozone Depleting Substance Substitution Emissions

Region	Population	HFC Emissions Total CO2e (Metric Tons)
New York State	**19,378,102**	**4,436,697**
Finger Lakes	**1,217,156**	**278,672.93**
Genesee County	60,079	13,755.34
Livingston County	65,393	14,972.00
Monroe County	744,344	170,420.65
Ontario County	107,931	24,711.25
Orleans County	42,883	9,818.24
Seneca County	35,251	8,070.86
Wayne County	93,772	21,469.49
Wyoming County	42,155	9,651.56
Yates County	25,348	5,803.53

Notes:

1. Emissions from HFC use estimated based on 2010 population ratio and 2007 Reported Statewide HFC emissions (New York State Greenhouse Gas Emissions Inventory

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Industrial Sources11_10_12.xlsx

Date:

11/10/2012

Table 1
Greenhouse Gas Emission Inventory Summary
Transportation: On-Road Vehicles
Finger Lakes New York Region

County	Annual Vehicle Miles Travelled[1] (VMT)	Annual GHG Emissions[2] (metric tons CO2e/yr)			
		CO2	N2O	CH4	Total
Genesee	1,097,199,275	530,382	1,329	455	532,166
Livingston	786,257,742	386,095	967	331	387,393
Monroe	6,486,644,052	2,832,972	7,095	2,432	2,842,498
Ontario	1,424,348,585	658,566	1,616	565	660,747
Orleans	298,777,408	138,335	347	119	138,800
Seneca	461,842,036	218,810	548	188	219,546
Wayne	744,612,295	311,467	780	268	312,515
Wyoming	359,002,158	162,186	406	139	162,731
Yates	198,538,063	98,299	246	84	98,630
Finger Lakes NY Total	**11,857,221,614**	**5,337,111**	**13,334**	**4,580**	**5,355,025**

Notes:

1. VMT data for each county provided by NYSDOT.

2. NYSDOT regional-specific data on fleet profile and national fleet fuel economy data to estimate county-level GHG emissions.

Emission Type	Fuel Type	Finger Lakes NY Annual GHG Emissions[2] (metric tons CO2e/yr)
Non-Biogenic	Gasoline[1]	4,273,549
	Diesel	771,313
	Total	***5,044,862***
Biogenic	Ethanol[1]	310,163
TOTAL		**5,355,025**

Notes:

1. Non-biogenic Portion of Gasoline E-10. Biogenic portion is not included in GHG totals per NYSGHG Protocol

2. NYSDOT regional-specific data on fleet profile and national fleet fuel economy data to estimate GHG emissions. The distribution of GHG emissions for the components of gasoline E-10 (i.e., gasoline and ethanol) is based on a fraction of 90% gasoline and 10% ethanol.

County	Annual Fuel Consumption (MMBtu/yr)		
	Gasoline (E-10)	Diesel	Total
Genesee	6,125,147	1,366,032	7,491,180
Livingston	4,407,479	1,043,088	5,450,567
Monroe	35,371,200	4,780,696	40,151,896
Ontario	7,877,822	1,438,072	9,315,893
Orleans	1,658,969	298,095	1,957,064
Seneca	2,575,910	517,143	3,093,053
Wayne	4,055,928	442,298	4,498,226
Wyoming	1,997,798	360,648	2,358,446
Yates	1,102,252	284,413	1,386,665
Finger Lakes NY Total	**65,172,504**	**10,530,485**	**75,702,989**

Notes:

and national fleet fuel economy data.

Fuel Type	Finger Lakes NY GHG Emissions (metric tons CO_2e/yr)			
	CO_2	N_2O	CH_4	Total
Finger Lakes	**5,337,111**	**13,334**	**4,580**	**5,355,025**
Gasoline	4,258,449	11,280	3,821	4,273,549
Ethanol[1]	309,904	154	105	310,163
Diesel	768,758	1,899	655	771,313
Genesee	**530,382**	**1,329**	**455**	**532,166**
Gasoline	400,224	1,060	359	401,644
Ethanol[1]	29,126	15	10	29,150
Diesel	101,032	254	86	101,372
Livingston	**386,095**	**967**	**331**	**387,393**
Gasoline	287,990	763	258	289,011
Ethanol[1]	20,958	10	7	20,976
Diesel	77,147	194	66	77,407
Monroe	**2,832,972**	**7,095**	**2,432**	**2,842,498**
Gasoline	2,311,196	6,122	2,074	2,319,392
Ethanol[1]	168,195	84	57	168,335
Diesel	353,580	889	301	354,771
Ontario	**658,566**	**1,616**	**565**	**660,747**
Gasoline	514,746	1,363	462	516,572
Ethanol[1]	37,460	19	13	37,491
Diesel	106,360	234	91	106,684
Orleans	**138,335**	**347**	**119**	**138,800**
Gasoline	108,399	287	97	108,783
Ethanol[1]	7,889	4	3	7,895
Diesel	22,047	55	19	22,121
Seneca	**218,810**	**548**	**188**	**219,546**
Gasoline	168,313	446	151	168,910
Ethanol[1]	12,249	6	4	12,259
Diesel	38,248	96	33	38,377
Wayne	**311,467**	**780**	**268**	**312,515**
Gasoline	265,019	702	238	265,959
Ethanol[1]	19,286	10	7	19,303
Diesel	27,162	68	23	27,253
Wyoming	**162,186**	**406**	**139**	**162,731**
Gasoline	130,538	346	117	131,001
Ethanol[1]	9,500	5	3	9,508
Diesel	22,148	55	19	22,222
Yates	**98,299**	**246**	**84**	**98,630**
Gasoline	72,022	191	65	72,278
Ethanol[1]	5,241	3	2	5,246
Diesel	21,035	53	18	21,106

Notes:

1. Non-biogenic Portion of Gasoline E-10. Biogenic portion is not included in GHG totals per NYSGHG Protocol

2. NYSDOT regional-specific data on fleet profile and national fleet fuel economy data to estimate GHG emissions. The distribution of GHG emissions for the components of gasoline E-10 (i.e., gasoline and ethanol) is based on a fraction of 90% gasoline and 10% ethanol.

Supporting data and calculations are provided in the following E&E Excel Workbook:

File Name:

FL Transportation - Onroad - 2013_1_14.xlsm

Date:

1/14/2013

Table 1
GHG Emission Summary
Transportation: Railroads
Finger Lakes New York Region

County	Annual Diesel Consumption[1] (gal/yr)	Annual diesel Consuption (MMBtu/yr)	Direct GHG Emissions from Diesel Train Engine Systems[2] (metric tons CO_2e/yr)			
			CO_2	N_2O	CH_4	Total
Genesee	2,684,250	370,427	27,397	69	23	27,489
Livingston	263,433	36,354	2,689	7	2	2,698
Monroe	3,715,410	512,727	37,921	95	32	38,049
Ontario	101,171	13,962	1,033	3	0.9	1,036
Orleans	17,965	2,479	183	0.5	0.2	184
Seneca	58,215	8,034	594	1	0.5	596
Wayne	2,742,210	378,425	27,988	70	24	28,083
Wyoming	611,480	84,384	6,260	16	5	6,281
Yates	106,382	14,681	1,086	3	0.9	1,089
Finger Lakes NY Total	**10,300,516**	**1,421,471**	**105,151**	**264**	**90**	**105,505**

Notes:

1. Diesel consumption based on NYSERDA Study of diesel consumption by rail systems in New York State in 2002. Fuel consumption data allocated spatially to counties by location of rail lines.
2. GHG emissions calculated by applying EPA emission factors to diesel consumption.

County	Annual Coal Consumption[1] (short tons/yr)	Annual Coal Consumption[1] (MMBTu/yr)	Direct GHG Emissions from Coal Train Systems[2] (metric tons CO_2e/yr)			
			CO_2	N_2O	CH_4	Total
Wyoming	11	280	7	0.02	0.006	7
Finger Lakes NY Total	**11**	**280**	**7**	**0.02**	**0.006**	**7**

Notes:

1. Coal consumption estimated from train system use.
2. GHG emissions calculated by applying EPA emission factors to coal consumption.

County	GHG Emissions from All Train Systems (metric tons CO_2e/yr)			
	CO_2	N_2O	CH_4	Total
Genesee	27,397	69	23	27,489
Livingston	2,689	7	2	2,698
Monroe	37,921	95	32	38,049
Ontario	1,033	3	0.9	1,036
Orleans	183	0.5	0.2	184
Seneca	594	1	0.5	596
Wayne	27,988	70	24	28,083
Wyoming	6,267	16	5	6,288
Yates	1,086	3	0.9	1,089
Finger Lakes NY Total	**105,158**	**264**	**90**	**105,512**

Power/Fuel Type	Finger Lakes NY Annual Energy Consumption (MMBtu/yr)
Diesel	1,421,471
Coal	280
Electric	0
Total	**1,421,751**

Notes:

State in 2002.

2. Energy consumption for electrical systems calculated by unit conversion.

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL Transportation - Rail - 2013_1_3.xlsx
Date:
1/4/2013

Table 1
GHG Emission Summary
Transportation: Commercial Marine Vessels
Finger Lakes New York Region

Fuel Type	County	Annual Fuel Consumption[1] (gal/yr)	Annual Fuel Consumption[1] (MMBtu/yr)	GHG Emissions[2,3] (metric tons CO_2e/yr)			
				CO_2	N_2O	CH_4	Total
Diesel	Genesee	0	0	0	0	0	0
	Livingston	0	0	0	0	0	0
	Monroe	0	0	0	0	0	0
	Ontario	0	0	0	0	0	0
	Orleans	0	0	0	0	0	0
	Seneca	0	0	0	0	0	0
	Wayne	0	0	0	0	0	0
	Wyoming	0	0	0	0	0	0
	Yates	0	0	0	0	0	0
	Finger Lakes NY Total	**0**	**0**	**0**	**0**	**0**	**0**
Residual Fuel Oil	Genesee	0	0	0	0	0	0
	Livingston	0	0	0	0	0	0
	Monroe	818,129	122,719	9,216	23	8	9,247
	Ontario	0	0	0	0	0	0
	Orleans	635,878	95,382	7,163	18	6	7,187
	Seneca	0	0	0	0	0	0
	Wayne	0	0	0	0	0	0
	Wyoming	0	0	0	0	0	0
	Yates	0	0	0	0	0	0
	Finger Lakes NY Total	**1,454,007**	**218,101**	**16,379**	**41**	**14**	**16,434**
All Fuel Types	**Genesee**	**0**	**0**	**0**	**0**	**0**	**0**
	Livingston	**0**	**0**	**0**	**0**	**0**	**0**
	Monroe	**818,129**	**122,719**	**9,216**	**23**	**8**	**9,247**
	Ontario	**0**	**0**	**0**	**0**	**0**	**0**
	Orleans	**635,878**	**95,382**	**7,163**	**18**	**6**	**7,187**
	Seneca	**0**	**0**	**0**	**0**	**0**	**0**
	Wayne	**0**	**0**	**0**	**0**	**0**	**0**
	Wyoming	**0**	**0**	**0**	**0**	**0**	**0**
	Yates	**0**	**0**	**0**	**0**	**0**	**0**
	Finger Lakes NY Total	**1,454,007**	**218,101**	**16,379**	**41**	**14**	**16,434**

Notes:

1. Fuel consumption estimated by dividing annual CO_2 emissions by corresponding fuel heat value and emission-factor-energy.
2. CO_2 emissions calculated by multiplying EPA estimated annual SO_2 emission rate by ratio of CO_2 to SO_2 emissions for applicable fuel.
3. N_2O and CH_4 emissions estimated using using EPA emission factors and fuel consumption estimates.

Fuel Type	Finger Lakes NY Annual Energy Consumption[1] (MMBtu/yr)
Diesel	0
Residual Fuel Oil	218,101
Total	**218,101**

Notes:

1. Annual energy consumption is based on projected fuel consumption.

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL Transportation - Com Marine - 2013_1_3.xlsx
Date:
1/4/2013
11/10/2012

Table 1
Greenhouse Gas Emission Inventory Summary
Transportation: Aircraft
Finger Lakes New York Region

County	Annual Jet Fuel Consumption[1] (gal/yr)	Annual Jet Fuel Consumption[1] (MMBtu/yr)	GHG Emissions[2,3] (metric tons CO_2e/yr)			
			CO_2	N_2O	CH_4	Total
Genesee	193,221	26,085	1,854	4.9	2	1,860
Livingston	129,800	17,523	1,248	3	1	1,252
Monroe	4,286,001	578,610	41,151	108	36	41,295
Ontario	47,780	6,450	457	1	0.4	459
Orleans	14,459	1,952	138	0.4	0.1	138
Seneca	27,932	3,771	266	0.7	0.2	267
Wayne	54,549	7,364	524	1	0.5	526
Wyoming	35,818	4,835	342	0.9	0.3	343
Yates	101,868	13,752	978	3	0.9	981
Finger Lakes NY Total	**4,891,428**	**660,343**	**46,958**	**123**	**42**	**47,122**

Notes:

1. Jet fuel consumption estimated using the FAA's EDMS model with data input of total landing and take off cycles of specific aircraft types at each airport in each county.
2. CO_2 emissions estimated using the FAA's EDMS model with data input of total landing and take off cycles of specific aircraft types at each airport in each county.
3. N_2O and CH_4 emissions estimated using using EPA emission factors and jet fuel consumption estimates.

Fuel Type	Western NY Annual Energy Consumption[1] (MMBtu/yr)
Kerosene Type Jet Fuel	660,343

Notes:

1. Annual energy consumption is based on projected fuel consumption as estimated using FAA's EDMS model.

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL Transportation - Aircraft - 2013_1_3.xlsx
Date:
1/4/2013

Table 1
GHG Emissions Summary
Transportation: Non-Road Equipment
Finger Lakes New York Region

County	Energy Consumption (MMBtu/yr)	GHG Emissions[1,2] (metric tons CO_2e/yr)			
		CO_2	N_2O	CH_4	Total
Genesee	651,759	46,746	120	41	46,907
Livingston	624,813	44,944	116	39	45,099
Monroe	5,108,287	360,290	938	319	361,546
Ontario	1,105,904	79,050	204	69	79,324
Orleans	512,632	36,741	95	32	36,869
Seneca	779,111	55,695	145	49	55,889
Wayne	897,883	63,902	166	56	64,124
Wyoming	592,030	42,496	110	37	42,643
Yates	562,680	40,072	104	35	40,212
Finger Lakes NY Total	**10,835,100**	**769,937**	**1,998**	**678**	**772,613**

Notes:

1. CO_2 emissions based on NYSDEC runs of the NONROAD emission model for the state emission inventory for Year 2007.
2. N_2O and CH_4 emissions based the use of EPA emission factors for N2O and CH4 based on fuel combustion. Fuel consumption estimated with reserve application of CO_2 emission factors (for fuel) to CO_2 emissions.

Fuel Type	Finger Lakes NY Annual Fuel Consumption[1]		Finger Lakes NY GHG Emissions[2,3] (metric tons CO_2e/yr)			
	(scf/yr)	(gal/yr)	CO_2	N_2O	CH_4	Total
CNG	106,246,482	-	5,791	3	2	**5,797**
Diesel	-	39,738,943	405,595	1,020	345	**406,960**
Gasoline	-	31,398,706	*275,602*	*730*	*247*	**276,579**
LPG	-	14,315,938	82,949	245	83	**83,277**
TOTAL	-	-	**769,937**	**1,998**	**678**	**772,613**

Notes:

1. Fuel consumption estimated with reserve application of CO_2 emission factors (for fuel) to CO_2 emissions.
2. CO_2 emissions based on NYSDEC runs of the NONROAD emission model for the state emission inventory for Year 2007.
3. N_2O and CH_4 emissions based the use of EPA emission factors for N_2O and CH_4 based on fuel combustion.

Fuel Type	Finger Lakes NY Annual Energy Consumption (MMBtu/yr)
CNG	109,221
Diesel	5,483,974
Gasoline	3,924,838
LPG	1,317,066
Total	**10,835,100**

Notes:

1. Annual energy consumption is based on projected fuel consumption calculated from NYSDEC CO_2 emission estimates.

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL Transportation - Nonroad - 2013_1_3.xlsx
Date:
1/4/2013

Waste Disposal Emissions

				CO2e (Metric Tons), 2010[1,2]				
	Regional average Municipal Solid Waste (MSW) generated per capita (short tons)	Total MSW (Short tons)[1]	Population	Nonbiogenic CO2	CH_4	N_2O	Total non biogenic	CO2 biogenic[5]
Finger Lakes								
Direct Reported Emissions, waste received[2]		**3,089,899**	**1,217,156**	**934**	**595,749**	**1**	**596,684**	**81,792**
Genesee		729,041	60,079	738	283,012	1	283,751	81,792
Livingston		-	65,393	-	-	-	-	-
Monroe		-	744,344	-	-	-	-	-
Ontario		-	107,931	-	-	-	-	-
Orleans		742,837	42,883	191	134,598	-	134,789	-
Seneca		-	35,251	-	-	-	-	-
Wayne		1,618,021	93,772	5	178,139	-	178,143	-
Wyoming		-	42,155	-	-	-	-	-
Yates		-	25,348	-	-	-	-	-
Indirect Emissions, based on average emissions per ton received, waste generated[3]	**0.83**	**1,016,144**	**1,217,156**	**0**	**326,347**	**0**	**326,347**	**201,744**
Genesee[4]	0.49	29,280.68	60,079	0	9,404	0	9,404	9,958
Livingston[4]	0.56	36,441.50	65,393	0	11,704	0	11,704	10,839
Monroe[4]	0.87	647,758.26	744,344	0	208,035	0	208,035	123,375
Ontario[4]	1.07	115,586.13	107,931	0	37,122	0	37,122	17,890
Orleans[4]	0.50	21,593.23	42,883	0	6,935	0	6,935	7,108
Seneca[4]	0.60	21,095.33	35,251	0	6,775	0	6,775	5,843
Wayne[4]	1.16	108,416.99	93,772	0	34,819	0	34,819	15,543
Wyoming[4]	0.48	20,081.50	42,155	0	6,449	0	6,449	6,987
Yates[4]	0.63	15,890.04	25,348	0	5,103	0	5,103	4,201

Notes

1. 2010_DEC_Landfill_and_WTE_data.xlsx , summary of DEC reported data provided by NYSERDA to NYS Protocol Working Group, 2012
2. Emissions as reported in 2010 EPA MRR GHG Reporting Data
3. Emissions calculated using California Air Resources Board(CARB) First Order Decay (FOD) Model, based on total waste generated in the region, NY default waste characteristics, and 50 year lifespan
4. Regional Emissions allocated to counties based on waste generated within the county.
5. Biogenic emissions include CO2 emissions from electric generation as calculated by CARB FOD Model or as Reported for EPA MRR

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL Waste 1_4 BOD method.xlsx
Date:
1/4/2013

Wastewater Treatment Facility Emissions: Direct

				CO2e (Metric Tons)[2]			
	Wastewater volume flow (MGD)[1]	Number of Plants[1]	Population[2]	CO2	CH4	N2O	Total CO2e[3]
New York State[2]	**3,693.65**	**610**	**19,378,102**	**-**	**1,310,000**	**580,000**	**1,900,000**
Finger Lakes[2]	**232.36**	**66**	**1,217,156**	**-**	**80,000**	**40,000**	**120,000**
Genesee	9.02	9	60,079		3,107	1,553	4,660
Livingston	6.58	8	65,393		2,267	1,133	3,400
Monroe	166.86	7	744,344		57,450	28,725	86,175
Ontario	15.73	11	107,931		5,415	2,708	8,123
Orleans	12.900	4	42,883		4,441	2,221	6,662
Seneca	5.782	6	35,251		1,991	995	2,986
Wayne	9.309	15	93,772		3,205	1,603	4,808
Wyoming	4.070	4	42,155		1,401	701	2,102
Yates	2.100	2	25,348		723	362	1,085

[1]Descriptive Data of Municipal Wastewater Treatment Plants in New York State, NYSDEC, January 2004

[2]State and Regional Totals calculated using the EPA State Inventory Tool, Wastewater module, for Municiple waterwater only, using NYS defaults, 2010 population from 2010 US Census.

[3]State and Regional totals reported as calculated by using the EPA State Inventory Tool--may not be exact sum of other rows due to rounding.

[4]County totals calculated based on ratio of 2004 County wastewater volumes and EPA State Inventory Tool results for the region. Significant figures of SIT (million MT, to 100ths) do not provide totals for the smaller population numbers.

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL Waste_water11_12.xlsx
Date:
11/12/2012

Manure Management Emissions

			CO2e (Metric Tons) 2			
	Population (# of animals)[1]	Number of Animal Farms [1]	CO2	CH4	N2O	Total CO2e
New York State						
Finger Lakes	**560,273**	**5,752**		**114,656**	**22,994**	**137,649**
Genesee	59,539	458		17,777	3,701	21,478
Livingston	62,502	729		17,637	3,674	21,311
Monroe	12,813	246		1,816	334	2,150
Ontario	52,031	696		15,804	3,269	19,073
Orleans	12,997	376		2,192	407	2,599
Seneca	75,979	617		8,986	1,353	10,340
Wayne	124,995	557		6,125	1,149	7,275
Wyoming	109,501	944		34,551	7,221	41,772
Yates	49,916	1,129		9,766	1,885	11,651

Note

1. The animal and farm number data is from 2007 USDA Agricultural Census.

2.CO2e calculation is based on the animal number and the factors from 2010 USEPA Draft Regional Greenhouse Gas Inventory Guidance and 2006 IPCC Guidelines for National Greenouse Gas Inventories .

Enteric Fermentation Emissions

			CO2e (Metric Tons) 2			
	Population (# of animals)[1]	Number of Animal Farms [1]	CO2	CH4	N2O	Total CO2e
New York State						
Finger Lakes	**560,273**	**5,752**		**713,507**		**713,507**
Genesee	59,539	458		107,337		107,337
Livingston	62,502	729		105,152		105,152
Monroe	12,813	246		14,562		14,562
Ontario	52,031	696		97,147		97,147
Orleans	12,997	376		17,831		17,831
Seneca	75,979	617		64,553		64,553
Wayne	124,995	557		39,678		39,678
Wyoming	109,501	944		202,771		202,771
Yates	49,916	1,129		64,475		64,475

Notes

1. The animal and farm number data is from 2007 USDA Agricultural Census.

2.CO2e calculation is based on the animal number and the factors from 2010 USEPA Draft Regional Greenhouse Gas Inventory Guidance.

Agricultural Soils Emissions

		CO2e (Metric Tons) [2]			
	Cropland Harvested (acres)[1]	CO2	CH4	N2O	Total CO2e
New York State					
Finger Lakes	**1,012,623**			**61,934**	**61,934**
Genesee	132,333			8,082	8,082
Livingston	146,753			8,966	8,966
Monroe	93,282			5,697	5,697
Ontario	137,752			8,421	8,421
Orleans	91,599			5,616	5,616
Seneca	92,783			5,712	5,712
Wayne	103,564			6,333	6,333
Wyoming	142,442			8,699	8,699
Yates	72,115			4,407	4,407

Notes

1. The cropland harvested data for synthetic fertilizer calculation is from 2007 US Agricultural Census. Assumed most of fertilizer are used on harvested cropland.

2.CO2e calculation is from organic fertilizer N2O emission with data sources from NYSDEC7/23/2012 and synthetic fertilizer N2O emission with data sources from 2007 US Agricultural Census and EPA Commerical Fertilizer Purchased (http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/dataset_commercial.cfm).

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL_Agriculture_110512.xlsx
Date:
11/5/12

Carbon Sequestration in Forests

	Forest Land (Acres)[1]	Forest Land (km^2)	Total Carbon Sequestration (metric tons C)[2]	Total Carbon Sequestration (metric tons CO2)
New York State				
Finger Lakes	**1,050,475**	**4,251**	**47,169,176**	**173,110,876**
Genesee	107,901	437	5,046,674	18,521,295
Livingston	132,965	538	6,043,567	22,179,890
Monroe	116,967	473	5,313,551	19,500,731
Ontario	187,560	759	8,099,906	29,726,656
Orleans	62,351	252	2,816,615	10,336,977
Seneca	50,653	205	2,104,790	7,724,579
Wayne	136,240	551	5,512,768	20,231,860
Wyoming	157,285	637	7,889,264	28,953,598
Yates	98,553	399	4,342,041	15,935,289

Notes

1.The forest land data is from Forest Inventory Data Online (FIDO) FIA Standard Reports, New York Current Area, 2010.
2.The total carbon sequestration is calculated based on the carbon stock factor from COLE 1605 (b) Report for New York, July 24, 2012 and the forest land.

Carbon Sequestration in Urban Forests

	Urban Land Area (km2) [1]	Tree Canopy Cover (%)[2]	Total Carbon Sequestration (metric tons C)[3]	Total Carbon Sequestration (metric tons CO2)
New York State				
Finger Lakes	**1,079**		**68,447**	**251,202**
Genesee	35	23%	1,759	6,456
Livingston	48	23%	2,463	9,040
Monroe	741	31%	50,341	184,750
Ontario	83	15%	2,823	10,361
Orleans	31	30%	2,092	7,679
Seneca	23	25%	1,309	4,805
Wayne	78	30%	5,223	19,169
Wyoming	33	29%	2,173	7,974
Yates	7	18%	264	969

Notes
1. The urban land area data is from 2000 US Census.
2. The tree canopy cover percentage data is from provided by Eric J. Greenfield, US Department of Agriculture Forest Service, Syracuse, NY on August 1, 2012.
3. The total carbon sequestration is calculated based on the urban land area, tree canopy coverage and the national average net sequestration rate.

Supporting data and calculations are provided in the following E&E Excel Workbook:
File Name:
FL_Forest_101012.xlsx
Date:
10/10/12

REDC Emissions By Source and Sector
Year: 2010

REDC / County Name	QAQC

Color Code

	REQUIRED, though some data may be zero or considered to small to count
	OPTIONAL
	DO NOT Report Data in these cells

DRAFT Reporting Template CGC. Emissions in MTCDE							Related GHG Metrics / Activity Data		
		Scope 1	Scope 2	Scope 3	Biogenic	Rolled Up?	Metric	Unit	Value
Built Environment	**Residential Energy Consumption**								
FL Electricity Consumption	Electricity / Steam	-	1,003,997	0	-	Yes	Consumption	MMBTU	15,093,554
FL Direct Residental Fuel Consumption	Natural Gas	2,457,416	-	0	-	Yes	Consumption	MMBTU	46,303,439
FL Direct Residental Fuel Consumption	Propane / LPG	205,344	-	0	-	Yes	Consumption	MMBTU	3,247,626
FL Direct Residental Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	216,103	-	0	-	Yes	Consumption	MMBTU	2,912,087
FL Direct Residental Fuel Consumption	Wood	10,565	-	0	502,028	Yes	Consumption	MMBTU	5,352,108
	Commercial Energy Consumption	-	-	0	-				-
FL Electricity Consumption	Electricity / Steam	-	964,950	0	-	Yes	Consumption	MMBTU	14,506,538
FL Commercial Direct Fuel Consumption	Natural Gas	1,592,903	-	0	-	Yes	Consumption	MMBTU	30,013,998
FL Commercial Direct Fuel Consumption	Propane / LPG	52,185	-	0	-	Yes	Consumption	MMBTU	825,329
FL Commercial Direct Fuel Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	141,697	-	0	-	Yes	Consumption	MMBTU	1,909,428
FL Commercial Direct Fuel Consumption	Residual Fuel Oil (#4 and #6)	-	-	0	-	Yes	Consumption	MMBTU	-
FL Commercial Direct Fuel Consumption	Coal	1,275	-	0	-	Yes	Consumption	MMBTU	12,404
FL Commercial Direct Fuel Consumption	Wood	2,269	-	0	107,827	Yes	Consumption	MMBTU	1,149,538
	Industrial Energy Consumption	-	-	0	-				-
FL Electricity Consumption	Electricity / Steam	-	569,720	0	-	Yes	Consumption	MMBTU	8,564,870
FL Industrial Title V Consumption	Natural Gas	280,745	-	0	-	Yes	Consumption	MMBTU	5,109,365
FL Industrial Title V Consumption	Propane / LPG	156	-	0	-	Yes	Consumption	MMBTU	2,459
FL Industrial Title V Consumption	Distillate Fuel Oil (#1, #2, Kerosene)	926	-	0	-	Yes	Consumption	MMBTU	12,484
FL Industrial Title V Consumption	Residual Fuel Oil (#4 and #6)	11,903	-	0	-	Yes	Consumption	MMBTU	157,965
FL Industrial Title V Consumption	Coal	196,030	-	0	-	Yes	Consumption	MMBTU	2,082,610
FL Industrial Title V Consumption	Wood	-	-	0	-	Yes	Consumption	MMBTU	-

Energy Generation and Supply	**Energy Generation and Supply**	-	-	0	-				-
FL Elec Generation GHG Analysis	Coal	1,535,272	-	0	-	No	Generation	MMBTU	15,706,588
FL Elec Generation GHG Analysis	Nuclear	-	-	0	-	No	Generation	MMBTU	51,754,929
FL Elec Generation GHG Analysis	Natural Gas	92,952	-	0	-	No	Generation	MMBTU	1,751,439
FL Elec Generation GHG Analysis	Distillate Fuel Oil (#1, #2 and #4)	2,227	-	0	-	No	Generation	MMBTU	30,014
FL Elec Generation GHG Analysis	Residual Fuel Oil (#4 and #6)	9,417	-	0	-	No	Generation	MMBTU	124,973
FL Elec Generation GHG Analysis	Wood / Biomass	-	-	0	-	No	Generation	MMBTU	-
FL Elec Generation GHG Analysis	MSW and Landfill gas	854	-	0	169,315	No	MSW Combusted	MMBTU	3,251,672
FL Elec Generation GHG Analysis	Other Wind and Hydro	-	-	0	-				7,331,091
FL Electricity Consumption	Electricity T/D Losses	-	147,750	0	-	Yes	Losses	MMBTU	2,221,201
FL Elec Generation GHG Analysis and FL Direct Fuel Consumption	Natural Gas T/D Losses	615,180	-	0	-	Yes	Losses	MMBTU	-
FL Electricity Consumption	Use of SF6 in the Utility Industry	33,983	-	0	-	Yes	Consumption	MMBTU	-
Industrial Processes	**Industrial Processes**	-	-	0	-				-
Not Reported	Cement Production	-	-	0	-	Yes			-
Not Reported	Iron and Steel Production	-	-	0	-	Yes			-
Not Reported	Ferroalloy Production	-	-	0	-	Yes			-
Not Reported	Aluminum Production	-	-	0	-	Yes			-
Not Reported	Paper and Pulp	-	-	0	-	Yes			-
Not Reported	Limestone Use	-	-	0	-	Yes			-
Not Reported	Soda Ash Use	-	-	0	-	Yes			-
Not Reported	Semi-Conductor Manufacturing	-	-	0	-	Yes			-
FL Industrial Sources	Glass Production	37,292	-	0	-	Yes			-
Not Reported	Chemical Manufacturing	-	-	0	-	Yes			-
Product Use (Ozone Depleting Substances)	**Product Use (Ozone Depleting Substances)**	-	-	0	-				-
FL Industrial Sources	All Refrigerants- except SF6	278,673	-	0	-	Yes			-
Transportation Energy	**On-road**	-	-	0	-				-
FL Emission Summary - Onroad	Motor Gasoline (E-10)	4,273,549	-	0	310,163	Yes	Consumption	MMBTU	65,172,504
FL Emission Summary - Onroad	Diesel	771,313	-	0	-	Yes	Consumption	MMBTU	10,530,485
Not Reported	Ethanol (E-85)	-	-	0	-	No	Consumption	MMBTU	-
Not Reported	Biodiesel	-	-	0	-	No	Consumption	MMBTU	-
Not Reported	Electricity Consumption	-	-	0	-	No	Consumption	MMBTU	-
	Rail	-	-	0	-				-
FL Emission Summary - Rail	Diesel	105,505	-	0	-	Yes	Consumption	MMBTU	1,421,471
FL Emission Summary - Rail	Coal Consumption	7	-	0	-	Yes	Consumption	MMBTU	280
FL Emission Summary - Rail	Electric	-	-	0	-				-

	Marine	-	-	0	-				-
FL Emission Summary -Com Marine	Gasoline	-	-	0	-	Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Distillate Fuels	-	-	0	-	Yes	Consumption	MMBTU	-
FL Emission Summary -Com Marine	Residual Fuels	16,434	-	0	-	Yes	Consumption	MMBTU	218,101
	Air	-	-	0	-				-
FL Emission Summary-Aircraft	All Fuels (Jet and Aviation Gasoline)	47,122	-	0	-	No	Consumption	MMBTU	660,343
	Off-road Mobile	-	-	0	-				-
FL Emission Summary-Nonroad	All Fuels (Diesel and Gasoline)	772,613	-	0	-	Yes	Consumption	MMBTU	10,835,100
Waste Management	**Solid Waste Management**	-	-	0	-				-
FL Waste	Scope 1: Actual emissions from Waste Facilities in Region. Scope 3: Forward Order Decay estimates for waste generated in region	596,684	-	326,347	201,744	Yes - ONLY Scope 3	MSW+CD Generated	Tonnes	1,016,144
Not Reported	MSW incineration (non grid connected)	-	-	0	-	Yes	MSW+CD Processed	Tonnes	3,089,899
	Sewage Treatment	-	-	0	-		MSW Sent for Incineration	Tonnes	-
FL Waste water	Central WWTPs and Septic Systems	120,000	-	0	-	Yes	MSW incinerated in Bounda	Tonnes	-
Agriculture	**Livestock**	-	-	0	-				-
GHF_FL_Agriculture	Enteric Fermentation	713,507	-	0	-	Yes			-
GHF_FL_Agriculture	Manure management	137,649	-	0	-	Yes			-
GHF_FL_Agriculture	**Crop Production and Soil Management**	-	-	0	-				-
GHF_FL_Agriculture	Use of Fertilizer	61,934	-	0	-	Yes			-
Not Reported	Crop Residue Incineration	-	-	0	-	No			-
Land Use and Forestry		-	-	0	-				-
GHG_FL_Forest	Urban Forest Annual Reserve	251,202	-	0	-	No			-
GHG_FL_Forest	Forest Carbon Reserve (TOTAL)	173,110,876	-	0	-	No			-

Grand Totals	Gross Totals	13,107,154	2,686,417	326,347	1,291,077	**16,119,918**
	Total with Aircraft	13,154,277	2,686,417	326,347	1,291,077	**16,167,041**
	Net Totals					

Note: Red text represents text added to original template to provide additional information or clarificatior

Protocol Compliance Report Summary of Protocol Decisions for Required Tier II Source (Green Box Sources) "Rec" - recommended, "Alt" means acceptable alternative	Adherence		
	Yes	No	Brief Description of Method and Issues
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Size	X		Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based HDD and Housing Unit Siz	X		As stated
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			As stated
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			As stated
(Rec) Allocated EIA SEDS residential state consumption to counties based on Home Heating Fuel, HDD, and Housing Unit Size			
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended method.	X		Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) EIA allocation based on Fuel Oil Recommended method	X		As stated
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated: none to report
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
(Rec) Allocated EIA SEDS commercial state consumption to counties based on Home Heating Fuel, HDD, employment and Commercial Square Footage. (Alt) Allocation based on Home Heating, HDD, and Employment only.	X		As stated
(Rec) - Utility Supplied Data, (Alt 1) - extrapolation from partial set, (Alt 2) allocate SEDS EIA data based allocated by industrial employment	X		Actual electricity sales data is provided for National Grid, NYSEG, RG&E and municipal utilities.
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included
(Rec) - Pie Slice Method. (1) Allocate directly all Title 5 / MMR reporting industrial facilities to the counties / municipalities. (2) compute total statewide industrial fuel use for all Title 5 / EPA MMR reporting facilities and subtract that from the EIA SEDS reported fuel use for the industrial sector (3) allocate the balance from step 2 to counties by industrial employment for manufacturing. The balance is assumed to represent smaller industry that does not report under Title 5 regulations.		X	Direct energy use as reported for Title 5 industrial facilities only, additional allocation based on statewide emissions by industrial employees is not representative of the region, therefore not included

(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shal be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shal be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
	X	EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shal be reported. For overlap, prioritize EIA 923 Database.	X	EIA 923 database used
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. Wood CO2 emissions reported optionally as biogenic CO2, Ch4 and N2 Emissions required to be reported to Scope 1	X	EIA 923 database used: none to report
(Rec) - Direct Allocation from Title 5, MMR, or EIA 923 Database. All Grid Connected Power Generators with Nameplate capacity of 1 MW or greater shall be reported. MSW CO2 emissions split as 44% reported as Scope 1 as part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html. All Ch4 and N2O shall be reported under required Scope 1.	X	EIA 923 database used
(Rec) - Acquire utility specific estimate of T/D (in %) and apply that to all consumption (res/commercial/industrial). Report emissions as Scope 2 using regional EGRID emission factors consistent with all Scope 2 calculations. (Alt) use a statewide average T/D loss of 5.28% as documented by EPA's EGRID reporting for New York.	X	Alternative method as stated
(Rec) - Acquire utility specific estimate of T/D (in %), compute as percentage of total residential/commercial/industrial/energy generation. Report as Scope 1 CH4 emissions. (Alt) use a statewide average of 1.8% as documented by National Grid in 2010 PSC Reporting.		Alternative method as stated
(Rec) - acquire utility specific estimate and report as SF6. (Alt) Apportion NYSERDA 2009 Emission Inventory Total for the state to counties based ration of EIA reported total electricity demand to computed regional or county demand for all sectors.	X	Based on conversations with P Groth and J Yeinger, used national 2010 emission inventory total (alternative method)
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
(Rec) Direct Allocation from from EPA MMR only. Small Sources to not to be included at this time.	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	Nothing to report
	X	As stated
	X	Nothing to report
(Rec) Use EPA 2009 Draft Guidance method. Allocate national per/capita emissions to counties based on population. Methods include mobile refrigeration	X	As stated
(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggio). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggio) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region-appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions.	X	As stated
(Rec) Use MPO-provided VMT data local to your region, supplemented by DOT provided data (on Wiggio). Use regional-specific data on fleet profile and national fleet fuel economy data (on Wiggio) to estimate county-level GHG emissions. (Alt) Use EPA MOVES GHG module customized for your region-appropriate if you are running this model. Assume on-road fuel is 10% ethanol and report this fraction as Optional biogenic emissions on the ethanol line item.	X	As stated
Optional- Include regional E-85 consumption if you have it, and debit against your gasoline estimate create using VMT. Allocate 15% as gasoline to be reported as Scope 1, and 85% as ethanol to be reported as optional biogenic.	X	Not available
Optional- Include regional biodiesel consumption if you have it, and debit against your diesel estimate create using VMT. Because biodiesel blends change, allocate option biogenic component on this line item only, and retain the diesel fraction on the diesel line item.	X	Not available
Today this will be zero, but as NYSERDA pushes to electrify on-road transportation we will want to report here, debiting against electricity consumption in the other sectors as appropriate.	X	Not available
Freight and Passenger. (Rec) Use direct provider fuel consumption data allocated spatially to location of routes (Alt) Use Nyserda 2002 estimates of Diesel consumption by county directly.	X	As stated
Passenger and Commuter (Rec) Use direct provider electricity consumption data allocated spatially to location of routes (Alt) None identified.	X	As stated
		Nothing to report

	X		As stated, except recreational boating included in non-road data
Rec - USE NYSDEC 2007 data from the state emission inventory for the small and pleasure craft categories reported by county (data on Wiggio). For commercial distillate and bunkers, No consensus method identified- please document methods used.	X		As stated, except recreational boating included in non-road data
	X		As stated, except recreational boating included in non-road data
Optional Scope 1- Estimate Landing and Take off Cycle emissions using a dispersion model such as EDMS, or with related data from the NYSDEC for the 2007 state emission inventory. Optional Scope 3, use FAA statistics on departure miles from regional airport, allocate jet fuel use to it, then allocate to counties by fraction of population served	X		Scope 1 option, using EDMS. Totals are also included in GHG Inventory reporting as part of Sustainability Plan
Rec - USE NYSDEC 2007 NONROAD data from the state emission inventory (data on Wiggio) for all categories except small marine.	X		As stated, but includes recreational marine
This is fugitive CH4 emissions from landfills. There are two required Scopes. Scope 1 - Estimate of actual emissions in regional boundary. (rec) use MMR or Title 5 (annual landfill reporting) data directly for facilities (data on Wiggio). For recently closed landfills or for areas without reported data, use a First Order Decay model to estimate emissions. Scope 3- emissions footprint attributed to current waste generation regardless of where it is treated. (rec) Estimate county level MSW and C/D waste generation and apply a representative FOD model with prevailing CH4 captures rates forward-casted 50 years to estimate the footprint.	X		Scope 1 reported as actual 2010 waste facility emissions reported (EPA MRR). Scope 3 calculated and reported as stated
Rec - for any MSW incinerated that does not generate grid connected power, compute emissions. MSW CO2 emissions split. 44% shall be reported as Scope 1 as part of non-biogenic (plastics etc), and 56% can be reported as option biogenic based data for 2005 on http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw_report.html. All Ch4 and N2O shall be reported under required Scope 1	X		None Reported
Determine population covered by WWTPs. (Rec)- Use the ICLEI Local Government Operations Protocol and apply to all facilities in the region. (Alt) use methods as described in the EPA 2009 Draft GHG guidance to translate populations served into emissions using default data. Determine population covered by Septic Systems, and apply the default emissions / capita as described in the ICLEI Local Government Operations Protocol.		X	Based on conversations with P. Groth and J. Yeinger, used State Inventory Tool and regional population, allocated to county by population
	X		As stated
(Rec) Methods as described in the EPA 2009 guidance and executed in the EPA's State Inventory Tool. Use locally resolved fertilizer, crop, and livestock population from either the 2007 Ag census or the US NASS system to get county-level data and make calculations for each county.	X		As stated
	X		As stated
	X		None reported
Optional Source and Sink. Use methods described in the EPA 2009 Guidance. Use local forest inventory data, or use the US Forest Services online inventory tool for forests. For carbon stock factors use the National Council for Air and Stream Improvement's Carbon On-Line Estimator. (NCASI 2008) Use the	X		As stated
		X	Total reported for information, change is not relevant to WG discussions

Sum Totals in columns for all EXCEPT ANY FORESTRY SINKS. Totals in the Scope 1 column can be a considered a physical roll up of emissions that occur in boundary, and is analogous to reporting that is done for state and federal GHG inventories, and for air quality management.

Value above MINUS and reported optional forestry sinks.

REDC GHG Emissions Roll Up Report
Year: 2010
(all emissions in Column D, when summed will equal the total County or REDC protocol compliant GHG emissions estimate)

REDC / County Name	Finger Lakes

Color Code

REQUIRED for the Roll Up Report, though some data may be zero, N/A, or considered to small to count

Report NO Data in cell

DRAFT Roll Up Report CGC. Emissions in MTCDE								
		CO2e	CO2	CH4	N2O	PFC	HFC	SF6
Built Environment	**Residential Energy Consumption**							
	Electricity / Steam	1,003,997	999,114	672	4,211	-	-	-
	Natural Gas	2,457,416	2,455,008	972	1,435	-	-	-
	Propane / LPG	205,344	204,535	205	604	-	-	-
	Distillate Fuel Oil (#1, #2, Kerosene)	216,103	215,378	183	542	-	-	-
	Wood	10,565	-	3,597	6,968	-	-	-
	Commercial Energy Consumption					-	-	-
	Electricity / Steam	964,950	960,257	646	4,047	-	-	-
	Natural Gas	1,592,903	1,591,342	630	930	-	-	-
	Propane / LPG	52,185	51,979	52	154	-	-	-
	Distillate Fuel Oil (#1, #2, Kerosene)	141,697	141,221	120	355	-	-	-
	Residual Fuel Oil (#4 and #6)	-	-	-	-	-	-	-
	Coal	1,275	1,266	3	6	-	-	-
	Wood	2,269	-	772	1,497	-	-	-
	Industrial Energy Consumption					-	-	-
	Electricity / Steam	569,720	566,949	381	2,390	-	-	-
	Natural Gas	280,745	280,470	111	164	-	-	-
	Propane / LPG	156	155	0	0	-	-	-
	Distillate Fuel Oil (#1, #2, Kerosene)	926	923	1	2	-	-	-
	Residual Fuel Oil (#4 and #6)	11,903	11,863	10	29	-	-	-
	Coal	196,030	194,516	481	1,033	-	-	-
	Wood	-	-	-	-	-	-	-
	Energy Generation and Supply					-	-	-
	Electricity T/D Losses	147,750	147,032	99	620	-	-	-
	Natural Gas T/D Losses	615,180	-	615,180	-	-	-	-
	Use of SF6 in the Utility Industry	33,983	-	-	-	-	-	33,983
	Industrial Processes		-	-	-	-	-	-
	Cement Production		-	-	-	-	-	-
	Glass Production	37,292	-	-	-	-	-	-
	Iron and Steel Production		-	-	-	-	-	-
	Ferroalloy Production		-	-	-	-	-	-
	Aluminum Production		-	-	-	-	-	-
	Paper and Pulp		-	-	-	-	-	-
	Limestone Use		-	-	-	-	-	-
	Soda Ash Use		-	-	-	-	-	-
	Semi-Conductor Manufacturing		-	-	-	-	-	-
	Product Use (ODS Substitutes)		-	-	-	-	-	-
	All Refrigerants- except utility SF6	278,673	-	-	-	-	278,673	-
Transportation Energy	**On-road ALL (Total reflects subtraction of ethanol)**	-	-	-	-	-	-	-
	Motor Gasoline (E-10)	4,273,549	4,258,449	11,280	3,821	-	-	-
	Diesel	771,313	768,758	1,899	655	-	-	-
	Ethanol		-	-	-	-	-	-
	Biodiesel		-	-	-	-	-	-
	Rail		-	-	-	-	-	-
	Diesel	105,505	105,151	264	90	-	-	-
	Coal	7	7	0	0	-	-	-
	Marine		-	-	-	-	-	-
	Gasoline		-	-	-	-	-	-
	Distillate	-	-	-	-	-	-	-
	Residual Fuel Oil	16,434	16,379	41	14	-	-	-
	Off-road Mobile		-	-	-	-	-	-
	All Fuels (Diesel and Gasoline)	772,613	769,937	1,998	678	-	-	-
Waste Management	**Solid Waste Management**		-	-	-	-	-	-
	Landfill Methane from FOD of waste generated	326,347	-	326,347	-	-	-	-
	MSW incineration (non grid connected)		-	-	-	-	-	-
	Sewage Treatment		-	-	-	-	-	-
	Central WWTPs and Septic Systems (Total reflects rounding)	120,000	-	80,000	40,000	-	-	-
Agriculture	**Livestock**		-	-	-	-	-	-
	Enteric Fementation	713,507	-	713,507	-	-	-	-
	Manure management	137,649	-	114,656	22,994	-	-	-
	Crop Production and Soil Management		-	-	-	-	-	-
	Use of Fertilizer	61,934	-	-	61,934	-	-	-
	Crop Residue Incineration		-	-	-	-	-	-
Grand Totals		16,119,918	13,740,690	1,874,107	155,173	-	278,673	33,983

Note: Red text represents text added to original template to provide additional information or clarification

APPENDIX C: INDICATOR EVALUATION

Energy Indicators

ENERGY
POTENTIAL INDICATORS

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
Regional energy usage per capita (MMBtu)	NYSERDA Required Indicator 1A: Encompasses all of the energy consumption within the region on a scale that is relatable.	Calculations should include all sources of energy consumption (fuel combustion, electricity, renewable, etc.)	Types of energy consumed and broken down by use category, County and type.	Data provided through NYSERDA, Public Utilities and the GHG Analysis provided by Ecology & Environment, Inc.	As alternative energy sources grow in the region, methods for gathering this data as a portion of the overall energy usage per capita will be valuable as a measurement of success region.
Renewable Energy - Total installed renewable energy capacity	Understanding of the willingness of the population to adopt newer, cleaner, renewable/alternative sources of energy generation.	Sum of all available renewable energy sources, based on availability not consumption	Collect data from all available renewable energy generators and users to determine total available.	Power companies - wind farms, reverse metering customers, farm bureau, local municipal assessors	No solar, bio-gas, and ethanol data gathered. Users not selling back to the grid (self sufficient) should be included.
Governance - Energy Policy - Percent of regional population living in areas with local energy codes exceeding state requirements, and/or regulations for benchmarking and retrofitting private buildings	Provides a view to the influence of local building and energy codes on energy consumption	Total regional population living in areas with local energy codes above state requirements / total population of region	Track adoption of local energy policy with exceeding requirements within the region.	None at this point.	If it occurs, someone will have to monitor consumption based on higher standards.
Energy Efficiency	Reduce energy consumption utilization in heating, cooling, lighting (interior and exterior) and water distribution for all public and private sector energy consumers.	Determine the construction date of buildings and determine the Energy Conservation Construction Code they were constructed/renovated under	Oil, propane, fossil fuel, and natural gas data in addition to electric consumption data	Energy code, number of buildings at net-zero/neutral from a carbon footprint point of view, reduction in the amount of energy necessary to condition spaces, increase in simple energy controls, and changes in operational procedures.	No data currently available across the region for the long range effectiveness of energy efficiency programs & methods of reaching target savings
Greater Regional Energy Self-Reliance	Evaluate and Plan for greater Energy Self-Reliance during Natural and Other Disasters	Available methods and percentages of energy entering within the Region from all energy sources.	Identification of all sources of energy entering the Region and its method of distribution (can it be isolated)	Historical records of transformational interruptions. (1966 Blizzard, Ice Storms)	
Regional energy generation per capita (MMBtu)	Encompasses all of the energy generation within a region on a scale that is relatable.	Calculations should include all sources of energy generation (fuel combustion, electricity, renewable, etc.)	Types of energy being generated.	Data provided through NYSERDA, did not include all sources	Data should be verified to determine it includes all energy providers and is broken down to the region only. Should include all alternate/renewable fuel sources.
Renewable Energy - availability/accessibility/affordability	Measure the ease of access the region has to avail itself of alternate energy sources at affordable price points.	Track the sources of alternate energy, the ease of obtaining the energy across the region, the cost of the alternate energy on the open market	Tracking sales of consumer choices in energy sources, Geothermal units installed in conditioned spaces, purchase of alternate energy electric, alternate fuel for heating	No known tracking source for purchase of alternate fuels. No regional collection of data for purchase of alternate electrical power.	Tracking availability/reliability of alternate fuel and energy sources should be monitored.
Energy Conservation	Review public policies on energy efficiency of public controlled energy consumption in uses not regulated under the NYS Energy Construction Conservation Code. Review energy efficiencies of private industrial processes that are not regulated under the NYS ECCC.	Track policies and practices and determine if policies and practices are utilizing best practices to reduce energy consumption.	Energy consumption data from energy consumers both public and private for energy consumption that is not regulated under the NYS Energy Conservation Construction Code	Power usage for street lighting, traffic safety lighting, sports venues, public landscaping and art illumination should be available	There does not appear to be data collected broken down by energy usage for regulated and non-regulated sources of consumption

ENERGY

NYSERDA Indicator Evaluation

	Evaluation Criteria (Weight)					
Indicator	**Consistent with NYSERDA Guidance (3)**	**Consistent with Regional Performance Measure (1)**	**Favored by Stakeholder Group (2)**	**Data Availability (2)**	**Summary Score**	**General Notes**
Regional energy usage per capita (MMBtu)	8	3	5	4	45	Data received through NYSERDA
Renewable Energy - Total installed renewable energy capacity	6	3	5	4	39	Data provided on consumption, need additional data on installed/available
Energy Efficiency	5	2	4	1	27	Information received for Residential, Commercial, and Industrial uses. Industrial not broken down by common measurement.
Governance - Energy Policy - Percent of regional population living in areas with local energy codes exceeding state requirements, and/or regulations for benchmarking and retrofitting private buildings	6	2	2	1	26	Not monitored and no baseline has been established.
Greater Regional Energy Self-Reliance	4	2	5	0	24	Do you have to sell to the grid all the time? Are there regulations on distribution/contracts that will prohibit self-reliance?
Regional energy generation per capita (MMBtu)	4	2	4	4	30	Data received through NYSERDA
Renewable Energy - availability/accessibility/affordability	4	2	4	1	24	Data required to create base-line
Energy Conservation	0	2	2	1	8	Data required to create base-line

ENERGY

Place-Sourced Indicator Evaluation

	Evaluation Criteria											
	Enrichment of 5 Capitals:											
Indicator	**Natural**	**Built / Manufactured**	**Social**	**Human**	**Financial**	**Diversity**	**Resiliency**	**Life cycle cost and benefit**	**Ability to leverage Story of Place - Innovation "Accelerator"**	**Favored by Stakeholder Group**	**Summary Score**	**General Notes**
Regional energy usage per capita (MMBtu)	1	1	1	1	1	1	1	1	2	5	15	
Renewable Energy - Total installed renewable energy capacity	1	1	1	1	1	1	1	1	2	5	15	
Governance - Energy Policy - Percent of regional population living in areas with local energy codes exceeding state requirements, and/or regulations for benchmarking and retrofitting private buildings	1	1	1	1	1	1	1	1	2	3	13	Maintaining 'home rule' has strong impact from Stakeholders.
Energy Efficiency	1	1	1	1	1	1	1	1	2	4	14	
Greater Regional Energy Self-Reliance	1	1	1	1	1	1	1	1	2	3	13	Potential on practicality needs to be measured in greater detail.
Regional energy generation per capita (MMBtu)	1	1	1	1	1	1	1	1	2	3	13	
Renewable Energy - availability/accessibility/affordability	1	1	1	1	1	1	1	1	2	4	14	Questions were raised about methods to track this information
Energy Conservation	1	1	1	1	1	1	1	1	2	2	12	What can the public entities do to go above code or conserve in non-regulated areas and what is available to entice non-public entities to conserve in non-regulated areas?

ENERGY
Recommended INDICATORS

NYSERDA Indicators	Description	Calculation	Data Required/Source	Baseline Value (2010)	General Notes
Regional energy usage per capita (MMBtu)	Encompasses all of the energy consumption within the region on a scale that is relatable.	Calculations should include all sources of energy consumption (fuel combustion, electricity, renewable, etc.)	Types of energy consumed, broken down by use category and energy type.	31.36 mmBTU/person	The data is the result of the energy usage within the region divided by the 2010 population, as reported in the E&E report.
Renewable Energy - Total installed renewable energy capacity	Understanding of the willingness of the population to adopt newer, cleaner, renewable/alternative sources of energy generation.	Sum of all available energy sources, based on availability, not consumption.	Collect data	3,495,768 mmBTU across the region	Includes hydro, wind and landfill gas; Missing solar, bio-gas, and ethanol data.
Governance - Energy Policy - Percent of regional population living in areas with local energy codes exceeding state requirements, and/or regulations for benchmarking and retrofitting private buildings	Reduce energy consumption utilization in heating, cooling, lighting (interior and exterior) and water distribution for all public and private sector energy consumers.	Track Local Building, Energy, Fire, etc Codes	Oil, propane, fossil fuel, and natural gas data	0%	Although there are some communities that have pledged to participate in the Energy Smart Communities program thru the NYS DEC, none of the communities within the region have adopted policies or local laws that exceed the minimum requirements of the 2010 Energy Conservation Code within the region.
Place-Sourced Indicators	**Description**	**Calculation**	**Data Required/Source**	**Baseline Value (2010)**	**General Notes**
Greater Regional Energy Self-Reliance	Evaluate and Plan for greater Energy Self-Reliance during Natural and Other Disasters	Available methods and percentages of energy entering within the Region from all energy sources.	Identification of all sources of energy entering the Region and its method of distribution (can it be isolated)	Data currently unavailable	This might include working farms who generate enough energy to be self sufficient, and any other entities who generate energy that is equal to or greater than that which they consume
Regional energy generation per capita (MMBtu)	Encompasses all of the energy generation within a region on a scale that is relatable	Calculations should include all sources of energy generation (fuel combustion, electricity, renewable, etc.)		19.6 mmBTU per capita	This is for electrical generation only. Additional data required to include all renewable/alternate energy sources
Renewable Energy - availability/ accessibility/affordability	Understanding of the willingness of the population to adopt newer, cleaner, renewable/alternative sources of energy generation.	Track increases or decreases in consumption	Tracking sales for consumer choices in energy sources, Geothermal units installed in conditioned spaces, and population increase over a period of time	Data currently unavailable	Base-line data not collected at this point in time
Energy Efficiency	Provides a view to the influence of local building and energy codes on energy consumption	Difference in energy consumption of residential and non-residential buildings that exceed minimum state energy code standards relative to buildings that only meet minimum energy code standards.	Track new construction for residential and non-residential buildings. Develop data on annual energy consumption rates based on per capita for residential square footage and non-residential square footage for new construction.	Data currently unavailable	Track properties that have been constructed to above the minimum Energy Code and track the energy consumption over time.

Transportation Indicators

TRANSPORTATION
POTENTIAL INDICATORS

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
Total percentage of people commuting via walking, biking, transit and carpooling	Provides a view to access to alternative modes of transportation	% of workers commuting by mode = # of workers traveling by mode in region / total # of workers in region x 100	Total # of workers in region # of workers commuting by mode	ACS/census by county	ACS 3-year estimate data from 2009-2011 provides drive alone, carpool and transit shares and total workers for each of the 9 counties, also noted as recommended indicator by PTNY
Vehicle miles traveled per capita	Provides a view to automobile usage in a region	VMT / total population	VMT & total population	GTS, NYSDOT, GHG inventory	
Greenhouse Gas Emissions by source	Reduction of transportation specific GHG emissions	GHG emissions in CO2e per source / total pop	total GHG emissions by source	Tier II GHG inventory	
Travel time to work	Tracks trends in travel commute times, reflecting the economic and social impacts of delays resulting from congestion	average commute times throughout region for all modes	average commute times throughout region for all modes	ACS/census by county	ACS 3-year estimate data from 2009-2011 provides mean travel time to work in minutes for each of the 9 counties
Fuel consumption per capita	Mobile energy combustion can be significant at a regional level - this indicator provides insight into transport activity and the associated energy use	Total trans fuel consumption (MMBTu) / total population	Trans fuel consumption & total population	GHG inventory	
% income spent on transportation	Affordability of transportation choices	None	min, average and max % of income spent on transportation by county	breakdown of H+T index http://htaindex.cnt.org	
Housing+Transportation Index	Transportation and housing affordability	None	H+T Affordability Index - Center for Neighborhood Technology	http://htaindex.cnt.org	
# of households with vehicles	The number of households that report having a vehicle kept at the home, available for use, expressed as a percentage of all households.	# of households with a vehicle / # of total households X 100	# of households with vehicle & # of households	ACS/census by county	
Average airfares	The average airfare paid by passengers for a one-way domestic trip.	average airfares for one-way domestic trip	one-way domestic trips	USDOT for regional airports	
Number of alternative fuel registered vehicles	Provides a view to fuel efficiency in transport	None	# of registered alternative fuel vehicles	NYSDMV/NYSDOT	
Accessibility - Percentage of population within X miles of transit	Provides a view to the need for automobiles	Urban/suburban: Pop within 0.5 miles / total pop Park & Ride: Pop within 5 miles / total pop Inter-city: Pop within 30 miles / total pop	population distribution, location of transit routes/facilities, bus & ferry routes	NYSDOT, Transit authorities	
Transit Ridership	Provides insight into the level of mass transit use	None	# of annual riders	Transit authority	
Gaps in core multi-use trails network	Gaps in trails compared to full build out plan (36 miles short)	None	length of miles completed (Core Multi-Use Trails Network)	Rochester TMA - full build out is 260 miles (needs approximately 36 miles to be complete)	
% roads rated poor	The condition of the pavement on roads, expressed as a percentage of miles rated "poor" in the NYS Department of Transportation's rating system.	None	NYSDOT/GTC ratings	GTC notes data is available for about 80% of roads traveled in region	
Annual gasoline sales per county	Annual gasoline sales in thousand gallons	sum of estimated annual gas sales per county	gas sales per county	NYSERDA patterns & trends: 1990-2010 Appendix C	
Travel time index	Tracks trends in travel commute times, reflecting the economic and social impacts of delays resulting from congestion	None	travel time index	Rochester TMA - GTC available now (GTC may have data for all routes in region soon with new travel time program)	
# of public transit trips per resident	The number of public transit trips expressed as a rate per resident. A public transit trip is defined as a one-way ride on a bus or Lift Line service that accommodates residents with disabilities.	# of one-way transit trips / total pop	# of transit trips & total pop	RGRTA	
Personal injury crashes	The number of reported motor vehicle crashes causing personal injuries, expressed as a rate per 10,000 residents. A personal injury crash is defined as a crash resulting in injury to a motorist, bicyclist and/or pedestrian; this does not include fatal injuries.	None	# of injury crashes	NYSDMV - Accident Location Information System	
Crash fatalities	The number of fatalities caused by motor vehicle crashes, expressed as a rate per 10,000 residents. Fatalities include any deaths of motorists, bicyclists or pedestrians that occur within 30 days following injury in a motor vehicle accident. GTC measurement is a 3-year rolling average of the # of accidents that result in a fatality.	None	# of crashes resulting in fatality (if consistent with GTC calculation - 3-year rolling average)	NYSDMV - Accident Location Information System	
Alcohol-related crashes	The number of alcohol-related motor vehicle crashes resulting in fatalities or personal injuries, expressed as a rate per 10,000 residents. This includes all police-reported crashes in which the driver was found to have blood alcohol content higher than .08.	None	# of alcohol-related crashes	NYSDMV	
Miles of trails	Provides a view to the need for automobiles and diversity of transportation options	None	miles of existing trails	Rochester TMA - GTCs Regional Trails Initiative Phases 1 & 2 for TMA and non TMA	

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
Transit Score	Identifies those locations that have the conditions to support transit (enabling the identification of locations for potential future transit) and those locations that do not have the conditions to support transit (enabling the identification of locations with transit and the land use changes necessary to make that transit more successful)	0.41(pop per acre) + 0.09 (jobs per acre) + 0.74 (0 car households per acre) Low: <0.6 Marginal: 0.6-1.0 Medium: 1.01-2.50 Medium-high: 2.51-7.50 High: >7.50	density of population, density of employment, 0 car households	Census, NYS DOL	
Number of alternative fuel stations	Provides a view to fuel efficiency in transport	None	# of alt fuel stations	http://www.afdc.energy.gov/locator/stations/#results?utf8=%E2%9C%93&location=rochester%2C+ny&filtered=true&fuel=all&owner=all&payment=all&ev_level1=true&ev_level2=true&ev_dc_fast=true&radius_miles=5	
Miles of transit routes	Provides a view to the need for automobiles	None	miles of transit routes across region	Transit authority	
Change in number of miles of multi-use trails, sidewalks, and bike boulevards	Provides a view of the diversity of transportation options	None	miles of new bike/pedestrian infrastructure	municipalities	Recommended by PTNY
Annual municipal or per capita expenditures on bicycling and pedestrian infrastructure	Provides a view of the diversity of transportation options	None or amount of expenditures / total population	$ spent by municipality on bike/pedestrian infrastructure	municipalities	Recommended by PTNY
Connectivity and/or accessibility index for walking, cycling and public transit	Provides a view of the diversity of transportation options	Variety of different potential ways to calculate http://reconnectingamerica.org/assets/Uploads/TRB2004-001550.pdf	varies	varies	Document referenced by PTNY appears to be more applicable to neighborhoods or urban areas, may not be appropriate for rural areas
Miles of roads/number of bridges within flood zones (100 year)	Indicates vulnerability in transportation infrastructure	Graphical representation by County with total number of Principal Arterials in 100-year flood zones noted	GIS shapefiles of 100-year flood zones and roadway classifications	FEMA, counties, NYSDOT	Flood zone data not available for Oleans, Seneca, Wyoming and Yates
Federal-aid highways in TMA with Complete Sidewalks	Represents those roadways to which FHWA funds can be programmed for their report or maintenance that have sidewalks on both sides of the street with no gaps	None	GTC Inventory	GTC conducted an inventory of over 1,000 miles of federal-aid roads inn TMA	

TRANSPORTATION

NYSERDA Indicator Evaluation

	Evaluation Criteria (Weight)					
Indicator	**Consistent with NYSERDA Guidance (3)**	**Consistent with Regional Performance Measure (1)**	**Favored by Stakeholder Group (2)**	**Data Availability (2)**	**Summary Score**	**General Notes**
Total percentage of people commuting via walking, biking, transit and carpooling	8	3	4	3	41	
Vehicle miles traveled per capita	8	3	4	3	41	
Housing+Transportation Index	7	1	4	3	36	
Greenhouse Gas Emissions by source	6	3	3	4	35	
Fuel consumption per capita	6	1	5	3	35	
Travel time to work	6	3	3	3	33	
Number of alternative fuel registered vehicles	7	1	3	1	30	
Accessibility - Percentage of population within X miles of transit	6	1	4	0	27	
Transit Ridership	6	1	3	1	27	
% income spent on transportation	2	3	4	3	23	
Transit Score	6	1	1	0	21	
Miles of roads/number of bridges within flood zones (100 year)	2	1	2	3	17	
Annual gasoline sales per county	1	1	2	4	16	
Total miles of roadways	0	1	4	3	15	
# of households with vehicles	0	3	2	3	13	
Average airfares	0	3	2	3	13	
Gaps in core multi-use trails network	0	3	2	2	11	
% roads rated poor	0	3	2	2	11	
Federal-aid highways in TMA with Complete Sidewalks	0	3	2	2	11	
Travel time index	0	3	1	2	9	
# of public transit trips per resident	0	3	2	1	9	
Personal injury crashes	0	3	2	1	9	
Crash fatalities	0	3	2	1	9	
Alcohol-related crashes	0	3	2	1	9	
Miles of trails	0	2	1	2	8	
Number of alternative fuel stations	0	1	3	0	7	
Change in number of miles of multi-use trails, sidewalks, and bike boulevards	0	1	3	0	7	
Annual municipal or per capita expenditures on bicycling and pedestrian infrastructure	0	1	3	0	7	
Connectivity and/or accessibility index for walking, cycling and public transit	0	1	3	0	7	

TRANSPORTATION

Place-Sourced Indicator Evaluation

	Evaluation Criteria											
	Enrichment of 5 Capitals:											
Indicator	**Natural**	**Built / Manufactured**	**Social**	**Human**	**Financial**	**Diversity**	**Resiliency**	**Life cycle cost and benefit**	**Ability to leverage Story of Place - Innovation "Accelerator"**	**Favored by Stakeholder Group**	**Summary Score**	**General Notes**
Total percentage of people commuting via walking, biking, transit and carpooling	1	1	1	1		1				4	9	
Total miles of roadways	1	1	1		1			1		4	9	
Vehicle miles traveled per capita	1	1	1	1						4	8	
Fuel consumption per capita	1		1	1						5	8	
% income spent on transportation			1	1	1					4	7	
Housing+Transportation Index			1	1	1					4	7	
Number of alternative fuel registered vehicles	1		1	1		1				3	7	
Accessibility - Percentage of population within X miles of transit			1	1		1				4	7	
Number of alternative fuel stations	1		1	1		1				3	7	
Change in number of miles of multi-use trails, sidewalks, and bike boulevards	1		1	1		1				3	7	
Annual municipal or per capita expenditures on bicycling and pedestrian infrastructure	1		1	1		1				3	7	
Connectivity and/or accessibility index for walking, cycling and public transit	1		1	1		1				3	7	
Miles of roads/number of bridges within flood zones (100 year)		1	1	1			1	1		2	7	
Greenhouse Gas Emissions by source	1		1	1						3	6	
Transit Ridership			1	1		1				3	6	
Travel time to work			1	1						3	5	
Gaps in core multi-use trails network	1		1			1				2	5	
% roads rated poor		1					1	1		2	5	
Annual gasoline sales per county	1		1	1						2	5	
Federal-aid highways in TMA with Complete Sidewalks			1	1		1				2	5	
# of households with vehicles			1	1						2	4	
# of public transit trips per resident		1				1				2	4	
Personal injury crashes			1	1						2	4	
Crash fatalities			1	1						2	4	
Alcohol-related crashes			1	1						2	4	
Miles of trails		1	1			1				1	4	
Miles of transit routes			1	1		1				1	4	
Average airfares					1					2	3	
Travel time index			1	1						1	3	
Transit Score			1	1						1	3	

TRANSPORTATION
Recommended INDICATORS

NYSERDA Indicators	Description	Calculation	Data Required/Source	Baseline Value (2010)	General Notes
Total percentage of people commuting via walking, biking, transit and carpooling	Provides a view to access to alternative modes of transportation	% of workers commuting by mode = # of workers traveling by mode in region / total # of workers in region x 100	Total # of workers in region # of workers commuting by mode	15%	from ACS 5-year estimates (2006-2010)
Vehicle miles traveled per capita	Provides a view to automobile usage in a region	Annual VMT / total population	Annual VMT & total population	9,742	from GHG Inventory
Place-Sourced Indicators	**Description**	**Calculation**	**Data Required/Source**	**Baseline Value (2010)**	**General Notes**
Transportation energy consumption per capita	Mobile energy combustion can be significant at a regional level - this indicator provides insight into transport activity and the associated energy use	Annual total trans energy consumption (MMBTu) / total population Conversion from MMBtu to gallons of gasoline	Annual trans energy consumption & total population Conversion factor from MMBtu to gallons of gasoline	73 MMBtu/capita 635 gal gas/capita	from GHG Inventory - annual MMBtu for each transportation mode by county MMBtu conversion factory from MIT Units & Conversions Fact Sheet
% income spent on transportation	Affordability of transportation choices	Population based weighted average % income spent on transportation = [(average median household income by county ($) / average amount of money spent on transportation ($)) *county population] / total regional population	Average median household income by county , Average amount spent on transportation by county, county population data	25.5%	Does not include data from Wyoming and Yates Counties - amount spent on transportation not available in these counties Median household income from ACS, amount spent on transportation from H&T Index
Miles of roads/number of bridges within flood zones (100 year)	Indicates vulnerability in transportation infrustructure	Graphical representation by County with total number of Principal Arterials and bridges in 100-year flood zones noted	GIS shapefiles of 100-year flood zones, roadway classifications and bridges	Principal Arterials = 33.54 mi Bridges = 439	Does not include miles of roads in Oleans, Seneca, Wyoming & Yates counties since the 100-year flood maps were not available
Freight tonnage moved by truck and rail	Measures shifts in the amount of freight moved by truck and rail	None	IHS/Global Transearch Database via NYSDOT	Truck = 203,052,000 Rail = 31,294,000	As noted in *Transportation Strategies for Freight/Goods Movement in the Genesee-Finger Lakes Region - Regional Freight and Economic Profile* , Genesee Transportation Council, Table 4, Page 3-65.

Land Use Indicators

LAND USE
POTENTIAL INDICATORS

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
3A. Land-use Patterns – Per capita land consumption	Assessment of land consumption	Total amount of land developed divided by population of the region	Total acres of land developed from MRLC National Land Cover Database / population	Need MRLC national database	NYSERDA Required indicator
3B.Percentage of redevelopment: vacant buildings and sites	Measures redevelopment/ reuse of vacant buildings	Sq. ft. renovation and acres redeveloped divided by total sq. ft. and total acres developed	Building permit data for renovations by all municipalities; total acreage of land that is redeveloped	Building permit data from individual communities; data may not be readily available	Need to determine new build vs. redevelopment, which may be difficult. Information on individual parcels or properties may be problematic, as opposed to square footage data. Not necessarily a good measure of total development.
3I.Acres protected through DEC and other public, non-profit and private protected lands	Land preservation	Acres purchased or protected by public, non profit or private entity	acreage data for protected/preserved lands	Through NYSDEC, Finger Lakes Land Trust, NYS Agriculture and Markets, CUGIR (Cornell University)and other land conservancy agencies and organizations	Assumes there is an inventory of purchasers which needs to be compiled from many sources
3C1.Land-use Patterns – Percentage of jobs and housing occurring inside municipal centers	Measures concentration of population in "location-efficient" areas (easier to minimize commutes / VMT)	Total jobs in municipal centers divided by total jobs; Total population in centers divided by total population	Jobs and population data	U.S. Census and Dept. of Labor	Need to compile population by "centers." Job data will be difficult to sub-allocate below regional level
8A.Number of Climate Smart Communities within region & Number of certified Climate Smart Communities	Measures programmatic involvement in the region	Number of Climate Smart Communities and number of certified Climate Smart Communities	Listing of Climate Smart and Certified Climate Smart communities	NYSDEC	Indicator would be easy to measure, but communities that sign up for this program may not all be actively participating
3F.% living within a 1/4 mile of a park	quality of life	GIS analysis	Data on park locations and population	U.S. Census for population; GTC, GFLRPC or RPS data	Not necessarily a good measure of sustainability as compared to other indicators
3J.Land use patterns: housing mix	Shows housing mix for region	Number of housing units of each type divided by the total number of units	housing data by type (single, double, apartments, etc.)	U.S. Census	Not sure what this really tells us with respect to achieving sustainability.
3C2.Percentage of housing units located within cities and villages that are affordable to low-moderate income households	Similar to 3C1, but includes measure of affordability	% of units affordable to low to mod income HHs in centers divided by total housing supply, by tenure (renter/owner)	Owner occupied affordable housing units and renter occupied affordable housing units	HUD database	Not available for more rural counties. Need to determine "centers"
3D.Housing density (for urban, suburban, and rural)	Provides view of housing density	Number of units divided by square miles of land area (by urban, suburban and rural)	Square miles of land area and total number of units	U.S. Census	Need to define urban vs. suburban vs. rural and do separate calculations; What would be measured here may be more easily measured by looking at the proportion of residents living in population centers
3E.Land-use Patterns – Sprawl-entropy Index	Provides a view to the extent of sprawl	Shannon Index (see Indicator Memo)	Square miles of land area, number of units by urban, suburban and rural by census tract	U.S. Census	Need to define urban vs. suburban vs. rural and do separate calculations for each (NYSERDA suggests by census tract level which would be labor intensive). Non-intuitive measure
Deconcentration of Poverty	Measures the reduction in the concentration of poverty in the region	Poverty rate by geography	Census data for poverty levels	U.S. Census	Addresses most of the five capitals; good indicator of community prosperity. Need to decide whether to look at poverty rate by % of households, by individuals, etc. and how to format and index the measure
Proportion of residents living in existing population centers	Measures population density relative to land consumption	Population in centers divided by total population	population data by centers	U.S. Census	Variation of NYSERDA indicator 3.E; easier measure of smart growth (sprawl entropy) with respect to reducing infrastructure investments for new development/redevelopment, etc.
Age Distribution	Measures the retention of young people in communities	Age distribution by geography	Census data- age of population	U.S. Census	Must decide how to break out by age group, such as under 25, over 65, etc. (how do you make this a metric; need to decide how to format and index this measure). Good indicator of vibrancy and diversity of local economy for job availability and ability to attract and retain younger people (creative potential)
Number of communities with Comprehensive Plans less than 5 years old	Current plans that likely measure sustainability	Number of plans available	availability and date of most recent comprehensive	Counties, GFLRPC and individual municipalities	Labor intensive; would have to contact planning agencies and local municipalities. Likely good indicator of municipal commitment to sustainability and for local adoption of improved zoning or other regulations for smart growth
Regional Cooperation	Measure of municipal collaboration throughout the region	Number of communities with intermunicipal agreements	intermunicipal agreements/shared services agreements	Information from individual municipalities	Labor intensive; would need to gather data from individual communities and agreements may differ from place to place. Not all may be oriented for sustainability.
Historic Preservation	Measuring adaptive reuse and preservation of existing building stock	Number of projects completed	Data on protected and restored historic structures	Individual municipalities	Likely difficult to measure

SUBJECT AREA

NYSERDA Indicator Evaluation

	Evaluation Criteria (Weight)					
Indicator	**Consistent with NYSERDA Guidance (3)**	**Consistent with Regional Performance Measure (1)**	**Favored by Stakeholder Group (2)**	**Data Availability (2)**	**Summary Score**	**General Notes**
3A. Land-use Patterns – Per capita land consumption	8	2	5	3	42	NYSERDA Required indicator
8A.Number of Climate Smart Communities within region & Number of certified Climate Smart Communities	6	1	2	3	29	Indicator would be easy to measure, but communities that sign up for this program may not all be actively participating
3C1.Land-use Patterns – Percentage of jobs and housing occurring inside municipal centers	6	2	3	1	28	Need to compile population by "centers." Job data will be difficult to sub-allocate below regional level
3I.Acres protected through DEC and other public, non-profit and private protected lands	5	2	2	3	27	Assumes there is an inventory of purchasers which needs to be compiled from many sources
3B.Percentage of redevelopment: vacant buildings and sites	6	2	3	0	26	Need to determine new build vs. redevelopment, which may be difficult. Information on individual parcels or properties being developed or redeveloped may be problematic, as opposed to square footage data for existing buildings. Not necessarily a good measure of total development.
3J.Land use patterns: housing mix	5	1	2	3	26	Not sure what this really tells us with respect to achieving sustainability.
3C2.Percentage of housing units located within cities and villages that are affordable to low-moderate income households	5	2	1	2	23	Not available for more rural counties. Need to determine "centers"
3D.Housing density (for urban, suburban, and rural)	5	2	2	1	23	Need to define urban vs. suburban vs. rural and do separate calculations. What would be measured here may be more easily measured by looking at the proportion of residents living in population centers
3E.Land-use Patterns – Sprawl-entropy Index	5	2	2	1	23	Need to define urban vs. suburban vs. rural and do separate calculations for each (NYSERDA suggests by census tract level which would be labor intensive). Non-intuitive measure
3F.% living within a 1/4 mile of a park	5	3	2	0	22	Not necessarily a good measure of sustainability as compared to other indicators
Deconcentration of Poverty					0	
Proportion of residents living in existing population					0	
Age Distribution					0	
Number of communities with Comprehensive Plans less					0	
Regional Cooperation					0	
Historic Preservation					0	

SUBJECT AREA

Place-Sourced Indicator Evaluation

	Evaluation Criteria											
	Enrichment of 5 Capitals:											
Indicator	**Natural**	**Built / Manufactured**	**Social**	**Human**	**Financial**	**Diversity**	**Resiliency**	**Life cycle cost and benefit**	**Ability to leverage Story of Place - Innovation "Accelerator"**	**Favored by Stakeholder Group**	**Summary Score**	**General Notes**
3A. Land-use Patterns – Per capita land consumption											0	
3B.Percentage of redevelopment: vacant buildings and											0	
3I.Acres protected through DEC and other public,											0	
3C1.Land-use Patterns – Percentage of jobs and											0	
8A.Number of Climate Smart Communities within											0	
3F.% living within a 1/4 mile of a park											0	
3J.Land use patterns: housing mix											0	
3C2.Percentage of housing units located within cities											0	
3D.Housing density (for urban, suburban, and rural)											0	
3E.Land-use Patterns – Sprawl-entropy Index											0	
Proportion of residents living in existing population centers	1	1	1	1	1	1	1	1	2	5	15	Variation of NYSERDA indicator 3.E; easier measure of smart growth (sprawl entropy) with respect to reducing infrasture investments for new development/redevelopment, etc.
Deconcentration of Poverty	0	1	1	1	1	1	1	1	1	5	13	Addresses most of the five capitals; good indicator of community prosperity. Need to decide whether to look at poverty rate by % of households, by individuals, etc. and how to format and index the measure
Number of communities with Comprehensive Plans less than 5 years old	1	1	1	1	1	1	1	1	2	2	12	Labor intensive; would have to contact planning agencies and local municipalities. Likely good indicator of municipal commitment to sustainability and for local adoption of improved zoning or other regulations for smart growth
Age Distribution	0	0	1	1	1	1	1	0	2	4	11	Must decide how to break out by age group, such as under 25, over 65, etc. (how do you make this a metric; need to decide how to format and index this measure). Good indicator of vibrancy and diversity of local economy for job availablity and ability to attract and retain younger people (creative potential)
Regional Cooperation	1	1	1	0	1	0	1	1	1	3	10	Labor intensive; would need to gather data from individual communities and agreements may differ from place to place. Not all may be oriented for sustainability.
Historic Preservation	0	1	1	0	1	1	0	1	2	2	9	Likely difficult to measure

LAND USE
Recommended INDICATORS

NYSERDA Indicators	Description	Calculation	Data Required/Source	Baseline Value (2010)	General Notes
3A. Land-use Patterns – Per capita land consumption	Assessment of land consumption	Total amount of land developed divided by population of the region	Total acres of land developed from MRLC National Land Cover Database / population	9.9%	NYSERDA required. The total acres of developed land on map included "developed open space". Developed open space is defined to include areas with a mixture of some structures and impervious surfaces (less than 20% of total cover) and mostly vegetation in the form of lawn grasses. These areas most commonly include large lot residential, parks, golf courses, etc. They are areas that have been impacted by development or cleared and replanted in some manner.
Place-Sourced Indicators	**Description**	**Calculation**	**Data Required/Source**	**Baseline Value (2010)**	**General Notes**
Rate of Poverty	Measures the reduction in the concentration of poverty in the region	Poverty rate by geography	Census data for poverty levels	13.2%	Addresses most of the five capitals; good indicator of community prosperity. Looked at poverty rate by % of individuals by place. Comparison is between places (developed centers) and surrounding area. Based on the percentage of persons with income in the past 12 months below the poverty level. Data derived from the American Community Survey 5-year estimates (2007 - 2011). Population centers include cities, villages and places that are well defined in geographic layout, include a mix of uses (commercial and civic mixed with residential), and have distinct edges.
Proportion of residents living in existing population centers	Measures population density relative to land consumption	Population in centers divided by total population	Census data for population centers	35.9%	Variation of NYSERDA indicator 3.E; easier measure of smart growth (sprawl entropy) with respect to reducing infrasture investments for new development/redevelopment, etc. Uses the same definition of places used for poverty indicator. List of places will be included in appendix. Population based on American Community Survey 5-year estimate (2007 - 2011).

Materials/Waste Management Indicators

MATERIALS AND WASTE MANAGEMENT
POTENTIAL INDICATORS

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
Total regional and per capita solid waste generated per year	This indicator provides an overall view of the region's (and "extra"-region's) contribution to waste, including municipal solid waste (MSW), industrial, construction and demolition, and bio-solid waste.	MSW + Industrial + C&D + Bio Solids + Hazardous) per municipality in region per year [Solid waste generated per capita = total regional solid waste generated per year / regional population] [Note: Important to include waste coming into the region]; Similar calculation needs to be developed for per capita	Total MSW, industrial solid waste, C&D, bio-solids, and hazardous waste generated and imported per year; Population of region	Data is available, but needs to be gathered and summarized	This is a critical, baseline data need that will need to be developed with thoughtful analysis, using best-practices from other communities that have developed a sound methodology for capturing the measure of waste generated at the source. Again, it needs to be noted that for this indicator and others below, the amount of waste entering the region from other regions has to be a major factor of consideration.
Total reduction in materials usage	This indicator provides a view of the reduction of material before it enters the waste stream to be managed.	Establish a baseline regional waste generation number as noted above [including waste coming into the region]; Monitor number for period of time tracking and subtracting materials reused, recycled, composted, and disposed	Total MSW, industrial solid waste, C&D, bio-solids, and hazardous waste generated and imported per year; Total regional solid waste that is reused, recycled, composted (diverted), and disposed per year; Population of region	Data is available, but needs to be gathered and summarized	It is important to note that this number needs to capture materials reduced through measures such as policy initiatives (source reduction, product stewardship, etc.), materials reused in unique manners (such as through a shadow economy), and items recycled and reused--all based on the agreed upon baseline waste generation number.
Total regional solid waste diverted after reduction (not landfilled, incinerated, or exported) per year / population of region	This indicator provides a view to the effectiveness of recycling and sustainable discard management initiatives.	Total regional solid waste diverted (not landfilled, incinerated, or exported) per year / population of region [important to calculate a diversion per capita]	Total regional solid waste generated and imported per year; Total regional solid waste that is diverted per year (including diverted out of the region); Population of region	Data is available, but needs to be gathered and summarized	See notes for indicator directly above.
Total waste by category	This indicator provides the ability to look at each component of the waste/discard street and develop sustainable strategies for each category/commodity.	MSW + Industrial + C&D + Bio Solids + Hazardous) per municipality in region per year; Include waste coming into the region; [Solid waste generated per capita = total regional solid waste generated per year / regional population] -- Broken down into at least 12 categorical types	Total MSW, industrial solid waste, C&D, bio-solids, and hazardous waste generated and imported per year by categorical type Include waste coming into the region	Data availability is unknown	A good starting point is the recognized, general 12-categories of waste, but a thorough waste characterization study diving into subcategories of commodities will be essential.
Cost of waste management method per metric ton of waste	This indicator provides an opportunity to evaluate the cost-benefit of various solid waste management options.	Need to develop	Need to develop, but will include not only actual costs, but an evaluation of externality and projected future costs and benefits	Data availability is unknown	A difficult part of this task will be to capture externality costs (e.g., landfill post-closure and maintenance, sewage treatment plan upgrades due to landfill leachate management, public health implications and costs of waste disposal facilities).
Increase in recycling efficiency	This indicator provides the ability to look at specific materials handling processes at the source of generation/processing to further identify "lean" solutions to maximize recycling efficiency.	Need to develop	Need to develop (will be difficult to acquire)	Data availability is unknown	This will be unique indicator for the Finger Lakes Region if adopted.
Percentage of recycled content in locally manufactured products	This indicator provides a view to the effectiveness of local manufacturers/manufacturing in material reuse, is a measure of economic development, and helps reframe the regional economic baseline (supporting role of recycling infrastructure/systems).	Need to develop (but very difficult to do)	Not readily available, and difficult to acquire	Data availability is unknown	This is a cutting-edge concept for the Finger Lakes Region to consider. It would be an indicator not likely to be considered by other regions, but that does not imply it is not important.
Rate in which landfills are being filled	This indicator provides a view to the need for more effective recycling and solid waste management options.	Will need to establish a baseline; this calculation is related to a number of other indicator calculations noted above	Data from other indicators above; baseline data (baseline year) needs to be established	Data availability is unknown	This is essential to know, as it also implies a concern about future disposal capacity and development plans.
Number of patents related to sustainable products and material flows	This indicator provides a view about how the recycling loop is being closed regionally, and is a measure of local economic development.	Need to develop	Need to identify data sources	Data availability is unknown	Another very unique indicator for the Finger Lakes Region to consider--not widely considered.
Total amount of bio byproducts land applied	This indicator provides a mechanism to track sustainable solutions to one of the largest components of the waste stream (i.e.., sludges), and to track nutrient flow (optimizing the capture of nutrients).	Bio solids per municipality in region per year land applied	Total bio solids generated per year; total bio solids land applied per year	Data is available, but needs to be gathered and summarized	This is important for this region due to the large number of organics/bio solids disposed in the region.
Total transport and disposal (T&D) costs per year	This indicator provides a view of the amount of waste materials exported that could be sustainably managed locally.	Need to develop	Very difficult to acquire	Data availability is unknown	Again, externality costs will need to be included, but that is a very difficult task.

MATERIALS AND WASTE MANAGEMENT

NYSERDA Indicator Evaluation

	Evaluation Criteria (Weight)					
Indicator	**Consistent with NYSERDA Guidance (3)**	**Consistent with Regional Performance Measure (1)**	**Favored by Stakeholder Group (2)**	**Data Availability (2)**	**Summary Score**	**General Notes**
Total solid waste generated per capita	6	3	5	1	33	
Total reduction in materials usage	6	0	5	1	30	
Total waste by category	6	0	4	0	26	
Total regional solid waste diverted (not landfilled, incinerated, or exported) per year	4	0	5	1	24	
Cost of waste management method per metric ton of waste	5	0	4	0	23	
Increase in recycling efficiency	0	0	4	0	8	
Percentage of recycled content in locally manufactured products	0	0	4	0	8	
Rate in which landfills are being filled	0	0	4	0	8	
Number of patents related to sustainable products and material flows	0	0	3	0	6	
Total amount of bio byproducts land applied	0	0	3	1	8	
Total transport and disposal (T&D) costs per year	0	0	3	0	6	

MATERIALS AND WASTE MANAGEMENT

Place-Sourced Indicator Evaluation

	Evaluation Criteria											
Indicator	**Enrichment of 5 Capitals: Natural**	**Enrichment of 5 Capitals: Built /Manufactured**	**Enrichment of 5 Capitals: Social**	**Enrichment of 5 Capitals: Human**	**Enrichment of 5 Capitals: Financial**	**Diversity**	**Resiliency**	**Life cycle cost and benefit**	**Region's ability to leverage its unique Story of Place - Innovation "Accelerator"**	**Favored by Stakeholder Group**	**Summary Score**	**General Notes**
Total reduction in materials usage	1	1	1	1	1	1	1	1	2	5	15	Because it is a solution-based approach, it received "enrichment of capital" scores.; recommendeed NYSERDA indicator
Total regional solid waste diverted (not landfilled, incinerated, or exported) per year	1	1	1	1	1	1	1	1	2	5	15	Because it is a solution-based approach, it received "enrichment of capital" scores.
Increase in recycling efficiency	1	1	1	1	1	1	1	1	2	4	14	Because it is a solution-based approach, it received "enrichment of capital" scores.
Percentage of recycled content in locally manufactured products	1	1	1	1	1	1	1	1	2	4	14	Because it is a solution-based approach, it received "enrichment of capital" scores.
Number of patents related to sustainable products and material flows	1	1	1	1	1	1	1	1	2	3	13	Because it is a solution-based approach, it received "enrichment of capital" scores.
Total amount of bio byproducts land applied	1	1	1	1	1	1	1	1	0	3	11	Because it is a solution-based approach, it received "enrichment of capital" scores.
Total solid waste generated per capita	0	0	0	0	0	0	0	0	0	5	5	Because it is not a solution-based indicator, it did not receive "enrichment of capital" scores; recommended NYSERDA indicator
Total waste by category	0	0	0	0	0	0	0	0	0	4	4	Because it is not a solution-based indicator, it did not receive "enrichment of capital" scores; recommended NYSERDA indicator
Cost of waste management method per metric ton of waste	0	0	0	0	0	0	0	0	0	4	4	Because it is not a solution-based indicator, it did not receive "enrichment of capital" scores.
Rate in which landfills are being filled	0	0	0	0	0	0	0	0	0	4	4	Because it is not a solution-based indicator, it did not receive "enrichment of capital" scores.
Total transport and disposal (T&D) costs per year	0	0	0	0	0	0	0	0	0	3	3	Because it is not a solution-based indicator, it did not receive "enrichment of capital" scores.

MATERIALS AND WASTE MANAGEMENT
Recommended INDICATORS

NYSERDA Indicators	Description	Calculation	Data Required/Source	Baseline Value (2010)	General Notes
Total regional and per capita solid waste generated per year	This indicator provides an overall view of the region's (and "extra"-region's) contribution to waste, including municipal solid waste (MSW), industrial, construction and demolition, and bio-solid waste. It is listed as a NYSERDA indicator because it is directly related to 4A Common Indicator.	MSW + Industrial Non-Hazardous + C&D + Bio Solids) per municipality in region per year [solid waste generated per capita = total regional solid waste generated per year / regional population] [Note: Important to include waste coming into the region]	Total MSW, industrial non-hazardous solid waste, C&D, bio-solids, and tires generated and imported per year; Population of region. Sources: County and regional solid waste management authorities (planning units); NYS DEC	**Municipal Solid Waste :** 5,392,001 tons **Non-hazardous Industrial Waste :** 217,688 tons **C&D Waste Generated:** 1,088,442 to 2,809,957 tons **Biosolids (Sewage Sludge):** 22,214 tons **Tires Generated:** 13,378 tons **Total Solid Waste Received by Landfills in the Finger Lakes Region:** 5,064,414.34 tons	The baseline values here have been calculated using an "industry-standard" approach. This is a critical data need that will have to be further developed to include some non-hazardous industrial/commercial waste that may be unique to the Region and discern how much waste entering Region disposal facilities (i.e., landfills)is coming from outside the region. An intensive effort with the support of the State of New York will need to ensue to secure information from private landfills regarding an accurate accounting of incoming waste from outside the region. Last, there are other wastes for which baseline values might have to be developed depending on whether they become target items for planning purposes. These include but are not limited to: Carcasses, Manure and other Agricultural Waste; Regulated Medical Waste; and Industrial Hazardous Waste.
Total reduction in materials usage	This indicator provides a view of the reduction of material before it enters the waste stream to be managed. It is listed as a NYSERDA indicator because it is directly related to 4B Common Indicator.	Establish a baseline regional waste generation number as noted above [including waste coming into the region]; Monitor number for period of time tracking and subtracting materials reduced from disposal or from the need for recycling and composting	2010 Baseline Data Value of total MSW, industrial non-hazardous solid waste, C&D, bio-solids, and tires generated and imported per year; Starting in a target year (i.e., 2013), identify total regional solid waste that is reduced per year; Need population of region and accurate reduction numbers from planning units. Sources: County and regional solid waste management authorities (planning units); NYS DEC	**Municipal Solid Waste :** 5,392,001 tons **Non-hazardous Industrial Waste :** 217,688 tons **C&D Waste Generated:** 1,088,442 to 2,809,957 tons **Biosolids (Sewage Sludge):** 22,214 tons **Tires Generated:** 13,378 tons **Total Solid Waste Received by Landfills in the Finger Lakes Region:** 5,064,414.34 tons	Baseline values have been established as noted above (tons of waste generation in the region, etc.), but it is important to note that the reduction numbers/values for this indicator need to capture materials reduced through measures such as policy initiatives (source reduction, product stewardship, etc.), and materials reused in unique manners (such as through a shadow economy)--all based on an agreed upon and accurate baseline waste generation numbers as noted above, and yet to be created regional data calculations and capture mechanisms focused on quantifying the amount of reduction in the baseline waste generation values.
Total waste by category	This indicator provides the ability to look at each component of the waste/discard street and develop sustainable strategies for each category/commodity. It is listed as a NYSERDA indicator because it is directly related to 4A and 4B Common Indicators.	MSW + Industrial + C&D + Bio Solids + Hazardous) per municipality in region per year; Include waste coming into the region; [Solid waste generated per capita = total regional solid waste generated per year / regional population] -- Broken down into at least 12 categorical types	Total MSW, industrial non-hazardous solid waste, C&D, bio-solids, and tires generated and imported per year by categorical type Include waste coming into the region. Sources: County and regional solid waste management authorities (planning units); NYS DEC	*Baseline values for this indicator are calculated using the projected total tons of waste generated.* **MSW** (5,392,001 total tons projected as generated in 2010) -- Paper 1,758,332 tons (32.61%), Metal 371,509 (6.89%), Plastics 757,576 (14.05%), Glass 236,170 (4.38%), Organics 1,222,906 (22.68%), Textiles 279,306 (5.18%), Wood 188,181 (3.49%), Miscellaneous (household hazardous waste, some C&D, electronics, durables, etc.) 578,562 (10.73%) [These numbers derived from local data provided by Finger Lakes Region planning units to the NYS DEC]; **Industrial Non-Hazardous Wastes** -- 217,688 tons ; **C&D Debris** -- 1,088,442 to 2,809,957 tons ; **Bio-solids** -- 22,214 tons; **Tire**s -- 13,378 tons	A thorough waste characterization study diving into subcategories of commodities will be essential for future planning purposes. In addition, when baseline data is developed as noted above for materials coming into regional landfills from outside the Finger Lakes Region, that data set will need to be broken down by category similar to those noted in the baseline value description here.
Place-Sourced Indicators	**Description**	**Calculation**	**Data Required/Source**	**Baseline Value (2010)**	**General Notes**
Total regional solid waste diverted after reduction (not landfilled, incinerated, or exported) per year / population of region	This indicator provides a view to the effectiveness of recycling and sustainable discard management initiatives. It is listed as a NYSERDA indicator because it is directly related to 4B Common Indicator.	Total regional solid waste diverted (not landfilled, incinerated, or exported) per year / population of region [important to calculate a diversion per capita]	Total regional solid waste generated and imported per year; Total regional solid waste that is diverted per year (including diverted out of the region); Population of region. Sources: County and regional solid waste management authorities (planning units); NYS DEC.	**Baseline Value Based on 2010 Population:** 1,217,156; recovered materials: 197,938.87 tons; **Projected 2010 Regional Municipal Solid Waste Generated in the Region:** 5,392,001 tons; **Estimated 2008 Non-hazardous Industrial Waste Generated:** 217,688 tons; **Estimated 2008 C&D Waste Generated:** 1,088,442 to 2,809,957 tons; **Estimated 2008 Biosolids (Sewage Sludge) Generated:** 22,214 tons; **Estimated 2008 Tires Generated:** 13,378 ton ; **Total Solid Waste Received by Landfills in the Finger Lakes Region (2008):** 5,064,414.34 tons; **MSW Materials Recycled in Region (2008):** 197,930 tons (from data provided by planning units in the Finger Lakes Region to the NYS DEC.]	It is important to note that the baseline value also needs to capture materials reduced through measures such as policy initiatives (source reduction, product stewardship, etc.), materials reused in unique manners (such as through a shadow economy), and items recycled and reused--all based on the agreed upon baseline waste generation number. It is recommended that 2013 be the base year to collect data on reduction, reuse, composting and recycling, using the 2008/2010 baseline numbers as a starting point.

Water Management Indicators

WATER MANAGEMENT
POTENTIAL INDICATORS

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
Total Number of Impaired Waters	the number waters that do not support appropriate uses and that may require development of a Total Maximum Daily Load (TMDL)	Σ bodies of water in region listed in part 1 and 2 of NYDEC Section 303(d)	Total number of impaired waters	NYSDEC - http://www.dec.ny.gov/chemical/31290.html	Modifications of this indicator seemed to be favored by the group
% of beach WQ samples exceeding state thresholds	tracks the overall quality of water at several beaches	None required.	statistics of water quality samples at select beaches	% of WQ samples at beaches exceeding standards http://www.nrdc.org/water/oceans/ttw/ny.asp http://www.actrochester.org/Charts/DataView.aspx?id=6&indicator=106&chart=6.2.2	This measure tracks infromation that is easy to understand. Beaches with available data: Ontario Beach, Durand Beach, Sodus Point Bayside. - Improves 3 of 5 Capitals: Natural, Social, Human - Regional Goals: improves accessibility and connectivity, imporve public health, maintain protect improve water quality, brings region together (shared recreation)
Percentage of impaired waters with TMDL requirements	Characterizes the status of the 303(d) list	(# water bodies in region for which a TMDL is developed) / (Σ bodies of water in region listed in part 1 and 2 of NYDEC Section 303(d))	1. numer of water bodies with TMDL requirements 2. Total number of impaired waters	1. # TMDLs http://www.dec.ny.gov/docs/water_pdf/303dlistpropfnl2012.pdf 2. All Impaired Waters - NYSDEC http://www.dec.ny.gov/chemical/31290.html	This measure is though to be a better inidcator than the number of waterbodies on the list as it considers the DEC's rate of progress in developing TMDLs
Water demand per capita, by sector (Total Withdrawals Fresh, Public Supply Fresh, Domestic from Public Supply, Irrigation Total Fresh)	provides a breakdown of water usage with respect to the population as well as each sector of use.	(Σ Water demands by sector per county) / (total population of region)	1. Category of water use in the region region 2. Population of region	1. USGS Water Use County Data – http://water.usgs.gov/watuse/data/2005/index.html 2. U.S. Census Bureau – Census – http://quickfacts.census.gov/qfd/states/36000.html	These sectors were selected to indicate the general charateristics of water use. Several other individual sectors should be tracked
Concentrations of pollutants in the Finger Lakes - Total Phosphates, Total Nitrogen	Directly tracks the quality of water in many of the most visible bodies of water in the region.	Averages of pollutant levels at surface and lake bottom for Honeoye, Canandaigua, Kueka, Seneca, and Cayuga lakes	Measurements of water quality in the Finger Lakes from the work of John Halfman of Hobart/William Smith	John Halfman studies - http://people.hws.edu/halfman/FL-Lim/FL-Limnology.htm	Other pollutant levels could be tracked. From 2005 to 2012, this data has been collected every year. It is unclear how long this data collection will be continued. Consideration by the FLSP may assist with continuation of these efforts.
Energy use by water and sewer utilities per million gallons supplied or treated	This indicator is correlated to water usage.	(Σ Energy use by water and sewer utilities) / (Σ million gallons supplied or treated)	Public water and wastewater treatment facilities in region	Descriptive Data of Municipal Wastewater Treatment Plants in New York State http://www.dec.ny.gov/docs/water_pdf/descdata2004.pdf	The stakeholders group suggested that this inidctaor be tracked toward energy efficiency
Ratio or water withdrawn to renewable supply	examines the regional water balance – measure of renewable water supply versus consumption.	Renewable water supply – total water consumption	1. Total renewable water supply 2. Total water consumed	1. USGS Water Use - http://water.usgs.gov/watuse/misc/consuse-renewable.html 2. USGS Water Use - http://water.usgs.gov/watuse/data/2005/index.html	
Percentage of Impaired water sources	Surface and ground waters that are negatively impacted by pollution	(# water boaides with identified impairments) / (# water bodies assessed)	list water quality assessments	NYSDEC - WI/PWL (GIS) http://www.dec.ny.gov/chemical/36744.html	This measure is though to be a better inidcator than the number of waterbodies on the list as it considers the DEC's rate of progress in developing this list
Infrastructure reliability and efficiency	quantifies the proportion of water that is produced but not delivered due to of leaks, broken infiltration and inflow, or otherwise inefficient infrastructure.	Total end user water consumption / total water withdrawn from environment	1. Total water withdrawn 2. Total water delivered to consumer	1. Utility data, NYSDEC 2. USGS Water Use - http://water.usgs.gov/watuse/data/2005/index.html	
Number of Sanitary and Combined Sewer Overflows	Annual number of sanitary and combined sewer overflows reported - provides an indication of point source pollution	None required.	Number of Sanitary and Combined Sewer Overflows	Data availability unknown - Local reporting or annual DEC reporting data	This is a valuable indicator, but data collection may require substantial effort. For communities under a DEC consent order, data may be available. Discuss potential data availability with stakeholders.
Total area under conservation agreement per watershed unit-area	provides an overall view of watershed conservation efforts.	Acres of land under conservation agreement / total acres of land within a watershed) x 100	1. Total area under conservation agreement in a watershed region 2. Total area within a regional watershed	(both) NYSDEC regional offices	
Stream buffer width	A wider vegetated stream buffer suggests a healthier, better protected stream	(average buffer width per stream) / (Σ stream length)	1. Average buffer width 2. Total stream length	Data availability unknown	
Number of watershed management plans in region	provides an indication as to the level of interest in protecting water quality	None required.	list of watershed management plans prepared for the region	Data availability unknown	- Improves 1 of 5 Capitals: Natural - Regional Goals: imporve public health, maintain protect improve water quality, brings region together (shared regulation)
Miles of water bodies on the Waterbody Inventory/Priority Waterbodies List	The Waterbody Inventory/Priority Waterbodies List is a statewide inventory (database) of New York State waterbodies which characterizes water quality, the degree to which water uses are supported, progress toward the identification of water quality problems and sources, and activities to restore and protect each individual waterbody.	Σ # miles of listed waterbodies in the Genesee River and the Oswego River/Finger Lakes drainage basins	total number of miles of listed waterbodies	NYSDEC - http://www.dec.ny.gov/chemical/36730.html	This indicator gives more detailed information than the 303(d) list. This calculation will be a bit cumbersome due to the arrnagement of data on the website.
Percentage of impervious coverage in the Finger Lakes and Genesee River watersheds	Impervious coverage has been direclty linked to water quality, particularly when coverages approach 10% in a watershed.	(Σ impervious area in watershed) / (total watershed area)	1. impervious area in watershed 2. total watershed area	none at applicable scale	If the appicable data were readily available, this would be an important indicator.

WATER MANAGEMENT

NYSERDA Indicator Evaluation

	Evaluation Criteria (Weight)					
Indicator	**Consistent with NYSERDA Guidance (3)**	**Consistent with Regional Performance Measure (1)**	**Favored by Stakeholder Group (2)**	**Data Availability (2)**	**Summary Score**	**General Notes**
Water demand per capita, by sector (Total Withdrawals Fresh, Public Supply Fresh, Domestic from Public Supply, Irrigation Total Fresh)	6	1	5	3	35	
Total Number of Impaired Waters	6	3	3	3	33	
Ratio or water withdrawn to renewable supply	5	1	4	3	30	
Energy use by water and sewer utilities per million gallons supplied or treated	5	1	4	1	26	
Number of Sanitary and Combined Sewer Overflows	6	1	3	0	25	
Number of Impaired Waters with Established TMDL Requirements Removed From the program	2	2	5	3	24	
Infrastructure reliability and efficiency	5	1	3	1	24	
% of beach WQ samples exceeding state thresholds	1	3	5	3	22	
Total area under conservation agreement per watershed unit-area	5	1	3	0	22	
Concentrations of pollutants in the Finger Lakes - Total Phosphates, Total Nitrogen	1	2	5	3	21	
Miles of water bodies on the Waterbody Inventory/Priority Waterbodies List	2	2	2	3	18	
Percentage of Impaired water sources	1	2	3	3	17	
Stream buffer width	0	1	4	0	9	
Number of watershed management plans in region	0	1	4	0	9	
Percentage of impervious coverage in the Finger Lakes and Genesee River watersheds	0	1	3	1	9	

WATER MANAGEMENT

Place-Sourced Indicator Evaluation

	Evaluation Criteria											
	Enrichment of 5 Capitals:											
Indicator	**Natural**	**Built / Manufactured**	**Social**	**Human**	**Financial**	**Diversity**	**Resiliency**	**Life cycle cost and benefit**	**Ability to leverage Story of Place - Innovation "Accelerator"**	**Favored by Stakeholder Group**	**Summary Score**	**General Notes**
% of beach WQ samples exceeding state thresholds	1		1	1	1					5	9	This measure tracks infromation that is easy to understand. Beaches with available data: Ontario Beach, Durand Beach, Sodus Point Bayside
Number of Impaired Waters with Established TMDL Requirements Removed From the program	1						1			5	7	
Infrastructure reliability and efficiency		1	1	1					1	3	7	
Number of watershed management plans in region	1		1				1			4	7	
Concentrations of pollutants in the Finger Lakes - Total Phosphates, Total Nitrogen	1									5	6	
Number of Sanitary and Combined Sewer Overflows	1	1	1							3	6	
Stream buffer width	1						1			4	6	
Energy use by water and sewer utilities per million gallons supplied or treated		1			1					4	6	
Total Number of Impaired Waters	1						1			3	5	
Water demand per capita, by sector (Total Withdrawals Fresh, Public Supply Fresh, Domestic from Public Supply, Irrigation Total Fresh)										5	5	
Percentage of Impaired water sources	1						1			3	5	
Miles of water bodies on the Waterbody Inventory/Priority Waterbodies List	1		1	1			1			1	5	
Percentage of impervious coverage in the Finger Lakes	1			1						3	5	
Ratio or water withdrawn to renewable supply										4	4	
Total area under conservation agreement per watershed unit-area	1									3	4	

WATER MANAGEMENT
Recommended INDICATORS

NYSERDA Indicators	Description	Calculation	Data Required/Source	Baseline Value (2010)	General Notes
Water demand per capita, by sector (Total Withdrawals Fresh, Public Supply Fresh, Domestic from Public Supply, Irrigation Total Fresh)	provides a breakdown of water usage with respect to the population as well as each sector of use.	(Σ Water demands by sector per county) / (total population of region)	1. Category of water use in the region: USGS Water Use County Data – http://water.usgs.gov/watuse/data/2005/index.html 2. Total Polpulation of Region: U.S. Census Bureau – http://quickfacts.census.gov/qfd/states/36000.html		(Mgal/day per 1000 people) The baseline data presented is from 2005. 2010 data is not yet published.
Total withdrawals, fresh, in Mgal/d per 1000 people			see above	0.677	
Public Supply, total withdrawals, fresh, in Mgal/d per 1000 people			see above	0.097	
Domestic, deliveries from Public Supply, in Mgal/d per 1000 people			see above	0.084	
Irrigation, total withdrawals, fresh, in Mgal/d per 1000 people			see above	0.008	
Total Number of Impaired Waters	the number waters that do not support appropriate uses and that may require development of a Total Maximum Daily Load (TMDL)	Σ bodies of water in region listed in part 1 and 2 of NYDEC Section 303(d)	Total Number of Impaired Waters NYSDEC - http://www.dec.ny.gov/chemical/31290.html	49	
Place-Sourced Indicators	**Description**	**Calculation**	**Data Required/Source**	**Baseline Value (2010)**	**General Notes**
% of beach WQ samples exceeding state thresholds	tracks the overall quality of water at several beaches	None required.	% of WQ samples at beaches exceeding standards http://www.nrdc.org/water/oceans/ttw/ny.asp http://www.actrochester.org/Charts/DataView.aspx?id=6&indicator=106&chart=6.2.2	17%	2011 data
Percentage of impaired waters with TMDL requirements	Characterizes the status of the 303(d) list	(# water bodies in region for which a TMDL is developed) / (Σ bodies of water in region listed in part 1 and 2 of NYDEC Section 303(d))	1. # TMDLs http://www.dec.ny.gov/docs/water_pdf/303dlistpropfnl2012.pdf 2. All Impaired Waters - NYSDEC http://www.dec.ny.gov/chemical/31290.html	6%	This measure is though to be a better inidcator than the number of waterbodies on the list as it considers the DEC's rate of progress in developing TMDLs
Concentrations of pollutants in the Finger Lakes - Total Phosphates, Total Nitrogen	Directly tracks the quality of water in many of the most visible bodies of water in the region.	Averages of pollutant levels at surface and lake bottom for Honeoye, Canandaigua, Kueka, Seneca, and Cayuga lakes	Measurements of water quality in the Finger Lakes from the work of John Halfman of Hobart/William Smith http://people.hws.edu/halfman/FL-Lim/FL-Limnology.htm	TP = 13.5 µg/L TN = 0.4 mg/L	These statistics are the averages of pollutant concentrations at the surface and lake bottoms for Honeoye, Canadaigua, Kueka, and Seneca Lakes.

Economic Development Indicators

ECONOMIC DEVELOPMENT
POTENTIAL INDICATORS

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
Housing + Transportation Index : Transportation/Housing affordability	NYSERDA required indicator 6A: Percentage of household income spent on housing and transportation	Household income spent on Housing and Transportation divided by total household income	H+T Affordability Index	Center for Neighborhood Technology (http://htaindex.cnt.org/)	
Jobs created by sector	NYSERDA common indicator 6B: Increase or decrease in nonfarm jobs by sector over a one month period not seasonally adjusted	Jobs Created = Σ Jobs created by county = Change in total private sector jobs + Change in total government sector jobs + Change in farm jobs	Change in total jobs	Bureau of Labor Statistics and NYS Labor Department (updated quarterly)	FL REDC & ACT Rochester indicator: The growth or decline in total jobs, shown as a percentage gain or loss from the previous year.
Unemployment rate	NYSERDA common indicator 6C: Unemployment rate by county; Unemployment rates are a relatively timely indicator of current local economic conditions, particularly recent changes in the employment landscape that reflect the overall health of the economy.	Unemployment Rate = (Unemployed Workers / Total Labor Force) * 100	Unemployment rate by county	Bureau of Labor Statistics and NYS Labor Department (updated quarterly)	Data updated every year for large communities, less frequently for smaller
Average weekly wages by county	NYSERDA common indicator 6D: Average weekly wages by County	Total quarterly wages by county divided by the average 3 month county employment levels divided by 13 (weeks in a quarter)	Average Annual Weekly Wages by County	Quarterly Census of Employment and Wages (http://www.bls.gov/cew/) http://data.bls.gov/pdq/querytool.jsp?survey=en In the query window, select: New York State – County X – Total, all industries – Total covered – Average Weekly Wage.	Data adjusted to 2012 dollars
Acreage of farms	NYSERDA common indicator 6E: Area of land used for growing crops and rearing animals, typically under control of one owner or manager.	Sum of acreage of land used for farming and livestock	Area of land used for growing crops and rearing animals, typically under control of one owner or manager.	NYS Office of the State Comptroller (see 2010 report) http://www.osc.state.ny.us/reports/other/agriculture21-2010.pdf	Updated infrequently
Production of farms	NYSERDA common indicator 6E: Cash receipts by county from farm marketings	Sum of cash receipts from Farm production	Cash receipts by county from farm marketings	USDA National Agricultural Statistics Service Annual Statistical Bulletin http://www.nass.usda.gov/Statistics_by_State/New_York/Publications/Annual_Statistical_Bulletin/2011/2011%20page90%20-%20Cash%20Receipts%20County%20Estimates.pdf	
Annual Revenue from local businesses	NYSERDA secondary indicator 6F: Revenue generated from businesses with headquarters and/or primary locations in the Region. The Business Alliance for Local Living Economies has proposed a methodology for defining local (http://www.livingeconomies.org/local-first-defining-local).	Regional retail sales at specialty stores – Regional retail sales at specialty chain merchants = Regional retail sales remaining to local independent merchants	Revenue generated from businesses with headquarters and/or primary locations in the Region.	Previous studies have used sources such as Claritas and analysis of public filings and trade journals.	
Relationship of wages to changes in employment	NYSERDA secondary indicator 6G: Types of jobs/wage earning opportunities being created in the Region.	Percentage change in weekly wages by sector annually.;Percentage change in employment by sector	Percentage change in weekly wages by sector.; Percentage change in employment by sector.	Department of Labor Sector/Wage Data	
Number of farmers markets	NYSERDA secondary indicator 6H: Number of seasonal farmers markets within the region	Sum of regional farmers markets	Number of farmers markets	GIS as available from Counties and NYS (farmers market layers); general farmers market listings	
Total number of visitors and regional tourism dollars spent	NYSERDA secondary indicator 6I: Number of visitors to the region; NYSERDA secondary indicator 6I: Amount	Sum of total visitors to the region and sum of total dollars spent by those visitors	Total visitors to region; Total dollars spent by visitors to region	NYS Department of Economic Development, County Tourism Departments	
Jobs and housing balance	NYSERDA secondary indicator 6J: Measures the ratio of jobs to housing in the Region	Jobs and Housing Balance = Number of jobs in the region / number of housing units in the region.	Number of jobs; Number of Housing Units	US Census Bureau - Economic Census and Annual Economic Surveys; NYS Department of Economic	
GINI Index	NYSERDA secondary indicator 6K: Measures the distribution of income within a region		GINI Index (at County and regional scale)	2010 Census; 2006-2010 American Community Survey	
Investment in infrastructure (transportation, drinking water and wastewater facilities, stormwater, and energy)	NYSERDA secondary indicator 6L: Track resources dedicated to improving aging infrastructure	Annual capital expenditures into the various forms of infrastructure listed for the region	Total Investment Dollars - by infrastructure/subject area	GFLRPC; Town, village, city, and county planning and transportation departments; NYSERDA; Capital District Transportation Committee (CDTC) and Capital District Transportation Authority (CDTA); TriState Transportation Campaign	
Economic Activity: Gross Regional Product	NYSERDA secondary indicator 6M: Market value of final goods and services produced within the region	Total market value of all final goods and services within the region annually	GRP, with breakdown by largest sectors, (potentially including biotech, IT, manufacturing or other REDC target industries)	US Department of Commerce, Bureau of Economic Analysis; NYS Economic Development Council; or IMPLAN ($350 cost per County for data)	
Tax Policy and Incentives – Percent of municipalities with tax policies and incentives to encourage development in municipal centers	NYSERDA secondary indicator 8D: Percent of municipalities with tax policies and incentives to encourage development in municipal centers	Total number of region's municipalities with tax policies and incentives / total number of region's municipalities	Total Number of region's municipalities with tax policies and incentives	Gather from individual municipalities	
Net advocate score	FL REDC indicator: Derived from a survey conducted on behalf of Wegmans Food Markets in which individuals where asked: "how likely would you be to recommend your community to friends, family or co-workers?"		Survey	FLREDC	
Annual growth in total employment	FL REDC indicator: Total year-over-year net employment growth	Change in employment compared to previous year's employment level	Total year-over-year net employment growth	Economic Modeling Specialists Inc. (EMSI) RBA & GRE	
New business establishments as a share of established firms	FL REDC indicator: New establishments as a share of established firms	Number of new business establishments divided by the total number of business establishments	New establishments as a share of established firms	Economic Modeling Specialists Inc. (EMSI) RBA & GRE	
Formation and expansion of minority- and women-owned business establishments (W/MBE)	FL REDC indicator: Formation and expansion of minority- and women-owned business establishments (W/MBE)	Number of new minority and women-owned businesses compared to previous period's number of minority and women-owned businesses	Formation and expansion of minority- and women-owned business establishments (W/MBE)	National EstablishmentTime-Series (NETS) database. RBA & GRE	
Share lacking health insurance coverage	FL REDC indicator: Percent of the population not covered by health insurance	Number of residents lacking health insurance coverage divided by total number of residents	Percent of the population not covered by health insurance	U.S. Bureau of the Census FLHSA	

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
Earnings per job	FL REDC indicator	Total wages for the region divided by the average employment for the period	Earnings per Job	Economic Modeling Specialists Inc. (EMSI) RBA & GRE	
Participation in culture/recreation	FL REDC indicator: Number of patrons/visitors to cultural and recreational institutions	Sum of patrons/visitors to cultural and recreational institutions	FL REDC indicator: Number of patrons/visitors to cultural and recreational institutions	Finger Lakes Tourism	
Age-Sex-Race Adjusted Medicare Spending Per Beneficiary	FL REDC indicator: Medicare spending per beneficiary adjusted to Age-Sex-Race	Total amount of spending for each category being tracked divided by the number of beneficiaries in that category	Medicare spending per beneficiary adjusted to Age Sex-Race	FLHSA	
Commercial Insurance: Per member per month outpatient cost	Outpatient cost per commercially insured per month	Total commercial insurance outpatient costs per month divided by the number of commercially insured plan participants	Medicare spending per beneficiary adjusted to Age Sex-Race	Dartmouth Atlas for Health Care and the Milliman Inc. report to the Institute for Healthcare Improvement FLHSA	
Age distribution of workers	ACT Rochester indicator: The change, expressed as a percentage, of the number of people in selected age groups within the resident working-age population.	Number of workers in each age group divided by the total number of workers in the region * 100 compared to previous period	Employment data including ages	Bureau of Labor Statistics and NYS Labor Department (updated quarterly)	
Maintaining our Main Streets					
Measure disposable income	The amount of money that households have available for spending and saving after income taxes have been accounted for.	Total income minus all income taxes	Total income and total income taxation	IRS, NYS Department of Labor and NYS Department of Taxation	
Number of people receiving social services	Total number of people receiving public assistance in the region	Total number of people receiving public assistance in the region	Total number of people receiving public assistance in the region	NYS Department of Social Services	
Job training programs	Number of job training programs in the region	Number of job training programs in the region	Number of job training programs in the region		
Number of firms and employees (types of businesses) – 10+ employees – impact on region based on employment (net formation and survival)	Measure of new, small business creation and survival	Number of small businesses with 10+ employees in the region along with the sum of their total employment, wages and regional domestic product produced compared to the total region wages and regional domestic product	Number of small businesses with 10+ employees in the region along with the sum of their total employment, wages and regional domestic product produced compared to the total region wages and regional domestic product		
Business locations where infrastructure already exists	Indication of smart growth practices - is business being clustered around existing infrastructure or is sprawl taking place?	Parameters would need to be defined	Business locations, definition of acceptable proximity to existing infrastructure, definition of what infrastructure applies (transportation, utilities, existing expansion capacity, agricultural, etc.)	Would appear to require a lot of primary data gathering	
Measure of diversity	Measure of the diversity of businesses, products and services offered in the region		listing of all unique businesses, products and services throughout the region	Would appear to require a lot of primary data gathering	My recollection is that this measure is intended to indicate how economically diverse and resilient the region is, in contrast to the all eggs in one basket situation of a few, very large regional employers (a.k.a Kodak)
Number of vocational graduates	Measure of workforce pursuing vocational employment	Total of all regional vocational program graduates, comparison to previous years to determine if interest is increasing or decreasing	Vocational graduation rates	Vocational schools/program providers	
STEM programs – partnership with industries	Measure of how effectively STEM program are being integrated and leveraged with local industries	Number of regional STEM programs that partner with local industries	Number of regional STEM programs that partner with local industries	STEM program providers, educational institutions	
Funding opportunities					
Track number of flood events – loss of property value	Measure of impact of climate change on loss of property value	Total property damage claims resulting from regional flood events	Total property damage claims resulting from regional flood events	Insurers	
Where visitors are coming from	Indication of the geographic draw of our region relating to tourism and recreation	List of places of origin of visitors to the region	List of places of origin of visitors to the region	Tourism, convention and visitors bureaus. May require additional data collection	
Infrastructure development vs. re-development funding – land use, planning, ROI	Funding spent on reconstruction and revitalization of existing infrastructure vs new infrastructure - sprawl indicator	Total funding spent on reconstruction or revitalization of existing infrastructure compared to that spent on new infrastructure	Total funding spent on reconstruction or revitalization of existing infrastructure compared to that spent on new infrastructure	State and local governments and authorities capital infrastructure spending	
Investment in research	Measure of investment in research and innovation in the region	Sum of government, institutional and private investment in research and development in the region	Sum of government, institutional and private investment in research and development in the region	Government and institutions. Private data may be more difficult to collect	
Venture capital investment	Measure of new venture capital in the Region	Total venture capital investment in the region	Total venture capital investment in the region	National Venture Capital Association	
Change in Number of Business Establishments by sector	The change in the number of business establishments by sector, shown as a percentage gain or loss.	Current number of businesses by sector minus number of businesses by sector in previous period divided by total number of businesses by sector in previous period x100	Number of businesses by sector in current period and previous period(s)		
Average salary by sector	Salaries are a gauge of overall economic health and a measure of the degree to which employees are sharing in the prosperity of a community or specific economic sector. They also indicate the vitality of specific sectors and the demand for workers in those sectors	Total payroll by sector divided by total employment in sector. Comparisons may be made between sectors and between time periods to determine trends and more desirable sectors, etc.	Total payroll by sector, employment by sector in current period and previous period(s)	Quarterly Census of Employment and Wages (http://www.bls.gov/cew/) http://data.bls.gov/pdq/querytool.jsp?survey=en	Data have been converted to 2010 dollars.
Change in Average Salary since 2000	ACT Rochester indicator: The cumulative percentage change in average salary since 2000 - measure of the change in wealth generation	Current average salaries minus 2000 salaries divided by 2000 salaries (adjusted for inflation)	Current average salaries, average salaries in 2000	Quarterly Census of Employment and Wages (http://www.bls.gov/cew/) http://data.bls.gov/pdq/querytool.jsp?survey=en	Data have been converted to 2010 dollars.
Employment-to-Population Ratio	ACT Rochester indicator: Measure of the employment rate of the regional working-age population	The number of employed people living in our region divided by the population of 16- to 64-year-olds	Number of employed people in the region, population of working-age residents	Census and American Community Survey	
Spending for County Government	ACT Rochester indicator: Measure of the cost of government	The annual per-capita spending for county government, adjusted for inflation.	Annual spending of county governments, population of counties	Census and county governments	Data are presented in constant 2010 dollars. New York State excludes New York City
Spending for Local Government	ACT Rochester indicator: Measure of the cost of government	The annual per-capita spending for cities, towns, and villages within a county, adjusted for inflation	Annual spending of city, town and village governments; population	Census and local governments	Data are presented in constant 2010 dollars. New York State excludes New York City

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
Spending for School Districts	ACT Rochester indicator: Measure of the cost of education	The annual per-capita spending for local public education within a county, adjusted for inflation	Total annual spending for public education by county.	Educational institutions, NYS SED	Data are presented in constant 2010 dollars. New York State excludes New York City
Science and Engineering Research	ACT Rochester indicator: The amount of federal, state and local grant money spent on research and development by academic institutions in the region				Figures were inflation-adjusted to 2010 dollars. Not all institutions report research and development expenditures. Institutions included in data for the region are University of Rochester, Rochester Institute of Technology, SUNY College at Geneseo, SUNY College at Brockport and Hobart and William Smith Colleges.
Residential Building Permits	ACT Rochester indicator: Measure of Housing growth	The number of residential building permits issued, expressed as a rate per 1,000 residents. This includes permits for new construction of residences, including mobile homes.	Number of residential building permits issued; population	Local governments; census	County data are from the Genesee/Finger Lakes Regional Planning Council, based on their annual survey of municipalities. State data are from the U.S. Department of Housing and Urban Development, and national data are from the U.S. Census Bureau.
Average wages in region over time by county	Includes working with existing and emerging industries, entrepreneurs and educators to accelerate business growth and employment across key sectors that support regional sustainability goals. It supports growth of both urban industry and rural businesses.				
Successful commercialization of technologies and associated jobs		Measure of the number of new technologies that reach commercialization and number of new jobs associated with it.			
Trained workforce available for diverse employment opportunties					
New mechanisms for training in education					
Internal guidelines, certifications and aspirations meets or exceeds 3rd party standards and intentions					
Supply chain leads in sustainability and ties into education system which meets or exceeds 3rd party standards and intentions					

ECONOMIC DEVELOPMENT

NYSERDA Indicator Evaluation

	Evaluation Criteria (Weight)					
Indicator	**Consistent with NYSERDA Guidance (3)**	**Consistent with Regional Performance Measure (1)**	**Favored by Stakeholder Group (2)**	**Data Availability (2)**	**Summary Score**	**General Notes**
Housing + Transportation Index : Transportation/Housing affordability	8	3	5	3	43	
Jobs created by sector	6	3	5	3	37	
Average weekly wages by county	6	2	5	3	36	
Production of farms	6	2	5	3	36	
Unemployment rate	6	3	5	2	35	
Acreage of farms	6	2	5	1	32	
Economic Activity: Gross Regional Product	5	2	4	3	31	
Investment in infrastructure (transportation, drinking water and wastewater facilities, stormwater, and energy)	5	1	5	1	28	
Total number of visitors and regional tourism dollars spent	5	2	2	3	27	
Jobs and housing balance	5	2	2	3	27	
Relationship of wages to changes in employment	5	1	2	3	26	
Number of farmers markets	5	1	4	1	26	
GINI Index	5	1	2	3	26	
Tax Policy and Incentives – Percent of municipalities with tax policies and incentives to encourage development in municipal centers	6	1	2	1	25	
Measure disposable income	4	2	4	1	24	
Annual growth in total employment	2	3	5	1	21	
Earnings per job	2	3	5	1	21	
Average salary by sector	2	3	5	1	21	
Change in Average Salary since 2000	2	3	5	1	21	
Annual Revenue from local businesses	5	1	2	0	20	
Average wages in region over time by county	2	2	5	1	20	
Funding opportunities	2	1	5	1	19	
Number of people receiving social services	2	2	3	1	16	
Net advocate score	0	3	5	1	15	
Where visitors are coming from	2	1	4	0	15	
Employment-to-Population Ratio	2	3	2	1	15	
Investment in research	0	1	5	1	13	
Venture capital investment	0	1	5	1	13	
Science and Engineering Research	0	3	4	1	13	
Maintaining our Main Streets	1	1	4	0	12	
Infrastructure development vs. re-development funding – land use, planning, ROI	1	1	4	0	12	
Age distribution of workers	0	1	4	1	11	
Job training programs	0	1	4	1	11	
STEM programs – partnership with industries	0	1	4	1	11	
Successful commercialization of technologies and associated jobs	0	1	4	1	11	
Trained workforce available for diverse employment opportunties	0	1	4	1	11	
New mechanisms for training in education	0	1	4	1	11	
Supply chain leads in sustainability and ties into education system which meets or exceeds 3rd party standards and intentions	0	1	4	1	11	
Trained workforce available for diverse employment opportunties	0	1	4	1	11	
New mechanisms for training in education	0	1	4	1	11	
New business establishments as a share of established firms	0	3	2	1	9	
Formation and expansion of minority- and women-owned business establishments (W/MBE)	0	3	2	1	9	
Share lacking health insurance coverage	0	3	2	1	9	
Participation in culture/recreation	0	3	2	1	9	

Indicator	Consistent with NYSERDA Guidance (3)	Consistent with Regional Performance Measure (1)	Favored by Stakeholder Group (2)	Data Availability (2)	Summary Score	General Notes
Age-Sex-Race Adjusted Medicare Spending Per Beneficiary	0	3	2	1	9	
Commercial Insurance: Per member per month outpatient cost	0	3	2	1	9	
Number of firms and employees (types of businesses) – 10+ employees – impact on region based on employment (net formation and survival)	0	1	3	1	9	
Business locations where infrastructure already exists	0	1	3	1	9	
Number of vocational graduates	0	1	3	1	9	
Track number of flood events – loss of property value	0	1	3	1	9	
Change in Number of Business Establishments by sector	0	3	2	1	9	
Spending for County Government	0	3	2	1	9	
Spending for Local Government	0	3	2	1	9	
Spending for School Districts	0	3	2	1	9	
Residential Building Permits	0	3	2	1	9	
Internal guidelines, certifications and aspirations meets or exceeds 3rd party standards and intentions	0	1	3	1	9	
Internal guidelines, certifications and aspirations meets or exceeds 3rd party standards and intentions	0	1	4	0	9	
Supply chain leads in sustainability and ties into education system which meets or exceeds 3rd party standards and intentions	0	1	4	0	9	
Measure of diversity	0	1	3	0	7	

ECONOMIC DEVELOPMENT

Place-Sourced Indicator Evaluation

	Evaluation Criteria											
	Enrichment of 5 Capitals:											
Indicator	**Natural**	**Built / Manufactured**	**Social**	**Human**	**Financial**	**Diversity**	**Resiliency**	**Life cycle cost and benefit**	**Ability to leverage Story of Place - Innovation "Accelerator"**	**Favored by Stakeholder Group**	**Summary Score**	**General Notes**
Successful commercialization of technologies and associated jobs		1	1	1	1	1			2	4	11	
Venture capital investment		1	1	1	1				2	5	11	
Supply chain leads in sustainability and ties into education system which meets or exceeds 3rd party standards and intentions	1		1	1		0	0	1	2	4	10	
Economic Activity: Gross Regional Product	0	1		1	1		1		2	4	10	
Housing + Transportation Index : Transportation/Housing affordability		1	1		1	1	1			5	10	
Infrastructure development vs. re-development funding – land use, planning, ROI	1	1	1		1		1	1		4	10	
Investment in research			1	1	1				2	5	10	
Spending for School Districts		1	1	1	1		1	1	2	2	10	
Science and Engineering Research		1	1	1	1				2	4	10	
Jobs created by sector				1	1	1	1		2	3	9	
Annual Revenue from local businesses			1	1	1	1	1		2	2	9	
Number of farmers markets	1	1	1	1			1			4	9	
Net advocate score			1	1					2	5	9	
Age distribution of workers				1		1	1		2	4	9	
STEM programs – partnership with industries			1	1		1			2	4	9	
Change in Average Salary since 2000				1	1				2	5	9	
Spending for County Government		1	1		1		1	1	2	2	9	
Spending for Local Government		1	1		1		1	1	2	2	9	
Trained workforce available for diverse employment opportunties			1	1		1			2	4	9	
New mechanisms for training in education			1	1		1			2	4	9	
Internal guidelines, certifications and aspirations meets or exceeds 3rd party standards and intentions	1		1	1					2	4	9	
Investment in infrastructure (transportation, drinking water and wastewater facilities, stormwater, and energy)	1	1	1	0	1		0	1		3	8	
Funding opportunities				1	1		1		0	5	8	
Production of farms	1	1			1					5	8	
Total number of visitors and regional tourism dollars spent	1		1	1	1				2	2	8	
New business establishments as a share of established firms		1		1	1	1			2	2	8	
Participation in culture/recreation	1		1	1		1			2	2	8	
Number of firms and employees (types of businesses) – 10+ employees – impact on region based on employment (net formation and survival)				1	1	1			2	3	8	
Change in Number of Business Establishments by sector				1	1	1	1		2	2	8	
Average salary by sector				1	1	1				5	8	
Unemployment rate				1	1					5	7	
Acreage of farms	1	1								5	7	
Annual growth in total employment				1	1					5	7	
Formation and expansion of minority- and women-owned business establishments (W/MBE)				1	1	1			2	2	7	
Earnings per job				1	1					5	7	
Maintaining our Main Streets		1	1					1		4	7	
Job training programs				1	1	1				4	7	
Measure of diversity						1	1		2	3	7	
Track number of flood events – loss of property value	1	1					1	1		3	7	
Average wages in region over time by county				1	1					5	7	
Average weekly wages by county					1					5	6	
Relationship of wages to changes in employment				1	1				2	2	6	
Tax Policy and Incentives – Percent of municipalities with tax policies and incentives to encourage development in municipal centers		1	1	1	1					2	6	
Number of people receiving social services				1	1					4	6	
Business locations where infrastructure already exists		1					1	1		3	6	
Where visitors are coming from			1			1				4	6	
Residential Building Permits		1	1		1			1		2	6	
Measure disposable income				1	1					3	5	
Number of vocational graduates				1		1				3	5	

Indicator	Enrichment of 5 Capitals: Natural	Built / Manufactured	Social	Human	Financial	Diversity	Resiliency	Life cycle cost and benefit	Ability to leverage Story of Place - Innovation "Accelerator"	Favored by Stakeholder Group	Summary Score	General Notes
Jobs and housing balance		1			1					2	4	
GINI Index					1	1				2	4	
Age-Sex-Race Adjusted Medicare Spending Per Beneficiary				1	1					2	4	
Commercial Insurance: Per member per month outpatient cost				1	1					2	4	
Employment-to-Population Ratio				1	1					2	4	
Share lacking health insurance coverage				1						2	3	

ECONOMIC DEVELOPMENT
Recommended INDICATORS

NYSERDA Indicators	Description	Calculation	Data Required/Source	Baseline Value (2010)	General Notes
Housing + Transportation Index : Transportation/Housing affordability	NYSERDA required indicator 6A: Percentage of household income spent on housing and transportation	Weighted Average of H+T Index (from Center for Neighborhood Technology), by County	H+T Affordability Index/Center for Neighborhood Technology (http://htaindex.cnt.org/)	52.07%	No data available for Wyoming or Yates County
Jobs created by sector	NYSERDA common indicator 6B: Increase or decrease in by sector over a one year period	Jobs Created = Σ Jobs created by county = Change in total private sector jobs + Change in total government sector jobs + Change in farm jobs+ Unclassified	Change in total jobs/Bureau of Labor Statistics and NYS Labor Department (updated quarterly)	Government: 90,180	Includes Federal, State, and Local jobs - Baseline Data is 2010 total jobs by sector
				Private: 436,199	Includes all private sector jobs except Agriculture and Unclassified
				Agriculture: 6,122	Includes Forestry
				Unclassified: 496	
Place-Sourced Indicators	**Description**	**Calculation**	**Data Required/Source**	**Baseline Value (2010)**	**General Notes**
Successful commercialization of technologies and associated jobs	Measure of the number of new technologies that reach commercialization and number of new jobs associated with it.	Sum of new technologies that reach commercialization and jobs associated	Technologies reaching commercialization, jobs associated/source unknown at this time	Currently Unavailable	This does not appear to be something currently tracked and would likely involve primary data collection and setting up mechanisms to track this in the future. This is considered a valuable indicator and it is recommended that it be collected in the future.
Venture capital investment	Measure of new venture capital in the Region	Sum of VC investments by county per year	Venture Capital Investment by county across the region, rolled up to one annual number for the region./PriceWaterhouse Coopers Money Tree https://www.pwcmoneytree.com/MTPublic/ns/nav.jsp?page=region&region=1201	Currently unavailable at the county or regional level.	Data does not appear to be available on a county by county basis or for our defined region. The smallest scale tracked and reported is for Upstate NY region which is everything in NYS excluding NYC. This is considered a valuable indicator and it is recommended that it be collected in the future.
Jobs created in the following sectors: Food Manufacturing/Alternative Energy/Materials Science	Variant of NYSERDA common indicator 6B: Increase or decrease in jobs by select sectors over a one year period: Food Manufacturing Alternative Energy Related Industry Materials Science	Sum of jobs created in Food Manufacturing Sum of jobs created in Alternative Energy Sum of jobs created in Materials Science all compared to previous period	Number of jobs in each of three segments: Food Manufacturing/Alternative Energy/Materials Science/subset of data currently tracked and reported by Labor Department	6,972	Food Manufacturing includes Dept. of Labor categories "Food Manufacturing" and "Beverage Tobacco Product Manufacturing". Alternative enery and materials science data is not currently tracked and reported in this manner. May need to drill-down into existing data sources to see if we may be able to capture this and/or institute mechanisms to track this in the future. This is considered a valuable indicator and it is recommended that it be collected in the future.

Agriculture & Forestry Indicators

AGRICULTURE
POTENTIAL INDICATORS

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
1. Direct farm sales per capita	Reflects the market for direct farm sales within each county. Direct farm sales are generally more profitable for the producer, can greatly reduce transportation-borne emissions related to food consumption, and improve residents' access to fresh food.	Total value of farm sales direct to consumers (including sales from roadside stands, farmers markets, pick-your-own, door-to-door, etc., but not sales of craft items or processed products, such as jellies, sausages, and hams) divided by the number of residents of the county.	USDA Food Atlas' Local Foods data	http://www.ers.usda.gov/data-products/food-environment-atlas.aspx	This indicator combines the purpose/intent of several NYSERDA and Place-Sourced indicators related to farmers' markets, CSAs, etc.
2. Number of community food-producing gardens in municipal centers	This indicator tracks the capacity and infrastructure of municipal/urban centers in the Region to produce food. Suburban and rural areas where the need for community gardens is significantly less due to larger parcel sizes are excluded.	Total count of community food-producing gardens in municipal centers.	Community food-producing gardens		See Indicator #1- it is anticipated that these venues would be counted via direct sales per capita.
3. Acres of agricultural land in non-agricultural use	Agricultural lands zoned for other use (see General Notes- measured differently, this indicator also describes economic accessibility of quality farmland)	Geospatial overlay of soil capability classes vs. developed areas (per NASS CropScape data); sum of high-value ag land within X-mile buffer of low-intensity developed areas	NASS CropScape Cropland Data Layer; NRCS Soil Survey	http://nassgeodata.gmu.edu/CropScape/; http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm	Zoning districts are not a good measure for agricultural use- data is incomplete and not suited for land use classification. Calculation proposed here is a more accurate measure, will allow for greater number of measurements through time, and will better support discussions of economic accessibility of quality farmland and vulnerability of conversion.
4. Acreage of preserved farmland, farmland with permanent USDA easement and Purchased Development Rights (PDR) for priority properties in the Region.	This is a measure of the region's capacity to provide secure food production. It includes farmland that is formally protected/preserved in perpetuity using fee-simple acquisition, conservation easements transfer of development rights programs, or other similar initiatives.	Total acreage of PDRs and farmland preserved in perpetuity.	Acres of farmland preserved; PDR acres; USDA permanent easements	County assessor parcel data, aggregated for the region; American Farmland Trust; WNY Land Conservancy; Finger Lakes Land Trust; counties with PDR programs; NRCS	Program enrollment may be an appropriate strategy to achieve goals, but it is not a direct measure of sustainable practices.
5. Acres of agricultural land enrolled in NYS Soil & Water Conservation Committee's Agricultural Environmental Management Program (AEM) and Acres of Certified, Managed Forestland	With the assistance of AEM Certified planners, these farms have developed science-based Comprehensive Nutrient Management Plans to control runoff, conserve soil and recycle nutrients.	Sum of acres enrolled in programs	Soil & Water Conservation Districts, FSC	http://www.fsc.org/certification.4.htm each county SWCD	Program enrollment may be an appropriate strategy to achieve goals, but it is not a direct measure of sustainable practices.
6. Agricultural crop damage from flooding	This indicator tracks the impacts of climate change on the agricultural sector of the Region	Sum of damaged crop volumes	National Weather Service	http://www.nws.noaa.gov/om/hazstats/state11.pdf	Similar to indicator 7 (below), county-level data availability unknown. This data point is not tracked by NASS or ERS, but may be available through crop insurance payouts regulated by NYS Ag & Markets.
7. Agricultural economic loss attributable to temperature and drought stress, and flooding	This indicator tracks the impacts of climate change on the agricultural sector of the Region	Sum of economic losses ($)	Agricultural economic loss	www.agriculture.ny.gov [?]	Similar to indicator 6 (above), county-level data availability unknown. This data point is not tracked by NASS or ERS, but may be available through crop insurance payouts regulated by NYS Ag & Markets.
8. Number of farmers markets	This provides insight into market access for local food products.	Sum of farmers markets	USDA Food Atlas' Local Foods data	http://www.ers.usda.gov/data-products/food-environment-atlas.aspx	This indicator is a subset of indicator #1 which focuses on regional use and consumption of FL produced products.
9. Acres of cropland using soil conserving and organic matter building practices such as crop rotations, cover crops, residue management.	This indicator looks at opportunities to increase land productivity including protection from degradation. Carbon sequestration may be increased through increased use of crop rotations, cover crops, residue management, improved management of manures and other organic materials. This will result in soil conservation benefits as well.	Sum of acres under cultivation using soil conserving and organic matter building practices.	NRCS	NRCS program enrollment [?]	County-level data availability unknown. May be tracked by NYS office of NRCS. Program enrollment may not be a good measurement, however.
10. Net increase in highly erodible cropland planted to perennial vegetation.	This indicator looks at opportunities to increase land productivity including protection from degradation.	Net increase in sum of "helclass" vs. perennial plantings (per NASS CropScape data) via geospatial overlay	Highly erodible cropland ("helclass"); NASS CropScape Data Layer	STATSGO/SSURGO databases; http://nassgeodata.gmu.edu/CropScape/	
11. Number of CSAs within the region	This indicator looks at opportunities to generate profitable (i.e. sustainable) economic activity at the regional level.	Sum of CSAs	USDA Food Atlas' Local Foods data	http://www.ers.usda.gov/data-products/food-environment-atlas.aspx	This indicator is a subset of indicator #1 which focuses on regional use and consumption of FL produced products.
12. Number of urban farms and value of products	This indicator looks at opportunities to generate profitable (i.e. sustainable) economic activity at the regional level.	Sum of urban farms	NASS, NYS Ag & Mkts	[?]	This indicator is a subset of indicator #1 which focuses on regional use and consumption of FL produced products.
13. Methane generation and combustion	This indicator looks at economic opportunities to generate methane from manure, food waste, and woody biomass.	Methane generation and combustion	NYSERDA, EIA	[?]	Assumed to be covered in Tier I/II GHG inventories
14. Use of external inputs	Describes the use of chemical fertilizer and manure purchased for agricultural operations.	% of total operational expenses dedicated to chemical and fertilizer purchases; country-level estimates of N,P,K applied per year (1987-2002)	USDA Ag Census, 1997-2007; Ruddy (2006) study	http://quickstats.nass.usda.gov/; http://pubs.usgs.gov/sir/2006/5012/	The link between N,P,K applications and water quality is very strong. Due to the abundance and quality of water resources in the Finger Lakes region, this measure may be of greater importance than the score suggests.

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
15. Number of farms, acres, parcels within agricultural districts.	This indicator offers information regarding areas protected from development.	Sum of farms, acres, and parcels in agricultural districts	County assessors' rolls	County assessor parcel data	
16. Acreage of farms	Area of land used for growing crops, rearing animals	Sum of NASS CropScape crop areas	NASS CropScape Cropland Data Layer	http://nassgeodata.gmu.edu/CropScape/	On its own, this indicator doesn't measure the sustainability of individual operations or the agricultural sector in aggregate. However, it is valuable to include this data in other indicators (e.g. acres of ag land in non-ag use, diversity of production).
17. Production ($) of farms	Cash receipts by county	Crop totals- sales ($) per county	USDA Ag Census, 1997-2007	http://quickstats.nass.usda.gov/	Production value does not measure sustainability (e.g. recent dramatic rise in corn prices does not indicate whether corn farming is more or less economically, environmentally, or socially sustainable, and has opposite impacts on producers vs. consumers). The diversity indicator (below) would still incorporate a measure of production, and would do so in a manner more consistent with the FLSP definition of sustainability.
18. Acreage of high-value ag land	High-value farmland as defined by NRCS	Sum of acreage of higher-value mineral soil groups?	NRCS Soil Survey	http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm	In and of itself, this indicator will not change much over time (mineral soil types do not fluctuate). However, the process of locating high-value ag land is incorporated into the indicator of acres of ag land in non-ag use (above).
19. Diversity of production	Reflects the productivity and resiliency of agricultural sector	Shannon's diversity index = -∑Pi*LN(Pi). This index is the sum of the products of relative proportion of each crop harvested within the county times the natural log of each proportion. May be normalized or indexed to 1.	USDA Ag Census, 1997-2007	http://quickstats.nass.usda.gov/	This indicator reflects both economic and environmental sustainability issues, and incorporates a measure of best management practices within the agricultural sector. Rotations and cover crops are accommodated in this indicator- cover crops such as winter wheat, rye, etc. are counted in the crop harvest data.
20. Change in agricultural sector jobs	This indicator provides a macro level view to economic development and represents economic growth.	Sum of agricultural employment per year	NYS Bureau of Labor Statistics	http://www.labor.ny.gov/stats/fin/default.asp	Regional-level data readily available through BLS. County-level data availability unknown. This indicator does not measure the sustainability of the agricultural sector.
21. No net loss of agricultural land (net gain?)	Describes the conversion of agricultural land for other purposes	Sum of acres dedicated to agricultural production	NASS CropScape Cropland Data Layer	http://nassgeodata.gmu.edu/CropScape/	See indicator #3- provides a clearer measure of land conversion.
22. Inputs go down while soil health goes up	Reflects the general aim of decreasing potential nonpoint source pollutants while increasing the quality of the soil resource	[?]		unavailable	Data is not available to measure this indicator as it is presented here; can be adjusted to reflect the use of inputs, but soil health is not measured on a regional basis
23. Increased number of food crops and farmers markets	Measures the diversity of regional production, potential for direct sales, and regional residents' access to fresh food	Sum of food crops; sum of farmers markets	USDA Ag Census, 1997-2007; USDA Food Atlas' Local Foods data	http://quickstats.nass.usda.gov/; http://www.ers.usda.gov/data-products/food-environment-atlas.aspx	As presented, units of analysis are too dissimilar- should be separated into two indicators. See indicator #19 regarding diversity of production. Several indicators can be combined re: farmers' markets and other direct-marketing opportunities for regional producers.
24. Increase in viability of farms	Measures the potential for new farmers to enter the marketplace, and for existing farmers to remain in the marketplace	[?]	Operation-level data	not available	Viability measurement requires operation-scale data to be collected and aggregated; unsure whether or not regional data would provide a reliable and meaningful measurement of actual operational viability
25. Increase in urban farms and gardens	Describes potential food access for traditionally vulnerable populations	Sum of urban farms; sum of urban gardens	USDA Ag Census, 1997-2007; USDA Food Atlas' Local Foods data	http://quickstats.nass.usda.gov/; http://www.ers.usda.gov/data-products/food-environment-atlas.aspx	See indicator #1.

AGRICULTURE

NYSERDA Indicator Evaluation

	Evaluation Criteria (Weight)					
Indicator	**Consistent with NYSERDA Guidance (3)**	**Consistent with Regional Performance Measure (1)**	**Favored by Stakeholder Group (2)**	**Data Availability (2)**	**Summary Score**	**General Notes**
20. Change in agricultural sector jobs	6	2	5	3	36	Not a reliable measure of sustainability per se
16. Acreage of farms	6	1	5	3	35	Will be discussed in narrative form in the introductory narrative
17. Production ($) of farms	6	1	5	3	35	Partially counted in "direct farm sales" indicator; otherwise, not a reliable measure of sustainability per se
1. Direct farm sales per capita	5	1	5	3	32	Combines the purpose of several place-sourced indicators
3. Acres of agricultural land in non-agricultural use	5	1	5	3	32	This NYSERDA indicator also addresses concerns raised by stakeholders
8. Number of farmers markets	5	1	5	3	32	Counted indirectly in "direct farm sales" indicator
18. Acreage of high-value ag land	5	1	5	3	32	Counted directly in "acres of ag land in non-ag use" indicator
10. Net increase in highly erodible cropland planted to perennial vegetation.	5	1	4	3	30	Perennial vegetation will be directly counted in "diversity of production" indicator, and its importance can be discussed specifically in narrative
11. Number of CSAs within the region	5	1	4	3	30	Counted indirectly in "direct farm sales" indicator
4. Acreage of preserved farmland, farmland with permanent USDA easement and Purchased Development Rights (PDR) for priority properties in the Region.	5	1	4	1	26	The underlying issue is accommodated in "acres of ag land in non-ag use" indicator
9. Acres of cropland using soil conserving and organic matter building practices such as crop rotations, cover crops, residue management.	5	1	4	1	26	Cover crops and rotations will be discussed in "diversity of production" indicator
12. Number of urban farms and value of products	5	1	4	1	26	Counted indirectly in "direct farm sales" indicator
13. Methane generation and combustion	5	1	4	1	26	Assumed to be covered elsewhere in report
15. Number of farms, acres, parcels within agricultural districts.	5	1	4	1	26	Number of farms counted directly in "diversity of production" indicator
14. Use of external inputs	2	2	5	3	24	Specifically addresses water quality, a key Story of Place component
5. Acres of agricultural land enrolled in NYS Soil & Water Conservation Committee's Agricultural Environmental Management Program (AEM) and Acres of Certified, Managed Forestland	5	1	2	1	22	Not a reliable measure of sustainability per se
2. Number of community food-producing gardens in municipal centers	5	1	2	0	20	Likely to be counted indirectly by "direct farm sales" indicator; otherwise, neglects too many areas outside of urban centers
6. Agricultural crop damage from flooding	5	1	2	0	20	Assumed to be referenced in Climate Change Adaptation section of report
7. Agricultural economic loss attributable to temperature and drought stress, and flooding	5	1	2	0	20	Assumed to be referenced in Climate Change Adaptation section of report
21. No net loss of agricultural land (net gain?)	1	1	5	3	20	Counted directly in "acres of ag land in non-ag use" indicator
23. Increased number of food crops and farmers markets	1	1	5	3	20	Counted directly in "diversity of production" indicator
25. Increase in urban farms and gardens	1	1	5	3	20	Likely to be counted indirectly by "direct farm sales" indicator
19. Diversity of production	0	2	5	3	18	Agricultural diversity is another element of the Story of Place- we expect to find a higher degree of diversity here than elsewhere
22. Inputs go down while soil health goes up	2	1	5	0	17	Counted indirectly in "use of external inputs" indicator; can't describe soil health on a regional basis very efficiently
24. Increase in viability of farms	0	1	5	1	13	Difficulty operationalizing viability per se on a regional, sector-wide basis; resiliency (a component of viability) can be described through other indicators

AGRICULTURE

Place-Sourced Indicator Evaluation

	Evaluation Criteria											
	Enrichment of 5 Capitals:											
Indicator	**Natural**	**Built / Manufactured**	**Social**	**Human**	**Financial**	**Diversity**	**Resiliency**	**Life cycle cost and benefit**	**Ability to leverage Story of Place - Innovation "Accelerator"**	**Favored by Stakeholder Group**	**Summary Score**	**General Notes**
1. Direct farm sales per capita	1		1	1	1	1	1			5	11	Combines the purpose of several place-sourced indicators
2. Number of community food-producing gardens in municipal centers	1		1		1	1	1			5	10	Likely to be counted indirectly by "direct farm sales" indicator; otherwise, neglects too many areas outside of urban centers
3. Acres of agricultural land in non-agricultural use	1		1		1		1	1	1	5	11	This NYSERDA indicator also addresses concerns raised by stakeholders
14. Use of external inputs	1				1		1	1	1	5	10	Specifically addresses water quality, a key Story of Place component
19. Diversity of production	1				1	1	1		1	5	10	Agricultural diversity is another element of the Story of Place- we expect to find a higher degree of diversity here than elsewhere
25. Increase in urban farms and gardens	1		1		1	1	1			5	10	Likely to be counted indirectly by "direct farm sales" indicator
8. Number of farmers markets			1		1	1	1			5	9	Counted indirectly in "direct farm sales" indicator
4. Acreage of preserved farmland, farmland with permanent USDA easement and Purchased Development Rights (PDR) for priority properties in the Region.	1				1		1	1		4	8	The underlying issue is accommodated in "acres of ag land in non-ag use" indicator
11. Number of CSAs within the region			1		1	1	1			4	8	Counted indirectly in "direct farm sales" indicator
22. Inputs go down while soil health goes up	1						1	1		5	8	Counted indirectly in "use of external inputs" indicator; can't describe soil health on a regional basis very efficiently
23. Increased number of food crops and farmers markets					1	1	1			5	8	Counted directly in "diversity of production" indicator
24. Increase in viability of farms					1		1	1		5	8	Difficulty operationalizing viability per se on a regional, sector-wide basis; resiliency (a component of viability) can be described through other indicators
9. Acres of cropland using soil conserving and organic matter building practices such as crop rotations, cover crops, residue management.	1					1	1			4	7	Cover crops and rotations will be discussed in "diversity of production" indicator
12. Number of urban farms and value of products					1	1	1			4	7	Counted indirectly in "direct farm sales" indicator
15. Number of farms, acres, parcels within agricultural districts.	1				1		1			4	7	Number of farms counted directly in "diversity of production" indicator
16. Acreage of farms	1						1			5	7	Will be discussed in narrative form in the introductory narrative
20. Change in agricultural sector jobs				1	1					5	7	Not a reliable measure of sustainability per se
21. No net loss of agricultural land (net gain?)	1						1			5	7	Counted directly in "acres of ag land in non-ag use" indicator
10. Net increase in highly erodible cropland planted to perennial vegetation.	1						1			4	6	Perennial vegetation will be directly counted in "diversity of production" indicator, and its importance can be discussed specifically in narrative
13. Methane generation and combustion	1							1		4	6	Assumed to be covered elsewhere in report
17. Production ($) of farms					1					5	6	Partially counted in "direct farm sales" indicator; otherwise, not a reliable measure of sustainability per se
18. Acreage of high-value ag land	1									5	6	Counted directly in "acres of ag land in non-ag use" indicator
6. Agricultural crop damage from flooding	1				1		1			2	5	Assumed to be referenced elsewhere in report
7. Agricultural economic loss attributable to	1				1		1			2	5	Assumed to be referenced elsewhere in report
5. Acres of agricultural land enrolled in NYS Soil & Water Conservation Committee's Agricultural Environmental Management Program (AEM) and Acres of Certified, Managed Forestland	1						1			2	4	Not a reliable measure of sustainability per se

AGRICULTURE
Recommended INDICATORS

NYSERDA Indicators	Description	Calculation	Data Required/Source	Baseline Value (2010)	General Notes
Acres of agricultural land in non-agricultural use	Identifies the acreage of high-quality agricultural soils used for non-agricultural purposes.	Sum of acreage in NRCS Soil Capability Classes I and II that overlap acreage of areas classified as "developed" by the USDA	NASS CropScape Cropland Data Layer; NRCS Soil Survey	155,968	Scores well by both NYSERDA and Place-Sourced criteria. Accommodates much of the stakeholder commentary regarding both loss (or potential gain) of ag land and the quality/suitability of land for agriculture. Identifies the consumption of quality farmland, and can also identify the farmland that is at risk in the future. Longitudinal data is currently available, and is expected to be available in the long term.
Place-Sourced Indicators	**Description**	**Calculation**	**Data Required/Source**	**Baseline Value (2010)**	**General Notes**
Direct farm sales per capita	Reflects the market for direct farm sales within each county. Direct farm sales are generally more profitable for the producer, can greatly reduce transportation-borne emissions related to food consumption, and improve residents' access to fresh food.	Total value of farm sales direct to consumers (including sales from roadside stands, farmers markets, pick-your-own, door-to-door, etc., but not sales of craft items or processed products, such as jellies, sausages, and hams) divided by the number of residents of the county.	USDA Food Atlas' Local Foods data: http://www.ers.usda.gov/data-products/food-environment-atlas.aspx	$9.52	This measure leverages several Place-Sourced indicators, as well as at least one NYSERDA Secondary Indicator.
Use of external inputs	Describes the use of chemical fertilizer and manure purchased for agricultural operations.	% of total operational expenses dedicated to chemical and fertilizer purchases; country-level estimates of N,P,K applied per year (1987-2002)	USDA Ag Census, 1997-2007; Ruddy (2006) study: http://quickstats.nass.usda.gov/; http://pubs.usgs.gov/sir/2006/5012/	10.7%	The use of external inputs bears directly on the quality of the region's surface waters, which is one of the principal issues arising from the Story of Place initiative. The cost of external inputs is the closest recent measure available to describe existing conditions on a regional level; the values published in Ruddy (2006) are more direct but not as recent, so they will be referenced in the back-up material. Acreage receiving fertilizer or manure may be available through USDA/NASS Special Tabulation, and we are inquiring with the USDA regarding that data.
Diversity of production	Reflects the productivity and resiliency of agricultural sector	Shannon's diversity index = -∑Pi*LN(Pi). This index is the sum of the products of relative proportion of each agricultural commodity within the region times the natural log of each proportion.	USDA Ag Census, 1997-2007	6.97	Shannon's index is commonly used to describe ecological diversity, and has been cited in the literature of agricultural economics as a reliable measure of agricultural diversity as well. Because of the various ways agricultural production is measured (e.g. acres of cropland, head of cattle, etc.), this index may be adapted to describe the diversity of producers (i.e. farm operators) as opposed to production (i.e. crops).

FORESTRY
POTENTIAL INDICATORS

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
1. Ratio of percent of forest by tree diameter class (small, medium, large)	Reflects the growth stages of forests in region, which contribute to different types of habitat	Area and percentage of forests in region, by county, in each age size class as a ratio of total forest area expressed as a ratio % large : %medium : %small	Forest Area by size-class: USFS FIA Standard Report number 2.4	http://apps.fs.fed.us/fido/	This indicator measures the proportion of forest habitat types at differing growth stages. Forest areas at different diameter-classes provide differing habitat quality in terms of supporting increased biodiversity. US Forest Service Forest Inventory and Analysis (FIA) estimates of forest size class proportions are the best available data source to infer the proportions of forest land growth stages that is readily available and collected regularly. Working alongside the bird species diversity indicator, this measure helps to quantify forest habitat quality and diversity, as a component of environmental sustainability.

2. Acres protected through NYSDEC and other public, non-profit and private protected lands.	Acreage of land that is owned by agencies or permanently protected under conservation easements by NYS agencies or other other organizations/institutions.	Acreage protected annually through local, regional not-for-profits (such as Finger Lankes Land Trust) or state-owned forested lands & conservation easements, state parks, conservation easements and other public, non-profit, and private protected lands.	Forested land purchased or protected by NYSDEC or OPHRP; forested land protected under conservation easemetn or owned by FLLT; forested land owned or protected by NYC DEP; farmland protected by PDR.	http://gis.ny.gov/index.cfm;
				http://gis.ny.gov/gisdata/inventories/member.cfm?organizationID=529;
				http://gis.ny.gov/gisdata/inventories/member.cfm?organizationID=588;
				www.fllt.org;
				tspies@dep.nyc.gov;
				http://www.agriculture.ny.gov/AP/agservices/agriculturaldistricts.html;
				http://cugir.mannlib.cornell.edu/index.jsp
					This indicator would inform the potential increase in level of protected forested land but will not be informative regarding the quality of forestlands in the Finger Lakes region.

3. Invasive Species Index	Reflects the level of risk to forest resources of potential damage from disease, pests, or other invasive species	Sum of index values for each species in region Index Value for a species = 1 + .5 x (the number of counties where it is is present in the region, other than the first county) Example: Species A is present in 4 counties Species A index value = 1 + (.5x3) = 2.5	New York Invasive Species Clearinghouse (NYIS)	http://www.nyis.info/index.php	This indicator reflects sustainability of forest resources by quantifying biological threats to the ecosystem. The observation data is updated regularly, and since it is an area of great concern (with large risks like the Emerald Ash Borer), it can be expected to be a strong and reliable data source. The index was created to allow for one number to represent both the presence of a species within the region, and how widespread it is.
4. Amount of biomass in live trees	Measures the amount of carbon stored in the forested areas of the region Goal: Increase biomass amount	tons of biomass in live trees on forestland	USFS FIA Standard Reports numbers 10.1	http://apps.fs.fed.us/fido/	This indicator quantifies the greenhouse gas capturing potential of the region's forest resources. Some methods for estimating the total carbon contained in forests. However, the literature states that, at this time, it is a very new science and the estimates are often contradictory and are, thus, deemed unreliable. As an approximation of carbon storage amounts, live tree biomass is used as the more biomass contained in the regions forests will mean that more carbon is stored since carbon is a large component of that biomass by weight.
5. Number of bird species	Reflects the extent of forested habitats	Number of survey blocks where four high-quality forest habitat indicator species were observed during the most recent NYS Breeding Bird Atlas Survey period (2000-2005) as reported in the NYNHP Nature Explorer database	New York State Breeding Bird Atlas 2000-2005	http://www.dec.ny.gov/animals/7312.html http://www.dec.ny.gov/natureexplorer/app/location/county	This indicator reflects environmental sustainability issues, as it is an index for how diverse and healthy the ecosysems which serve as bird habitat are. It is not tracked yearly, however the third study is planned to be undertaken in the next decade, which will allow for comparison.
6. Wildfire Occurences	Measures the level of fire threat to regional forests	Number of wildfire occurences in Region in past 5 years	Wildfire Occurrence Data	Available from DEC Division of Lands and Forests	We may be able to get this data, and may not. If it is available, the indicator could be used as a measure of abiotic threat to forest resources.

FORESTRY

NYSERDA Indicator Evaluation

	Evaluation Criteria (Weight)					
Indicator	**Consistent with NYSERDA Guidance (3)**	**Consistent with Regional Performance Measure (1)**	**Favored by Stakeholder Group (2)**	**Data Availability (2)**	**Summary Score**	**General Notes**
2. Acres protected through NYSDEC and other public, non-profit and private protected lands.	5	1	2	1	22	Not a preferred indicator because data that is available is unreliable/incomplete. Does not measure the quality of forest resources
1. Ratio of percent of forest by tree diameter class (small, medium, large)	0	1	2	3	11	Contibutes to quantifying sustainability by measuring habitat diversity
3. Invasive Species Index	0	1	2	3	11	Contributes to quantifying sustainability by measuring biological threats to forest resources
4. Amount of biomass in live trees	0	1	2	3	11	Contributes to quantifying sustainability by indirectly measuring carbon sequestration of forest resources
5. Number of bird species	0	1	2	3	11	Contributes to quantifying sustainability by measuring biodiversity of forests
6. Wildfire Occurences	0	1	2	1	7	Contributes to quantifying sustainability by measuring a non-biological stress to forests. At this time we do not have the data, however it may be available. If we are able to obtain it, it will be a recommended indicator

FORESTRY

Place-Sourced Indicator Evaluation

	Evaluation Criteria											
Indicator	**Enrichment of 5 Capitals: Natural**	**Enrichment of 5 Capitals: Built /Manufactured**	**Enrichment of 5 Capitals: Social**	**Enrichment of 5 Capitals: Human**	**Enrichment of 5 Capitals: Financial**	**Diversity**	**Resiliency**	**Life cycle cost and benefit**	**Region's ability to leverage its unique Story of Place - Innovation "Accelerator"**	**Favored by Stakeholder Group**	**Summary Score**	**General Notes**
1. Ratio of percent of forest by tree diameter class (small, medium, large)	1		1			1	1				4	Contibutes to quantifying sustainability by measuring habitat diversity
2. Acres protected through NYSDEC and other public, non-profit and private protected lands.	1		1			1	1				4	Not a preferred indicator because data that is available is unreliable/incomplete. Does not measure the quality of forest resources
4. Amount of biomass in live trees	1		1			1	1				4	Contributes to quantifying sustainability by indirectly measuring carbon sequestration of forest resources
5. Number of bird species	1		1			1	1				4	Contributes to quantifying sustainability by measuring biodiversity of forests
3. Invasive Species Index	1		1				1				3	Contributes to quantifying sustainability by measuring measuring biological threats to forest resources
6. Wildfire Occurences	1		1				1				3	Contributes to quantifying sustainability by measuring a non-biological stress to forests. At this time we do not have the data, however it may be available. If we are able to obtain it, it will be a recommended indicator

FORESTRY
Recommended INDICATORS

NYSERDA Indicators	Description	Calculation	Data Required/Source	Baseline Value (2010)	General Notes
Place-Sourced Indicators	**Description**	**Calculation**	**Data Required/Source**	**Baseline Value (2010)**	**General Notes**
Ratio of percent of forests by tree size class (small, medium, large)	Reflects the growth stages of forests in region, which contribute to different types of habitat	Area and percentage of forests in region, by county, in each age size class as a ratio of total forest area expressed as a ratio % large : %medium : %small	Forest Area by size-class: USFS FIA Standard Report number 2.4	63% large; 21% medium; 16% small	This indicator measures the proportion of forest habitat types at differing growth stages. Forest areas at different diameter-classes provide differing habitat quality in terms of supporting increased biodiversity. US Forest Service Forest Inventory and Analysis (FIA) estimates of forest size class proportions are the best available data source to infer the proportions of forest land growth stages that is readily available and collected regularly. Working alongside the bird species diversity indicator, this measure helps to quantify forest habitat quality and diversity, as a component of environmental sustainability. Forestry Stakeholders were not present at Working Group Meeting #2, therefore the indicators were not discussed.
Amount of biomass in live trees	Measures the amount of carbon stored in the forested areas of the region	tons of biomass in live trees on forestland	USFS FIA Standard Report numbers 10.1 (biomass in live trees)	60,937,524 Short tons of biomass	This indicator quantifies the greenhouse gas capturing potential of the region's forest resources. Some methods for estimating the total carbon contained in forests. However, the literature states that, at this time, it is a very new science and the estimates are often contradictory and are, thus, deemed unreliable. As an approximation of carbon storage amounts, live-tree biomass is used as the more biomass contained in the regions forests will mean that more carbon is stored since carbon is a large component of that biomass by weight. Forestry Stakeholders were not present at Working Group Meeting #2, therefore the indicators were not discussed.
Number of bird species	Reflects the extent of forested habitats	Number of survey blocks where four high-quality forest habitat indicator species were observed during the most recent NYS Breeding Bird Atlas Survey period (2000-2005) as reported in the NYNHP Nature Explorer database	New York State Breeding Bird Atlas 2000-2005	54-289-428-358	This indicator reflects environmental sustainability issues, as it is an index for how diverse and healthy the ecosysems which serve as bird habitat are. The Breeding Bird Atlas is not tracked yearly, however the study is planned to be repeated in the next decade, which will allow for comparison. Forestry Stakeholders were not present at Working Group Meeting #2, therefore the indicators were not discussed.
Invasive Species Index	Reflects the level of risk to forest resources of potential damage from disease, pests, or other invasive species	Sum of index values for each species in region Index Value for a species = 1 + .5 x (the number of counties where it is is present in the region, other than the first county) Example: Species A is present in 4 counties Species A index value = 1 + (.5x3) = 2.5	New York Invasive Species Clearinghouse (NYIS)	Index Value of 8.5	This indicator reflects sustainability of forest resources by quantifying biological threats to the ecosystem. The observation data is updated regularly, and since it is an area of great concern (with large risks like the Emerald Ash Borer), it can be expected to be a strong and reliable data source. The index was created to allow for one number to represent both the presence of a species within the region, and how widespread it is. Forestry Stakeholders were not present at Working Group Meeting #2, therefore the indicators were not discussed.

Climate Change Adaptation Indicators

ADAPTATION
POTENTIAL INDICATORS

Indicator	Description	Calculation	Data Required	Data Availability	General Notes
Reduction in number of reported customers with power outages	Indicates trend in effectiveness of adaptation/resiliency activities	(Previous Year reported customer power outages) - (Current Year reported customer power outages)	FEMA reporting	FEMA, regional utilities	NYSERDA ClimAID
Reduction in energy expenditures (by sector and fuel type)	Indicates trend in effectiveness of adaptation/resiliency activities	(Previous Year Energy Expenditures) - (Current Year energy expenditures)	US Census, local utilities	Regional utilities	NYSERDA ClimAID
Increase in total cash receipts for crops and livestock	Indicates trend in effectiveness of adaptation/resiliency activities	(Current Year Agricultural Receipts) - (Previous Year Agricultural Receipts)	NYS Department of Agriculture	Required reporting at State level	NYSERDA ClimAID
Reduction in highway infrastructure landslide repair	Indicates trend in effectiveness of adaptation/resiliency activities	(Previous Year Landslide Highway Repair Costs) - (Current Year Landslide Highway Repair Costs)	County level - Multi-Hazard Mitigation Plans	Town/village/municipalty reporting	Yates County Hazard Mitigation Plan
Reduction in Total Debris (in tons) per hurricane	Indicates trend in effectiveness of adaptation/resiliency activities	(Previous Year Hurricane Debris) - (Current Year Hurricane Debris)	County level - Multi-Hazard Mitigation Plans	Town/village/municipalty reporting	NYS Hazard Mitigation Plan
Reduction in landslide incidences	Indicates trend in effectiveness of adaptation/resiliency activities	(Previous Year Landslide Incidences) - (Current Year Landslide Incidences)	County level - Multi-Hazard Mitigation Plans	Town/village/municipalty reporting	Yates County Hazard Mitigation Plan
Reduction in Storm damage assessment	Indicates trend in effectiveness of adaptation/resiliency activities	(Previous Year Storm Damage) - (Current Year Storm Damage)	County level - Multi-Hazard Mitigation Plans	Required reporting at town/village/municipality level	Monroe County Hazard Mitigation Plan
Reduction on Repetitive Loss Properties from Floods, Hurricanes, Earthquakes	Indicates trend in effectiveness of adaptation/resiliency activities	(Previous Year Repetitive Losses) - (Current Year Repetitive Losses)	NYS Hazard Mitigation Plan, Office of Emergency Management	Required reporting at State level	NYS Hazard Mitigation Plan
System Average Interruption Frequency Index	Represents current vulnerability of electricity users to disruptions	(Total number of customer interuptions)/(total number of customers served)	Customer interruptions, total customers	Regional utilities	Not required Primary Indicator
Flood zones- economic value of property vulnerable to floods/storm surges	Potential economic impact of damage from climate change	Economic value of property in affected region	FEMA flood Insurance Rate Maps, with assessed value of property	Town/village assessor, federal	Not required Primary Indicator
Reduction in Miles of transport routes, electric circuits, rail and other critical infrastructure threatened by floods/sea level rise in next 50/100 years	Insight into potential vulnerabilities of infrastructure	Proximity analysis using GIS data, with risk review	NY State GIS maps, flood probability maps	NY State	Not required Primary Indicator
Discussion of climate change and adaptation in Hazard Mitigation Plans	Indicates awareness of climate change in hazard risk analysis	No calculation needed; NYSERDA Indicator 7C, p. 15	County level - Multi-Hazard Mitigation Plans	0 out of 9 plans (Note: No information on Ontario County Plan)	Not required Primary Indicator
Flood zones - communities participating in NFIP Community Rating System	Voluntary incentive program, demonstrates awareness of risk	No calculation needed	FEMA reporting		Not required Primary Indicator
Reduction in Number of Sanitary and Combined Sewer Overflows	Impacts of climate change - increased precipitation	No calculation needed	Local reporting or annual DEC reporting	By municipality, region, state	Not required Primary Indicator
Reduction in Agricultural economic losses attributable to temperature, drought, flooding	Indicates vulnerability of agriculture sector to climate change impacts	Summation of agriculture economic losses as covered by agriculture insurance (losses due to temp+drought+flooding)	Total annual agriculture economic loss as covered by agriculture insurance programs	NYS Dept of Agriculture & Markets, USDA National Agriculture Statistics	Secondary Indicator
Percentage of regional water supply governed by "rule curves" (where rule curves are graphs of water levels used to regulate water level to manage demand for navigation levels, reliable water supply, and critical habitats)	Indicates vulnerability of transportation, health and livability, and ecosystems health to climate change impacts	(Number of waterways governed by rule curves)/total water supply sources	Inventory of water supply sources, specific waterways governed by rules curves	NYS Dept of environ Conservation, NY State Thruway Authority Canal Corporation	Secondary Indicator
Reduction in Number of people living in floodplains	Indicates vulnerability of current population	Census estimate of population in floodplains	US Census (detailed), USGS land-use data, FEMA floodplains, Estimate of future flood ranges		Secondary Indicator
Reduction in Insurance premium rates or Number of flood insurance claims	Indication of existing vulnerability	No calculation needed	NY Property Insurance Underwriting Association		Secondary Indicator
Increase in Number of cooling center and ozone action programs	Provision of regional services for vulnerable populations	No calculation needed	Number of public regional centers to provide refuge during heat waves; existence of program to alert residents to high ozone levels	Possibly at village/town level	Secondary Indicator
Increased Proportion of land conserved to total land	Indicates vulnerability of an area to climate change impacts	(Area of conserved land)/total land	NYS Dept of Environ Conserv, NYS Office of Parks Recreation, and Historic Preservation, local assessors office for "conserved land" area	Village/town/city, county, state	Variant of Secondary indicator
Reduction in # of residents put at risk from loss of at least one critical infrastructure services for more than 1 day per year	Measure of improved resiliency from extreme events	(Previous year number of incidents or expenditures)-(Current year number of incidents or expenditures)	Electricity grid reliability (SAIFI and CAIDI), Water mains breaks, Transportation (highway emergency repairs, flight delays, ice jam incidents)	Utility (electricity, water) required reporting; county or region transportation expenditures	Variant of Secondary indicator

ADAPTATION

NYSERDA Indicator Evaluation

	Evaluation Criteria (Weight)					
Indicator	**Consistent with NYSERDA Guidance (3)**	**Consistent with Regional Performance Measure (1)**	**Favored by Stakeholder Group (2)**	**Data Availability (2)**	**Summary Score**	**General Notes**
Reduction in number of reported customers with power outages	0	2	5	3	18	
Reduction in energy expenditures (by sector and fuel type)	0	2	5	2	16	
Increase in total cash receipts for crops and livestock	0	2	5	3	18	
Reduction in highway infrastructure landslide repair	0	2	2	1	8	
Reduction in Total Debris (in tons) per hurricane	0	2	2	1	8	
Reduction in landslide incidences	0	2	2	1	8	
Reduction in Storm damage assessment	0	2	2	3	12	
Reduction on Repetitive Loss Properties from Floods, Hurricanes, Earthquakes	0	2	2	3	12	
System Average Interruption Frequency Index	6	1	5	3	35	
Flood zones- economic value of property vulnerable to floods/storm surges	6	1	2	3	29	
Reduction in Miles of transport routes, electric circuits, rail and other critical infrastructure threatened by floods/sea level rise in next 50/100 years	6	1	2	3	29	
Discussion of climate change and adaptation in Hazard Mitigation Plans	6	1	4	3	33	
Flood zones - communities participating in NFIP Community Rating System	6	1	2	3	29	
Reduction in Number of Sanitary and Combined Sewer Overflows	6	1	3	3	31	
Reduction in Agricultural economic losses attributable to temperature, drought, flooding	5	1	5	3	32	
Percentage of regional water supply governed by "rule curves" (where rule curves are graphs of water levels used to regulate water level to manage demand for navigation levels, reliable water supply, and critical habitats)	5	1	2	3	26	
Reduction in Number of people living in floodplains	5	1	2	3	26	
Reduction in Insurance premium rates or Number of flood insurance claims	5	1	2	3	26	
Increase in Number of cooling center and ozone action programs	5	1	2	3	26	
Increased Proportion of land conserved to total land	1	1	5	3	20	
Reduction in # of residents put at risk from loss of at least one critical infrastructure services for more than 1 day per year					0	

ADAPTATION

Place-Sourced Indicator Evaluation

	Evaluation Criteria											
Indicator	**Enrichment of 5 Capitals: Natural**	**Enrichment of 5 Capitals: Built /Manufactured**	**Enrichment of 5 Capitals: Social**	**Enrichment of 5 Capitals: Human**	**Enrichment of 5 Capitals: Financial**	**Diversity**	**Resiliency**	**Life cycle cost and benefit**	**Region's ability to leverage its unique Story of Place - Innovation "Accelerator"**	**Favored by Stakeholder Group**	**Summary Score**	**General Notes**
Reduction in number of reported customers with power outages		1	1		1		1	1		5	10	
Reduction in energy expenditures (by sector and fuel type)		1	1		1		1	1		5	10	
Increase in total cash receipts for crops and livestock	1	1	1		1		1	1		5	11	
Reduction in highway infrastructure landslide repair	1	1			1		1	1		2	7	
Reduction in Total Debris (in tons) per hurricane	1	1	1		1		1	1		2	8	
Reduction in landslide incidences	1	1	1		1		1	1		2	8	
Reduction in Storm damage assessment	1	1	1		1		1	1		2	8	
Reduction on Repetitive Loss Properties from Floods, Hurricanes, Earthquakes	1	1	1		1		1	1		2	8	
System Average Interruption Frequency Index		1			1		1	1		5	9	
Flood zones- economic value of property vulnerable to floods/storm surges					1		1	1		2	5	
Reduction in Miles of transport routes, electric circuits, rail and other critical infrastructure threatened by floods/sea level rise in next 50/100 years		1	1		1		1	1		2	7	
Discussion of climate change and adaptation in Hazard Mitigation Plans				1	1		1			4	7	
Flood zones - communities participating in NFIP Community Rating System			1		1		1	1		2	6	
Reduction in Number of Sanitary and Combined Sewer Overflows	1		1		1		1	1		3	8	
Reduction in Agricultural economic losses attributable to temperature, drought, flooding	1	1	1		1		1	1		5	11	
Percentage of regional water supply governed by "rule curves" (where rule curves are graphs of water levels used to regulate water level to manage demand for navigation levels, reliable water supply, and critical habitats)					1					2	3	
Reduction in Number of people living in floodplains	1	1	1		1		1	1		2	8	
Reduction in Insurance premium rates or Number of flood insurance claims			1		1		1	1		2	6	
Increase in Number of cooling center and ozone action programs			1				1			2	4	
Increased Proportion of land conserved to total land	1					1	1			5	8	
Reduction in # of residents put at risk from loss of at least one critical infrastructure services for more than 1 day per year		1	1	1	1		1	1	1	5	12	

ADAPTATION
Recommended INDICATORS

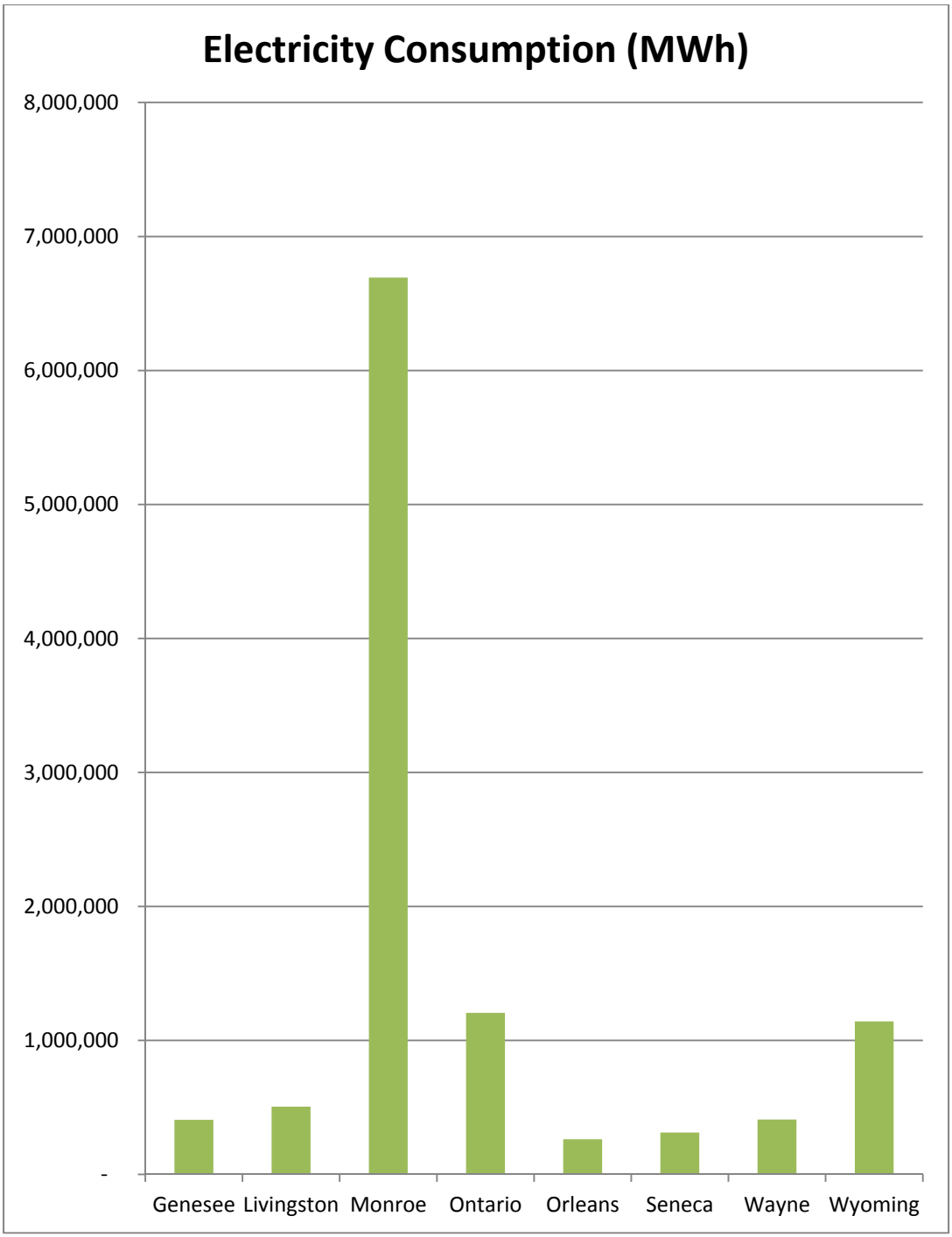
NYSERDA Indicators	Description	Calculation	Data Required/Source	Baseline Value (2010)	General Notes
Discussion of climate change and adaptation in Hazard Mitigation Plans	Indicates awareness of climate change in hazard risk analysis	No calculation needed; NYSERDA Indicator 7C, p. 15	County level - Multi-Hazard Mitigation Plans	0 out of 9 plans (Note: No information on Ontario County Plan)	
Place-Sourced Indicators	**Description**	**Calculation**	**Data Required/Source**	**Baseline Value (2010)**	**General Notes**
Reduction in Agricultural economic losses attributable to temperature, drought, flooding	Indicates vulnerability of agriculture sector to climate change impacts	Annualized Loss % = (Damage Totals (Crops)/Years) / Total State Cash Receipts (Crops)	Total annual agriculture economic loss as covered by agriculture insurance programs	Currently not available at county/regional level	Each farm reports data on direct losses or a loss factor to the state. The finer grained information isn't readily available from NY State Agrigulture Dept. or USDA, but should be requested to make a baseline from each county, and aggregated to a regional indicator.
	Example: Agriculture losses From hail (2007) by county	Annualized Loss % = (Damage Totals (Crops)/Years) / Total State Cash Receipts (Crops)	NY State Hazard Mitigation Plan, Table 3-41; $1.1 M USD		
	Example: NY State payments for Supplemental and Ad Hoc Disaster Assistance	x = Percentage of Supplemental and Adhoc Disaster Assistance / Net Farm Income	USDA Economic Research Services; 1) Farm Income and Wealth 2) Percentage of Supplemental and Adhoc Disaster Assistance, http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics.aspx#27428; $3.4 M, 15% of farm net income		
Reduction in # of residents put at risk from loss of at least one critical infrastructure services for more than 1 day per year	Number of residents experiencing loss of electricity, water and/or transportation services (as calculated from: 1) Electricity grid reliability (SAIFI and CAIDI), 2) Water mains breaks, 3) Transportation emergency repairs/incidents)	SAIFI (System Average Interruption Frequency Index)= (total number of customer interruptions/total number of customers served)		Currently not available at county/regional level	Currently only tracked at state level, each utility has individual reporting. Typically reported to Public Service Comission (PDC). Should be collected at county level - potential data sources:
		CAIDI (Customer Average Interruption Duration Index) = (sum of all customer interruption durations/total number of customer interruptions)			Electric - http://nyssmartgrid.com/wp-content/uploads/2012/09/reliability-study.pdf
		Water main breaks per 100 miles of piping			Water - e.g Monroe County (http://www.mcwa.com/AboutMCWA/HowWeMeasureUp.aspx); Should add #customers without water service; should add duration of water service interuption
		Estimated highway infrastructure and landslide repair (total road miles, est road miles in steep areas, estimated per mile repair)			Transportation - e.g. Yates County Hazard Mitigation Plan, Section 5, p. 23, Table 5-14 (http://www.yatescounty.org/upload/12/4148.pdf) and GTC TransAlert notices; Should be collected at town/county level; should add #residents affected; should add duration of transportation service interruption

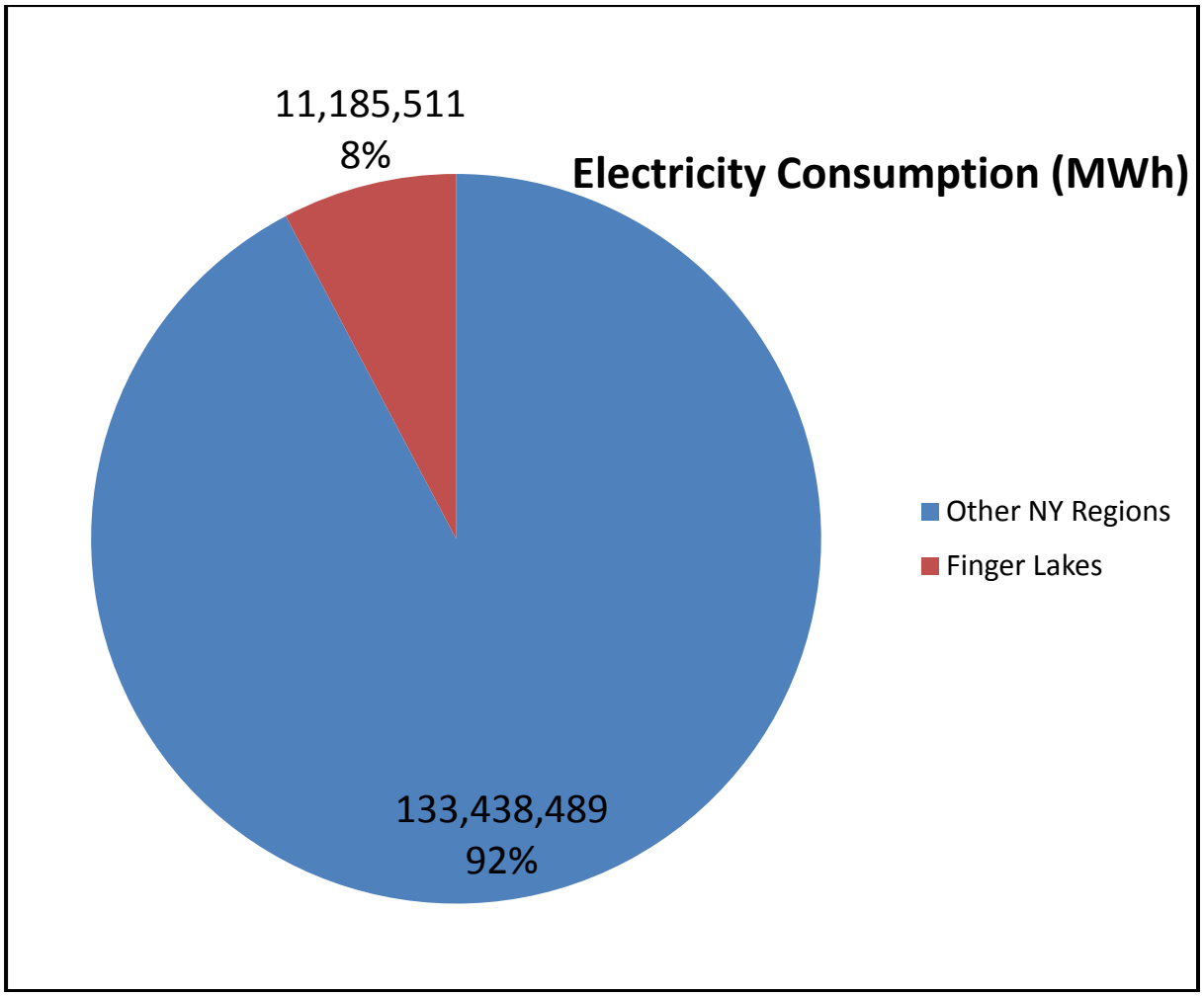
APPENDIX D: BASELINE ASSESSMENT DOCUMENTATION

Energy Baseline

Population*		% of State	% of Region
New York State	**19,378,102**		
Finger Lakes	1,217,156	6.28%	
Genesee	60,079	0.31%	4.94%
Livingston	65,393	0.34%	5.37%
Monroe	744,344	3.84%	61.15%
Ontario	107,931	0.56%	8.87%
Orleans	42,883	0.22%	3.52%
Seneca	35,251	0.18%	2.90%
Wayne	93,772	0.48%	7.70%
Wyoming	42,155	0.22%	3.46%
Yates	25,348	0.13%	2.08%

*US Census 2010


Electricity Consumption (MWh)
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
-
Genesee
Livingston
Monroe
Ontario
Orleans
Seneca
Wayne
Wyoming


11,185,511
8%
Electricity Consumption (MWh)
Other NY Regions
Finger Lakes
133,438,489
92%

Electricity Consumption Vs. Generation

Total kwh consumption estimate for Finger Lakes in 2010:	**11,185,511**
Total kwh consumption + Grid Loss estimate for Finger Lakes in 2010:	**11,836,507**
Total kwh generated in Finger Lakes in 2010:	**7,001,975**
Total estimated kwh imported into Finger Lakes in 2010:	**4,834,532**

Electricity Consumption and Customers

		Volume energy sales 2010 (kwh)					# of customers 2010
Provider	**County**	**Residential**	**Commercial**	**Industrial**	**Government**	**Total**	**Residential**
Village of Arcade	Wyoming	68,617,745	36,486,374	39,475,674	2,512,183	147,091,976	3,557
Village of Castile	Wyoming						
Village of Bergen	Genesee	7,616,770	4,087,114	22,107,914	653,638	34,465,436	563
Village of Fairport	Monroe	254,889,442	93,804,678	90,676,300	2,025,646	441,396,066	15,436
Village of Holley	Orleans	10,485,841	1,826,610	17,768,464	1,020,111	31,101,026	810
Village of Silver Spings	Wyoming	3,145,045	235,975	1,970,206	253,689	5,604,915	376
Village of Spencerport	Monroe	42,112,017	5,378,243	16,812,026	2,378,939	66,681,225	2,397
Village of Churchville	Monroe	11,298,347	10,639,970	0	280,102	22,218,419	854
Village of Penn Yan	Yates	32,047,754	8,166,264	45,414,835	863,750	86,492,603	2,582
Total Municiple Providers, all counties		430,212,961	160,625,228	234,225,419	9,988,058	835,051,666	23,138
Rochester Gas and Electric	Livingston	50,832,655	24,323,528	29,523,024	37,644,077	142,323,284	
	Monroe	2,120,470,476	2,201,240,978	1,166,309,147	416,534,326	5,904,554,927	
	Ontario	271,383,882	278,766,988	176,855,223	47,468,757	774,474,850	
	Wayne	237,146,057	114,669,282	84,414,541	34,055,556	470,285,436	
	Wyoming	13,444,202	2,651,642	0	1,965,826	18,061,670	
Total RG&E, all counties (in territory)		2,693,277,272	**2,621,652,418**	**1,457,101,935**	**537,668,542**	**7,309,700,167**	
NYSEG	Livingston	61,626,262	24,666,025	7,740,495	6,257,131	100,289,913	
	Ontario	143,867,270	114,390,863	99,291,014	35,435,242	392,984,389	
	Seneca	140,345,742	86,677,737	44,069,175	41,201,993	312,294,647	
	Wayne	166,519,609	77,444,850	122,666,233	34,608,420	401,239,112	
	Wyoming	96,655,844	48,165,547	34,181,254	15,805,282	194,807,927	
	Yates	107,070,512	22,874,998	25,484,308	5,770,652	161,200,470	
Total NYSEG, all counties (in territory)		716,085,239	**374,220,020**	**333,432,479**	**139,078,720**	**1,562,816,458**	
		SC1	SC2	SC3		TOTAL	
National Grid	Genesee	163,894,162	88,248,254	120,793,163		372,935,579	
	Livingston	109,624,606	44,139,013	108,929,739		262,693,358	
	Monroe	140,579,723	45,606,822	72,598,043		258,784,588	
	Ontario	29,405,242	4,966,163	4,341,497		38,712,902	
	Orleans	119,787,376	39,015,817	72,091,655		230,894,848	
	Wyoming	20,801,182	8,903,147	14,265,104		43,969,433	
Total National Grid, all counties (in territory)		584,092,291	**230,879,216**	**393,019,201**	**-**	**1,207,990,708**	-

**National Grid data provided by rate class. Sector breakdown assumed is SC1=residential, SC2=Commercial and Government, SC3=Industrial.

Total Data Provided	Genesee	171,510,932	92,335,368	142,901,077	653,638	407,401,015	
	Livingston	222,083,523	93,128,566	146,193,258	43,901,208	505,306,555	
	Monroe	2,569,350,005	2,356,670,691	1,346,395,516	421,219,013	6,693,635,225	
	Ontario	444,656,394	398,124,014	280,487,734	82,903,999	1,206,172,141	
	Orleans	130,273,217	40,842,427	89,860,119	1,020,111	261,995,874	
	Seneca	140,345,742	86,677,737	44,069,175	41,201,993	312,294,647	
	Wyoming	202,664,018	96,442,685	89,892,238	20,536,980	409,535,921	
	Wayne	403,665,666	356,211,838	299,521,456	82,077,177	1,141,476,137	
	Yates	139,118,266	31,041,262	70,899,143	6,634,402	247,693,073	
Total Provided Data		**4,423,667,763**	**3,551,474,588**	**2,510,219,716**	**700,148,521**	**11,185,510,588**	
	check	**4,423,667,763**					

	Residential	Commercial (and Government)	Industrial	Total
Total of Provided Data	4,423,667,763	4,251,623,109	2,510,219,716	11,185,510,588
% by Sector	40%	38%	22%	

OLD METHOD

Total County and Regional Electricity Consumption, GHG Inventory Protocol Alternative Method (As provided by J. Yienger, Sept 2012) and Tier I Estimates

	County	Residential	Commercial	Industrial	Total From GHG Inventory Protocol Alternative Method	TRC Tier I Regional GHG Inventory Estimate (April 2012)
	Genesee	189,000,982	226,010,724	48,083,385	463,095,090	594,155,393
	Orleans	136,413,669	111,356,575	23,690,916	271,461,160	424,094,371
	Monroe	2,316,112,000	4,143,534,738	881,529,740	7,341,176,478	7,453,217,532
	Wayne	306,955,214	317,787,022	67,608,631	692,350,867	938,951,767
	Wyoming	137,681,814	174,324,813	37,087,298	349,093,925	416,894,765
	Livingston	199,613,215	286,114,798	60,870,421	546,598,433	646,708,561
	Ontario	350,464,844	580,299,070	123,457,608	1,054,221,522	1,080,727,757
	Yates	102,017,856	107,353,386	22,839,244	232,210,487	310,490,029
	Seneca	117,680,164	364,741,719	77,598,160	560,020,044	431,792,805
Total based on alternative allocation method		**3,855,939,757**	**6,311,522,845**	**1,342,765,404**	**11,510,228,006**	**12,297,032,981**

Combined Data

Data source and assumptions	County	Residential	Commercial (and Government)	Industrial		Total	
100% Territory covered by Data Provided by Utilities	**Genesee**	171,510,932	92,989,006	142,901,077		407,401,015	
100% Territory covered by Data Provided by Utilities	**Orleans**	130,273,217	41,862,538	89,860,119		261,995,874	
GHG Inventory Protocol Alternative Method	**Monroe**	2,316,112,000	4,143,534,738	881,529,740		7,341,176,478	
GHG Inventory Protocol Alternative Method	**Wayne**	306,955,214	317,787,022	67,608,631		692,350,867	
Industrial data from Data Provided by Utilities, others from GHG Inventory Protocol Alternative Method	**Wyoming**	137,681,814	174,324,813	89,892,238		401,898,865	
Industrial data from Data Provided by Utilities, others from GHG Inventory Protocol Alternative Method	**Livingston**	199,613,215	286,114,798	146,193,258		631,921,271	
GHG Inventory Protocol Alternative Method	**Ontario**	350,464,844	580,299,070	123,457,608		1,054,221,522	
Industrial data from Data Provided by Utilities, others from GHG Inventory Protocol Alternative Method	**Yates**	102,017,856	107,353,386	70,899,143		280,270,385	
GHG Inventory Protocol Alternative Method	**Seneca**	117,680,164	364,741,719	77,598,160		560,020,044	
Total Estimated Regional Electricity Consumption		**3,832,309,255**	**6,109,007,091**	**1,689,939,975**		**11,631,256,320**	

Village of Arcade

Residential (601)			Commercial (602a)			Commercial (602b)			Industrial (603)			Government (604)			Government (605)			Government (606a)			Government (606b)			Government (607)			Government (608)			Government (610)		
Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh
January	3,549	8,194,404	January	248	191,053	January	249	2,976,561	January	16	3,494,914	January	4	38,653	January	8	17,640	January	11	1,968	January	10	122,544	January	6	847	January	2	1,760	January	23	49,838
February	3,553	9,809,145	February	250	216,676	February	249	3,297,299	February	16	4,083,422	February	4	38,653	February	8	17,640	February	11	2,944	February	10	146,383	February	6	847	February	2	1,015	February	23	49,907
March	3,561	10,156,751	March	250	232,692	March	249	3,418,106	March	15	4,301,792	March	4	38,617	March	8	17,640	March	11	3,476	March	10	149,881	March	6	847	March	2	2,760	March	23	49,894
April	3,562	7,422,783	April	249	173,976	April	249	2,790,911	April	16	3,409,312	April	4	38,617	April	8	17,640	April	11	2,620	April	10	111,006	April	6	847	April	2	2,935	April	23	49,788
May	3,562	5,850,093	May	249	144,149	May	249	2,901,795	May	16	3,402,680	May	4	38,617	May	8	17,438	May	11	1,768	May	10	99,639	May	6	847	May	2	1,620	May	23	49,598
June	3,552	4,293,241	June	249	108,379	June	249	2,732,222	June	16	3,117,655	June	11	38,617	June	20	17,438	June	11	1,990	June	10	90,865	June	6	847	June	3	2,176	June	23	49,598
July	3,556	3,293,905	July	249	99,775	July	251	2,652,251	July	16	2,840,711	July	11	28,617	July	20	17,438	July	11	1,961	July	10	66,177	July	6	847	July	3	2,843	July	23	49,542
August	3,550	3,387,930	August	250	104,977	August	250	2,694,622	August	15	2,689,911	August	11	38,617	August	20	17,438	August	11	2,789	August	10	65,645	August	6	847	August	3	2,504	August	23	49,907
September	3,555	3,181,087	September	249	103,391	September	250	2,921,025	September	16	2,880,909	September	11	38,523	September	20	17,438	September	11	1,499	September	10	67,003	September	6	847	September	3	3,524	September	23	49,821
October	3,561	3,457,716	October	250	104,911	October	249	2,737,352	October	16	2,880,371	October	11	38,476	October	20	17,438	October	11	1,402	October	10	65,509	October	6	847	October	3	2,388	October	23	49,747
November	3,554	4,056,759	November	249	106,078	November	248	2,648,985	November	15	2,988,108	November	11	38,476	November	20	17,438	November	11	3,716	November	10	87,435	November	6	847	November	3	4,554	November	23	49,711
December	3,564	5,513,931	December	249	135,881	December	248	2,993,307	December	16	3,385,889	December	11	38,476	December	20	17,438	December	11	2,617	December	10	110,913	December	6	847	December	3	1,968	December	23	49,848
Total	**3,557**	**68,617,745**	**Total**	**249**	**1,721,938**	**Total**	**249**	**34,764,436**	**Total**	**16**	**39,475,674**	**Total**	**8**	**452,959**	**Total**	**15**	**210,064**	**Total**	**11**	**28,750**	**Total**	**10**	**1,183,000**	**Total**	**6**	**10,164**	**Total**	**3**	**30,047**	**Total**	**23**	**597,199**

2010 kwh hours				2010 Customer Accounts			
Residential	Commercial	Industrial	Government	Residential	Commercial	Industrial	Government
68,617,745	36,486,374	39,475,674	2,512,183	3,557	498	16	76

Source:
Jan 2010-May 2010: Municipal Electric Utilities Annual Report of the Village ofArcade year ended May 31, 2010
June 2010-December 2010: Municipal Electric Utilities Annual Report of the Village of of Arcade year ended May 31,2011
Provided by Paul Darmetko Jr., Utility Engineer, NYSDPS - Tariffs, Electric Supply and Small Utility Section (paul.darmetko@dps.ny.gov)

Village of Bergen

Residential (601)			Commercial (602)			Industrial (603)			Government (604)			Government (606)			Government (610)		
Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh
January	563	1,070,988	January	82	412,450	January	3	343,916	January	0	62,652	January	14	62,652	January	0	3,459
February	562	897,011	February	81	364,900	February	3	336,632	February	0	52,666	February	14	52,666	February	0	3,459
March	562	707,322	March	81	351,295	March	3	334,314	March	0	39,821	March	14	39,821	March	0	3,459
April	562	478,744	April	82	300,809	April	3	420,820	April	0	24,510	April	14	24,510	April	0	3,459
May	562	472,522	May	82	319,628	May	3	641,832	May	0	21,339	May	12	21,339	May	0	3,459
June	562	423,955	June	82	316,023	June	3	2,486,400	June	1	8,245	June	10	7,616	June	1	3,459
July	563	510,123	July	81	356,484	July	3	2,671,200	July	1	8,245	July	10	10,330	July	1	3,459
August	564	509,651	August	81	387,903	August	3	4,533,600	August	1	8,245	August	10	14,825	August	1	3,459
September	564	407,379	September	81	311,494	September	3	4,456,800	September	1	8,245	September	10	11,617	September	1	3,459
October	564	446,049	October	81	277,517	October	3	2,869,200	October	1	8,245	October	10	19,199	October	1	3,459
November	564	744,148	November	84	332,331	November	3	2,670,000	November	1	8,245	November	10	19,199	November	1	3,459
December	564	948,878	December	83	356,280	December	3	343,200	December	1	8,245	December	10	69,653	December	1	3,459
Total	**563**	**7,616,770**	**Total**	**82**	**4,087,114**	**Total**	**3**	**22,107,914**	**Total**	**1**	**258,703**	**Total**	**12**	**353,427**	**Total**	**1**	**41,508**

2010 kwh hours				2010 Customer Accounts			
Residential	Commercial	Industrial	Government	Residential	Commercial	Industrial	Government
7,616,770	4,087,114	22,107,914	653,638	563	82	3	12

Source:
Jan 2010-May 2010: Municipal Electric Utilities Annual Report of the Village of Bergen year ended May 31, 2010
June 2010-December 2010: Municipal Electric Utilities Annual Report of the Village of of Bergen year ended May 31,2011
Provided by Paul Darmetko Jr., Utility Engineer, NYSDPS - Tariffs, Electric Supply and Small Utility Section (paul.darmetko@dps.ny.gov)

Village of Castile

Residential (601)			Commercial (602)			Industrial (603)			Government (604)			Government (606)			Government (610)		
Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh
January			January			January			January			January			January		
February			February			February			February			February			February		
March			March			March			March			March			March		
April			April			April			April			April			April		
May			May			May			May			May			May		
June			June			June			June			June			June		
July			July			July			July			July			July		
August			August			August			August			August			August		
September			September			September			September			September			September		
October			October			October			October			October			October		
November			November			November			November			November			November		
December			December			December			December			December			December		
Total	#DIV/0!	-	Total	#DIV/0!	-	Total	#DIV/0!	-	Total	#DIV/0!	-	Total	#DIV/0!	-	Total	#DIV/0!	-

2010 kwh hours				2010 Customer Accounts			
Residential	Commercial	Industrial	Government	Residential	Commercial	Industrial	Government
-	-	-	-	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Source:
Jan 2010-May 2010: Municipal Electric Utilities Annual Report of the Village of Castile year ended May 31, 2010
June 2010-December 2010: Municipal Electric Utilities Annual Report of the Village of of Castile year ended May 31,2011
Provided by Paul Darmetko Jr., Utility Engineer, NYSDPS - Tariffs, Electric Supply and Small Utility Section (paul.darmetko@dps.ny.gov)

Village of Churchville

Residential (601)			Commercial (602)			Commercial (602.1)			Government (604)			Government (606)			Government (607)			Government (610)		
Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh
January	849	1,375,863	January	59	63,383	January	28	760,309	January	8	16,421	January	7	15,569	January	1		January	3	
February	852	1,421,375	February	59	72,408	February	28	939,558	February	8	15,241	February	7	14,739	February	1		February	3	
March	851	998,707	March	59	55,738	March	27	790,205	March	8	12,646	March	8	11,192	March	1		March	7	44
April	851	838,399	April	60	49,090	April	27	791,411	April	8	12,450	April	8	9,584	April	1		April	7	
May	852	685,536	May	60	44,523	May	27	791,705	May	8	10,514	May	8	7,551	May	1		May	7	
June	853	669,798	June	61	43,976	June	27	774,485	June	8	9,430	June	8	6,762	June	1		June	7	
July	854	901,992	July	61	51,565	July	27	801,835	July	8	9,647	July	8	6,841	July	1		July	7	
August	854	859,423	August	61	49,113	August	27	904,620	August	8	10,366	August	8	4,510	August	1		August	7	
September	856	721,970	September	61	44,553	September	27	815,205	September	8	12,100	September	8	10,027	September	1		September	7	
October	858	667,675	October	61	44,059	October	27	841,607	October	8	13,222	October	8	7,328	October	1		October	7	
November	858	847,705	November	61	49,828	November	27	943,971	November	8	16,200	November	7	8,638	November	1		November	7	
December	859	1,309,904	December	61	64,598	December	27	852,225	December	8	27,067	December	7	12,057	December	1		December	7	
Total	854	11,298,347	Total	60	632,834	Total	27	10,007,136	Total	8	165,304	Total	8	114,798	Total	1	-	Total	6	44

2010 kwh hours				2010 Customer Accounts			
Residential	Commercial	Industrial	Government	Residential	Commercial	Industrial	Government
11,298,347	10,639,970		280,102	854	88	27	16

Source:
January 2010-February 2010: Municipal Electric Utilities Annual Report of the Village of Churchville year ended February 28, 2010
March 2010-December 2010: Municipal Electric Utilities Annual Report of the Village of of Chuchville year ended February 28,2011
Provided by Paul Darmetko Jr., Utility Engineer, NYSDPS - Tariffs, Electric Supply and Small Utility Section (paul.darmetko@dps.ny.gov)

Village of Fairport

Residential (601)			Commercial (602.0)			Commercial (602.1)			Industrial (603)			Government (604)			Government (605)			Government (605.1)			Government (606)			Government (606.1)			Government (606.2)			Government (610)		
Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	customers	kWh	Month	customers	kWh	Month	customers	kWh	Month	customers	kWh	Month	customers	kWh	Month	customers	kWh
January	15,234	31,964,980	January	1,192	3,173,365	January	135	6,352,647	January	15	7,094,360	January	6	79,101	January	26	17,249	January	20	24,930	January	16	49,523	January	2	71,440	January	2	145	January	12	13,510
February	15,218	30,385,017	February	1,190	3,086,314	February	135	6,615,377	February	15	7,410,540	February	6	75,789	February	26	16,875	February	20	24,930	February	16	42,088	February	2	65,440	February	2	145	February	12	13,380
March	15,232	27,849,255	March	1,189	2,825,165	March	134	6,023,462	March	15	7,003,680	March	6	72,419	March	26	16,816	March	20	24,930	March	16	36,346	March	2	60,480	March	2	145	March	12	13,410
April	15,250	19,990,113	April	1,193	2,302,005	April	134	5,683,627	April	15	7,251,880	April	6	71,889	April	26	16,658	April	20	24,930	April	16	34,208	April	2	42,240	April	2	145	April	12	13,310
May	15,286	16,496,735	May	1,198	1,921,496	May	127	4,704,698	May	15	6,998,820	May	6	69,927	May	27	17,157	May	20	24,930	May	16	23,138	May	2	27,000	May	2	145	May	12	13,310
June	15,280	15,662,955	June	1,194	1,998,262	June	128	5,109,062	June	15	7,679,520	June	6	68,531	June	27	16,757	June	20	24,930	June	16	25,685	June	2	32,160	June	2	145	June	12	13,310
July	15,309	18,444,275	July	1,189	2,107,176	July	128	5,299,655	July	15	8,235,880	July	6	69,821	July	27	16,790	July	20	24,930	July	16	28,470	July	2	24,880	July	2	145	July	12	13,310
August	15,321	21,265,581	August	1,195	2,227,362	August	129	5,314,900	August	15	7,987,980	August	6	68,084	August	27	16,815	August	20	24,930	August	16	33,456	August	2	40,360	August	2	145	August	12	13,310
September	16,294	18,524,919	September	1,194	2,094,477	September	130	5,061,892	September	15	8,078,400	September	6	68,766	September	27	16,855	September	20	24,930	September	16	29,921	September	2	35,400	September	2	145	September	12	13,340
October	16,305	15,141,282	October	1,193	1,920,944	October	128	5,012,425	October	15	8,085,480	October	6	70,907	October	27	17,249	October	20	24,930	October	16	27,218	October	2	28,600	October	2	145	October	12	13,340
November	15,277	16,391,565	November	1,192	1,971,635	November	128	4,936,759	November	15	7,451,300	November	6	72,644	November	27	17,193	November	20	24,930	November	16	27,436	November	2	31,480	November	2	145	November	12	13,340
December	15,225	22,772,765	December	1,193	2,454,234	December	128	5,607,739	December	15	7,398,460	December	6	73,379	December	27	17,765	December	21	24,995	December	16	36,326	December	2	39,600	December	2	145	December	12	13,295
Total	**15,436**	**254,889,442**	**Total**	**1,193**	**28,082,435**	**Total**	**130**	**65,722,243**	**Total**	**15**	**90,676,300**	**Total**	**6**	**861,257**	**Total**	**27**	**204,179**	**Total**	**20**	**299,225**	**Total**	**16**	**393,815**	**Total**	**2**	**499,080**	**Total**	**2**	**1,740**	**Total**	**12**	**160,165**

2009-2010 kwh hours				2009-2010 Customer Accounts			
Residential	Commercial	Industrial	Government	Residential	Commercial	Industrial	Government
254,889,442	93,804,678	90,676,300	2,025,646	15,436	1,323	15	85

Source:
January 2010-February 2010: Municipal Electric Utilities Annual Report of the Village of Churchville year ended February 28, 2010
March 2010-December 2010: Municipal Electric Utilities Annual Report of the Village of of Chuchville year ended February 28,2011
Provided by Paul Darmetko Jr., Utility Engineer, NYSDPS - Tariffs, Electric Supply and Small Utility Section (paul.darmetko@dps.ny.gov)

Village of Holley

Residential (601)			Commercial (601.1)			Commercial (602)			Commercial (602.1)			Industrial (603)			Government (605)			Government (606)			Government (607)			Government (610)			Government (610.1)		
Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh
January	806	1,427,635	January	20	28,396	January	101	182,925	January	4	765	January	32	1,504,228	January	1	28,396	January	22	85,668	January	1	300	January	23	1,898	January	1	65
February	807	1,628,999	February	20	41,372	February	101	215,076	February	4	1,158	February	32	1,962,884	February	1	41,372	February	22	90,382	February	1	300	February	23	1,898	February	1	65
March	811	794,494	March	20	21,703	March	100	118,878	March	4	463	March	32	1,075,635	March	1	21,703	March	22	50,426	March	1	300	March	21	1,768	March	1	65
April	807	802,849	April	20	20,792	April	100	127,985	April	4	360	April	32	1,271,990	April	1	20,792	April	22	53,130	April	1	300	April	21	1,768	April	1	65
May	806	624,143	May	20	16,015	May	100	102,434	May	4	373	May	32	1,523,432	May	1	16,015	May	22	41,830	May	1	300	May	21	1,768	May	1	65
June	812	617,386	June	20	14,094	June	100	107,394	June	4	366	June	32	1,351,765	June	1	85,999	June	22	42,290	June	1	300	June	21	1,768	June	1	65
July	808	691,491	July	20	16,268	July	101	111,163	July	4	377	July	37	1,347,741	July	1	12,189	July	22	43,026	July	1	300	July	21	1,768	July	1	65
August	816	664,504	August	20	16,296	August	102	111,163	August	4	405	August	33	1,356,780	August	1	2,463	August	22	46,439	August	1	300	August	21	1,768	August	1	65
September	806	684,773	September	20	15,641	September	101	115,073	September	4	437	September	33	1,570,560	September	1	29,507	September	22	49,887	September	1	300	September	21	1,768	September	1	65
October	821	574,327	October	20	13,989	October	101	99,954	October	4	449	October	33	1,653,467	October	1	22,404	October	22	44,593	October	1	300	October	21	1,768	October	1	65
November	807	846,020	November	20	21,604	November	101	125,577	November	4	479	November	33	1,652,202	November	1	18,898	November	22	51,026	November	1	300	November	21	1,768	November	1	65
December	811	1,129,220	December	20	31,763	December	102	145,044	December	4	379	December	32	1,497,780	December	1	24,810	December	22	71,010	December	1	300	December	21	1,768	December	1	65
Total	**810**	**10,485,841**	**Total**	**20**	**257,933**	**Total**	**101**	**1,562,666**	**Total**	**4**	**6,011**	**Total**	**33**	**17,768,464**	**Total**	**1**	**324,548**	**Total**	**22**	**669,707**	**Total**	**1**	**3,600**	**Total**	**21**	**21,476**	**Total**	**1**	**780**

2010 kwh hours				2010 Customer Accounts			
Residential	Commercial	Industrial	Government	Residential	Commercial	Industrial	Government
10,485,841	1,826,610	17,768,464	1,020,111	810	125	33	46

Source:
Jan 2010-May 2010: Municipal Electric Utilities Annual Report of the Village of Holley year ended 5-31-2010
June 2010-December 2010: Municipal Electric Utilities Annual Report of the Village of of Holley year ended 5-31-2011
Provided by Paul Darmetko Jr., Utility Engineer, NYSDPS - Tariffs, Electric Supply and Small Utility Section (paul.darmetko@dps.ny.gov)

Village of Penn Yan

Residential (601)			Commercial (602)			Industrial (603)			Government (604)			Government (606)			Government (610)		
Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh
January	2,579	4,753,692	January	361	872,805	January	64	3,663,452	January	0	51,747	January	27	106,306	January	0	5,440
February	2,588	3,879,787	February	366	741,155	February	64	3,990,067	February	0	43,973	February	27	93,268	February	0	4,805
March	2,592	3,702,749	March	364	723,051	March	64	3,384,937	March	0	38,789	March	27	67,868	March	0	4,927
April	2,592	2,582,589	April	362	611,092	April	64	3,722,470	April	0	36,936	April	27	48,823	April	0	3,608
May	2,575	1,833,750	May	362	515,777	May	64	3,468,819	May	0	31,207	May	27	41,584	May	0	3,107
June	2,590	1,845,514	June	392	623,441	June	66	3,947,951	June	1	27,200	June			June	0	5,341
July	2,585	2,035,397	July	386	718,107	July	66	3,857,747	July	1	27,190	July			July	0	5,296
August	2,573	2,020,700	August	386	735,181	August	66	4,137,855	August	1	30,604	August			August	0	4,275
September	2,571	1,843,359	September	385	661,563	September	66	3,933,464	September	1	36,139	September			September	0	5,296
October	2,572	1,798,263	October	387	619,393	October	66	3,885,240	October	1	36,685	October			October	0	5,330
November	2,578	2,365,495	November	387	611,004	November	66	3,812,044	November	1	39,710	November			November	0	5,296
December	2,586	3,386,459	December	387	733,695	December	66	3,610,789	December	1	47,704	December			December	0	5,296
Total	**2,582**	**32,047,754**	**Total**	**377**	**8,166,264**	**Total**	**65**	**45,414,835**	**Total**	**1**	**447,884**	**Total**	**27**	**357,849**	**Total**	**0**	**58,017**

2010 kwh hours				2010 Customer Accounts			
Residential	Commercial	Industrial	Government	Residential	Commercial	Industrial	Government
32,047,754	8,166,264	45,414,835	863,750	2,582	377	65	28

Source:
Jan 2010-May 2010: Municipal Electric Utilities Annual Report of the Village of Pann Yan year ended May 31, 2010
June 2010-December 2010: Municipal Electric Utilities Annual Report of the Village of of Penn Yan year ended May 31,2011
Provided by Paul Darmetko Jr., Utility Engineer, NYSDPS - Tariffs, Electric Supply and Small Utility Section (paul.darmetko@dps.ny.gov)

Village of Silver Springs

Residential (601)			Commercial (602)			Industrial (603)			Government (604)			Government (606)			Government (610)		
Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh
January	376	366,221	January	40	21,415	January	20	192,936	January	6	14,716	January	8	8,369	January	6	1,056
February	377	420,749	February	41	37,364	February	20	175,425	February	6	16,615	February	8	10,605	February	6	1,251
March	379	247,059	March	39	17,801	March	20	133,641	March	6	12,090	March	8	8,251	March	6	853
April	382	238,500	April	38	17,709	April	20	139,642	April	6	12,008	April	9	8,123	April	5	901
May	378	223,191	May	41	16,832	May	20	142,722	May	6	9,925	May	9	7,573	May	5	709
June	377	207,641	June	41	17,534	June	20	182,246	June	6	9,173	June	9	7,431	June	5	685
July	377	251,345	July	41	19,934	July	20	204,168	July	4	9,021	July	8	8,064	July	8	637
August	377	249,083	August	41	18,313	August	20	200,569	August	6	10,112	August	8	7,365	August	6	758
September	374	196,813	September	41	14,579	September	19	158,709	September	6	10,659	September	8	6,513	September	6	768
October	373	236,051	October	42	17,283	October	19	146,351	October	6	12,574	October	7	7,250	October	6	865
November	371	244,822	November	42	17,908	November	18	143,193	November	6	16,187	November	7	7,664	November	6	1,142
December	370	263,570	December	42	19,303	December	19	150,604	December	6	14,790	December	6	7,811	December	6	1,175
Total	**376**	**3,145,045**	**Total**	**41**	**235,975**	**Total**	**20**	**1,970,206**	**Total**	**6**	**147,870**	**Total**	**8**	**95,019**	**Total**	**6**	**10,800**

2010 kwh hours				2010 Customer Accounts			
Residential	Commercial	Industrial	Government	Residential	Commercial	Industrial	Government
3,145,045	235,975	1,970,206	253,689.00	376	41	20	20

Source:
Jan 2010-May 2010: Municipal Electric Utilities Annual Report of the Village of of Silver Springs year ended May 31, 2010
June 2010-December 2010: Municipal Electric Utilities Annual Report of the Village of of Silver Springs year ended May 31, 2011
Provided by Paul Darmetko Jr., Utility Engineer, NYSDPS - Tariffs, Electric Supply and Small Utility Section (paul.darmetko@dps.ny.gov)

Village of Spencerport

Residential (601)			Residential (601.1)			Residential (601.2)			Commercial (602)			Commercial (602.1)			Commercial (602.2)			Industrial (603)			Industrial (603.1)			Government (604)			Government (606)			Government (610)		
Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh	Month	Customers	kWh
January	1,482	4,044,905	January	804	1,842,946	January	98	244,455	January	229	519,429	January	48	102,424	January	2	675	January	58	1,213,516	January	4	366,266	January	4	366,266	January	18	62,152	January	54	19,140
February	1,485	3,397,228	February	805	1,528,397	February	98	209,588	February	230	534,485	February	48	112,870	February	2	606	February	58	1,335,296	February	4	430,558	February	4	430,558	February	19	69,671	February	54	19,140
March	1,486	2,983,792	March	804	1,309,279	March	98	171,488	March	260	380,977	March	48	83,487	March	2	648	March	58	987,449	March	4	316,477	March	4	316,477	March	19	50,358	March	54	19,140
April	1,492	2,095,947	April	812	1,079,758	April	98	158,839	April	229	349,552	April	48	75,715	April	2	278	April	59	1,007,700	April	4	286,340	April	4	286,340	April	18	27,170	April	54	19,140
May	1,490	1,604,620	May	809	785,917	May	98	111,283	May	226	296,693	May	48	64,283	May	2	119	May	58	920,252	May	4	265,371	May	4	265,371	May	18	13,904	May	54	19,140
June	1,487	1,499,883	June	805	860,035	June	98	130,714	June	228	327,308	June	48	75,940	June	2	659	June	57	985,117	June	4	379,275	June	4	15,989	June	18	12,620	June	38	18,980
July	1,498	1,603,193	July	812	894,777	July	98	139,114	July	229	336,715	July	48	76,929	July	2	971	July	57	880,287	July	4	266,110	July	4	14,497	July	18	13,467	July	38	18,980
August	1,491	1,777,530	August	812	1,006,880	August	98	138,542	August	231	360,510	August	50	84,710	August	2	844	August	58	1,060,166	August	4	283,583	August	4	16,746	August	18	16,038	August	38	18,980
September	1,495	1,806,404	September	815	1,031,157	September	98	139,317	September	227	306,702	September	48	71,659	September	2	996	September	58	1,051,917	September	4	237,357	September	4	18,169	September	18	12,832	September	38	18,980
October	1,492	1,348,806	October	808	654,424	October	98	105,344	October	231	268,813	October	51	63,053	October	2	89	October	58	1,125,062	October	4	249,548	October	4	20,738	October	18	13,009	October	38	18,980
November	1,493	1,815,316	November	813	901,733	November	98	124,211	November	231	299,034	November	50	64,137	November	2	104	November	58	1,157,962	November	4	284,667	November	4	23,653	November	18	20,629	November	38	18,980
December	1,491	3,011,897	December	806	1,373,885	December	98	180,413	December	228	427,338	December	50	89,163	December	2	328	December	58	1,394,252	December	4	327,498	December	4	23,991	December	18	39,734	December	38	18,980
Total	**1,490**	**26,989,521**	**Total**	**809**	**13,269,188**	**Total**	**98**	**1,853,308**	**Total**	**232**	**4,407,556**	**Total**	**49**	**964,370**	**Total**	**2**	**6,317**	**Total**	**58**	**13,118,976**	**Total**	**4**	**3,693,050**	**Total**	**4**	**1,798,795**	**Total**	**18**	**351,584**	**Total**	**45**	**228,560**

2010 kwh hours				2010 Customer Accounts			
Residential	Commercial	Industrial	Government	Residential	Commercial	Industrial	Government
42,112,017	5,378,243	16,812,026	2,378,939.00	2,397	282	129	348

Source:
Jan 2010-May 2010: Municipal Electric Utilities Annual Report of the Village of Spencerport Year Ended May 31, 2010
June 2010-December 2010: Municipal Electric Utilities Annual Report of the Village of Spencerport Year Ended May 31, 2011
Provided by Paul Darmetko Jr., Utility Engineer, NYSDPS - Tariffs, Electric Supply and Small Utility Section (paul.darmetko@dps.ny.gov)

Transportation Baseline

2A Required Indicator - Transportation
Total Percentage of People Commuting Via Walking, Biking, Transit and Carpooling

County	# of Total Workers 16+ Years Old	# Car, Truck or Van - Drive Alone	% Drive Alone	# Car, Truck or Van - Carpool	% Carpool	Public Transport	% Public Transport	Taxicab	% Taxicab	Motorcycle	% Motorcycle	Bicycle	% Bicycle	Walked	% Walked	Other means	% Other	Worked at Home	% Worked at Home	Total % Check	Total % Commuting via Walking, Biking, Transit, Carpool
Genesee	29,211	24,779	85%	2,435	8%	91	0%	0	0%	65	0%	220	1%	774	3%	159	1%	688	2%	100.00%	12%
Livingston	30,213	24,145	80%	2,683	9%	117	0%	0	0%	56	0%	38	0%	2,011	7%	196	1%	967	3%	100.00%	16%
Monroe	341,622	278,122	81%	27,201	8%	9,304	3%	332	0%	723	0%	1,757	1%	11,409	3%	1,791	1%	10,983	3%	100.00%	15%
Ontario	52,608	42,906	82%	4,768	9%	229	0%	0	0%	65	0%	123	0%	1,921	4%	246	0%	2,350	4%	100.00%	13%
Orleans	18,124	15,175	84%	1,797	10%	100	1%	0	0%	6	0%	60	0%	364	2%	179	1%	443	2%	100.00%	13%
Seneca	15,139	12,462	82%	1,370	9%	96	1%	0	0%	59	0%	2	0%	517	3%	106	1%	527	3%	100.00%	13%
Wayne	44,426	36,672	83%	4,518	10%	219	0%	0	0%	111	0%	71	0%	1,281	3%	243	1%	1,311	3%	100.00%	14%
Wyoming	18,017	14,343	80%	2,051	11%	68	0%	0	0%	58	0%	32	0%	796	4%	91	1%	578	3%	100.00%	16%
Yates	11,182	7,999	72%	1,129	10%	57	1%	7	0%	29	0%	125	1%	795	7%	48	0%	993	9%	100.00%	19%
			81%		9%		1%						0%		4%				**Average Region =**		**15%**

National values shown for reference only:

National	139,255,035	105,840,717	76%	14,418,306	10%	6,872,730	5%	163,870	0%	305,097	0%	716,535	1%	########	3%	########	1%	5,759,724	4%	100.00%	**19%**

B08301: MEANS OF TRANSPORTATION TO WORK - Universe: Workers 16 years and over
2006-2010 American Community Survey 5-Year Estimates

As per step by step instructions noted in Common sustainability Indicator Document (page 6)
1-year or 3-year estimate not available for all 9 counties

B08301: MEANS OF TRANSPORTATION TO WORK - Universe: Workers 16 years and over
2006-2010 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, for 2010, the 2010 Census provides the official counts of the population and housing units for the nation, states, counties, cities and towns. For 2006 to 2009, the Population Estimates Program provides intercensal estimates of the population for the nation, states, and counties.

	United States	
	Estimate	Margin of
Total:	139,255,03	+/-120,716
Car, truck, or van:	120,259,02	+/-146,799
Drove alone	105,840,71	+/-113,013
Carpooled:	14,418,306	+/-48,726
In 2-person carpool	11,115,428	+/-37,380
In 3-person carpool	1,932,331	+/-16,127
In 4-person carpool	719,778	+/-7,656
In 5- or 6-person carpool	365,337	+/-5,963
In 7-or-more-person carpool	285,432	+/-5,531
Public transportation (excluding taxicab):	6,872,730	+/-18,857
Bus or trolley bus	3,704,841	+/-18,781
Streetcar or trolley car (carro publico in	89,707	+/-2,375
Subway or elevated	2,294,294	+/-9,573
Railroad	744,223	+/-6,676
Ferryboat	39,665	+/-1,416
Taxicab	163,870	+/-3,001
Motorcycle	305,097	+/-4,675
Bicycle	716,535	+/-7,080
Walked	3,962,070	+/-17,751
Other means	1,215,986	+/-13,285
Worked at home	5,759,724	+/-19,688

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

Workers include members of the Armed Forces and civilians who were at work last week.

While the 2006-2010 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2006-2010 American Community Survey

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

B08301: MEANS OF TRANSPORTATION TO WORK - Universe: Workers 16 years and over
2006-2010 American Community Survey 5-Year Estimates

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	Genesee County, New		Livingston County, New		Monroe County, New		Ontario County, New		Orleans County, New		Seneca County, New		Wayne County, New		Wyoming County, New		Yates County, New	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Total:	29,211	+/-602	30,213	+/-675	341,622	+/-2,274	52,608	+/-792	18,124	+/-544	15,139	+/-480	44,426	+/-829	18,017	+/-436	11,182	+/-389
Car, truck, or van:	27,214	+/-564	26,828	+/-734	305,323	+/-2,505	47,674	+/-916	16,972	+/-567	13,832	+/-516	41,190	+/-888	16,394	+/-413	9,128	+/-386
Drove alone	24,779	+/-603	24,145	+/-726	278,122	+/-2,588	42,906	+/-949	15,175	+/-506	12,462	+/-505	36,672	+/-820	14,343	+/-407	7,999	+/-364
Carpooled:	2,435	+/-313	2,683	+/-317	27,201	+/-1,461	4,768	+/-473	1,797	+/-291	1,370	+/-214	4,518	+/-528	2,051	+/-235	1,129	+/-170
In 2-person carpool	2,033	+/-277	2,198	+/-291	22,783	+/-1,203	3,725	+/-394	1,495	+/-248	1,128	+/-196	3,880	+/-462	1,665	+/-225	803	+/-148
In 3-person carpool	301	+/-164	255	+/-74	2,627	+/-378	631	+/-163	246	+/-123	164	+/-83	382	+/-179	284	+/-79	154	+/-56
In 4-person carpool	85	+/-41	115	+/-70	580	+/-199	293	+/-233	31	+/-26	29	+/-22	124	+/-72	63	+/-33	63	+/-39
In 5- or 6-person carpool	0	+/-123	62	+/-55	721	+/-473	44	+/-37	25	+/-33	37	+/-24	106	+/-63	23	+/-28	89	+/-56
In 7-or-more-person carpool	16	+/-17	53	+/-42	490	+/-145	75	+/-52	0	+/-123	12	+/-19	26	+/-24	16	+/-17	20	+/-30
Public transportation (excluding taxicab):	91	+/-42	117	+/-63	9,304	+/-665	229	+/-93	100	+/-74	96	+/-54	219	+/-82	68	+/-26	57	+/-56
Bus or trolley bus	80	+/-41	103	+/-59	9,029	+/-686	208	+/-83	100	+/-74	96	+/-54	201	+/-77	63	+/-23	49	+/-54
Streetcar or trolley car (carro publico in	0	+/-123	0	+/-123	17	+/-35	0	+/-123	0	+/-123	0	+/-123	0	+/-123	0	+/-123	0	+/-123
Subway or elevated	11	+/-12	0	+/-123	236	+/-117	4	+/-7	0	+/-123	0	+/-123	18	+/-27	5	+/-9	8	+/-14
Railroad	0	+/-123	14	+/-23	12	+/-18	17	+/-29	0	+/-123	0	+/-123	0	+/-123	0	+/-123	0	+/-123
Ferryboat	0	+/-123	0	+/-123	10	+/-15	0	+/-123	0	+/-123	0	+/-123	0	+/-123	0	+/-123	0	+/-123
Taxicab	0	+/-123	0	+/-123	332	+/-148	0	+/-123	0	+/-123	0	+/-123	0	+/-123	0	+/-123	7	+/-12
Motorcycle	65	+/-58	56	+/-32	723	+/-210	65	+/-42	6	+/-6	59	+/-41	111	+/-60	58	+/-39	29	+/-25
Bicycle	220	+/-83	38	+/-29	1,757	+/-271	123	+/-78	60	+/-43	2	+/-4	71	+/-40	32	+/-23	125	+/-55
Walked	774	+/-163	2,011	+/-310	11,409	+/-769	1,921	+/-350	364	+/-112	517	+/-117	1,281	+/-241	796	+/-181	795	+/-224
Other means	159	+/-73	196	+/-108	1,791	+/-262	246	+/-105	179	+/-97	106	+/-72	243	+/-105	91	+/-40	48	+/-36
Worked at home	688	+/-174	967	+/-171	10,983	+/-649	2,350	+/-311	443	+/-119	527	+/-96	1,311	+/-224	578	+/-115	993	+/-199

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS

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Workers include members of the Armed Forces and civilians who were at work last week.

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Source: U.S. Census Bureau, 2006-2010 American Community Survey

Explanation of Symbols:

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7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.

2A Required Indicator - Transportation
Annual Vehicle Miles Traveled per Capita

From GHG Inventory:

Regional Total VMT	11,857,221,614	(Annual)
Regional Population	1,217,156	(2010 US Census)

Annual Vehicle Miles Traveled per Capita	**9,742**

Place-Sourced Indicator
2D Secondary Indicator - Transportation
Annual Transportation Energy Consumption per capita

From GHG Inventory (Transportation tabs):

Source	MMBtu/year
On Road	75,702,989
Rail	1,421,751
Marine	218,101
Aircraft	660,343
Non Road	10,835,100
Total	88,838,285
Regional Population	1,217,156

Conversion factor between MMBtu & gallons of gasoline

0.115 MMBtu/gallon gasoline equivalent

Annual Trans Energy Consumption per Capita	**73 MMBtu/capita/year**	**Annual Trans Energy Consumption per Capita**	**635 Gal gasoline/capita/year**
Annual Trans Energy Consumption per Capita (without non-road)	**64 MMBtu/capita/year**	**Annual Trans Energy Consumption per Capita (without non-road)**	**557 Gal gasoline/capita/year**
Annual Trans Energy Consumption per Capita (on-road only)	**62 MMBtu/capita/year**	**Annual Trans Energy Consumption per Capita (on-road only)**	**541 Gal gasoline/capita/year**

Additional information not used for indicator calculations (shown for reference only):

MMBtu/yr by fuel type & mode

	Fuel Type	Finger Lakes NY Annual Energy Consumption (MMBtu/yr)
	Gasoline (E-10)	65,172,504
	Diesel	10,530,485
On-Road	**Total**	**75,702,989**
	Coal	**Finger Lakes NY Annual Energy Consumption (MMBtu/yr)**
	Diesel	1,421,471
	Coal	280
	Electric	0
Rail	**Total**	**1,421,751**
	Fuel Type	**Finger Lakes NY Annual Energy Consumption (MMBtu/yr)**
	Diesel	0
	Residual Fuel Oil	218,101
Marine	**Total**	**218,101**
	Fuel Type	**Finger Lakes Annual Energy Consumption (MMBtu/yr)**
Aircraft	Kerosene Type Jet Fuel	660,343
	Fuel Type	**Finger Lakes NY Annual Energy Consumption (MMBtu/yr)**
	CNG	109,221
	Diesel	5,483,974
	Gasoline	3,924,838
	LPG	1,317,066
Non-road	**Total**	**10,835,100**

Gallons (or other measure)/yr by fuel type & mode & County, if available

	On-Road		Rail		Marine	Aircraft	Non-Road			
County	**Gasoline (E-10) (gal/yr)**	**Diesel (gal/yr)**	**Diesel (gal/yr)**	**Coal (short tons/yr)**	**Residual Fuel Oil (gal/yr)**	**Kerosene Type Jet Fuel (gal/yr)**	**CNG (scf/yr)**	**Diesel (gal/yr)**	**Gasoline (gal/yr)**	**LPG (gal/yr)**
Genesee	50,662,921	9,898,785	2,684,250		-	193,221				
Livingston	36,455,573	7,558,611	263,433		-	129,800				
Monroe	292,565,755	34,642,728	3,715,410		818,129	4,286,001				
Ontario	65,159,817	10,420,809	101,171			47,780				
Orleans	13,721,828	2,160,107	17,965		635,878	14,459				
Seneca	21,306,120	3,747,411	58,215		-	27,932				
Wayne	33,547,789	3,205,061	2,742,210		-	54,549				
Wyoming	16,524,384	2,613,390	611,480	11	-	35,818				
Yates	9,117,053	2,060,963	106,382		-	101,868				
Finger Lakes NY Total	**539,061,239**	**76,307,865**	**10,300,516**	**11**	**1,454,007**	**4,891,428**	**106,246,482**	**39,738,943**	**31,398,706**	**14,315,938**

Units & Conversions Fact Sheet

Massachusetts Institute of Technology

Derek Supple, MIT Energy Club
http://web.mit.edu/mit_energy
Latest Update: 4/15/2007

Prefixes

Metric

pico (p)	$= 10^{-12}$
nano (n)	$= 10^{-9}$
micro (μ)	$= 10^{-6}$
deca (da)	$= 10^{1}$
kilo (k)	$= 10^{3}$
mega (M)	$= 10^{6}$
giga (G)	$= 10^{9}$
tera (T)	$= 10^{12}$
peta (P)	$= 10^{15}$
exa (E)	$= 10^{18}$
zetta (Z)	$= 10^{21}$

Roman

m	$= 10^{3}$
mm	$= 10^{6}$
quad	$= 10^{15}$

Mass

1 kg = 2.205 lb
1 lb = 453.6 g = 16oz
1 metric tonne = 1,000kg = 2,205lb
1 US short ton = 907kg = 2,000lb
1 UK long ton = 1,016kg = 2,239lb

Temperature

°F = 1.8 • °C + 32
°K = (°F – 32) • 5/9 + 273.15

Time

3,600 sec/hour 730 hour/month
365.25 day/year 8,766 hour/year
31,536,000 sec/year

Fuel Economy

1mpg = 0.4251 km/L
mpg = 235.2/ L/100 km

Distance

1 cm = 0.4 in
1 m = 3.281 ft = 1.094 yd
1 km = 0.62137 mi = 199 rod
1 mi = 1.609km
1 smoot = 1.702 m = 5.83 ft

Area

1 m^2 = 10.765 ft^2
1 km^2 = 0.386 mi^2 = 10^6 m^2
1 ha = 10^4 m^2 = .01 km^2 = 2.47 ac
1 mi^2 = 2.6 km^2 = 640 ac
1 ac = 4,047 m^2 = 43,560 ft^2

Pressure

1MPa = 10bar = 9.87atm = 145psi
1atm = 1.0132 bar = 760 mmHg
= 14.696 psi = 10.33 ton/m^3

Volume

1 L = 0.264 gal = 1000 cm^3 (ml)
1 m^3 = 1000 L = 35.3 ft^3 = 264 gal
1 gal = 3.785 L = 4 qt = 16 c = 128 oz
1 ft^3 = cf = 28.32 L = 7.482 gal
1 bbl = 42 U.S. gal = 159 L = 5.6 ft^3
1 cord = 128 ft^3 = 3.62 m^3
1 ac-ft = 43560 ft^3 = 325,851 gal
1 km^3 = 0.24 mi^3 = 810,713 acre-ft
1 bu = 4 pck = 8 gal = 35.2 L = 2,150 in^3

Flow Rates

1mbd = 1 Mbbl/day = 15.34 Ggal/yr
= 694.4 bbl/min = 11.57 bbl/sec
= 485.9 gal/sec
1 ft^3/s = 641 bbl/hr = 449 gal/min (gpm)
1 bbl oil/day ≈ 50 metric ton oil/yr
1 gpm = 0.063 L/s = 0.00442 ac-ft/day

Energy Unit Conversion

1 J = 1 Nm = 1 kgm^2/s^2 = 0.239 cal = 0.74 ft-lb
1 Cal = 1 kcal = 1000 cal = 4.187 KJ = 3.968 Btu
1 KJ = 0.239 Cal = 0.947817 Btu ≈ 0.95 Btu
1 Btu = 1,055.056 J = 0.252 kcal
1 kWh = 3.6 MJ = 3,412 Btu; (1MWh = 3.6 GJ = 3.412 mmBtu)
1 mmBtu = 10^6 Btu = 1.055 GJ = 1 decatherm
1 mcf nat. gas (LHV) = 10.27 therm = 1.027 mmBtu = 1.082 GJ
1 toe = 41.868 GJ = 39.683 mmBtu = 11.63 MWh = 7.33bbl
1 tce = 29.308 GJ = 27.778 mmBtu = 8.141 MWh
1 Quad = 10^{15} Btu = 1.055 EJ = 293 TWh = 25.2 Mtoe=.974 TCF
1 EJ = 10^9 GJ = 10^{18} J = .95 Quad
1 TWyr = 31.5 EJ = 29.86 Quad

Energy Content (*Lower Heating Values*) (ton = metric tonne)

Crude Oil = 6.119 GJ/bbl = 5.8 mmBtu/bbl = 39.7 mmBtu/ton
= 145.7 MJ/gal = 38.5 MJ/L = 43.8 MJ/kg (GJ/ton)
Gasoline = 121.3 MJ/gal (= 32.1 MJ/L = 43.1 MJ/kg = 115 mBtu/gal)
Diesel = 135.5 MJ/gal (= 35.8 MJ/L = 42.8 MJ/kg = 128 mBtu/gal)
Biodiesel = 124.8 MJ/gal (= 33.0 MJ/L = 37.5 MJ/kg = 121 mBtu/gal)
Ethanol = 80.2 MJ/gal (= 21.2 MJ/L = 26.9 MJ/kg = 76 mBtu/gal)
Methanol = 60.4 MJ/gal (= 15.9 MJ/L = 20.1 MJ/kg = 57 mBtu/gal)
UN Standard Coal = 30 GJ/ton
Bituminous = 27-30 GJ/ton (MJ/kg) = 25-28 mmBtu/ton
Sub-Bitum. = 20-26 GJ/ton (MJ/kg) = 19-24 mmBtu/ton
Lignite = 10-19 GJ/ton (MJ/kg) = 9-18 mmBtu/ton
Nat Gas @ STP = 53.2 MJ/kg = 38.2 MJ/m^3 = 1027 Btu/ft^3
CNG @ 20 MPa = 50.0 MJ/kg = 9.3 MJ/L = 249.6 mBtu/ft^3
H_2 @ 35MPa (HHV) = 120.0 MJ/kg = 2.7 MJ/L = 72.5 mBtu/ft3
LPG @ 1.5 MPa = 88.1 MJ/gal = 23.3 MJ/L = 625.5 mBtu/ft3
Air-Dried Wood(20% Moisture Content) = 15 GJ/ton
Uranium = 80 GJ/g fissioned = 400 GJ/kg mined (fn'd =.5% mn'd)

Energy of Familiar Phenomena/Society

Quart of Boiling Water = 3 MJ 1 wooden match = 1 Btu
Melt 1 lb Ice = 151 kJ = 143 Btu
1-GWe Plant running 24 hrs = 260 TJ
Daily Human Metabolism = 2500 kCal/day = 120 W
Compact Passenger Car at steady 60 mph:
Chem. Energy Consumption = 70 kW = 94 hp
Mech. Energy Production = 15 kW = 20 hp
'05 US Oil Use = 20.55 Mbpd = 7.506 Gbbl/yr = 238 bbl/sec
'05 Global Oil Use = 84.37 Mbpd = 31.89 Gbbl/yr = 976.5 bbl/sec
'05 US Primary Energy Use ≈ 3.35 TW ≈ 105 EJ/yr ≈ 100 quad/yr
'05 Global ≈ 16 TW ≈ 504 EJ/yr ≈ 480 quad/yr
Solar Influx at Earth Surface ≈ 100 PW = 3.1 YJ/yr = 200 W/m^2

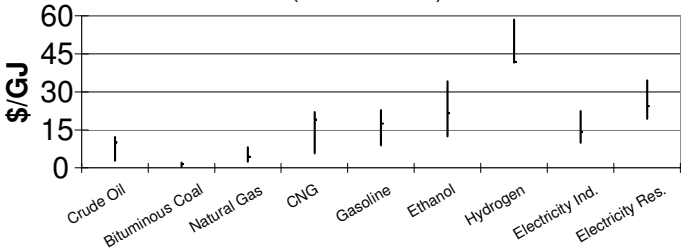
Density

Water = 1 g/cm^3 = 1 g/ml = 1 kg/L = 1 metric tonne/m^3
Air at Sea Level = 1.2 kg/m^3
Crude Oil = 0.88 (0.75 -0.98) kg/L = 7.34 lb/gal = 140 kg/bbl
Gasoline = 0.745 kg/L = 6.22 lb/gal
Diesel = 0.837 kg/L = 7.00 lb/gal; Biodiesel = 0.880 kg/L
Ethanol = 0.789 kg/L = 6.58 lb/gal
Methanol = 0.792 kg/L = 6.61 lb/gal
Nat. Gas = 0.717 kg/m^3 = 44.8 lb/mcf
CNG @ 20MPa = 0.185 kg/L = 11.5 lb/ft^3 = 5.66 lb/gge
LPG (propane) = 0.540 kg/L = 33.7 lb/ft^3
Hydrogen = 0.025 kg/L (35MPa); 0.08988 kg/m^3 (STP)
Coal ≈ 1.32 kg/L = 1230 metric ton/ha-m = 1800 sht ton/acre-foot
API Gravity = (141.5/[Density in g/cm^3 at 60 °F]) - 131.5
Light Crude API > 31.1°; Heavy API < 22.3°; Bitumen API ~ 8°

Power Unit Conversion

1 W = 1 J/s = 3.6 kJ/hour = 31.5 MJ/year
1 kW = 1.341 hp = 738ft-lb/s
1 hp = 745.7 W = 0.7068 Btu/s
1 TW = 10^{12} W = 31.5 EJ/year
1 ton-refrigeration = 12,000 Btu/hr = 200 Btu/min = 3.517 kW

Historic US Retail Prices (US2000$/GJ)



Carbon Dioxide (CO_2) Emission Factors

Note: 44/12 or 3.667 ton CO_2 emissions per ton C emissions

Natural Gas	= 121 lb/mcf	= 117.1 lb/mmBtu =	50.3 kg/GJ
Gasoline	= 19.56 lb/gal	= 156.4 lb/mmBtu =	67.2 kg/GJ
Diesel	= 22.38 lb/gal	= 161.4 lb/mmBtu =	69.4 kg/GJ
Bt. Coal	= 4,931 lb/sht ton	= 205.3 lb/mmBtu =	88.3 kg/GJ
Petrol Coke	= 32.40 lb/gal	= 225.1 lb/mmBtu =	96.8 kg/GJ
Electric US Av	= 1.34 lb/kWh	= 0.608 ton/MWh	= 168.8 kg/GJ
Coal-fired Elec	= 2.095 lb/kWh	= .95 kg/kWh	= 260 kg C/MWh

Global Warming Potential (GWP) (τ = 100yr)

CO_2 = 1 CH_4 = 23 N_2O = 296 SF_6 = 22,200
HFCs = 12 - 12,000 PFCs = 5,700 - 11,900

Rules of Thumb

- 1 Btu = 1,055 J
- 1 kWh = 3.6 MJ = 3,412 Btu
- 1 hp = 746 W
- 1 TW ≈ 30 Quad/yr ≈ 32 EJ/yr
- 23.52 mpg → 10 L/100km → 234 g TtW CO_2/km → 0.832 lb TtW CO_2/mi
- 1 gallon gasoline equivalent (gge) = 121 MJ = 115,000 Btu = 1 kg H_2 = 1.5 gal EtOH
- 1 million barrel oil per day (mbd) = 486 gal/sec = 2.2TJ/yr = 4232 metric ton C/yr
- Nat.Gas: 1 mscf = 0.2832 Nm^3 = 1.027 mmBtu = 10.27 therm
- 3.667 (44/12) ton CO_2 per ton C
- 1 Quad = 10^{15} Btu ≈ 1.05 EJ ≈ 25 Mtoe ≈ 300TWh ≈ 0.974 tcf natural gas

Sources

This sheet was compiled based on several other useful fact sheets and online resources:

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- BP plc, Statistical Review of World Energy 2006, Conversion Factors http://www.bp.com/conversionCalculator.do?&contentId=7017990&categoryId=91
- EIA AER "Other Physical Conversion Factors" http://www.eia.doe.gov/emeu/aer/pdf/pages/sec13_13.pdf
- DOE Alternative Fuels Data Center (AFDC) Fuel Properties Table http://www.eere.energy.gov/afdc/pdfs/fueltable.pdf
- Oak Ridge National Lab (ORNL) Bioenergy Program, Conversion Factor Reference http://bioenergy.ornl.gov/papers/misc/energy_conv.html
- United Nations Food and Agriculture Organization (FAO) "Regional Study on Wood Energy Today and Tomorrow" http://www.fao.org/DOCREP/W7744E/w7744e07.htm

Other Physical Property (LHV, Density, Emission Factor) Data Sources

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- EIA, Voluntary Reporting of Greenhouse Gases Program, Fuel and Energy Source Codes and Emission Coefficients http://www.eia.doe.gov/oiaf/1605/factors.html http://www.eia.doe.gov/oiaf/1605/gg97rpt/appb.html
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Historic Price Range Data Sources

- EIA (2006) Annual Energy Review 2005 and Monthly Energy Review http://www.eia.doe.gov/overview_hd.html
- EIA Petroleum Navigator http://tonto.eia.doe.gov/dnav/pet/pet_pri_top.asp
- EIA Coal News and Markets http://www.eia.doe.gov/cneaf/coal/page/coalnews/coalmar.html
- Bloomberg Energy Market Data http://www.bloomberg.com/energy/
- State of Nebraska Energy Statistics http://www.neo.state.ne.us/statshtml/66.html

Place-Sourced Indicator
Variant on 6A
% Income Spent on Transportation

	from H&T Index (shown for reference only)	Calculated from ACS & H&T data			
County	Average % of Income Spent on Transportation	**Median Household Income ***	**Average Annual Transportation Costs**	**% Income Spent on Transportation**	**Population Distribution**
Genesee	33.23%	$ 50,372.00	$ 15,311.00	30%	60,079
Livingston	31.90%	$ 52,263.00	$ 15,690.52	30%	65,393
Monroe	26.55%	$ 50,868.00	$ 12,939.42	25%	744,344
Ontario	30.94%	$ 56,390.00	$ 15,195.05	27%	107,931
Orleans	32.04%	$ 47,488.00	$ 15,765.23	33%	42,883
Seneca	35.67%	$ 47,092.00	$ 15,535.71	33%	35,251
Wayne	31.66%	$ 52,307.00	$ 15,568.07	30%	93,772
Wyoming	no data	$ 48,549.00	no data	no data	42,155
Yates	no data	$ 46,509.00	no data	no data	25,348
Average Region =	31.7%			**29.8%**	1,217,156
			Weighted regional average by population =		**25.5%**

Median household income from 2008-2010 ACS 3-year Estimate
* in past 12-months (2008-2010 ACS 3-year Estimate)
Average Annual Transportation Costs from H&T Index website

H&T Index info - *concern with this dataset is the lack of regional household income data*
http://htaindex.cnt.org
Calculated by Census group blocks
Subset of data provided as part of the H&T Affordability Index
Start with any county in the find box at the top to narrow down region
Select Transportation Costs % of Income
In the pull down menu to the right, select Summary Table of Statistics
Choose each County in the Region pull down menu
2009 ACS is main dataset

B19013: MEDIAN HOUSEHOLD INCOME IN THE PAST 12 MONTHS (IN 2010 INFLATION-ADJUSTED DOLLARS) - Universe: Households
2008-2010 American Community Survey 3-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, for 2010, the 2010 Census provides the official counts of the population and housing units for the nation, states, counties, cities and towns. For 2008 to 2009, the Population Estimates Program provides intercensal estimates of the population for the nation, states, and counties.

	Genesee County, New		Livingston County, New		Monroe County, New		Ontario County, New		Orleans County, New		Seneca County, New		Wayne County, New		Wyoming County, New		Yates County, New	
	Estimate	Margin of	Estimate	Margin of	Estimate	Margin of	Estimate	Margin of	Estimate	Margin of	Estimate	Margin of	Estimate	Margin of	Estimate	Margin of	Estimate	Margin of
Median household income in the past 12	50,372	+/-2,009	52,263	+/-1,938	50,868	+/-618	56,390	+/-2,072	47,488	+/-3,585	47,092	+/-2,430	52,307	+/-1,730	48,549	+/-2,725	46,509	+/-4,528

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

The methodology for calculating median income and median earnings changed between 2008 and 2009. Medians over $75,000 were most likely affected. The underlying income and earning distribution now uses $2,500 increments up to $250,000 for households, non-family households, families, and individuals and employs a linear interpolation method for median calculations. Before 2009 the highest income category was $200,000 for households, families and non-family households ($100,000 for individuals) and

portions of the income and earnings distribution contained intervals wider than $2,500. Those cases used a Pareto Interpolation Method.

While the 2008-2010 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2008-2010 American Community Survey

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that

data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

Place-Sourced Indicator
Freight tonnage - Truck vs Rail

As noted in *Transportation Strategies for Freight/Goods Movement in the Genesee-Finger Lakes Region - Regional Freight and Economic Profile* , Genesee Transportation Council, Table 4, Page 3-65.

Source: IHS/Global Transearch Database via NYSDOT

Truck Tonnage	203,052,000	(Annual - 2010)
Rail Tonnage	31,294,000	(Annual - 2010)

Table 4 Tons by Mode and Direction, All Commodities, 2010-2035

2010 Tons	Truck	Rail	Air	Water	Total
Inbound	33,883,000	3,490,000	41,000	14,000	**37,428,000**
Internal	14,047,000	0	0	0	**14,047,000**
Outbound	32,891,000	1,434,000	51,000	16,000	**34,392,000**
Through	122,231,000	26,370,000	849,000	17,370,000	**166,820,000**
Total	**203,052,000**	**31,294,000**	**941,000**	**17,400,000**	**252,687,000**
2015 Tons	**Truck**	**Rail**	**Air**	**Water**	**Total**
Inbound	37,232,000	3,459,000	51,000	17,000	**40,758,000**
Internal	15,549,000	0	0	0	**15,549,000**
Outbound	36,381,000	1,486,000	59,000	19,000	**37,945,000**
Through	142,115,000	29,623,000	1,025,000	19,181,000	**191,944,000**
Total	**231,277,000**	**34,568,000**	**1,135,000**	**19,217,000**	**286,197,000**
2020 Tons	**Truck**	**Rail**	**Air**	**Water**	**Total**
Inbound	40,581,000	3,428,000	61,000	19,000	**44,089,000**
Internal	17,051,000	0	0	0	**17,051,000**
Outbound	39,871,000	1,539,000	67,000	21,000	**41,498,000**
Through	161,999,000	32,876,000	1,201,000	20,993,000	**217,069,000**
Total	**259,503,000**	**37,842,000**	**1,328,000**	**21,033,000**	**319,706,000**
2025 Tons	**Truck**	**Rail**	**Air**	**Water**	**Total**
Inbound	43,930,000	3,397,000	70,000	22,000	**47,419,000**
Internal	18,553,000	0	0	0	**18,553,000**
Outbound	43,361,000	1,591,000	74,000	24,000	**45,051,000**
Through	181,883,000	36,129,000	1,377,000	22,804,000	**242,193,000**
Total	**287,728,000**	**41,116,000**	**1,522,000**	**22,850,000**	**353,216,000**
2030 Tons	**Truck**	**Rail**	**Air**	**Water**	**Total**
Inbound	47,280,000	3,366,000	80,000	24,000	**50,750,000**
Internal	20,055,000	0	0	0	**20,055,000**
Outbound	46,852,000	1,644,000	82,000	26,000	**48,603,000**
Through	201,767,000	39,381,000	1,554,000	24,616,000	**267,318,000**
Total	**315,953,000**	**44,391,000**	**1,716,000**	**24,666,000**	**386,726,000**
2035 Tons	**Truck**	**Rail**	**Air**	**Water**	**Total**
Inbound	50,629,000	3,335,000	90,000	27,000	**54,080,000**
Internal	21,557,000	0	0	0	**21,557,000**
Outbound	50,342,000	1,696,000	90,000	29,000	**52,156,000**
Through	221,651,000	42,634,000	1,730,000	26,427,000	**292,442,000**
Total	**344,179,000**	**47,665,000**	**1,909,000**	**26,483,000**	**420,236,000**

Source: IHS/Global Insight Transearch Database, via New York State Department of Transportation

Land Use Baseline

Finger Lakes Regional Sustainability Plan

Map XX-XX:

Finger Lakes Region Land Cover

December 2012 Draft

Legend

- Counties
- Municipalities
- Expressways
- Lakes and Rivers

Land Cover

- Developed
- Undeveloped

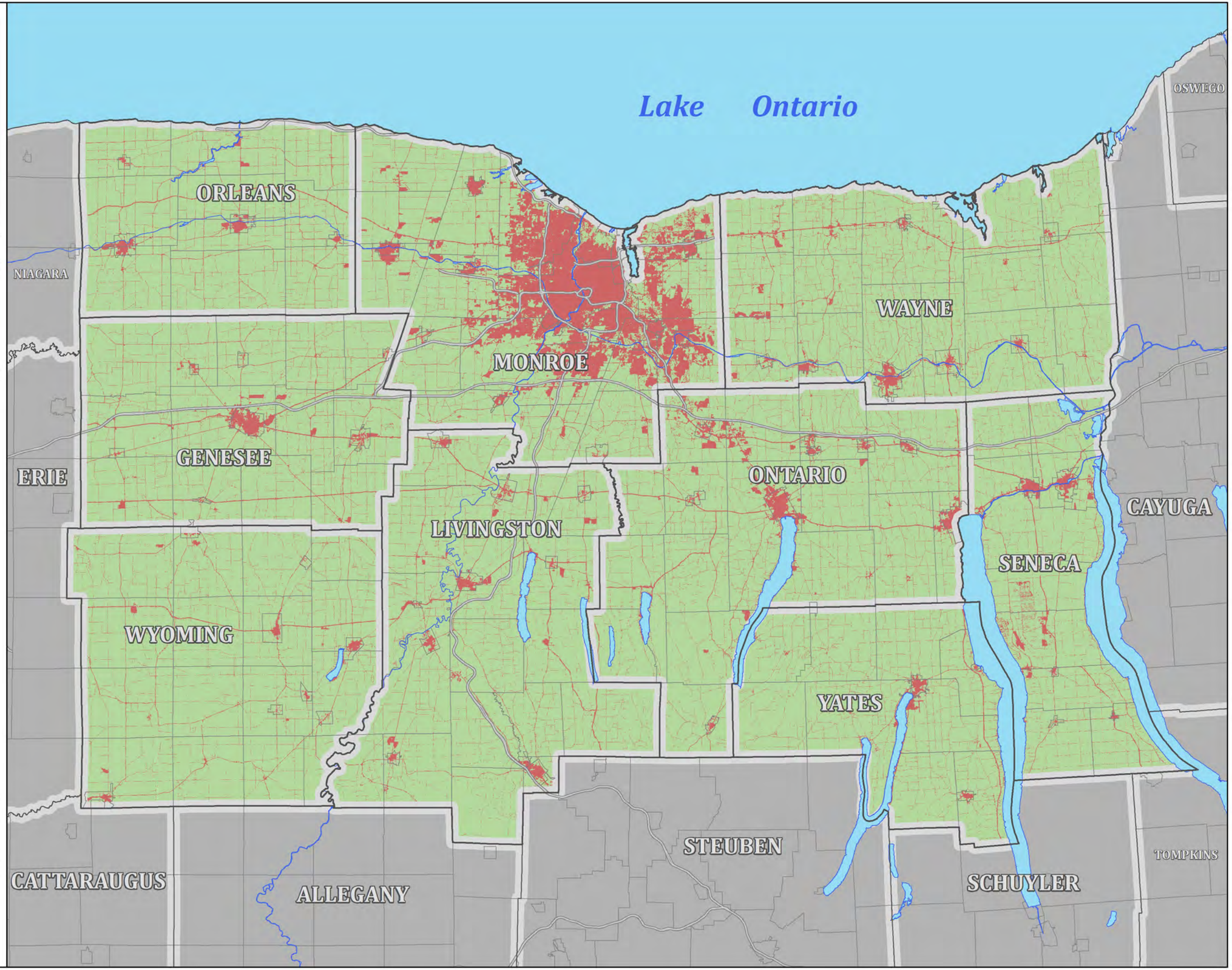
*Note: Developed land includes Developed Open Space, Developed Low Intensity, Developed Medium Intensity, and Developed High Intensity. Undeveloped land includes all other land covers.

N W E S

0 2.5 5 10 Miles

Data Sources: GTC (boundaries, hydrography, roads)
MRLC (NLCD 2006)

Map Design: C&S Companies and Wendel Companies



Indicator: 3A: Land-Use Patterns: Per Capita Land Consumption (required)

	Population	Developed Area		Per Capita Land Consumption*
Genesee	60,079	22,925	7.2%	0.38
Livingston	65,393	26,075	6.4%	0.40
Monroe	744,344	129,833	30.6%	0.17
Ontario	107,931	35,481	8.4%	0.33
Orleans	42,883	16,718	6.6%	0.39
Seneca	35,251	16,976	6.8%	0.48
Wayne	93,772	27,431	7.1%	0.29
Wyoming	42,155	17,343	4.5%	0.41
Yates	25,348	12,347	5.1%	0.49
REGION	**1,217,156**	**305,129**	**9.9%**	**0.25**

* Amount of developed area divided by population (developed acres per person)

Source: Population: US Bureau of the Census, 2010
Developed Area: Multi-Resolution Land Characteristics Consortium (MRLC)
National Land Cover Database (http://www.mrlc.gov/)

Land Cover Data - Finger Lakes region

Type	Land Use	Acreage	Percentage	
Developed	Developed, Open Space	193,661	6.3%	
Developed	Developed, Low Intensity	76,207	2.5%	
Developed	Developed, Medium Intensity	26,272	0.8%	
Developed	Developed, High Intensity	9,111	0.3%	
		305,251	**9.9%**	
Undeveloped	Open Water	102,166	3.3%	
Undeveloped	Barren Land (Rock/Sand/Clay)	5,632	0.2%	
Undeveloped	Deciduous Forest	587,912	19.0%	
Undeveloped	Evergreen Forest	32,293	1.0%	
Undeveloped	Mixed Forest	149,679	4.8%	
Undeveloped	Shrub/Scrub	108,344	3.5%	
Undeveloped	Grassland/Herbaceous	10,420	0.3%	
Undeveloped	Pasture/Hay	831,083	26.9%	
Undeveloped	Cultivated Crops	747,679	24.2%	
Undeveloped	Woody Wetlands	188,026	6.1%	
Undeveloped	Emergent Herbaceous Wetlands	24,721	0.8%	
		2,787,957	**90.1%**	
	TOTAL	**3,093,208**	**100.0%**	

Finger Lakes Regional Sustainability Plan

Map XX-XX:

Finger Lakes Region Poverty Levels

December 2012 Draft

Legend

- Counties
- Municipalities
- Expressways
- Lakes and Rivers

Poverty (2011 5-Year Estimates)

Percent Below Poverty

- < 5%
- 5.1%- 10%
- 10.1% - 15%
- 15.1% - 20%
- 20.1% >

*Note: Only population centers are depicted with 2011 census poverty 5 year estimate data

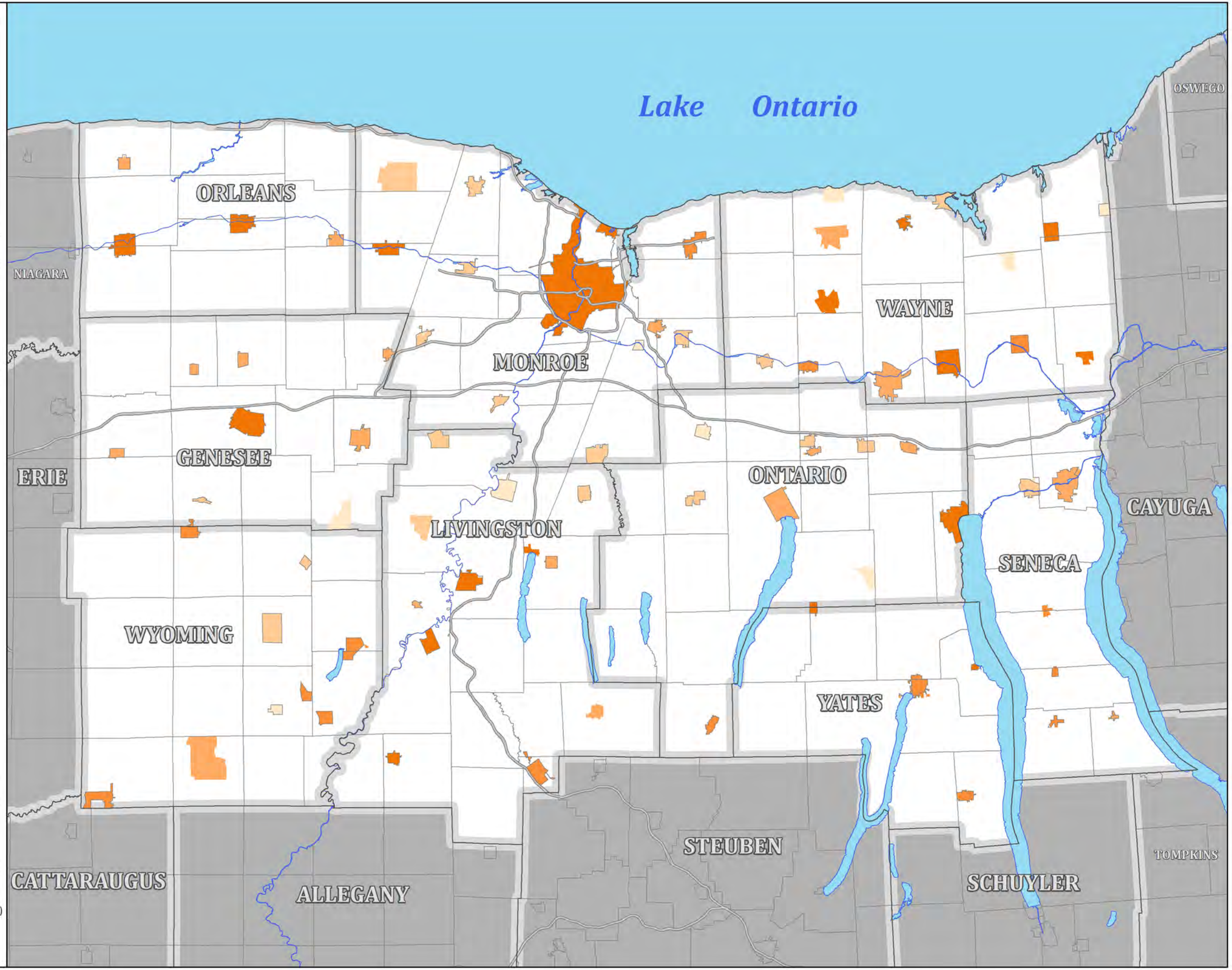
*Note: Percent population below poverty level in region outside centers is 8.1%

N W E S

0 2.5 5 10 Miles

Data Sources: GTC (boundaries, hydrography, roads)
U.S. Census Bureau (2011 5 -Year Poverty Estimates)

Map Design: C&S Companies and Wendel Companies



Indicator: Deconcentration of Poverty

County	Population	Poverty*	
Genesee	60,079	7,510	12.5%
Livingston	65,393	7,651	11.7%
Monroe	744,344	107,186	14.4%
Ontario	107,931	10,469	9.7%
Orleans	42,883	5,189	12.1%
Seneca	35,251	4,124	11.7%
Wayne	93,772	10,409	11.1%
Wyoming	42,155	4,258	10.1%
Yates	25,348	3,904	15.4%
REGION	**1,217,156**	**160,699**	**13.2%**
Centers**	**436,411**	**95,812**	**22.0%**
Region Outside Centers	**780,745**	**64,887**	**8.3%**

* Percentage of persons whose income in the last 12 months is below the poverty level
Population data from US Census 2010 figures.
Poverty data (percent) from ACS 5-year estimate (2007-2011).
Number of persons calculated from percentage provided.
Regional rate calculated from sum of county/places figures

** Centers are defined as all cities and villages, and certain Census Defined Places (CDPs)
See attached List of Centers

Source: US Bureau of the Census, 2010 and American Community Survey 5-yr. estimate (2007 - 2011)

Indicator: Proportion of Residents Living in Existing Population Centers

County	Population		Households		Population in Centers*	
Genesee	60,079	4.9%	23,728	4.9%	25,753	42.9%
Livingston	65,393	5.4%	24,409	5.1%	29,420	45.0%
Monroe	744,344	61.2%	300,422	62.2%	260,730	35.0%
Ontario	107,931	8.9%	43,019	8.9%	36,939	34.2%
Orleans	42,883	3.5%	16,119	3.3%	14,513	33.8%
Seneca	35,251	2.9%	13,393	2.8%	14,277	40.5%
Wayne	93,772	7.7%	36,585	7.6%	31,142	33.2%
Wyoming	42,155	3.5%	15,501	3.2%	15,750	37.4%
Yates	25,348	2.1%	9,517	2.0%	7,887	31.1%
REGION	**1,217,156**	**100.0%**	**482,693**	**100.0%**	**436,411**	**35.9%**

*Centers are defined as all cities and villages, and certain Census Defined Places (CDPs)
See attached list of Centers.

Source: US Bureau of the Census, 2010

List of Centers*		
GEOID	**NAME**	**POPULATION**
3601033	Albion village (part), Albion town, Orleans County, New York	5,564
3601154	Alexander village, Alexander town, Genesee County, New York	620
3602407	Arcade village, Arcade town, Wyoming County, New York	2,179
3603001	Attica village (part), Attica town, Wyoming County, New York	2,508
3603353	Avon village, Avon town, Livingston County, New York	3,359
3604715	Batavia city, Batavia city, Genesee County, New York	15,586
3606046	Bergen village, Bergen town, Genesee County, New York	1,089
3606904	Bliss CDP, Eagle town, Wyoming County, New York	695
3606945	Bloomfield village, East Bloomfield town, Ontario County, New York	1,255
3608466	Brockport village (part), Sweden town, Monroe County, New York	8,407
3611704	Caledonia village, Caledonia town, Livingston County, New York	2,266
3612144	Canandaigua city, Canandaigua city, Ontario County, New York	10,678
3612771	Castile village, Castile town, Wyoming County, New York	1,294
3615638	Churchville village, Riga town, Monroe County, New York	2,056
3616375	Clifton Springs village (part), Manchester town, Ontario County, New York	2,622
3616573	Clyde village, Galen town, Wayne County, New York	1,944
3618201	Corfu village (part), Pembroke town, Genesee County, New York	770
3619664	Dansville village (part), North Dansville town, Livingston County, New York	4,709
3620896	Dresden village, Torrey town, Yates County, New York	239
3621050	Dundee village, Starkey town, Yates County, New York	1,789
3622865	East Rochester village, East Rochester town, Monroe County, New York	6,572
3623745	Elba village, Elba town, Genesee County, New York	765
3625076	Fairport village, Perinton town, Monroe County, New York	5,395
3627969	Gainesville village, Gainesville town, Wyoming County, New York	265
3628618	Geneseo village, Geneseo town, Livingston County, New York	7,926
3628640	Geneva city (part), Geneva city, Ontario County, New York	13,326
3629520	Gorham CDP, Gorham town, Ontario County, NY	582
3631786	Hamlin CDP, Hamlin town, Monroe County, New York	5,421
3634847	Hilton village, Parma town, Monroe County, New York	5,838
3635155	Holley village, Murray town, Orleans County, New York	1,962
3635364	Honeoye Falls village, Mendon town, Monroe County, New York	2,650
3637528	Interlaken village, Covert town, Seneca County, New York	688
3641036	Lakeville CDP, Livonia town, Livingston County, NY	602
3642026	Le Roy village, Le Roy town, Genesee County, New York	4,392
3641872	Leicester village, Leicester town, Livingston County, New York	501
3642323	Lima village, Lima town, Livingston County, New York	2,217
3642950	Livonia village, Livonia town, Livingston County, New York	1,657
3643214	Lodi village, Lodi town, Seneca County, New York	475
3643918	Lyndonville village, Yates town, Orleans County, New York	855
3643962	Lyons village, Lyons town, Wayne County, New York	3,682
3644149	Macedon village, Macedon town, Wayne County, New York	1,603
3644853	Manchester village, Manchester town, Ontario County, New York	1,609
3645634	Marion CDP, Marion town, Wayne County, New York	1,895
3646415	Medina village (part), Ridgeway town, Orleans County, New York	6,132

GEOID	NAME	POPULATION
3648945	Mount Morris village, Mount Morris town, Livingston County, New York	3,600
3649429	Naples village, Naples town, Ontario County, New York	1,042
3649891	Newark village, Arcadia town, Wayne County, New York	9,185
3653462	North Rose CDP, Rose town, Wayne County, New York	463
3654078	Nunda village, Nunda town, Livingston County, New York	1,536
3654155	Oakfield village, Oakfield town, Genesee County, New York	2,048
3655816	Ovid village (part), Ovid town, Seneca County, New York	477
3656187	Palmyra village, Palmyra town, Wayne County, New York	3,515
3656781	Pavilion CDP, Pavilion town, Genesee County, New York	483
3657177	Penn Yan village (part), Benton town, Yates County, New York	5,411
3657243	Perry village (part), Perry town, Wyoming County, New York	3,706
3657518	Phelps village, Phelps town, Ontario County, New York	1,932
3658354	Pittsford village, Pittsford town, Monroe County, New York	1,407
3659993	Pultneyville CDP, Williamson town, Wayne County, New York	765
3660829	Red Creek village, Wolcott town, Wayne County, New York	644
3663000	Rochester city, Rochester city, Monroe County, New York	211,977
3663429	Romulus CDP (part), Romulus town, Seneca County, New York	590
3664199	Rushville village (part), Potter town, Yates County, New York	448
3665332	Savannah CDP, Savannah town, Wayne County, New York	584
3665959	Scottsville village, Wheatland town, Monroe County, New York	2,073
3666322	Seneca Falls village, Seneca Falls town, Seneca County, New York	6,720
3667257	Shortsville village, Manchester town, Ontario County, New York	1,265
3667466	Silver Springs village, Gainesville town, Wyoming County, New York	727
3668242	Sodus Point village, Sodus town, Wayne County, New York	1,064
3668209	Sodus village, Sodus town, Wayne County, New York	2,047
3670189	Spencerport village, Ogden town, Monroe County, New York	3,568
3670477	Springwater Hamlet CDP, Springwater town, Livingston County, NY	410
3677376	Victor village, Victor town, Ontario County, New York	2,628
3678333	Warsaw village, Warsaw town, Wyoming County, New York	4,002
3678553	Waterloo village (part), Waterloo town, Seneca County, New York	5,327
3678960	Webster village, Webster town, Monroe County, New York	5,366
3682029	Williamson CDP, Williamson town, Wayne County, New York	2,379
3682678	Wolcott village (part), Wolcott town, Wayne County, New York	1,372
3683371	Wyoming village, Middlebury town, Wyoming County, New York	374
3684035	York Hamlet CDP, York town, Livingston County, NY	637
	Total	**436,411**

NOTE: Centers were defined as all cities and villages, and certain Census Defined Places (CDPs)
Included CDPs have a well defined geographic layout, a mix of land uses (commercial and civic mixed with residential), and distinct edges.

Materials/Waste Management Baseline

MATERIALS AND WASTE MANAGEMENT
Recommended INDICATORS

NYSERDA Indicators	Description	Calculation	Data Required/Source	Baseline Value (2010)	General Notes
Total regional solid waste generated per year	This indicator provides an overall view of the region's contribution to waste, including municipal solid waste (MSW), industrial, construction and demolition, and bio solid waste. It is listed as a NYSERDA indicator because it is directly related to 4A Common Indicator.	MSW + Industrial Non-Hazardous + C&D + Bio Solids per municipality in region per year [solid waste generated per capita = total regional solid waste generated per year / regional population] [Note: Important to eventually include waste coming into the region]	Total MSW, industrial non-hazardous solid waste, C&D, bio solids, and tires generated and imported per year; Population of region. Sources: County and regional solid waste management authorities (planning units); NYS DEC	**Total Estimated Solid Waste Generated Within Region:** ~8,455,238 tons. **Broken down into categories (tons):** MSW 5,392,542 (Paper 1,758,332, Metal 371,509, Plastics 757,576, Glass 236,170, Organics 1,222,906, Textiles 279,306, Wood 188,181, Miscellaneous 578,562), Industrial Non-Hazardous Wastes 217,688, C&D Debris 2,809,957, Bio solids 22,214, Tires 13,378	The baseline values here have been calculated using an "industry-standard" approach (see associated supporting documentation). This is a critical data need that will have to be further developed to include some non-hazardous industrial/commercial waste that may be unique to the region. Eventually there will be a need to discern how much waste entering the region's disposal facilities (i.e., landfills) is coming from outside the region. An intensive effort with the support of the State of New York will need to ensue to secure information from private landfills regarding an accurate accounting of incoming waste from outside the region. Last, there are other wastes for which baseline values might have to be developed depending on whether they become target items for planning purposes. These include but are not limited to: Carcasses, Manure and other Agricultural Waste; Regulated Medical Waste; and Industrial Hazardous Waste. A thorough waste characterization study diving into subcategories of commodities will be essential for future planning purposes. In addition, when baseline data is developed as noted above for materials coming into regional landfills from outside the Finger Lakes Region, that data set will need to be broken down by category similar to those noted in the baseline value description here. This indicator provides the ability to look at each component of the waste/discard stream and develop
Total regional solid waste diverted (not landfilled, incinerated, or exported) per year	This indicator provides a view to the effectiveness of reduction, recycling and sustainable discard management initiatives. It is listed as a NYSERDA indicator because it is directly related to 4B Common Indicator.	Total regional solid waste diverted (not landfilled, incinerated, or exported) per year / population of region [important to calculate a diversion per capita]	Total regional solid waste generated and imported per year; Total regional solid waste that is diverted per year (including diverted out of the region); Population of region. Sources: County and regional solid waste management authorities (planning units); NYS DEC.	**MSW Materials Recycled in Region (2008):** 197,930 tons	It is important to note two things: 1) the baseline value noted is the only available baseline information about materials diverted (in this case, MSW through recycling data captured in the region) and as such, baseline data is needed for materials reduced, reused, recycled and/or composted for other materials in addition to MSW (such as bio solids, tires, etc.), and 2) as noted earlier, baseline data for MSW is needed for amounts reduced, reused, and composted. There is a need to capture materials reduced through measures such as policy initiatives (source reduction, product stewardship, etc.), materials reused in unique manners (such as through a shadow economy), and items recycled and reused--all based on the agreed upon baseline waste generation number. It is recommended that 2013 be the base year to collect data on reduction, reuse, composting and recycling, using the 2008 baseline number (the best available) as a starting point.
Place-Sourced Indicators	**Description**	**Calculation**	**Data Required/Source**	**Baseline Value (2010)**	**General Notes**

Landfill Breakdown

	Seneca Meadows	Mill Seat	Ontario County Sanitary LF
Ash from NY disposed	1604	89.11	
Ash imported disposed	21651		
Ash used as ADC		1338	78784
Aggregate - Concrete			1,244
Asbestos (Friable & Non-Friable)	2,595	4,317	18,415
Construction & Demolition Debris	277,298	63,827	53,120
Contaminated Soil	219,393	29,743	188,845
Foundry Sand			6,786
Grit & Screenings	1,579		
Glass			5,088
Industrial	12,241	22,371	40,683
MSW (Residential/Institutional & Commercial)	1,618,021	407,987	742,837
MSW/Wood Ash		1,338	78,784
Other - Broken Shingles			160
Other- Demo Cover		3,655	
Other - Industrial Ash	77,920		
Other - Filter Cake			19
Other - Sand Blasting Sand			47
Other - Special Waste			
Other - Z9500	3,082		
Paper Mill Sludge			2,200
Petroleum Contaminated Soil	15,451	6	
Processed C&D	118,794	31,233	16,467
Sewage Treatment Plant Sludge		28,049	56,335
Shredder Fluff	34,119	27,554	6,949
Sludge- Industrial	65,279		
tire waste	10,808		
Wood/Wood Chips		5,656	
Total	2479834.4	627163.12	1296762.49

MSW	3170021.34

High Acres	US Gypsum	Victor Insulators	Lockwood Ash Disp Site	**Total**
			87197.94	**88891.05**
				21651
				80122
				1244.48
8,539				**33865.45**
38,346				**432591.12**
50,815				**488794.8**
				6786.23
				1579
				5087.91
85,464	1603	546.36	83.58	**162991.64**
321,054				**3089898.82**
				80122.52
				160.04
				3655.28
				77920
				18.75
				46.86
3,596				**3595.98**
				3082
				2199.88
8,730				**24186.83**
2,546				**169039.45**
52,003			130.88	**136517.81**
				68622.29
				65279
				10808
				5656.15
571092.57	1603	546.36	87412.4	**5064414.34**

2,016,770
526,802
911,389
514,136

3,969,097
4,974,853

Municipal Solid Waste Estimated Breakdown

Material	**Tons Generated (estimate)**	**% of Total (estimated)**
Newspaper	128811.2811	4.06%
Corrugated Cardboard	317021.7881	10.00%
Other Recyclable Paper		
Paperboard	72737.40765	2.29%
Office Paper	90578.28776	2.86%
Junk Mail	66956.55674	2.11%
Other Commercial Printing	70900.06329	2.24%
Magazines	31815.60218	1.00%
Books	14636.62253	0.46%
Bags	12352.30515	0.39%
Phone Books	8688.394489	0.27%
Poly-Coated	7443.210106	0.23%
Other Recyclable Paper (Total)	376108.4499	11.86%
Other Compostable Paper	211757.4255	6.68%
Total Paper	**1033698.945**	**32.61%**
Ferrous/Aluminum Containers		
Ferrous Containers	35205.623	1.11%
Aluminum Containers	15070.91545	0.48%
Ferrous/Aluminum Containers (Total)	50276.53845	1.59%
Other Ferrous Metals	137551.03	4.34%
Other Non-Ferrous Metals		
Other aluminum	7802.690526	0.25%
Automotive batteries	12215.36023	0.39%
Other non-aluminum	10594.84532	0.33%
Other Non-Ferrous Metals (Total)	30612.89608	0.97%
Total Metals	**218440.4645**	**6.89%**
PET Containers	31969.66521	1.01%
HDPE Containers	26870.36889	0.85%
Other Plastic (3-7) Containers	6127.017246	0.19%
Film Plastic	182210.9246	5.75%
Other Plastic		
Durables	100922.0674	3.18%
Non-Durables	56247.59065	1.77%
Packaging	40882.49721	1.29%
Other Plastic (Total)	198052.1553	6.25%
Total Plastics	**445230.1312**	**14.05%**
Glass Containers	126317.1083	3.98%
Other Glass	12451.20982	0.39%
Total Glass	**138768.3182**	**4.38%**
Food Scraps	559664.7316	17.65%

Yard Trimmings	159222.5639	5.02%
Total Organics	**718887.2954**	**22.68%**
Clothing Footwear, Towels, Sheets	119900.3511	3.78%
Carpet	44298.51221	1.40%
Total Textiles	**164198.8634**	**5.18%**
Total Wood	**110509.4799**	**3.49%**
C&D Materials	141544.6229	4.47%
Other Durables	53236.70438	1.68%
Diapers	53563.85058	1.69%
Electronics	44704.27494	1.41%
Tires	31750.29974	1.00%
HHW	9354.09897	0.30%
Fines	6133.991293	0.19%
Total Miscellaneous	**340287.8428**	**10.73%**
Total	**3170021.34**	**100.00%**
Population (Actual & Projected)	1217156	
MSW Generated (tons)	3170021.34	
MSW Diverted (tons)		
MSW Disposed (tons)		
Per Capita MSW Generated (lbs)	5208.899007	
Per Capita MSW Diverted (lbs)		
Per Capita/year MSW Dispised (lbs)		
Per Capita/day MSW Dispised (lbs)		

Recyclables Received

	Attica Transfer Station	Bennington Transfer Station	Disposal and Recycling Service;	Arnold Scrap Processors Inc.	Java Transfer Station	JC Fibers Inc	Monroe County Recycling Center
Aggregate & Concrete							
Aluminum Foil/Trays							
Brush, branches, tree	8						1192
Bulk Metal	300						159
Commingled Containers		37	124		20	4500	12501
Commingled Paper		30	38		20	82	60732
Commingled Paper & Containers		37	20				
Container Glass	15					10	2725
Corrugated Cardboard	12					1267	19878
Electronics		2.56					
Enameled Appliance/White Goods							
HDPE	5.00						1300
Industrial Scrap Metal				1680			12
Industrial Scrap Plastic							1308
Junk mail						283	
Magazines						420	
Newspaper	105	30				6240	20485
Office Paper							16766
Other rigid plastic						890	56
Paperboard/Boxboard						40	2596
PET							1047
Plastic film & bags							9.25
Single Stream			336			120	
Textiles							
Tin & Aluminum Containers	13						1669
Wood (pallets & crates)							387
Yard waste	80						1656
Total	538	136.56	518	1680	40	13852	144478.3

Rochester Recycling; LLC	ALPCO Recycling; Inc.	Monroe County Transfer	Bergen T.S.	C.L.E.A.N. Recycling Center and T.S.	Center Point Transfer Station; Inc.	Clarkson (T)Rural Transfer	Darien T.S.	Geneseo T.S.
						366		
		257			106	38		27.04
			10	57		29		82
	13619			46		67	39	
							20	
	11050	413	5.48				21	
	100					17	4.5	1.06
			14					
	207							
							24	
654		16						
			67					40
	549					67		
	479							
	468						26	
	193							
				2				
			3.26		0.32		6.4	
654	26665	686	99.74	105	106.32	584	140.9	150.1

Greece (T) Transfer	Hamlin (T) Transfer	LeRoy T.S.	Metalico Transfer; Inc	Sweden (T) Rural Transfer	West Sparta T.S.	**Total**	
			394			394	
		45				45	
1095	300	300				3261	
11	40		521	24		1483.04	
		29		25		17414	
		38			26	74737	
		29				86	
	3	26			75	2874	
	5	26				32677.48	
	6	1				132.12	
						14	
						1512	
						1716	
						1978	
						283	
						527	
						27476	
						17245	
						1440	
		26				2662	
		29				1269	
						9.25	
						456	
						2	
						1691.98	
						387	
4430		1				6167	
5536	354	550	915	49	101	197938.9	
							197938.9

Finger Lakes Sustainability Plan: Materials and Waste Management – Baseline Data Calculations Supporting Documentation

NYSERDA Indicators:

1. *Total Regional and Per Capita Solid Waste Generated Per Year*

Total Estimated Solid Waste Generated Within Region:

8,455,238 tons

This number is a total of all the numbers listed below not including the number for *Total Solid Waste Landfilled in the Finger Lakes Region* (as explained below). It is the higher-end of the estimate using the bigger of the two *C&D Waste* numbers below.

Projected 2010 Regional Municipal Solid Waste Generated:

5,392,001 tons

2010 regional population of 1,217,156 multiplied by the national average MSW generation rate of 4.43 pounds per person per day equaling 5,392,001 tons of total municipal solid waste generated in the region.

- Population data is per the US Census and is detailed for each of the nine counties in the attached Excel spreadsheet.
- MSW generation rate is sourced from the US EPA at <www.epa.gov/epawaste/nonhaz/municipal/index.htm> (attached), which is the recognized industry-standard source for per capita waste generation data.
- MSW does not include other components of the waste stream, as noted below.

Estimated 2008 Non-hazardous Industrial Waste Generated:

217,688 tons

- This is based on a 0.98 pounds per person per day estimated statewide average calculated from NYS DEC statewide 2008 total of 3.5 million tons from data closest to 2010 base year.
- This NYS DEC data is developed from information provided by "planning units" (county/municipal governments, solid waste authorities, solid waste disposal facilities, etc. from across the state, including the Finger Lakes Region, and is captured in the State's *Beyond Waste* solid waste management plan and associated appendices (all attached).
- Calculations were derived from data starting on page 115 of the aforementioned plan.

Estimated 2008 C&D Waste Generated:

1,088,442 to 2,809,957 tons

- This is based on a 4.9 to 12.65 pounds per person per day estimated statewide average calculated from NYS DEC statewide 2008 range from 17.5 to 45 million total tons from data closest to 2010 base year.
- This NYS DEC data is developed from information provided by "planning units" (county/municipal governments, solid waste authorities, solid waste disposal facilities, etc. from across the state, including the Finger Lakes Region, and is captured in the State's *Beyond Waste* solid waste management plan and associated appendices (all attached).
- Calculations were derived from data starting on page 106 of the aforementioned plan.

Estimated 2008 Biosolids (Sewage Sludge) Generated:

22,214 tons

- This is based on a 0.1 pounds per person per day estimated statewide average calculated from NYS DEC statewide 2008 total 353,000 total dry tons from data closest to 2010 base year.
- This NYS DEC data is developed from information provided by "planning units" (county/municipal governments, solid waste authorities, solid waste disposal facilities, etc. from across the state, including the Finger Lakes Region, and is captured in the State's *Beyond Waste* solid waste management plan and associated appendices (all attached).
- Calculations were derived from data starting on page 102 of the aforementioned plan.

Estimated 2008 Tires Generated:

13,378 tons

- This is based on a 0.06 pounds per person per day estimated statewide average calculated from NYS DEC statewide 2006 total of 200,000 tons from data closest to 2010 base year.
- This NYS DEC data is developed from information provided by "planning units" (county/municipal governments, solid waste authorities, solid waste disposal facilities, etc. from across the state, including the Finger Lakes Region, and is captured in the State's *Beyond Waste* solid waste management plan and associated appendices (all attached).
- Calculations were derived from data starting on page 105 of the aforementioned plan.

Total Solid Waste Received by Landfills in the Finger Lakes Region:

5,064,414.34 tons

- This NYS DEC data is developed from information provided by landfills in the Finger Lakes Region (see attached breakdown in Excel spreadsheet).
- This number includes waste landfilled that was both generated within the region, and imported into the region. More detailed analysis needs to take place to better quantify the source of landfilled material.

Place Sourced Indicators:

2. *Total Regional Solid Waste Diverted after Reduction (not Landfilled, Incinerated, or Exported) per Year / Population of Region*

- See calculation description for indicator one above.
- **MSW Materials Recycled in Region (2008):** 197,930 tons is derived from data provided by planning units in the Finger Lakes Region to the NYS DEC as captured in its *Beyond Waste* plan (attached), and detailed in the attached Excel spreadsheet.

Note: Please see attached data compilation on a county-by-county basis for the region. The same formulas and calculation protocol were used to complete this county-level data set.

Municipal Solid Waste

Municipal Solid Waste (MSW)—more commonly known as trash or garbage—consists of everyday items we use and then throw away, such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. This comes from our homes, schools, hospitals, and businesses.

Each year EPA produces a report on MSW generation, recycling, and disposal.

In 2010, Americans generated about 250 million tons of trash and recycled and composted over 85 million tons of this material, equivalent to a 34.1 percent recycling rate . On average, we recycled and composted 1.51 pounds of our individual waste generation of 4.43 pounds per person per day (Figure 1 and Figure 2).

Related Links

- Municipal Solid Waste Publications
- Municipal Solid Waste in the United States: Facts and Figures
- Nonhazardous Waste Management Hierarchy
- Reduce, Reuse, Recycle
- Sustainable Materials Management

EPA encourages practices that reduce the amount of waste needing to be disposed of, such as waste prevention, recycling, and composting.

Source reduction, or waste prevention, is designing products to reduce the amount of waste that will later need to be thrown away and also to make the resulting waste less toxic.

Recycling is the recovery of useful materials, such as paper, glass, plastic, and metals, from the trash to use to make new products, reducing the amount of new raw materials needed.

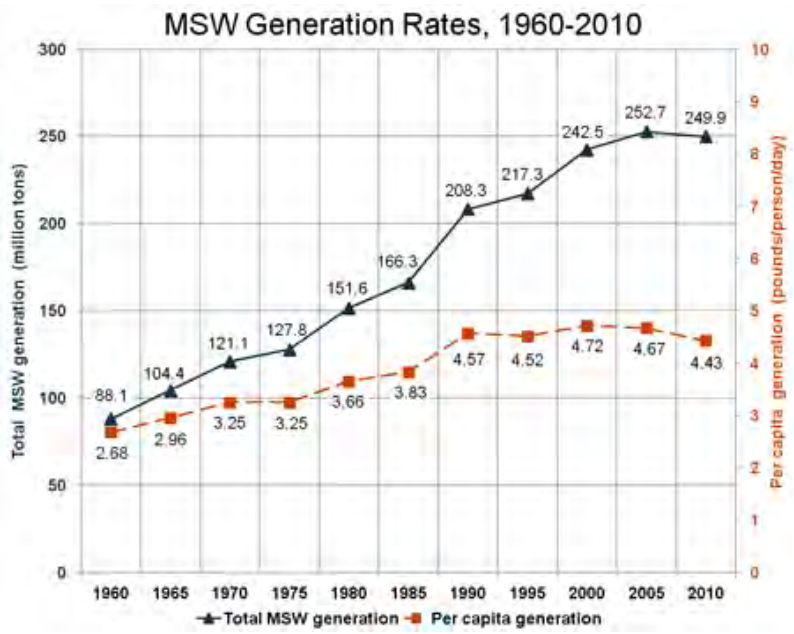


Figure 1. MSW Generation Rates, 1960-2010

+ View information in text format

+ View enlarged image

Composting involves collecting organic waste, such as food scraps and yard trimmings, and storing it under conditions designed to help it break down naturally. This resulting compost can then be used as a natural fertilizer.

In 2010,

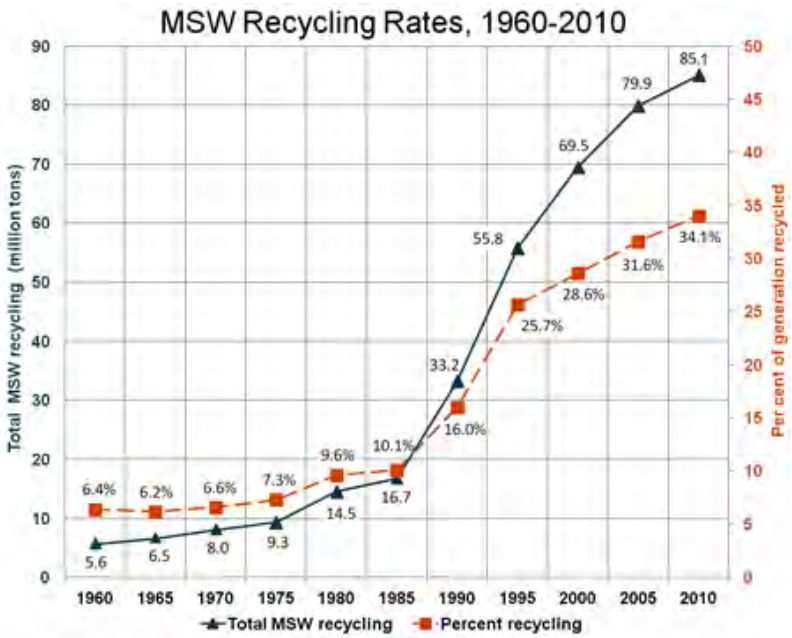


Figure 2. MSW Recycling Rates, 1960-2010

+ View information in text format

+ View enlarged image

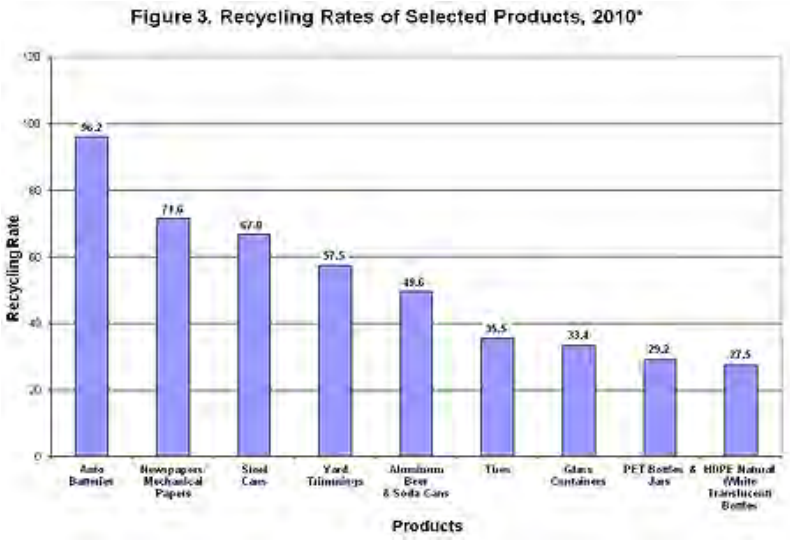


Figure 3. Recycling Rates of Selected Products, 2010*

* Does not include combustion (with energy recovery).

** Mechanical papers include directories, newspaper inserts, and some advertisement and direct mail printing.

+ View information in text format

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newspaper/mechanical papers recovery was about 72 percent (7 million tons), and about 58 percent of yard trimmings were recovered (Figure 3). Total MSW generation in 2010 was 250 million tons. Organic materials continue to be the largest component of MSW. Paper and paperboard account for 29 percent and yard trimmings and food scraps account for another 27 percent. Plastics comprise 12 percent; metals make up 9 percent; and rubber, leather, and textiles account for 8 percent. Wood follows at around 6 percent and glass at 5 percent. Other miscellaneous wastes make up approximately 3 percent of the MSW generated in 2010 (Figure 4).

This section describes the requirements for disposal and combustion of Municipal Solid Waste:

Landfills are engineered areas where waste is placed into the land. Landfills usually have liner systems and other safeguards to prevent polluting the groundwater.

Energy Recovery from Waste is the conversion of non-recyclable waste materials into useable heat, electricity, or fuel. Share

Combustion of MSW is done to reduce the amount of landfill space needed.

Transfer Stations are facilities where municipal solid waste is unloaded from collection vehicles and briefly held while it is reloaded onto larger, long-distance transport vehicles for shipment to landfills or other treatment or disposal facilities.

Wastes Home
Non-Hazardous Waste Home
Municipal Solid Waste Home
Landfills
Transfer Stations
Energy Recovery from Waste
Combustion
Backyard Burning
Information Resources
Laws & Regulations
Educational Materials

Resource Conservation

Recycling and composting prevented 85.1 million tons of material away from being disposed of 2010, up from 15 million tons in 1980. This prevented the release of approximately 186 million metric tons of carbon dioxide equivalent into the air in 2010—equivalent to taking 36 million cars off the road for a year. Learn more about how common wastes and materials, including food and yard wastes, paper, metals, and electronics, contribute to MSW generation and how they can be recycled.

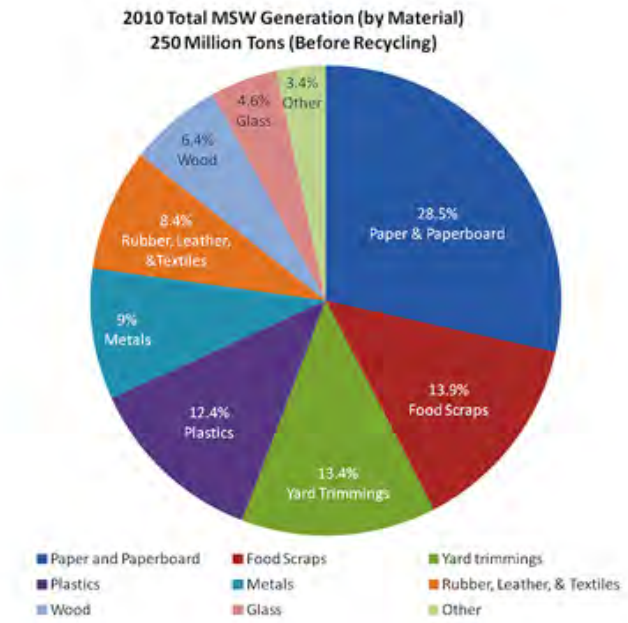

Figure 4. 2010 Total MSW Generation (by Material)

+ View information in text format

+ View enlarged image

Top of Page

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Use View » Refresh to return to original state.

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Water Management Baseline

Water Use by Category in the Finger LakesRegion: USGS Water Use County Data
DATA SOURCE: http://water.usgs.gov/watuse/data/2005/index.html

This chart is a modifed version of the USGS' "Water Use County Data". This chart displays only the counties in the region and only the data used for the selected indicators. Other calculations have been added to the chart. The upper chart contains selected portion of the raw USGS data. The the lower chart contains the calculated values for the indicators.

STATE	STATEFIPS	COUNTYFIPS	FIPS	Total population of county, in thousands TP-TotPop	Public Supply, total withdrawals, fresh, in Mgal/d PS-WFrTo	Domestic, deliveries from Public Supply, in Mgal/d DO-PSDel	Irrigation, total withdrawals, fresh, in Mgal/d IR-WFrTo	Total withdrawals, fresh, in Mgal/d TO-WFrTo	
NY	36	037	36037	59.257	4.76	2.98	2.04	11.85	**Genesee County**
NY	36	051	36051	64.205	4.06	5.31	0.91	8.10	**Livingston County**
NY	36	055	36055	733.366	85.12	67.68	2.38	226.85	**Monroe County**
NY	36	069	36069	104.461	6.15	9.00	0.92	14.17	**Ontario County**
NY	36	073	36073	43.387	2.37	2.59	1.27	5.42	**Orleans County**
NY	36	099	36099	34.855	2.31	2.36	0.21	4.65	**Seneca County**
NY	36	117	36117	93.609	7.16	7.58	0.74	459.89	**Wayne County**
NY	36	121	36121	42.693	3.62	2.23	1.32	10.12	**Wyoming County**
NY	36	123	36123	24.756	0.82	0.90	0.15	71.16	**Yates County**
			TOTALS for REGION	1200.59	116.37	100.63	9.94	812.21	

				Area of Water Demand/1000 people (in category)
0.08	**0.05**	**0.03**	**0.20**	**Genesee County**
0.06	**0.08**	**0.01**	**0.13**	**Livingston County**
0.12	**0.09**	**0.00**	**0.31**	**Monroe County**
0.06	**0.09**	**0.01**	**0.14**	**Ontario County**
0.05	**0.06**	**0.03**	**0.12**	**Orleans County**
0.07	**0.07**	**0.01**	**0.13**	**Seneca County**
0.08	**0.08**	**0.01**	**4.91**	**Wayne County**
0.08	**0.05**	**0.03**	**0.24**	**Wyoming County**
0.03	**0.04**	**0.01**	**2.87**	**Yates County**
0.097	**0.084**	**0.008**	**0.677**	**REGION**

Total Number of Impaired Waters (on the NYSDEC 303(d) List)
DATA SOURCE: http://www.dec.ny.gov/chemical/31290.html

This chart contains an accounting of the number of watercourses listed on the NYSDEC 303-d list.

ENTITY	Section of 303(d) List				TOTAL per ENTITY
	Part 1 - Individual Waterbody Segments with Impairment Requiring TMDL Development	**Part 2a -** Multiple Segment/Categorical Impaired Waterbody Segments (atmospheric deposition)	**Part 2b -** Multiple Segment/Categorical Impaired Waterbody Segments (fish consumption)	**Part 2c -** Multiple Segment/Categorical Impaired Waterbody Segments (shellfishing)	
Genesee County	1				**1**
Livingston County	3				**3**
Monroe County	11		14		**25**
Ontario County	2		1		**3**
Orleans County			6		**6**
Seneca County					**0**
Wayne County	1		9		**10**
Wyoming County					**0**
Yates County			1		**1**
REGION	**18**	**0**	**31**	**0**	**49**

% of Beach WQ Samples Exceeding State Thresholds
http://www.nrdc.org/water/oceans/ttw/ny.asp#

This indicator is a reporting of the data collected by the NRDC. The data within the region is averaged.

DATA YEAR 2011

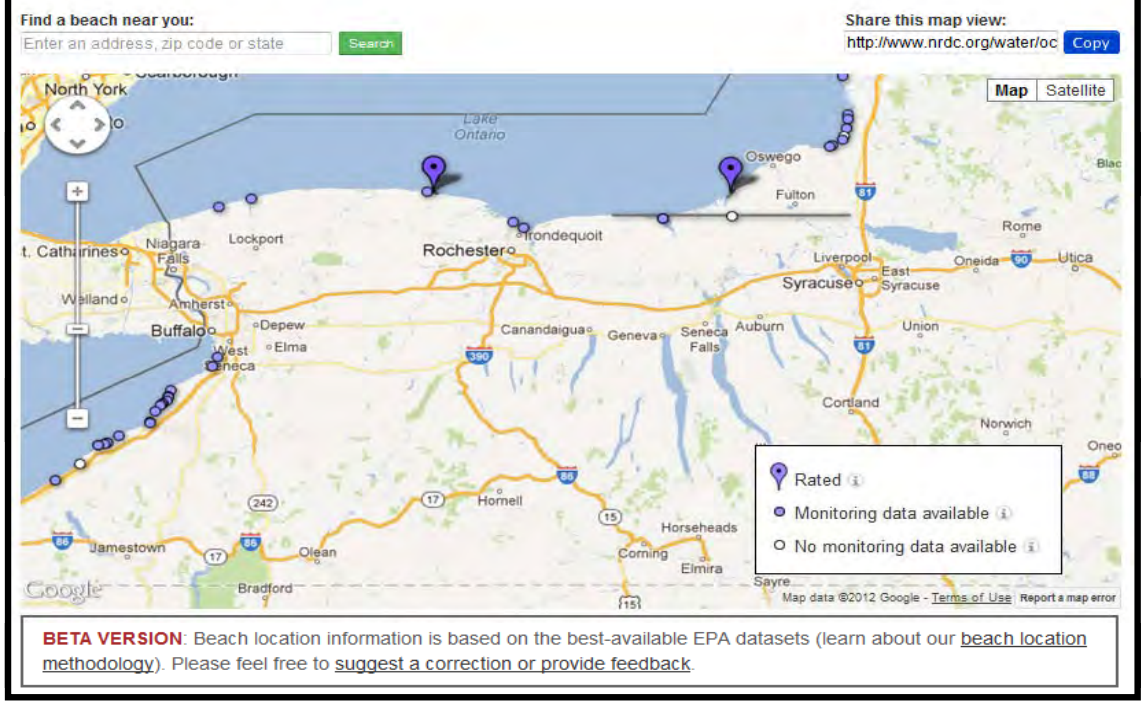
BEACH	COUNTY	MONITORING FREQUENCY (per week)	TOTAL SAMPLES REPORTED	PERCENTAGE of SAMPLES EXCEEDING STATE THRESHOLDS	# DAYS WITH NOTIFICATIONS
Hamlin	Monroe	1	94	18%	3
Ontario	Monroe	7	270	30%	38
Durand	Monroe	7	84	20%	28
Sodus Point Bayside	Wayne	0.5	7	0%	0

AVERAGE	17%

Reported Sources of Beachwater Contamination
(number of closing/advisory days; includes reported sources of advisories and closures that were issued for non-contamination-related reasons, if any)

- 1,612 (88%) stormwater runoff
- 294 (16%) sewage spills/leaks
- 159 (9%) unknown contamination sources
- 33 (2%) other contamination sources
- 15 (1%) wildlife

Totals exceed total days and 100% because more than one contamination source was reported for some events.



Number of Impaired Waters with Established TMDL Requirements Removed From the Program
http://www.dec.ny.gov/chemical/23835.html

This indicator is calculated by identifying the number of waterbodies for which the TMDL requirements have been removed since the baseline consditions was established.

TMDLs Established in the Study Area

	Watercourse	County	Pollutant	Year Implemented
1	Blind Sodus Bay	Wayne	Phosphorus	2007
2	Buck, Long and Cranberry Ponds	Monroe	Phosphorus	2010
3	Silver lake	Wyoming	Phosphorus	2010
4	Lake Ontario		PCBs	2011
5	Port Bay	Wayne	PCBs	2011

3	Number of waterbodies with established TMDLS at baseline

Concentrations of Pollutants in the Finger Lakes
http://people.hws.edu/halfman/FL-Lim/FL-Limnology.htm

The reported statistics are the averages of total Phosphate and Total Nitrate concentrations at the surface and lake bottoms for Honeoye, Canadaigua, Kueka, Seneca, and Cayuga Lakes. Because each lake is inluenced by watersheds in more than one county, this data should not be considered at the county level.

2010 Average Values (± 1σ)	Honeoye	Canandaigua	Keuka	Seneca	Cayuga	Owasco	Skaneateles	Otisco
Secchi Depth (m)	2.5 ± 1.2	7.1 ± 1.8	6.6 ± 1.4	3.9 ± 1.4	4.5 ± 1.7	3.7 ± 1.1	7.5 ± 1.9	3.8 ± 0.6
Total Suspended Solids (mg/L), Surface	6.4 ± 7.1	0.8 ± 0.5	0.8 ± 0.4	1.7 ± 1.0	1.4 ± 0.9	1.9 ± 1.0	0.6 ± 0.3	1.5 ± 0.7
Total Suspended Solids (mg/L), Bottom	2.5 ± 1.2	0.8 ± 0.4	0.9 ± 0.5	0.6 ± 0.3	1.4 ± 0.7	1.2 ± 0.3	0.4 ± 0.2	1.6 ± 0.9
Dissolved Phosphate (µg/L, SRP), Surface	11.0 ± 12.4	0.9 ± 0.8	0.3 ± 0.2	0.7 ± 1.4	0.9 ± 1.6	0.4 ± 0.4	0.3 ± 0.2	0.4 ± 0.3
Dissolved Phosphate (µg/L, SRP), Bottom	15.1 ± 15.8	0.6 ± 0.5	0.4 ± 0.4	1.5 ± 2.0	3.9 ± 2.5	0.9 ± 1.2	0.5 ± 0.9	2.0 ± 3.9
Total Phosphate (µg/L, TP), Surface	52.4 ± 54.4	5.2 ± 2.8	4.3 ± 1.3	6.5 ± 2.1	7.4 ± 4.7	8.1 ± 4.1	3.0 ± 1.4	8.6 ± 2.2
Total Phosphate (µg/L, TP), Bottom	37.1 ± 24.3	2.9 ± 1.0	3.7 ± 1.2	5.8 ± 2.1	9.7 ± 3.0	5.4 ± 2.2	2.3 ± 1.9	11.4 ± 10.3
Nitrate as N (mg/L), Surface	0.1 ± 0.2	0.1 ± 0.0	0.0 ± 0.0	0.2 ± 0.2	1.1 ± 0.5	0.7 ± 0.5	0.6 ± 0.3	0.3 ± 0.2
Nitrate as N (mg/L), Bottom	0.2 ± 0.2	0.2 ± 0.2	0.2 ± 0.2	0.5 ± 0.3	1.3 ± 0.8	0.9 ± 0.7	0.8 ± 0.4	0.3 ± 0.1
Silica (SR µg/L), Surface	1780 ± 848	845 ± 95	424 ± 256	246 ± 106	385 ± 177	719 ± 337	421 ± 171	467 ± 206
Silica (SR µg/L), Bottom	1854 ± 867	1110 ± 172	878 ± 212	371 ± 173	839 ± 192	1255 ± 395	584 ± 162	935 ± 241
Chlorphyll a (µg/L), Surface	37.9 ± 43.0	2.0 ± 1.2	1.9 ± 1.8	4.7 ± 3.2	3.0 ± 1.3	3.7 ± 3.3	1.2 ± 0.9	3.0 ± 1.7
Chlorphyll a (µg/L), Bottom	12.5 ± 7.3	0.3 ± 0.2	0.5 ± 0.4	0.6 ± 0.6	0.2 ± 0.1	0.5 ± 0.4	0.6 ± 0.6	2.2 ± 0.7

Pollutant	Location	Honeoye Lake	Canandaigua Lake	Kueka Lake	Seneca Lake	Cayuga Lake	Average	Units
Phosphates	surface	52.4	5.2	4.3	6.5	7.4	13.5	µg/L
	bottom	37.1	2.9	3.7	5.8	9.7		
Nitrate	surface	0.1	0.1	0	0.2	1.1	0.4	mg/L
	bottom	0.2	0.2	0.2	0.5	1.3		

Economic Development Baseline

County	H+T Index	Population	% of Total
Genesee	54.46%	60,079	4.94%
Livingston	53.18%	65,393	5.37%
Monroe	50.93%	744,344	61.15%
Ontario	54.89%	107,931	8.87%
Orleans	52.47%	42,883	3.52%
Seneca	57.34%	35,251	2.90%
Wayne	53.37%	93,772	7.70%
Wyoming*	--	42,155	3.46%
Yates*	--	25,348	2.08%
TOTAL FINGER LAKES REGION		**1,217,156**	**100.00%**

Weighted regional average H&T Index by population	**52.07%**

* No data available

Quarterly Census of Employment and Wages (QCEW)
NAICS Based Industry Employment and Wages
New York State, Labor Market Regions, Metropolitan Areas, Local Workforce Investment Areas and Counties
Data for 2012 are preliminary and subject to revision
NAICS Sector = All Sectors
NAICS Industry = All
Area =Finger Lakes Region

Industry Title	Year	Average Employment
Total, All Industries	2010	532,994
Total, All Private	2010	442,814
Agriculture, Forestry, Fishing Hunting	2010	6,121
Crop Production	2010	3,396
Animal Production	2010	2,337
Forestry and Logging	2010	29
Agriculture Forestry Support Activity	2010	360
Mining	2010	610
Mining (except Oil and Gas)	2010	604
Utilities	2010	1,827
Utilities	2010	1,827
Construction	2010	18,114
Construction of Buildings	2010	4,802
Heavy and Civil Engineering Construction	2010	1,855
Specialty Trade Contractors	2010	11,457
Manufacturing	2010	67,065
Food Manufacturing	2010	5,528
Beverage Tobacco Product Manufacturing	2010	1,444
Textile Mills	2010	257
Textile Product Mills	2010	254
Apparel Manufacturing	2010	762
Wood Product Manufacturing	2010	459
Paper Manufacturing	2010	1,661
Printing and Related Support Activities	2010	2,644
Petroleum Coal Products Manufacturing	2010	136
Chemical Manufacturing	2010	8,142
Plastics Rubber Products Manufacturing	2010	4,854
Nonmetallic Mineral Product Mfg	2010	1,501
Primary Metal Manufacturing	2010	452
Fabricated Metal Product Manufacturing	2010	7,977
Machinery Manufacturing	2010	12,401
Computer and Electronic Product Mfg	2010	9,092
Electrical Equipment and Appliances	2010	1,507
Transportation Equipment Manufacturing	2010	3,114
Furniture and Related Product Mfg	2010	682
Miscellaneous Manufacturing	2010	4,074
Wholesale Trade	2010	17,551
Merchant Wholesalers, Durable Goods	2010	10,838
Merchant Wholesalers, Nondurable Goods	2010	4,958
Electronic Markets and Agents Brokers	2010	1,755
Retail Trade	2010	61,576
Motor Vehicle and Parts Dealers	2010	7,108
Furniture and Home Furnishings Stores	2010	1,540
Electronics and Appliance Stores	2010	1,984
Building Material Garden Supply Stores	2010	5,062
Food and Beverage Stores	2010	16,668
Health and Personal Care Stores	2010	3,301
Gasoline Stations	2010	3,398
Clothing and Clothing Accessories Stores	2010	5,031
Sporting Goods Hobby Book Music Stores	2010	2,366
General Merchandise Stores	2010	10,808
Miscellaneous Store Retailers	2010	2,863
Nonstore Retailers	2010	1,447
Transportation and Warehousing	2010	9,147
Air Transportation	2010	268
Truck Transportation	2010	2,678
Transit and Ground Passenger Transport	2010	2,598
Pipeline Transportation	2010	30
Scenic and Sightseeing Transportation	2010	29
Support Activities for Transportation	2010	686

TOTALS	CATEGORY	NOTES
442,817	All Private	Includes Ag and Unclassified
6,122	Ag & Forestry	
436,199	Private, Adjusted	Private less Ag and Unclassified

Couriers and Messengers	2010	1,276
Warehousing and Storage	2010	1,577
Information	2010	9,439
Publishing Industries	2010	2,620
Motion Picture Sound Recording Ind	2010	526
Broadcasting (except Internet)	2010	811
Telecommunications	2010	4,186
ISPs, Search Portals, Data Processing	2010	723
Other Information Services	2010	573
Finance and Insurance	2010	14,555
Credit Intermediation Related Activity	2010	6,488
Securities and Commodity Contracts	2010	1,603
Insurance Carriers Related Activities	2010	6,385
Funds, Trusts Other Financial Vehicles	2010	79
Real Estate and Rental and Leasing	2010	7,006
Real Estate	2010	5,242
Rental and Leasing Services	2010	1,754
Lessors, Nonfinancial Intangible Assets	2010	11
Professional and Technical Services	2010	22,907
Professional and Technical Services	2010	22,907
Management of Companies and Enterprises	2010	12,127
Management of Companies and Enterprises	2010	12,127
Administrative and Waste Services	2010	25,851
Administrative and Support Services	2010	24,382
Waste Management and Remediation Service	2010	1,469
Educational Services	2010	25,806
Educational Services	2010	25,806
Health Care and Social Assistance	2010	78,301
Ambulatory Health Care Services	2010	19,747
Hospitals	2010	25,711
Nursing and Residential Care Facilities	2010	18,240
Social Assistance	2010	14,605
Arts, Entertainment, and Recreation	2010	8,092
Performing Arts and Spectator Sports	2010	1,150
Museums, Parks and Historical Sites	2010	732
Amusement, Gambling Recreation Ind	2010	6,209
Accommodation and Food Services	2010	37,920
Accommodation	2010	3,777
Food Services and Drinking Places	2010	34,143
Other Services	2010	18,306
Repair and Maintenance	2010	4,661
Personal and Laundry Services	2010	4,425
Membership Organizations Associations	2010	8,759
Private Households	2010	462
Total, All Government	2010	90,180
Federal Government	2010	5,852
State Government	2010	14,095
Local Government	2010	70,233
Unclassified	2010	496

90,180	All Government	
496	Unclassified	

(P) = Preliminary

Employment information--by place of work--is based on quarterly reports from employers covered under New York State's Unemployment Insurance Law. Data by industry (using the new NAICS classification system) include employment; total annual and average weekly wages; and, the number of establishments. Data are available for New York State, metropolitan areas, and counties (State law prohibits us from disclosing information that would reveal the identity of individual employers). Data are available about six months following the end of the reported quarter--they are less current than non-farm employment estimates.

County	Jobs Created by Sector			
	Government	*Private*	*Agriculture*	*Unclassified*
Genesee	5,823	16,434	879	12
Livingston	6,739	12,609	510	14
Monroe	48,187	318,265	485	336
Ontario	8,301	40,145	612	58
Orleans	4,164	7,875	873	20
Seneca	3,122	7,893	113	13
Wayne	8,141	19,281	1,599	23
Wyoming	4,390	8,335	839	6
Yates	1,315	5,361	212	14
NAICS Category	Total, All Government	Total, All Private (excluding Agriculture & Unclassified)	Agriculture, Forestry, Fishing Hunting	Unclassified

County	Jobs Created by Sector		
	Food Manufacturing	*Alternative Energy*	*Materials Science*
Genesee	557	--	--
Livingston	576	--	--
Monroe	2,800	--	--
Ontario	677	--	--
Orleans	426	--	--
Seneca	451	--	--
Wayne	780	--	--
Wyoming	346	--	--
Yates	328	--	--
Data Source	NYS Department of Labor QCEW (NAICS Categories: "Food Manufacturing" & "Beverage Tobacco Product Manufacturing")	Data Currently Not Available	Data Currently Not Available

Governance Baseline

Inventory of Comprehensive Plans for the Finger Lakes Region

Source: Genesee/Finger Lakes Regional Planning Council*

*This list represents the known status of Comprehensive Plans according to G/FLRPC. It is not necessarily exhaustive.

County	municipality	Product Name	Description	Last Update	Updated in past 5 years?
Genesee	Alabama (T)	Oakfield-Alabama Comprehensive Plan	**Comprehensive Plan**	2005	NO
Genesee	Alexander (T)	Town of Alexander Comprehensive Plan	**Comprehensive Plan**	2003	NO
Genesee	Batavia (City)	City of Batavia Comprehensive Master Plan	**Comprehensive Plan**	1997	NO
Genesee	Batavia (T)	Comprehensive Plan	**Comprehensive Plan**	2007	YES
Genesee	Bergen (T)	Comprehensive Plan for the Town and Village of Bergen	**Comprehensive Plan**	1996	NO
Genesee	Bergen (V)	Comprehensive Plan for the Town and Village of Bergen	**Comprehensive Plan**	1996	NO
Genesee	Bethany (T)	Town of Bethany Comprehensive Plan	**Comprehensive Plan**	2007	YES
Genesee	Byron (T)	Comprehensive Plan	**Comprehensive Plan**	1993	NO
Genesee	Elba (T)	Comprehensive Plan	**Comprehensive Plan**	2007	YES
Genesee	Elba (V)	Comprehensive Plan	**Comprehensive Plan**	1976	NO
Genesee	Genesee County	Genesee County Comprehensive Plan	**Comprehensive Plan**	1997	NO
Genesee	Le Roy (T)	Comprehensive Plan	**Comprehensive Plan**	2002	NO
Genesee	Le Roy (V)	Village of LeRoy Comprehensive Plan	**Comprehensive Plan**	2001	NO
Genesee	Oakfield (T)	Oakfield-Alabama Comprehensive Plan	**Comprehensive Plan**	2005	NO
Genesee	Oakfield (V)	Oakfield-Alabama Comprehensive Plan	**Comprehensive Plan**	2005	NO
Genesee	Pavilion (T)	Town of Pavillion Comprehensive Plan	**Comprehensive Plan**	2003	NO
Genesee	Pembroke (T)	Comprehensive Plan	**Comprehensive Plan**	1997	NO
Genesee	Stafford (T)	Comprehensive Plan	**Comprehensive Plan**	2009	YES
Livingston	Avon (T)	Comprehensive Plan	**Comprehensive Plan**	1995	NO
Livingston	Caledonia (T)	Comprehensive Plan	**Comprehensive Plan**	1964	NO
Livingston	Caledonia (V)	Comprehensive Strategic Plan	**Comprehensive Plan**	2003	NO
Livingston	Conesus (T)	Comprehensive Plan	**Comprehensive Plan**	2005	NO
Livingston	Dansville (V)	Comprehensive Master Plan for Dansville and North Dansville	**Comprehensive Plan**	1970	NO
Livingston	Geneseo (T)	Town and Village of Geneseo Comprehensive Plan	**Comprehensive Plan**	1992	NO
Livingston	Geneseo (V)	Village of Geneseo Comprehensive Plan	**Comprehensive Plan**	2007	YES
Livingston	Lima (T)	Master Plan	**Comprehensive Plan**	1990	NO
Livingston	Lima (V)	Comprehensive Plan	**Comprehensive Plan**	2008	YES
Livingston	Livonia (T)	Comprehensive Plan for Livonia Town and Village	**Comprehensive Plan**	2004	NO
Livingston	Livonia (V)	Livonia Comprehensive Plan	**Comprehensive Plan**	2004	NO
Livingston	Mount Morris (T)	Town and Village of Mount Morris Comprehensive Plan	**Comprehensive Plan**	1997	NO
Livingston	North Dansville (T)	Town of North Dansville/Village of Dansville Comprehensive Master Plan	**Comprehensive Master Plan**	1970	NO
Livingston	Nunda (T)	Town and Village of Nunda Comprehensive Plan	**Comprehensive Plan**	2005	NO

Livingston	Nunda (V)	Town and Village of Nunda Comprehensive Plan	**Comprehensive Plan**	2005	NO
Livingston	Sparta (T)	Comprehensive Master Plan	**Comprehensive Plan**	2003	NO
Livingston	West Sparta (T)	Comprehensive plan	**Comprehensive Plan**	2007	YES
Monroe	Brighton (T)	Comprehensive Plan	**Comprehensive Plan**	2000	NO
Monroe	Brockport (V)	Town of Sweden Village of Brockport Comprehensive Plan	**Comprehensive Plan**	2005	NO
Monroe	Chili (T)	Town of Chili Master Plan Update 2010	**Comprehensive Plan**	2010	YES
Monroe	Churchville (V)	Town of Riga and Village of Churchville 2006 Proposed Comprehensive Plan	**Comprehensive Plan**	2008	YES
Monroe	Clarkson (T)	Comprehensive Plan	Compehensive Plan	2008	YES
Monroe	Gates (T)	Town of Gates Comprehensive Plan	**Comprehensive Plan**	1976	NO
Monroe	Greece (T)	Town of Greece Master Plan	**Master Plan**	1993	NO
Monroe	Hamlin (T)	Town of Hamlin Comprehensive Master Plan	**Comprehensive Plan**	2007	YES
Monroe	Henrietta (T)	Comprehensive Plan	**Comprehensive Plan**	1997	NO
Monroe	Hilton (V)	Comprehensive Plan	**Comprehensive Plan**	1977	NO
Monroe	Irondequoit (T)	Master Plan for the Town of Irondequoit New York	**Master Plan**	2009	YES
Monroe	Mendon (T)	Town of Mendon Comprehensive Plan	**Comprehensive Plan**	2005	NO
Monroe	Ogden (T)	Comprehensive Plan	**Comprehensive Plan**	2003	NO
Monroe	Parma (T)	Comprehensive Plan	**Comprehensive Plan**	1989	NO
Monroe	Parma (T)	Town of Parma Master Plan Update	**Master Plan Update**	1989	NO
Monroe	Penfield (T)	Town of Penfield Comprehensive Plan	**Comprehensive Plan**	2001	NO
Monroe	Perinton (T)	Comprehensive Plan Update	**Comprehensive Plan Update**	2011	YES
Monroe	Pittsford (T)	Comprehensive Plan Update	**Comprehensive Plan**	2009	YES
Monroe	Pittsford (V)	Village of Pittsford Comprehensive Master Plan	**Comprehensive Master Plan**	2002	NO
Monroe	Riga (T)	Town of Riga and Village of Churchville 2006 Proposed Comprehensive Plan	**Comprehensive Plan**	2008	YES
Monroe	Rochester (City)	City of Rochester Comprehensive Plan	**Comprehensive Plan**	2002	NO
Monroe	Rush (T)	Town of Rush Comprehensive Plan - 2010	**Comprehensive Plan**	1993	NO
Monroe	Scottsville (V)	Town of Wheatland Village of Scottsville Comprehensive Plan	**Comprehensive Plan**	2004	NO
Monroe	Spencerport (V)	Comprehensive Plan	**Comprehensive Plan**	2002	NO
Monroe	Sweden (T)	Town of Sweden Village of Brockport Comprehensive Plan	**Comprehensive Plan**	2005	NO
Monroe	Webster (T)	Town of Webster Comprehensive Plan - Second Draft	**Comprehensive Plan**	2008	YES
Monroe	Webster (V)	Comprehensive Plan	**Comprehensive Plan**	2000	NO
Monroe	Wheatland (T)	Town of Wheatland Village of Scottsville Comprehensive Plan	**Comprehensive Plan**	2004	NO

Ontario	Bloomfield (V)	Town of East Bloomfield Village of Bloomfield Comprehensive Plan	**Comprehensive Plan**	1998	NO
Ontario	Bristol (T)	Town of Bristol, NY Comprehensive Plan	**Comprehensive Plan**	2007	YES
Ontario	Canadice (T)	Town of Canadice Comprehensive Plan	**Comprehensive Plan**	1999	NO
Ontario	Canandaigua (City)	City of Canandaigua Comprehensive Plan	**Comprehensive Plan**	2001	NO
Ontario	Canandaigua (T)	Town of Canandaigua Master Plan	**Comprehensive Plan**	2011	YES
Ontario	East Bloomfield (T)	Town of East Bloomfield Village of Bloomfield Comprehensive Plan	**Comprehensive Plan**	1998	NO
Ontario	Farmington (T)	Comprehensive Plan	**Comprehensive Plan**	2003	NO
Ontario	Geneva (T)	Town of Geneva Comprehensive Plan Update 2006	**Comprehensive Plan**	2006	NO
Ontario	Gorham (T)	Comprehensive Plan	**Comprehensive Plan**	2009	YES
Ontario	Hopewell (T)	Town of Hopewell Comprehensive Plan	**Comprehensive Plan**	2006	NO
Ontario	Manchester (V)	Village of Manchester Comprehensive Plan	**Comprehensive Plan**	2005	NO
Ontario	Murray (T)	Town of Naples Master Plan Draft	**Master Plan**	1987	NO
Ontario	Naples (T)	Comprehensive Plan Strategic Plan Report	**Comprehensive Plan Strategic Plan Report**	2002	NO
Ontario	Richmond (T)	Town of Richmond, NY Comprehensive Plan		2004	NO
Ontario	Rushville (V)	Comprehensive Plan	**Comprehensive Plan**	1965	NO
Ontario	Seneca (T)	Comprehensive Plan	**Comprehensive Plan**	2002	NO
Ontario	South Bristol (T)	Comprehensive Plan	**Comprehensive Plan**	2008	YES
Ontario	Victor (T)	Comprehensive Plan	**Comprehensive Plan**	2002	NO
Ontario	West Bloomfield (T)	Town of West Bloomfield Comprehensive Plan	**Comprehensive Plan**	2001	NO
Orleans	Albion (T)	Comprehensive Plan for the Town and Village of Albion and the Town of Barre	**Comprehensive Plan**	1996	NO
Orleans	Albion (V)	Comprehensive Plan for the Town and Village of Albion and the Town of Barre	**Comprehensive Plan**	1996	NO
Orleans	Barre (T)	Comprehensive Plan for the Town and Village of Albion and the Town of Barre	**Comprehensive Plan**	1996	NO
Orleans	Carlton (T)	Comprehensive Plan	**Comprehensive Plan**	1991	NO
Orleans	Clarendon (T)	Comprehensive Plan	**Comprehensive Plan**	1998	NO
Orleans	Gaines (T)	Comprehensive Plan	**Comprehensive Plan**	2001	NO
Orleans	Kendall (T)	Comprehensive Plan	**Comprehensive Plan**	1991	NO
Orleans	Lyndonville (V)	Western Orleans Comprehensive Plan, Towns of Shelby, Ridgeway, and Yates and Villages of Medina and Lyndonville	**Comprehensive Plan**	2003	NO
Orleans	Medina (V)	Western Orleans Comprehensive Plan, Towns of Shelby, Ridgeway, and Yates and Villages of Medina and Lyndonville	**Comprehensive Plan**	2003	NO
Orleans	Murray (T)	Town of Murray Comprehensive Plan	**Comprehensive Plan**	2001	NO
Orleans	Ridgeway (T)	Western Orleans Comprehensive Plan	**Comprehensive Plan**	2003	NO
Orleans	Shelby (T)	Western Orleans Comprehensive Plan	**Comprehensive Plan**	2003	NO

Orleans	Yates (T)	Western Orleans Comprehensive Plan	**Comprehensive Plan**	2003	NO
Seneca	Fayette (T)	Comprehensive Plan	**Comprehensive Plan**	2006	NO
Seneca	Lodi (T)	Comprehensive Plan	**Comprehensive Plan**	2010	YES
Seneca	Ovid (T)	Comprehensive Plan	**Comprehensive Plan**	2012	YES
Seneca	Romulus (T)	Comprehensive Plan	**Comprehensive Plan**	2001	NO
Seneca	Seneca Falls (T)	Comprehensive Plan for the Town and Village of Seneca Falls	**Comprehensive Plan**	2006	NO
Seneca	Varick (T)	Comprehensive Plan	**Comprehensive Plan**	2006	NO
Seneca	Waterloo (T)	Town of Waterloo Comprehensive Plan	**Comprehensive Plan**	2000	NO
Wayne	Arcadia (T)	Comprehensive Plan	**Comprehensive Plan**	2009	YES
Wayne	Clyde (V)	Clyde, Galen, Savannah Comp Plan	Clyde, Galen, Savannah Comp Plan	2009	YES
Wayne	Galen (T)	Clyde, Galen, Savannah Comp Plan	Clyde, Galen, Savannah Comp Plan	2009	YES
Wayne	Huron (T)	Comprehensive Plan	**Comprehensive Plan**	1992	NO
Wayne	Macedon (T)	Comprehensive Plan	**Comprehensive Plan**	1999	NO
Wayne	Macedon (V)	Comprehensive Plan	**Comprehensive Plan**	1998	NO
Wayne	Marion (T)	Town of Marion Master Plan Zoning Map	**Master Plan Zoning Map**	1989	NO
Wayne	Newark (V)	Comprehensive Plan	**Comp plan with Arcadia (t)**	2004	NO
Wayne	Ontario (T)	Town of Ontario Master Plan	**Master Plan**	2006	NO
Wayne	Palmyra (T)	Town and Village of Palmyra Comprehensive Plan	**Comprehensive Plan**	2004	NO
Wayne	Red Creek (V)	Comprehensive Plan	**Comprehensive Plan**	2005	NO
Wayne	Rose (T)	Comprehensive Plan	**Comprehensive Plan**	2004	NO
Wayne	Savannah	Clyde, Galen, Savannah Comp Plan	Clyde, Galen, Savannah Comp Plan	2009	YES
Wayne	Sodus (T)	Comprehensive Plan	**Comprehensive Plan**	2005	NO
Wayne	Sodus Point (V)	Comprehensive Plan	**Comprehensive Plan**	1996	NO
Wayne	Walworth (T)	Comprehensive Plan	**Comprehensive Plan**	2003	NO
Wayne	Williamson (T)	Comprehensive Plan	**Comprehensive Plan**	1998	NO
Wyoming	Arcade (T)	Village and Town of Arcade Comprehensive Plan	**Comprehensive Plan**	1996	NO
Wyoming	Arcade (V)	Village and Town of Arcade Comprehensive Plan	**Comprehensive Plan**	1996	NO
Wyoming	Attica (T)	Comprehensive Plan	**Comprehensive Plan**	2003	NO
Wyoming	Attica (V)	Village of Attica Comprehensive Plan	**Comprehensive Plan**	2003	NO
Wyoming	Bennington (T)	Comprehensive Plan	**Comprehensive Plan**	1997	NO
Wyoming	Castile (T)	Castile Town and Village Comprehensive Plan, Reports 1 and 2	**Comprehensive Plan**	1967	NO
Wyoming	Castile (V)	Castile Town and Village Comprehensive Plan, Reports 1 and 2	**Comprehensive Plan**	1967	NO
Wyoming	Eagle (T)	Town of Eagle Master Plan	**Master Plan**	2011	YES
Wyoming	Gainesville (T)	Comprehensive Plan	**Comprehensive Plan**	1995	NO
Wyoming	Java (T)	Comprehensive Plan	**Comprehensive Plan**	1987	NO
Wyoming	Perry (T)	Comprehensive Plan	**Comprehensive Plan**	1969	NO
Wyoming	Perry (V)	Village of Perry Comprehensive Plan Update 1986	**Comprehensive Plan Update**	1986	NO
Wyoming	Pike (T)	Comprehensive Plan	**comp plan after village disolution**	2009	YES
Wyoming	Sheldon (T)	Comprehensive Plan	**Comprehensive Plan**	2001	NO
Wyoming	Warsaw (T)	Comprehensive Plan	**Comprehensive Plan**	2004	NO
Wyoming	Warsaw (V)	Village of Warsaw Comprehensive Plan	**Comprehensive Plan**	1994	NO
Yates	Barrington (T)	Comprehensive Plan	**Comprehensive Plan**	2009	YES

Yates	Benton (T)	Comprehensive Plan	**Comprehensive Plan**	2001	NO
Yates	Dresden (V)	Comprehensive Plan	**Comprehensive Plan**	2004	NO
Yates	Dundee (V)	Comprehensive Plan	**Comprehensive Plan**	1969	NO
Yates	Italy (T)	Comprehensive Plan	**Comprehensive Plan**	2005	NO
Yates	Jerusalem (T)	Comprehensive Plan	**Comprehensive Plan**	2006	NO
Yates	Milo (T)	Town of Milo Comprehensive Plan	**Comprehensive Plan**	2009	YES
Yates	Penn Yan (V)	Village of Penn Yan, New York: Comprehensive Master Plan	**Comprehensive Plan**	2000	NO
Yates	Potter (T)	Town of Potter Comprehensive Plan	**Comprehensive Plan**	1979	NO
Yates	Starkey (T)	Comprehensive Plan	**Comprehensive Plan**	1994	NO
Yates	Torrey (T)	Comprehensive Plan	**Comprehensive Plan**	2008	YES
				TOTAL	**31**

Agriculture & Forestry Baseline

Finger Lakes Sustainability Plan:
Agricultural and Forestry Indicators

Context and background

The agricultural and forestry sectors within the Finger Lakes region are critically important sources of economic development and ecological services. Their influence on the region is immediately apparent: the appearance of both working and undeveloped lands (including some 1,518,285 acres of agricultural land and 1,095,243 acres of forest) defines the visual character of the region; the large expanses they occupy contribute to the rural social dynamic; their products are ingrained in the daily lives of residents. Beyond their contribution to the regional character, these two sectors are also essential components of long-term environmental, economic, and social sustainability. From carbon capture, to water quality, biodiversity, and employment, agriculture and forestry bring substantial advantages to the region as it seeks to maximize opportunity and equity while safeguarding its natural resources.

Among those advantages are the breadth and depth of both sectors. Agricultural producers range from large to small operations, growing a wide variety of products for both local consumption and export. While fewer forestry operations exist in the region, the extent of the forest resource is substantial. From grapes and milk to lumber and firewood, their traditional products are staples of the regional economy, and their niche products show promise for continued growth. These producers have a history of adapting to the conditions they face, whether that means matching crop types to soil types or responding to short- and long-term changes in the marketplace. The qualities of diversity and adaptability can only serve to strengthen future efforts toward greater resilience in the face of climate change.

One example of that adaptation is evident in the shift toward a food system that values locally-produced, high-quality foods, fibers, and feed. Renewed attention toward locally-sourced products is creating new opportunities for development while strengthening economic and social connections in both rural and urban communities. Agricultural and forestry operations are increasingly viewed as producing value beyond their respective end products; they are stewards of the land, air, and water, and lynchpins of the regional identity.

Although these sectors may be well-positioned to help the region achieve a sustainable future, they are not without their risks and vulnerabilities. Industry consolidation has created an atmosphere of instability, especially for smaller operations struggling to make ends meet. Uncertainty about the future of the sector continues to prevent new operators from entering the market, and contributes to the conversion of land as aging operators make their exit from it. Although the potential for large new markets, e.g. carbon or pollutant trading, could represent immense opportunity for both the agricultural and forestry sectors, their development has been sluggish at best.

As the public dialogue surrounding climate change and community resilience continues, several indicators within these two sectors will help to indicate regional progress toward sustainable outcomes. This baseline assessment examines the most recent data available to describe the state of agriculture and forestry through the lens of eight such indicators. These indicators were selected from a range of potential measures according to a series of criteria influenced by agency goals and regional priorities. Each indicator shares three basic characteristics: an ability to inform policy and investment; a reliance on existing and publicly available data; and a high degree of replicability, so that trends can be assessed on an ongoing basis.

Agricultural indicators

Selection

The selection of agricultural indicators began with consultation between the project team, regional stakeholders, and national experts in the field of sustainable agricultural development. Conversations and meetings with stakeholder groups reflected their vision of a sustainable agricultural sector, based on the following principles:

- Regionally-produced food takes priority;
- Self-reliant land-based enterprises should be supported;
- Restorative and regenerative practices should be encouraged;
- Biodiversity provided by small and medium sized farms should be valued and fostered;
- Responsible farm stewardship should be encouraged;
- Local agricultural needs and resources should be synchronized; and
- Community identity should be reinforced.

Several organizations and individual professionals in the agricultural sector were also consulted throughout this process, and their input provided valuable insight into the current and future states of agriculture and sustainability. These include, but are not limited to, the following:

- The Sustainable Agriculture Research and Education (SARE) program, a decentralized competitive grant-making and educational program supported by the U.S. Department of Agriculture's National Institute of Food and Agriculture. SARE invests in research and education with the aim of achieving agricultural innovations that improve profitability, stewardship, and quality of life. Representatives of SARE's Northeast region were consulted for this research.
- ATTRA, the National Sustainable Agriculture Information Service. ATTRA is managed by the National Center for Appropriate Technology (NCAT), and funded primarily through a cooperative agreement with the United States Department of Agriculture's Rural Business-Cooperative Service. ATTRA provides technical assistance to agricultural producers, extension services, and others involved in sustainable agriculture.
- Dr. David Wolfe of Cornell University's Department of Horticulture, and Dr. Jeffrey Midler, a Visiting Fellow at the Department of Natural Resources. Dr. Wolfe, the Chair of the Climate Change Focus Group at the Atkinson Center for a Sustainable Future and a professor of plant and soil ecology, led the agriculture and ecosystems sections of the ClimAID report recently released by the New York State Energy Research and Development Authority (NYSERDA).
- Kate Mendenhall and Elizabeth Henderson of the Northeast Organic Farming Association of New York (NOFA-NY). NOFA-NY represents the interests of consumers, gardeners, and farmers working toward a sustainable food system throughout the region, focusing on both the ecological and economic viability of the system.
- Gary Burley, co-owner with his wife Betty, of East Hill Farm in Warsaw, Wyoming County, New York. The Burley family milk and graze over 700 dairy cows on a 1,600 acre farm, of which over 1,200 acres is managed as pasture.
- Marilyn Wyman, Agroforestry Program Coordinator and Extension Educator, Cornell Cooperative Extension, Greene County.

The assistance of these regional experts and the input provided by the stakeholder groups was instrumental in sifting through various potential indicators, both those provided by NYSERDA guidance documents and those that were created throughout the planning process. The selected indicators described below examine the protection or conversion of agricultural land, the development of the local food system, the use of agricultural inputs, and the diversity of agricultural production.

Indicator analysis and baseline conditions

Ag1: Acres of High-Quality Agricultural Land in Non-Agricultural Use

This indicator describes the state of agriculture throughout each of the nine counties in terms of the amount of high-quality agricultural land that is dedicated to non-agricultural purposes. The conversion of this land for non-agricultural uses (e.g. residential, commercial, or industrial development) poses several threats to the sustainability of the agricultural sector and to the region as a whole. These threats include, but are not limited to, the following:

- Decreased supply of agricultural land increases the price of the remaining land, which often prevents new farmers from entering the marketplace. Land conversion can also prevent existing operations from growing, as agricultural land becomes either economically inaccessible (i.e. too expensive) or geographically inaccessible (i.e. too far away from existing farms).
- Decreased supply of agricultural land also harms the long-term viability of the businesses that support agricultural operations (e.g. equipment supply and repair, seed sales, distribution networks, large animal veterinary services), as well as those that are supported by it (e.g. yogurt production, agritourism). In many cases, this cycle reinforces itself; fewer farms require fewer services, and as service availability decreases so too does the viability of the remaining agricultural operations.
- Encroachment of non-agricultural uses into primarily agricultural areas can result in land use conflicts, particularly in areas located outside of Agricultural Districts (which provide greater legal protection of agricultural practices).
- Most conversion of agricultural land will increase impervious land cover; the greater the intensity of conversion (e.g. farmland to strip mall), the greater the increase. Increased impervious cover results in several negative impacts to both the quality and quantity of stormwater runoff.

The analysis of land conversion consists of a spatial comparison between moderate- to high-quality agricultural soils and intensely developed land. The USDA Natural Resource Conservation Service (NRCS) describes the productive capacity of soil types through its Land Capability Classification system, which features eight classes as described below[1]:

- *Class I* soils have slight limitations that restrict their use.
- *Class II* soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.
- *Class III* soils have severe limitations that reduce the choice of plants or require special conservation practices, or both.
- *Class IV* soils have very severe limitations that restrict the choice of plants or require very careful management, or both.
- *Class V* soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
- *Class VI* soils have severe limitations that make them generally unsuited to cultivation and that limit their use mainly to pasture, range, forestland, or wildlife food and cover.

[1] U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). 2012. National Soil Survey Handbook, Title 430-VI. Available at: http://soils.usda.gov/technical/handbook/. Accessed November, 2012.

- *Class VII* soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.
- *Class VIII* soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or water supply or for esthetic purposes.

For the purposes of this analysis, Class I and II soils are assumed to represent high-quality agricultural land, as these two classes feature the least restrictive growing environment[2]. Non-agricultural uses are represented by areas of low, medium, and high development intensity as determined by the USDA CropScape Cropland Data Layer (CDL)[3]. The CDL is a remotely sensed aerial image of all vegetated and developed land, and is available for each year between 1997 and 2011.

Calculation:

(Class I soils [ac] + Class II soils [ac]) – (Low-intensity developed land [ac] + Medium-intensity developed land [ac] + High-intensity developed land [ac])

Required Data	Definition	Dataset Reference
Land Capability Classes (geospatial)	Location of Land Capability Classes I and II, as defined by USDA soil survey	USDA Web Soil Survey: http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm
Developed land (geospatial)	Location of low-intensity, medium-intensity, and high-intensity development, as defined by USDA Cropland Data Layer	USDA CropScape: http://nassgeodata.gmu.edu/CropScape/

Additional comments:

As a measure of agricultural soil suitability, Land Capability Classification was chosen instead of the more common Farmland Classification (e.g. prime farmland, prime if drained, soils of statewide importance, etc.). This is primarily due to the exclusion of developed land within the Farmland Classification system. As defined in the USDA NRCS soil survey handbook, "prime farmland is designated independently of current land use, but it cannot be areas of water or urban or built-up land as defined for the National Resource Inventories."[4] In contrast, the Land Capability Classification does consider the agricultural suitability of much of the developed lands in the region (though generally not those located in the densest of urban core areas).

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[2] It is noted that other state or local agencies may consider Classes I through IV as "high-quality", as is done within the SEQR Environmental Assessment Form. Classes I and II are chosen here so as to highlight soil types with only slight or moderate limitations for crop or practice selection, as opposed to severe limitations.

[3] USDA National Agricultural Statistics Service (USDA NASS). 2012. Cropland Data Layer. Available at: http://nassgeodata.gmu.edu/CropScape/. Accessed November, 2012.

[4] USDA NRCS (2012), Part 622.04.

Although the Land Capability Classification of a given soil type is unlikely to change, the data available through the CDL would reflect development patterns on an annual basis, allowing for a reliable measure of land use conversion over time.

Baseline condition:

As shown in Agricultural Map 1, much of the soil throughout the Study Area falls within Land Capability Class I or Class II. Class I and Class II soils account for 1,350,102 total acres throughout the nine-county region. This total represents 44% of the land mass across the region.

Agricultural Map 2 illustrates the location of developed lands. Developed land, which includes land developed for roadways and similar infrastructure, accounts for 290,751 acres (9%) of the region's land mass.

By overlaying high-quality agricultural soils with developed land uses, the overlap will demonstrate where those soils have been converted for development since their Land Capability Class was designated[5]. Agricultural Map 3 shows these areas in red. Unsurprisingly, this phenomenon has occurred largely in urban fringe areas, throughout the suburbs and exurbs of the region's cities and villages. As of 2011, 155,968 acres of high-quality agricultural soils have been converted into non-agricultural use. This amount represents 5% of the region's total land mass.

This analysis illustrates the phenomenon commonly known as urban or suburban sprawl; more importantly, when viewed in light of the region's stagnant or declining population from 1997-2011, it illustrates an even more threatening condition: *sprawl without growth*[6]. Further underscoring that point, this analysis actually under-represents the total amount of land conversion that has taken place by limiting the examination to that of only high-quality agricultural land, as opposed to all "greenfield" development.

However, the simplified arithmetic of examining the total amount of developed land over time masks the critically important issue of the quality of the land that is being converted. The analysis presented here acknowledges that the soil types with the fewest restrictions for the purposes of agricultural management are the region's most important agricultural resource. As these acres are consumed by development, agricultural operations are effectively squeezed into a land resource of declining quality.

As agricultural operations look to maintain or increase their production for the sake of growth or mere survival, the use of marginal or otherwise restricted agricultural soils may require a greater reliance on external inputs such as chemicals and fertilizer (see indicator AG-3). Such a shift may also threaten the traditionally diverse production that is a hallmark of this region's agricultural sector, as the limitations of available soils diminish the yield potential for various crop types (see indicator AG-4). In addition, declining availability of high-quality agricultural land may also result in an increase in the price of the remaining marginal land, creating a situation in which producers' most important resource becomes simultaneously more expensive and less productive. In sum, the loss of high-quality agricultural soils poses myriad systemic and potentially permanent threats to the viability of the regional agricultural sector as a whole.

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[5] The Land Capability Classes was published by the USDA in 1961(see USDA NRCS [2012], Exhibit 622-2). Of the nine counties examined here, six were classified in this system between 1968 and 1978. The vintage of Livingston, Ontario, and Yates Counties' current soil surveys is not clear; for this analysis, they are assumed to have been performed within this same ten year period.

[6] Pendall, Rolf. 2003. Sprawl Without Growth: The Upstate Paradox. Brookings Institution Center on Urban and Metropolitan Policy. October, 2003.

Finger Lakes Regional Sustainability Plan

Agriculture Map 1

Finger Lakes Region High Quality Agricultural Soils

December 2012 Draft

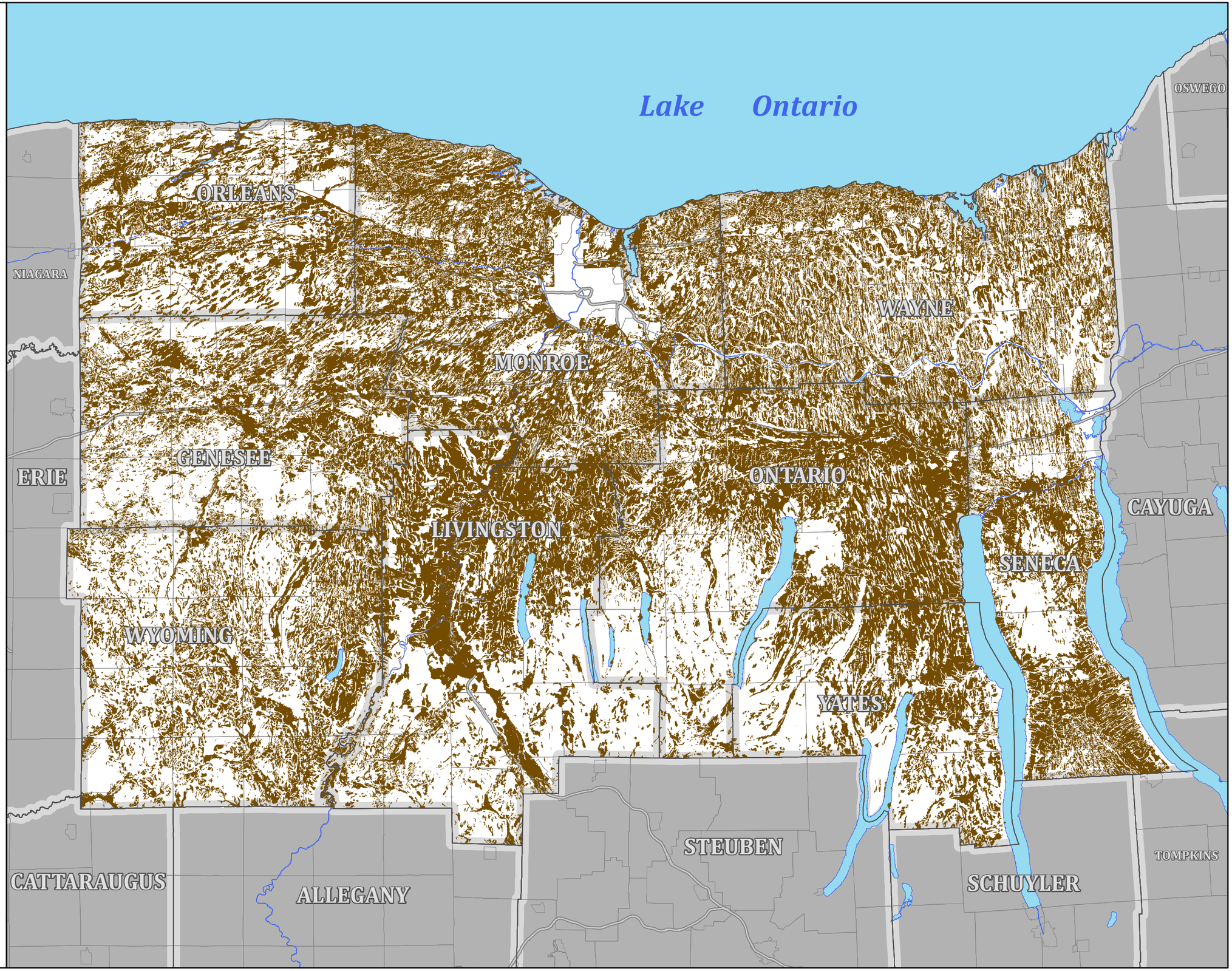
- High Quality Agricultural Soils
- Counties
- Municipalities
- Expressways
- Lakes and Rivers

N W E S

0 2.5 5 10 Miles

Data Sources: GTC (boundaries, hydrography, roads)
USDA NRCS (Soil Survey Data)

Map Design: C&S Companies and edr Companies



Finger Lakes Regional Sustainability Plan

Agriculture Map 2
Finger Lakes Region Developed Land

December 2012 Draft

Legend

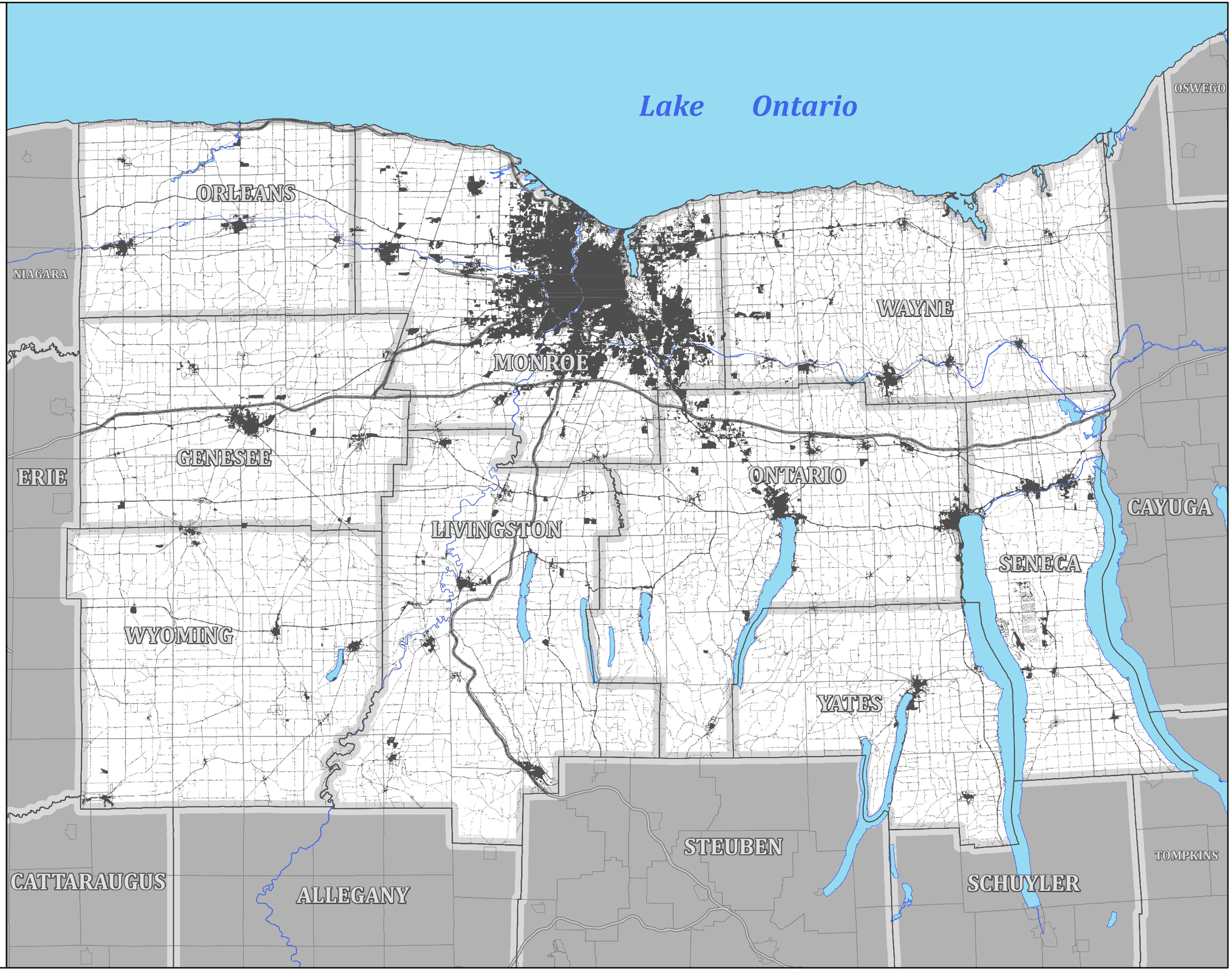
- Developed Land
- Counties
- Municipalities
- Expressways
- Lakes and Rivers

N W E S

0 2.5 5 10 Miles

Data Sources: GTC (boundaries, hydrography, roads)
USDA NASS (CropScape Cropland Data Layer, 2011)

Map Design: C&S Companies and edr Companies



Finger Lakes Regional Sustainability Plan

Agriculture Map 3

Finger Lakes Region High Quality Agricultural Soils in Non-Agricultural Use

December 2012 Draft

Legend

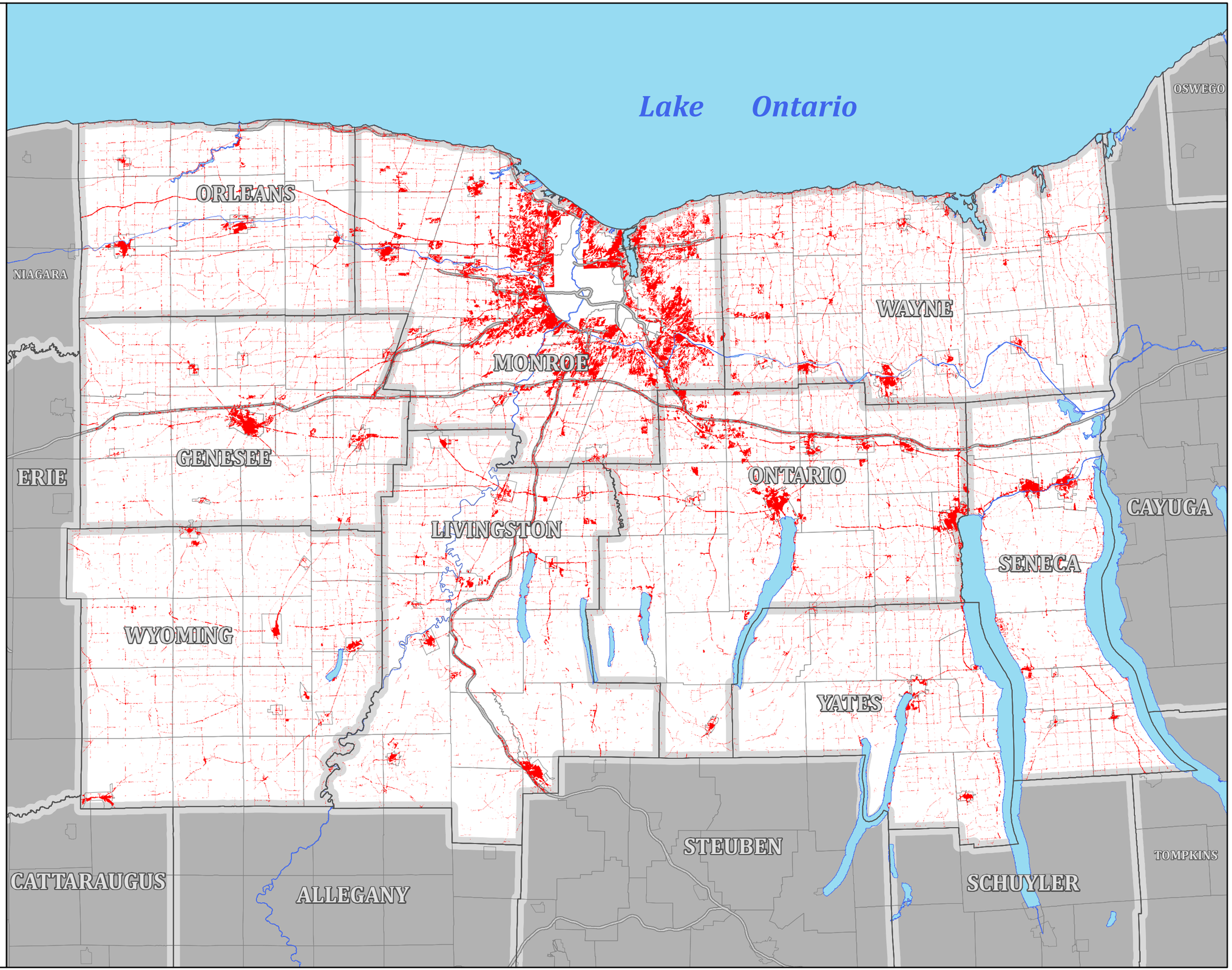
- High Quality Agricultural Soils in Non-Agricultural Use
- Counties
- Municipalities
- Expressways
- Lakes and Rivers

N W E S

0 2.5 5 10 Miles

Data Sources: GTC (boundaries, hydrography, roads)
USDA NASS (CropScape Cropland Data Layer, 2011)
USDA NRCS (Soil Survey Data)

Map Design: C&S Companies and edr Companies



Ag2: Direct Farm Sales Per Capita

This indicator provides a reliable measure of the access that regional residents have to high-quality, locally-sourced agricultural products, and the degree to which regional producers are connecting directly with their consumers. Direct farm marketing accounts for the distribution of agricultural products through farmers' markets, community-supported agricultural (CSA) operations, pick-your-own operations, roadside stands, and similar venues. For the purpose of sustainability planning, the prevalence and use of such venues provides a variety of benefits to both agricultural producers and the community at large[7,8]:

- Direct farm sales can provide a profitable outlet for agricultural producers, which supports the viability of both individual operations and the sector as a whole.
- Direct marketing can decrease transportation-borne greenhouse gas emissions associated with the shipment of agricultural products, since direct sale outlets are generally located closer to the producer.
- Although each direct marketing venue is different, they are generally dominated by fresh vegetables, fruits, and nuts; combined with their growing representation in urban centers and areas close to urban centers, these venues can increase access to healthy food for traditionally underserved populations.

Throughout the stakeholder engagement process, much discussion was focused on the number of farmers' markets, CSAs, and community food gardens within the region as potential indicators of healthy food access and agricultural economic development. The measurement of direct farm sales per capita is intended to aggregate these constituent measures into a more comprehensive indicator, one that accounts not only for the *presence* of such outlets but also the *consumption* of direct-marketed products. It recognizes that the support of local food producers requires a financial commitment from local residents to incorporate their goods into monthly, weekly, or daily food purchases.

Calculation:

Total value of farm sales direct to consumers (including sales from roadside stands, farmers markets, pick-your-own, door-to-door, etc., but not sales of craft items or processed products) [$] ÷ total population

Required Data	Definition	Dataset Reference
Value of direct sales	Total value of farm sales direct to consumers (including sales from roadside stands, farmers markets, pick-your-own, door-to-door, etc., but not sales of craft items or processed products, such as jellies, sausages, and hams) divided by the number of residents of the county.	USDA Economic Research Service (ERS) Food Environment Atlas: http://www.ers.usda.gov/data-products/food-environment-atlas.aspx
Countywide population estimates	Number of residents per county	USDA Economic Research Service (ERS) Food Environment Atlas: http://www.ers.usda.gov/data-products/food-environment-atlas.aspx

[7] Brown, Cheryl, and Stacy Miller. 2008. The Impacts of Local Markets: A Review of Research on Farmers Markets and Community Supported Agriculture (CSA). American Journal of Agricultural Economics 90(5), pp. 1296-1302.
[8] Low, Sarah, and Stephen Vogel. 2011. Direct and Intermediated Marketing of Local Foods in the United States. U.S. Department of Agriculture, Economic Research Service. Economic Research Report Number 128; November, 2011.

Additional comments:

The most recent publicly available data by which to measure direct farm sales is the USDA's 2007 Census of Agriculture. Considering the growth of local food systems in recent years, this resource is somewhat dated. It does provide a valuable baseline condition, however, and updated data will become available as the results of the 2012 Census of Agriculture are published in the coming years.

In the meantime, it is worthwhile to consider the increase in farmers' markets throughout the region, which have grown from 51 in 2009 to 59 in 2012 (see Figure 1, below)[9].

Figure 1, Number of farmers' markets

County	2007		2012	
	# Farmers' Markets	# Farmers' Markets per 1,000 population	# Farmers' Markets	# Farmers' Markets per 1,000 population
Genesee	3	0.05	3	0.05
Livingston	5	0.08	7	0.11
Monroe	18	0.02	22	0.03
Ontario	7	0.07	9	0.08
Orleans	2	0.05	2	0.05
Seneca	4	0.12	4	0.11
Wayne	7	0.08	4	0.04
Wyoming	3	0.07	3	0.07
Yates	2	0.08	5	0.20
Regional total	*51*	*0.62*	*59*	*0.74*

Source: USDA ERS (2012)

Baseline condition:

The market for direct farm sales throughout the study area appears to be robust relative to that of the state as a whole. As shown in Figure 2, the total value of direct farm sales throughout the region was $11,328,000 in 2007, resulting in direct sales per capita of $9.52. In and of itself, this metric does not appear to reflect much support for direct sales opportunities in the region. However, when the data are disaggregated by county and compared to statewide levels, much more support becomes evident.

[9] USDA Economic Research Service (ERS). 2012. Food Environment Atlas. Available at: http://www.ers.usda.gov/data-products/food-environment-atlas.aspx. Accessed October, 2012.

Figure 2, Direct Farm Sales per capita

County	Population Estimate, 2007	Value of Direct Farm Sales, 2007	Direct Farm Sales per capita, 2007
Genesee	58,159	$535,000	$9.20
Livingston	63,123	$641,000	$10.15
Monroe	730,629	$2,640,000	$3.61
Ontario	103,834	$2,136,000	$20.57
Orleans	42,370	$1,294,000	$30.54
Seneca	34,276	$535,000	$15.61
Wayne	91,529	$1,945,000	$21.25
Wyoming	41,841	$525,000	$12.55
Yates	24,535	$1,077,000	$43.90
Regional total	*1,190,296*	*$11,328,000*	*$9.52*
Statewide total	19,422,777	$76,449,000	$3.94

Source: USDA ERS (2012)

The residents of Monroe County consumed the greatest amount of direct farm sales by value, but the least amount per capita. The $3.61 worth of direct farm sales per capita in Monroe County (the only county in the region purchasing less through direct sale than the statewide average of $3.94) should represent a "floor" relative to future measurements. Considering its outsized population and greater diversity of potential food sales venues as compared to the rest of the region, the per capita measure may never grow to reach the level of the smaller, less diverse counties. However, given the increasing number of farmers' markets in Monroe County, as well as the growth of the Rochester Public Market and the number of CSAs that serve the city, this number is poised to grow.

On the opposite end of the spectrum, Yates County is also an outlier. While it has the least number of residents, those residents consumed the greatest value of direct sale products per capita by far. In 2007, each resident of Yates County purchased an average of $43.90 worth of agricultural products directly from farmers. This is more than twice the per capita sales found in Wayne, Ontario, Seneca, and Wyoming Counties, more than four times those found in Livingston and Genesee Counties, and more than twelve times the level of Monroe County. The proliferation of CSAs operating in Yates County has likely contributed to the high level of per capita sales; in 2007, Yates County featured 16 CSAs, more than any other county in the region[10].

The regional and countywide data both provide insight into the depth of their respective markets for direct-sale agricultural products. The statewide data, though it may be skewed by the inclusion of larger downstate populations, is nonetheless a valuable marker by which to judge direct sales and local food consumption in the region. Further examination of similarly sized and populated regions throughout the state and elsewhere would provide apt comparisons as well.

[10] USDA ERS (2012).

Ag3: Use of External Inputs

Although the majority of residents may not be aware, the use of external agricultural inputs, including pesticides and fertilizer, is of primary importance to both the financial and ecological sustainability of their region. External inputs have a substantial impact on the viability of conventional agricultural operations, the yield, production cost, and price of agricultural products, and the health of farm workers and consumers. Perhaps most notably, external inputs also influence the quality of the water supply, one of the principal economic drivers (and a defining characteristic) of the nine-county region.

The use of external inputs can be measured from several different perspectives, including input expenditures, acreage treated, and volume applied. Regardless of the approach, the measurement of inputs is inherently complex and nuanced, and no single measurement can capture the entire essence of the issue. For example, the volume of fertilizer (both chemical and manure) applied within a given watershed has perhaps the greatest overall impact on the nutrient loading of that area's surface water; however, the actual extent of nutrient loading is influenced by several circumstantial factors, including but not limited to:

- Type of fertilizer- Fertilizer types differ in the amount of Nitrogen (N), Phosphorous (P), and Potassium (K) they contain. Manure from cows differs from that of sheep; liquid differs from solid; and commercial fertilizers differ from manure fertilizers (and from one another).
- Method of fertilizer application- Several different methods can influence the amount of nutrients that are either consumed by their target plants or are lost to surface runoff. Techniques such as slurry spreading, foliar application, or injection can influence the amount of nutrient that is absorbed by the soil or target plant, and can also influence erodibility and other measures of soil health.
- Season of fertilizer application- Winter spreading, in particular, can increase nutrient loads due to the inability of frozen soil to effectively absorb nutrients. Seasonal weather plays a factor throughout the year, in that the presence and intensity of rainfall or snow melt can increase (or decrease) the amount of nutrients lost to runoff, and can impact operators' decisions on application techniques.

In light of these circumstantial factors, volume of application alone is not a reliable measure of the use of external inputs and their effect on regional sustainability. When paired with such information as surface water nutrient load, it may become a stronger measure of agricultural sustainability. However, even such an analysis as that would only quantify the impact of fertilizers (as opposed to pesticides), and may conflate agricultural input application with industrial, commercial, or residential sources[11].

Like application volume, the number of treated acres provides a second informative, though incomplete, measure to this effect. Most of the same circumstantial factors hidden in application volume also influence application area as a measure of input use and impact. Several others specifically related to characteristics of the landform also come into play, including but not limited to slope, distance to receiving waters, and soil physical characteristics. Nonetheless, it is a reliable measure of the extent to which agricultural producers are applying external inputs to the land resource.

[11] In addition, comprehensive county-level data regarding input application volume and nutrient load sources is scarce. One notable exception is the USGS's 2006 publication "County-Level Estimates of Nutrient Inputs to the Land Surface of the Conterminous United States, 1982-2001", by Barbara Ruddy, David Lorenz, and David Mueller. The authors of this study estimate countywide N and P inputs by both farm and non-farm sources over a 20-year period, and distinguish between the nutrients as they result from fertilizer application in general, manure application specifically, and atmospheric deposition.

A third perspective is that of regional expenditures dedicated to chemicals and fertilizer. This indicator attempts to account for both the environmental and economic impacts of external inputs. If viewed as a surrogate measure of input application volumes, it may show increasing, decreasing, or steady use of fertilizer and chemicals. However, the dollar value of input expenditures over time, as a stand-alone metric outside of the context of all other expenditures, could internalize price fluctuation as a result of inflation, therefore limiting its utility as an analog of input application volume.

For the purposes of this analysis, this potential distortion is mitigated by examining input expenditures relative to total operational expenditures. Such a context assumes that inflationary impacts are spread more or less equally among expenditure types, and would not be reflected disproportionately in the price of fertilizer and chemicals. An examination of sector-specific input expenditures relative to other expenditures can help describe regional operators' reliance on pesticides and fertilizers, as well as their vulnerability to non-inflationary price increases, both of which are informative with regard to the long-term resilience of the sector.

Calculation:

(Agricultural chemical expenditures + agricultural fertilizer expenditures) / Total agricultural operation expenditures

Required Data	Definition	Dataset Reference
Value of input expenditures ($)	Total amount spent on pesticide and fertilizer inputs by agricultural operations within the region	USDA 2007 Census of Agriculture: http://quickstats.nass.usda.gov/
Value of total expenditures	Total amount spent on all other expenditure types by agricultural operations within the region	USDA 2007 Census of Agriculture: http://quickstats.nass.usda.gov/

Additional comments:

Though useful for the purposes of this study, the measurement of input expenditures relative to total expenditures is not without its limitations. For example, the aggregated value described in the Baseline Assessment (10.7%) obscures potential differences between input types, including differences in the level of expenditure per type, or the impact of each constituent input on agricultural yields, environmental health, or public health. Disaggregated data (presented below) may mitigate the former, but does not adequately address the latter. In addition, it should be noted that production costs can vary substantially from one year to the next, and that input usage during a given Census of Agriculture year may reflect outlier values. Acknowledging that a single indicator cannot represent the full scope of external input use and all of its impacts on agricultural sustainability, this measurement is best supplemented by an examination of multiple types of data over time.

As with other indicators dependent on the 2007 Census of Agriculture, the data supporting this indicator is the most recent available, although not necessarily reflective of current conditions. The 2012 Census of Agriculture will collect and publish similar data in the near future.

Baseline condition:

Agricultural operations throughout the study area logged $956,396,000 in total expenditures in 2007. This total includes $44,452,000 spent on fungicide, herbicide, insecticide, and other chemicals and $58,329,000 spent on fertilizers, including manure, liming agents, soil conditioners, and other commercial fertilizers. As shown in Figure 3, chemical and fertilizer expenditures combined to account for 10.7% of all agricultural expenditures in that year.

Figure 3, 2007 Expenditures by type

	% of Total 2007 Expenditures[a]											
County	Ag services[d]	Animals	Chemicals	Feed	Fertilizer[b]	Fuel	Interest	Labor	Rent	Seeds & Plants	Supplies & Repairs	Taxes[c]
Genesee	16.7%	3.6%	4.2%	19.6%	5.7%	5.1%	3.8%	19.2%	3.6%	4.6%	10.8%	3.1%
Livingston	17.0%	4.8%	3.2%	22.3%	7.0%	5.9%	5.4%	13.3%	3.2%	5.3%	8.6%	4.0%
Monroe	14.8%	1.0%	5.8%	7.0%	9.0%	7.7%	4.1%	19.9%	4.9%	7.3%	12.3%	6.2%
Ontario	16.4%	2.3%	2.8%	18.3%	6.8%	6.2%	5.7%	18.0%	3.0%	4.8%	11.7%	4.0%
Orleans	15.6%	1.3%	8.2%	4.4%	7.5%	8.5%	3.1%	25.2%	5.3%	6.3%	10.5%	4.1%
Seneca	13.5%	9.4%	4.4%	23.6%	6.4%	5.4%	5.2%	11.4%	2.9%	5.3%	8.5%	4.0%
Wayne	14.9%	1.3%	9.4%	7.0%	5.7%	6.2%	4.2%	30.1%	2.6%	5.4%	9.0%	4.4%
Wyoming	19.9%	4.9%	2.8%	27.0%	3.9%	4.7%	4.4%	14.4%	3.1%	2.5%	9.9%	2.4%
Yates	13.3%	5.1%	3.4%	19.3%	6.5%	6.6%	7.9%	14.1%	2.2%	4.9%	10.9%	5.7%
Regional Total	*16.5%*	*3.7%*	*4.6%*	*18.0%*	*6.1%*	*6.0%*	*4.7%*	*18.3%*	*3.3%*	*4.8%*	*10.1%*	*3.8%*

[a] Not including depreciation
[b] Including but not limited to lime, soil conditioners, and manure
[c] Includes property, real estate, and other taxes, excluding those paid by landlords
[d] Includes customwork, machinery, utilities, and other production expenses
[d] Includes both hired and contract labor

Source: USDA 2007 Census of Agriculture[12]

This value is slightly higher than that which was found in the 2002 Census of Agriculture, though lower than that of 1997. Figure 4 shows production costs as measured in 2002, and Figure 5 shows the same for 1997.

[12] USDA NASS. 2012. Quick Stats 2.0. Available at: http://quickstats.nass.usda.gov/. Accessed October, 2012.

Figure 4, 2002 Expenditures by type

	% of Total 2002 Expenditures[a]											
County	Ag services[d]	Animals	Chemicals	Feed	Fertilizer[b]	Fuel	Interest	Labor	Rent	Seeds & Plants	Supplies & Repairs	Taxes[c]
Genesee	19.9%	12.7%	2.9%	15.7%	4.4%	3.8%	4.3%	17.3%	2.6%	3.5%	9.2%	3.5%
Livingston	20.3%	7.7%	2.5%	15.0%	5.6%	4.4%	6.2%	15.2%	3.0%	3.6%	10.9%	5.7%
Monroe	16.9%	0.5%	7.2%	5.2%	7.2%	5.4%	3.0%	21.7%	4.4%	8.2%	12.3%	8.2%
Ontario	19.5%	1.6%	4.0%	16.4%	5.9%	4.3%	5.4%	17.9%	3.3%	5.4%	11.2%	5.1%
Orleans	18.5%	4.6%	9.4%	4.3%	6.9%	3.8%	4.2%	23.5%	2.7%	7.4%	10.0%	4.8%
Seneca	14.0%	8.9%	5.0%	14.1%	6.9%	4.0%	6.6%	14.9%	4.5%	5.2%	9.7%	6.3%
Wayne	17.3%	1.8%	8.0%	9.7%	3.9%	5.1%	3.3%	25.9%	2.4%	5.8%	11.6%	5.1%
Wyoming	20.4%	7.7%	2.6%	23.5%	2.9%	3.0%	5.1%	16.8%	2.2%	2.4%	10.6%	2.9%
Yates	16.3%	5.8%	4.3%	16.6%	5.5%	4.7%	6.9%	10.2%	3.1%	4.7%	13.4%	8.5%
Regional Total	*18.8%*	*6.3%*	*4.6%*	*15.1%*	*4.9%*	*4.1%*	*4.9%*	*18.4%*	*2.9%*	*4.6%*	*10.8%*	*4.8%*

[a, b, c, d] See 2007 Expenditure table, above

Figure 5, 1997 Expenditures by type

	% of Total 1997 Expenditures[a]											
County	Ag services[d]	Animals	Chemicals	Feed	Fertilizer[b]	Fuel	Interest	Labor	Rent	Seeds & Plants	Supplies & Repairs	Taxes[c]
Genesee	13.2%	7.0%	5.1%	20.2%	6.7%	4.3%	5.8%	17.6%	3.8%	4.6%	8.0%	3.7%
Livingston	12.6%	5.1%	4.9%	19.0%	7.8%	5.7%	7.4%	14.3%	4.1%	5.3%	8.3%	5.6%
Monroe	13.8%	2.0%	7.7%	5.2%	8.6%	6.1%	4.7%	24.4%	3.6%	7.6%	9.2%	7.2%
Ontario	14.1%	4.9%	5.0%	14.9%	7.5%	5.1%	8.1%	16.0%	3.8%	6.3%	8.6%	5.8%
Orleans	13.0%	1.0%	11.8%	4.3%	8.0%	5.3%	5.5%	25.5%	4.7%	6.3%	8.5%	6.2%
Seneca	12.2%	5.3%	6.0%	19.6%	8.4%	5.5%	7.9%	13.1%	3.7%	4.9%	8.4%	4.8%
Wayne	13.6%	3.8%	10.2%	9.2%	5.4%	4.7%	6.0%	28.1%	2.6%	4.3%	7.3%	4.8%
Wyoming	13.3%	6.2%	2.4%	34.5%	2.8%	3.6%	7.9%	14.1%	2.2%	2.4%	7.1%	3.5%
Yates	13.8%	6.3%	5.5%	13.8%	6.8%	5.2%	8.8%	14.6%	2.5%	4.7%	10.7%	7.2%
Regional Total	*13.3%*	*4.8%*	*6.2%*	*17.4%*	*6.3%*	*4.8%*	*6.9%*	*18.8%*	*3.3%*	*4.8%*	*8.1%*	*5.0%*

[a, b, c] See 2007 Expenditure table, above

[d] 1997 Agricultural Census does not disaggregate Agricultural Services expenditures

These five-year snapshots should be viewed with regard to general long-term trends, both locally and throughout the surrounding area. For example, inputs accounted for 6.8% of total statewide agricultural expenditures in 1969, and slightly more than 8% in 1974[13]. One notable shift that could influence this measurement in the long-term is the growing number of mixed crop and animal operations. Though it was historically much more common, the practice of mixed operations began to decline throughout the country

[13] USDA. 1977. 1974 Census of Agriculture. Available at: http://usda.mannlib.cornell.edu/usda/AgCensusImages/1974/01/32/1974-01-32.pdf. Accessed December, 2012. [Note: Definition and measurement of "chemicals" changes between Census reports.]

as operations became more specialized[14]. The introduction of innovative cropping systems could also reduce input requirements, as certain types and periods of rotation have been shown to require fewer synthetic fertilizer and herbicide[15]. If recent trends throughout the sector take hold and the adoption of such innovative practices increases, dependence on external inputs could decrease, which could be reflected in a lower input expenditures as a proportion of total production expenditures.

As discussed previously, the measurement of input expenditures should also be viewed in light of the number of acres treated with chemicals and fertilizer. This secondary measure provides further context to describe the use of external inputs in spatial terms. Figure 6 shows acreage of agricultural land per county from 1997-2007, with a sum total of 1,518,285 acres across the region during the most recent Census of Agriculture. Figures 7-9 show the percent of each county's agricultural land that was treated with chemicals and fertilizers during those years[16].

Figure 6, Acres of land in agricultural production, 1997-2007

	Acres used for agricultural production		
County	1997	2002	2007
Genesee	180,879	177,370	183,539
Livingston	209,782	209,496	222,415
Monroe	113,075	106,561	133,041
Ontario	203,242	194,742	198,937
Orleans	153,280	132,947	139,764
Seneca	126,052	127,242	127,972
Wayne	186,635	165,213	168,471
Wyoming	205,036	215,317	218,028
Yates	122,728	115,113	126,118
Regional Total	*1,500,709*	*1,444,001*	*1,518,285*

Source: USDA 2007 Census of Agriculture[17]

[14] Russelle, M. P. et al. 2007. Reconsidering Integrated Crop-Livestock Systems in North America. Agronomy Journal (99): 325-334.
[15] Davis, A.S. et. al. 2012. Increasing Cropping System Diversity Balances Productivity, Profitability and Environmental Health. PLoS ONE 7(10): e47149.
[16] Note: Individual chemical and fertilizer inputs are not mutually exclusive, and therefore cannot be aggregated, and therefore cannot be aggregated as shown. A given acre may be treated with any combination of chemicals or fertilizer, or remain untreated. Aggregated data describing the total acreage treated with any external input is not available at the county level.
[17] USDA NASS. 2012. Quick Stats 2.0. Available at: http://quickstats.nass.usda.gov/. Accessed October, 2012.

Figure 7, Percent of agricultural lands treated, 2007

	% of Agricultural Lands Treated, 2007						
	Pesticides and other non-fertilizer chemicals					Fertilizers	
County	*Fungicide*	*Herbicide*	*Non-Nematicide Insecticide*	*Nematicide*	*Other Chemicals*	*Fertilizer, inc. Manure*	*Manure*
Genesee	7%	45%	35%	1%	0.05%	60%	22%
Livingston	1%	37%	17%	0%	1%	52%	14%
Monroe	6%	54%	18%	0.5%	2%	61%	3%
Ontario	3%	41%	16%	1%	1%	51%	15%
Orleans	11%	37%	28%	2%	3%	55%	5%
Seneca	2%	40%	15%	1%	1%	54%	11%
Wayne	12%	40%	27%	1%	11%	47%	5%
Wyoming	3%	30%	19%	1%	1%	49%	32%
Yates	5%	24%	15%	1%	1%	39%	16%
Regional Total	*5%*	*39%*	*21%*	*1%*	*2%*	*52%*	*15%*

Source: USDA 2007 Census of Agriculture[18]

Figure 8, Percent of agricultural lands treated, 2002

	% of Agricultural Lands Treated, 2002						
	Pesticides and other non-fertilizer chemicals					Fertilizers	
County	*Fungicide*	*Herbicide*	*Non-Nematicide Insecticide*	*Nematicide*	*Other Chemicals*	*Fertilizer, inc. Manure*	*Manure*
Genesee	4%	41%	26%	1%	0%	52%	17%
Livingston	1%	30%	17%	0%	1%	42%	13%
Monroe	3%	41%	18%	0%	1%	59%	3%
Ontario	3%	38%	16%	1%	1%	56%	14%
Orleans	10%	51%	23%	1%	4%	60%	4%
Seneca	2%	37%	10%	0%	1%	55%	10%
Wayne	9%	33%	19%	0%	7%	46%	7%
Wyoming	2%	29%	19%	2%	1%	46%	30%
Yates	5%	24%	16%	0%	1%	39%	16%
Regional Total	*4%*	*36%*	*18%*	*1%*	*2%*	*50%*	*14%*

[18] USDA NASS. 2012. Quick Stats 2.0. Available at: http://quickstats.nass.usda.gov/. Accessed October, 2012.

Figure 9, Percent of agricultural lands treated, 1997

	% of Agricultural Lands Treated, 1997*				
	Pesticides and other non-fertilizer chemicals				
County	*Fungicide*	*Herbicide*	*Non-Nematicide Insecticide*	*Nematicide*	*Other Chemicals*
Genesee	12%	46%	30%	3%	0%
Livingston	1%	39%	19%	2%	1%
Monroe	12%	57%	31%	1%	2%
Ontario	4%	43%	18%	0%	1%
Orleans	12%	47%	18%	1%	5%
Seneca	2%	44%	7%	2%	0%
Wayne	16%	41%	25%	0%	11%
Wyoming	2%	24%	16%	1%	1%
Yates	6%	26%	14%	1%	1%
Regional Total	7%	40%	20%	1%	2%

* Regional fertilizer totals for the 1997 Census of Agriculture do not distinguish manure vs. commercial fertilizers, and the total values available from the NASS may not accurately reflect the percent of agricultural land treated with fertilizer.

Ag4: Diversity of production

In terms of agriculture, the Finger Lakes region may be most notable for several signature products, particularly grapes, apples, and dairy products; however, the diversity of the regional agricultural sector goes far beyond these three. Finger Lakes crop operations grow a wide assortment of field crops, vegetables, fruit, and nuts, and animal operations include a variety of dairy and beef cattle, poultry, and specialty animals. The diversity of agricultural production throughout this nine-county region is a reflection of its unique place in the history of agricultural development throughout the nation. Various agricultural products and systems have been brought into the region and further developed to suit the particular needs or characteristics of the regional ecosystem or marketplace, only to have been exported across the country and beyond.

There are a number of potential approaches to the measurement of the diversity of agricultural production. Each must confront the difficulties that arise from the comparison of inherently dissimilar products (e.g. dairy cows vs. broccoli). Therefore, much like the discussion of external inputs, any examination of agricultural diversity must take various indicators into account. Area of production, production volume, and number of operators per product are all valuable measurements for this indicator. For the purposes of this discussion, most of the focus will be given to the latter.

In an effort to distill the diversity of the regional agricultural sector into a single value, this analysis incorporates the Shannon diversity index[19,20]. The Shannon index is commonly applied to analyses of biodiversity due to its ability to account for both the presence and relative abundance of a given subject. In most cases of biodiversity research, acreage is used as the unit of analysis; in such cases, highly diverse ecosystems are generally defined as those with the most even distribution of the greatest abundance of species types.

The Shannon index has been used to describe agricultural diversity throughout academic research, although its application has been chiefly focused on crop diversity alone, and most often employs acreage as the unit of analysis[21]. As it is used here, the index measures the diversity of *operation types*, which include both crop and animal operations. The use of operation types as the unit of analysis, as opposed to acreage or production volumes, is intended to mitigate a number of conceptual and operational hurdles, as well as data limitations, including the following:

- Although crop operations may be most suitably described by their respective acres of production or harvest volume, and animal operations by the size of their inventories, the number of operations featuring a given product type is the lowest common denominator by which *all* agricultural operations can be compared.
- The use of operation types mitigates inter-regional differences with regard to production area and production volume, as well as the potential for outliers in production volume from one year to the next. For example, one area of the region may have soil types that produce greater yields of tomatoes per acre, or a seasonal blight could wipe out half of the region's crop in a given year. By measuring operation types, as opposed to production area or production volume, all of the tomato producers are still counted equally in the measure of production diversity.

[19] Spellerberg, I.F., and P.J. Fedor. 2003. A Tribute to Claude Shannon (1916-2001) and a Plea for More Rigorous Use of Species Richness, Species Diversity and the 'Shannon-Wiener' Index. Global Ecology & Biogeography (2003) 12; 177-179.
[20] Hendrickson, J.R., et. al. 2008. Environment and Integrated Agricultural Systems. Renewable Agriculture and Food Systems: 23(4); 304-313.
[21] Reidsma, P., and F. Ewert. 2008. Regional Farm Diversity Can Reduce Vulnerability of Food Production to Climate Change. Ecology & Society: 13(1).

- For the sake of confidentiality, the USDA may not publish the production area and/or production volume of a given specialty product if the number of product operations does not meet certain thresholds. For example, if there are only two emu operations within a county, Census of Agriculture statistics will acknowledge the presence of two operations, but will not divulge the number of acres operated by those two farms or the number of emus raised.

As with all other indicators and their respective caveats, it is acknowledged that the full diversity of agricultural production cannot be described solely in terms of the number of producers growing or raising each product type. There are a number of limitations to this approach that may be mitigated or controlled via other indicators or methods of operationalizing variables. These include, but are not limited to, the following:

- Specialization at the operational level can be masked as individual operations are aggregated. For example, a four-crop operation that is dominated by a single crop yet also grows three specialty crops in very small amounts will be reported as four operation types. While this may represent a certain bias, it does account for the potential of integrated agricultural systems (as opposed to strict monoculture), and minimizes a similar bias that would otherwise be committed by over-representing acreage used for rotated crops.
- The number of operations featuring a given crop or animal does not necessarily correspond to that product's production area, volume, or inventory. For example, the number of equine (horse, donkey, etc.) operations in the region is very high as compared to other animal types; however, the number of equine animals is very low.

This measurement of agricultural diversity examines all vegetable, fruit, tree nut, and field crop operations, in addition to all livestock, poultry, and specialty animal operations. With few exceptions, all product types are reported individually; that is, to minimize bias, few types are combined as aggregates of more than one individual type[22]. In total, roughly 100 different operation types are present within the region.

Calculation:

$$H = -\sum_{i=1}^{n} [Pi * LN(Pi)]$$

Where:

- H = Shannon's index of diversity
- $-\sum_{i=1}^{n}$ = the negative sum of all individual calculations
- P*i* = the proportion of the *i*th operation type relative to the total number of operations
- LN = natural log

[22] For this reason, this analysis does not examine horticultural production, which is generally a very small portion of agricultural production on the whole. As a group, horticultural products are frequently reported as grouped totals, e.g. "bedding products", or "short-term woody crops".

Required Data	Definition	Dataset Reference
Total number of agricultural operations	Total number of crop and animal operations with sales	USDA 2007 Census of Agriculture: http://quickstats.nass.usda.gov/
Operation types	For each crop type grown and each animal type raised throughout the region, the number of operations featuring that crop or animal	USDA 2007 Census of Agriculture: http://quickstats.nass.usda.gov/

Additional comments:

A given Shannon index value is not in comparison to any other value (e.g. 1, 10, etc.). A value of zero would represent absolute specialization, wherein every agricultural operation would grow or raise a single product (e.g. wheat). As the index value grows, the diversity of operation types increases. There is no "ceiling" to the index, because the number of operations and the number of products is (theoretically) boundless. Other indices can be calculated to provide a more intuitively scaled comparison, and may be informative in their own way[23]. For the sake of the comparison of two or more Shannon values, other similar or dissimilar regions may be analyzed.

In addition, the diversity of operation sizes is not discussed within the context of this indicator. This issue is of particular importance in examining the ability of smaller producers to compete in the marketplace, the viability of family farms, the adoption of agricultural technologies, and several other issues that are of great importance to the sustainability of the sector.

Baseline condition:

Shannon's index value for the diversity of operations by product type measured 6.97 in 2007, as compared to 6.72 in 2002 (see Figure 10, below). Part of this modest increase is the product of an increasing number of operations. The number of operations selling crops increased from 3,657 in 2002 to 3,928 in 2007. Likewise, the number of operations selling animal products increased from 2,651 to 2,749[24]. The number of operations per product type is identified in Figure 11, below.

[23] The Herfindahl index, though not as commonly used in biodiversity-related studies, may be especially useful for the study of agricultural market concentrations. See, for example, the California Energy Commission's July 2012 report, "Vulnerability and Adaptation to Climate Change in California Agriculture".

[24] As stated previously, some degree of overlap naturally occurs between these two categories. Operations featuring both crops and animals are reported in both subtotals.

Figure 10, Shannon's diversity index by product type

	Shannon's diversity index	
	2002	*2007*
All agricultural operations	6.72	6.97
Crop operations	6.16	6.17
Animal operations	2.98	3.51

Figure 11, Number of operations by product type and county, 2007

	Genesee	Livingston	Monroe	Ontario	Orleans	Seneca	Wayne	Wyoming	Yates	Total Operations per Product Type
Alfalfa									3	3
Alpacas	7	5	13	18	10	4	7	9	1	74
Apples	9	12	42	21	81	21	222	17	22	447
Apricots		4	1	2	5	1	7		3	23
Asparagus	4	5		7	1	6	9	2	4	38
Barley	6	9	2	3	3	13	6	9	36	87
Beans	28	17	22	20	21	17	36	13	50	224
Beef Cows	72	164	39	116	78	110	102	150	95	926
Beets	6	6	1	7	4	2	4	3	4	37
Bison				1	1		2			4
Blackberries				1	2	2	3	4	4	16
Blueberries	4	7	7	1	2	4	17	5	14	61
Broccoli	1		13	3	6		5	2	10	40
Brussels Sprouts		2		2	4		1		4	13
Buckwheat	1	1	1	4	2	9		4	3	25
Cabbage	11	4	22	11	16	2	12		17	95
Carrots	4		1	4	5	2	3	1	3	23
Cauliflower			10	2	7		2	2	12	35
Celery							1			1
Cherries		7	14	15	21	15	121	2	11	206
Chestnuts		2				1	3			6
Chickens	51	88	50	101	64	85	86	100	197	822
Crimson Clover									3	3
Cucumbers	5	2	12	8	20	6	14	4	11	82
Currants			1	1			1		1	4
Daikon					1					1
Dairy Cows	68	76	14	122	37	110	60	181	262	930

	Genesee	Livingston	Monroe	Ontario	Orleans	Seneca	Wayne	Wyoming	Yates	Total Operations per Product Type
Deer	7		7				5	4	2	25
Dry Beans	13	31	16	18	1	3	5	4	12	103
Dry Peas		1	1				1	1		4
Ducks	15	20	5	14	3	9	11	10	25	112
Eggplant	1		15	2	5	2	5			30
Elk			2							2
Emmer or Spelt				2	2	3			15	22
Emus	1						3	2		6
Escarole or Endive					1					1
Garlic	2	3	10	11	6	10	8		9	59
Geese	9	14	2	11	3	8	10	12	10	79
Goats	27	51	31	54	42	26	61	65	67	424
Grain Corn	133	169	91	212	81	148	158	148	279	1419
Grain Sorghum	1			1			3	1	1	7
Grapes	2	9	17	46	8	48	19	2	166	317
Greens		2	3	3	2	2				12
Hay	291	390	187	391	242	292	322	432	511	3058
Haylage	96	100	23	126	50	99	69	211	227	1001
Hazelnuts		2					1			3
Herbs	1		3	2	1		3		2	12
Hogs	19	42	13	29	11	40	22	52	46	274
Horseradish							2			2
Horses	135	231	183	256	186	148	182	228	328	1877
Lettuce	2	2		4	1	2	6		3	20
Llamas	5	6	3	2	10	2	5	4		37
Loganberries						2				2
Melons	5	2	8	15	13	3	10	1	16	73
Mules, Donkeys, or Burros	7	9	12	31	17	19	16	25	11	147
Nectarines		4	1	3	5		18		4	35
Oats	51	43	23	50	26	47	49	69	78	436
Okra					1					1
Onions	6	1	2	5	12	2	20	1	14	63
Ostriches		1					4			5
Other (Specialty)	6	21	8	14	15	9	16	20	33	142

	Genesee	Livingston	Monroe	Ontario	Orleans	Seneca	Wayne	Wyoming	Yates	Total Operations per Product Type
Poultry										
Other Berries				1						1
Other Field Crops	1	7	3	3			2	2	3	21
Other Grass Forage		1			1					2
Other Tree Nuts				5	4					9
Other Vegetables	1	2	5	7	2	7	9	2	9	44
Parsley							1		1	2
Peaches		10	15	8	27	6	80	2	15	163
Pears		8	4	5	9	6	53	1	8	94
Peas	30	20	33	5	22	6	4	12	7	139
Pecans							1			1
Peppers	20	10	55	24	32	9	63	5	45	263
Pheasants	6	6	5	7	2		4	4	2	36
Pigeons or Squab	1	3	2		1			2	16	25
Plums & Prunes		4	3	5	3	3	24		6	48
Popcorn									2	2
Potatoes	13	10	10	16	23	10	45	14	35	176
Pumpkins	31	24	53	43	33	11	43	10	26	274
Quail		2	5				2	3	3	15
Rabbits	10	15	8	30	16	8	11	27	39	164
Radishes				1	1		3			5
Raspberries	1	6	19	16	11	4	19	4	15	95
Red Clover			5	1	2	3	5		8	24
Rhubarb	2	1		2			1		1	7
Rye	8	5	2	15	1	3	5	3	22	64
Sheep	32	45	19	28	32	24	23	26	31	260
Silage Corn	99	102	33	121	52	91	82	233	270	1083
Silage Sorghum	1				4	7	7	6	9	34
Soybeans	56	71	57	156	62	120	113	12	85	732
Spinach	1		5		1		1		1	9
Squash	12	10	18	16	19	12	39	6	20	152
Strawberries	4	1	27	12	15	8	26	8	14	115
Sweet Corn	40	35	61	36	31	21	60	18	41	343
Sweet					1					1

	Genesee	Livingston	Monroe	Ontario	Orleans	Seneca	Wayne	Wyoming	Yates	Total Operations per Product Type
Potatoes										
Timothy				1					3	4
Tomatoes	21	11	57	39	31	22	69	8	38	296
Triticale	3			8	1	3	1		12	28
Turkeys	12	13	13	11	5	5	12	11	18	100
Turnips			3		1					4
Walnuts		2	2			1	6		2	13
Wheat	68	95	68	108	35	61	54	42	131	662

Regional and on-farm production diversity has been shown to maintain the economic health of the sector and its flexibility in the face of shifting markets, and to support the viability of individual operations[25,26,27] . By measuring the diversity of production types, and eventually expanding such an analysis to examine diversity by acreage, production volume, or inventories, the Finger Lakes region can quantify a core strength of one of its primary sectors.

By contrast, many other regions throughout the country are likely to exhibit much less diversity. For the sake of comparison, the nine-county region surrounding DesMoines, Iowa, has a substantially less diverse agricultural sector, dominated by a smaller number of operation types[28]. In 2007, the 4,644 crop operations in that region grew a total of 68 crop types. Of those operations, 66% grew hay, 66% grew corn for grain, and 59% grew soybeans. In the same year, the 3,928 crop operations in the Finger Lakes region grew a total of 90 crop types. Of those, 78% grew hay. However, only 36% grew corn for grain, and no other crop was grown by more than 28% of operators. These comparative differences are clearly expressed in Shannon's index: the index value of crop producers by product for the Finger Lakes region in 2007 was 6.17; the same measure for the DesMoine region was 1.82.

[25] Reidsma and Ewert (2008).
[26] Bradshaw, B. et. al. 2004. Farm-Level Adaptation to Climatic Variability and Change: Crop Diversification in the Canadian Prairies. Climate Change (67): 119-141.
[27] Wetterich, F. Biological Diversity of Livestock and Crops: Useful Classification and Appropriate Agri-Environmental Indicators. Paper presented to the OECD Expert Meeting on Agri-Biodiversity Indicators. Zurich, Switzerland. November 5-8, 2001.
[28] Although any number of comparison regions would be appropriate, this region (composed of Clarke, Dallas, Jasper, Lucas, Madison, Marion, Monroe, Polk, and Warren Counties) was chosen due to the similar population size of the central city (DesMoines) to Rochester.

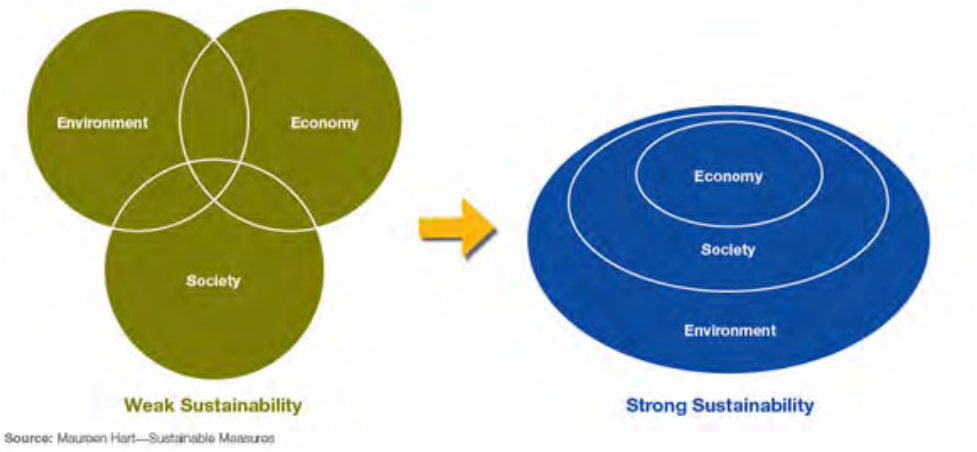
Forestry indicators

Selection

Although not covered by NYSERDA guidance documents, the forestry sector is well ahead of many others in terms of sustainable practices and planning. The development of forestry indicators for this planning initiative was influenced by the work and guidance of the U.S. Forest Service and its international partners in the Montreal Process Working Group, the New York State Department of Environmental Conservation (NYSDEC), and Audobon New York.

The work of the Montreal Process Working Group reflects the understanding that the environmental realm is the foundation of "strong sustainability", because the environment provides natural goods and services that cannot be obtained through any other means. This principle tenet of this vision of sustainability is that the human economy cannot exist without human society, and that human society in turn cannot exist without the environment, which provides the basic necessities of life (namely air, water, food, energy, and raw materials). The Montreal Process Working Group's concept of strong sustainability is depicted in Figure 12, below.

Figure 12, Weak and strong sustainability



The forestry sector currently faces many pressing issues: the loss of ecosystem services; loss of working forests; the maintenance of forest health and vitality; increasing demands for woody biomass to produce bioenergy; climate change adaptation, etc. These issues have strongly interconnected and interdependent economic, social, and environmental linkages. Solutions will require dialog among a broader set of interests, and this activity needs to occur not just within forests, but across landscapes that include towns and farms as well.

The Montreal Process Working Group (which includes forestry representatives from the United States, Argentina, Australia, Canada, Chile, China, Japan, Korea, Mexico, New Zealand, the Russian Federation, and Uruguay) has developed criteria by which the conservation and sustainable management of temperate and boreal forests may be measured. The Montreal Process Criteria and Indicators ("Montreal C&I") are used to monitor and assess national trends in forest conditions and forest management, and provide information essential to the formulation of policies that promote sustainable forest management. Its comprehensive and hierarchical structure constitutes a reference resource for forests in the United States that is unparalleled in terms of its breadth and accessibility.

In addition to the Montreal C&I, the development of indicators for the Finger Lakes forestry sector relied upon the NYSDEC's *Forest Resource Assessment and Strategy, 2010-2015.* With the aid of these resources, the following guiding principles were used to guide the selection of appropriate measures:

- Biological diversity should be maintained;
- The productive capacity of forest ecosystems should be maintained;
- Forest ecosystem health and vitality should be maintained;
- Soil and water resources should be conserved;
- The contribution of forest ecosystems to the global carbon cycle should be maintained;
- The multiple long-term socioeconomic benefits of forest ecosystems should be maintained and enhanced; and
- The legal, institutional, and economic framework of forest conservation and sustainable maintenance should be supported.

The perspective of the following regional and national experts in forest health and sustainability were also instrumental throughout this process:

- Dr. Guy Robertson, U.S. Forest Service (USFS) National Sustainability Program Lead
- Brad Smith, USFS Associate National Program Manager, Forest Inventory & Analysis
- Roger D. Ottmar, Pacific Wildland Fire Sciences Laboratory, USFS Pacific Northwest Research Station
- Sherri Wormstead, Sustainability & Planning Coordinator, USFS Northeastern Area State & Private Forestry
- Charles (Hobie) Perry, Research Soil Scientist, USFS Northern Research Station
- Gloria Van Duyne, Bruce Williamson and Nick Conrad of NYSDEC
- Dr. Graham Cox, Forest and Open Space Program Coordinator, Audubon New York
- Dr. Peter Smallidge, Senior Extension Associate, Cornell University Department of Natural Resources

Indicator analysis and baseline conditions

F1: Percentage of Forest Acreage by Diversity Class Ratio

This indicator provides insight into the overall value of forestry in each of the nine counties. At the most basic level, understanding the sustainability of a sector or industry requires a grasp of the basic resource underpinning it. For the forestry sector, this translates to measuring how much forestland there is in the region in total, and its variation in tree growth stage. Forest stands with trees at varying growth stages provide different economic, ecological, and social benefits, uses, and drawbacks, and thus, are of different value. These benefits and drawbacks include, but are not limited to:

- Diversity of wildlife habitat by providing differing amounts and types of food and cover (nesting, travel, escape, etc.);
- Economic benefits including lumber and fuel; and
- Aesthetic and spiritual benefits for residents and visitors.

The analysis of Forest Acreage by Tree Size Class utilizes a classification breakdown defined by the U.S. Forest Service Forest Inventory and Analysis[29]. These four classes included in this inventory are described below:

- *Small Diameter Forestlands* are forest stands stocked with at least 10% of their capacity for live trees where more than 50% of the trees are saplings (live trees 1-4.9 inches in diameter at breast height)
- *Medium Diameter Forestlands* are forest stands stocked with at least 10% of their capacity for live trees where more than 50% of the trees are poletimber (live trees at least 5 inches in diameter at breast height, but smaller than sawtimber)
- *Large Diameter Forestlands* are forest stands stocked with at least 10% of their capacity for live trees where more than 50% of the trees are sawtimber (live trees at least 11 inches in diameter at breast height for hardwoods and at least 9 inches in diameter for softwoods)
- *Nonstocked Forestlands* are forestlands designated with forestry as their primary land use but are stocked with less than 10% of their capacity for live trees.

Calculation:

To calculate this indicator, the most recent (2011) estimates of acreage of forestland broken down by tree-size class (the first three classes described above) were gathered for each of the nine counties in the region. These area estimates were then converted to percentages of the total acreage in all three classes. These three percentages are then expressed as a ratio.

[29] USFS Forest Service Forest Inventory and Analysis National Program (USFS FIA). 2012. Standard Reports: Area Reports. Available at: http://apps.fs.fed.us/fido/. Accessed November, 2012.

Required Data	Definition	Dataset Reference
Acres of forest land in each county by tree-size class	US Forest Service estimates of forestland acreage occupied by trees classified by trunk diameter (small, medium, and large)	http://apps.fs.fed.us/fido/standardrpt.html Standard Report number 2.4

Additional Comments:

Although the main indicator that is reported here is the estimated ratio of tree size diversity, another important measure that can be derived from this dataset is the total acreage of forestland in the region (see Figure 13). Tracking that measure also speaks to the sustainability of forestry in that, at a more basic level than size class diversity, the simple amount of forested acres in the region has a direct effect on its viability, both ecologically and economically. There are multiple data sources that can be utilized to track this statistic. The reason the data from the U.S. Forest Service Forest Inventory and Analysis was chosen is that their forestry acreage estimates are broken down by size class, which was needed for this indicator. However, for the purposes of simply tracking the total acreage of forested area, two other dataset choices are available: the USGS National Land Cover Dataset[30], and the USDA Cropland Data Layer[31]. Both are publicly available remote sensing datasets that can be processed using geographic information systems (GIS) software to classify land cover types and derive acreage estimates. Due to methodological differences, the total forested acreage statistics from the three data sources will not be exactly the same, and therefore their measurements should not be compared for purposes such as this analysis. When utililizing one of these sources to make acreage estimates, comparisons over time should only be made with measurements taken from the same source.

For the purposes of this analysis, nonstocked forestlands were excluded because the data is not available in all areas of the region. Therefore, percentages of forestland as reported are estimated percentages of total forest land populated with at least 10% stocking of live trees instead of percentages of total land categorized in the Forestry land use category.

[30] USGS Multi-Resolution Land Characteristics Consortium (MRLC). 2006. National Land Cover Dataset. Available at: http://www.mrlc.gov/nlcd06_data.php. Accessed December, 2012.
[31] USDA National Agricultural Statistics Service (USDA NASS). 2012. Cropland Data Layer. Available at: http://nassgeodata.gmu.edu/CropScape/. Accessed November, 2012.

The following definitions are used throughout the analysis of this indicator[32]:

- Basal area: Cross-sectional area of a tree stem measured 4.5 feet above ground level. Usually reported per acre of land.
- Stocking: A relative percentage measure of the degree of occupancy of land by trees, measured by basal area of trees per acre of land. In the Eastern United States, 100% is equivalent to seventy-five square feet of basal area per acre for trees at least 5 inches in diameter at breast height.
- Diameter at breast height (d.b.h.): A standard measure of tree size, measured as the diameter of a standing tree outside its bark at 4.5 feet above ground level.

Baseline Condition:

As shown in Figure 13, the diversity of forest habitat types in the Finger Lakes region is skewed toward tree stands dominated by large diameter, and therefore older trees. The acreage of large-diameter forest stands is estimated to be three times higher than medium-diameter acreage and four times larger than the amount of small-diameter acres (63% large, 21% medium, and 16% small). This uneven proportion is one result of the non-sustainable forest management practice of high grading.

Figure 13, Estimate of Acres of Trees on Forest land by Size Class, 2011

County	Large Diameter Acres	Medium Diameter Acres	Small Diameter Acres	Non-stocked Forestland Acres	Forest Land Total Acres
Genesee	65,548	25,380	24,508	2,060	117,496
Livingston	100,583	39,587	6,473	None reported in survey	146,643
Monroe	61,954	25,890	27,192	None reported in survey	115,035
Ontario	110,780	39,230	33,894	13,520	197,424
Orleans	34,713	21,053	6,836	None reported in survey	62,602

[32] United States Forest Service (USFS). 2004. Common Definitions Used by the FIA. Available at http://www.fs.fed.us/ne/fia/methodology/def_ah.htm. Accessed December, 2012

County	Large Diameter Acres	Medium Diameter Acres	Small Diameter Acres	Non-stocked Forestland Acres	Forest Land Total Acres
Seneca	35,239	16,635	None reported in survey	1,559	53,433
Wayne	100,919	14,164	17,511	9,916	142,511
Wyoming	103,203	32,992	19,086	None reported in survey	155,281
Yates	58,867	10,833	33,894	1,225	104,818
Regional Total	*671,806*	*225,764*	*169,394*	*28,280*	1,095,243
Regional Total as a % of Stocked Forestland Acreage	63.0%	21.2%	15.9%	N/A	N/A

F2: Amount of Biomass in Live Trees on Forestlands

Tracking the estimated amount of tree biomass over time will identify how much the region's forests are contributing to the mitigation of greenhouse-gas-induced climate change. This indicator measures one of the greatest benefits associated with forests in the Finger Lakes region by quantifying one of its primary ecosystem services- its ability to capture and store atmospheric carbon[33]. It also provides one measure by which to estimate the potential of regional forest resources to provide a source of fuel[34].

Calculation:

To calculate this indicator, the most recent (2011) estimates of dry weight in short tons of biomass in live trees on forestlands were gathered for each of the nine counties in the region[35]. These area estimates were then added together to get an estimate of biomass dry-weight in the region. This sum is reported as the indicator.

Required Data	Definition	Dataset Reference
Short tons of biomass in live trees	US Forest Service Estimates of dry weight in short tons of live trees on forest land per county	http://apps.fs.fed.us/fido/standardrpt.html Standard Report number 10.1

Additional Comments:

Multiple methods exist for estimating the total carbon contained in forests. However, at this time, it is a very new science and the estimates are often contradictory, and are thus deemed unreliable[36]. As an approximation of carbon storage amounts, live tree biomass is used.

[33] Gorte, R.W. 2009. Carbon Sequestration in Forests. Congressional Research Service report 7-5700: RL31432. August 6, 2009.
[34] Cook, J. and J. Beyea. 2000. Bioenergy in the United States: Progress and Possibilities. Biomass and Bioenergy 18(2000): 441-455.
[35] USFS. 2012. Forest Inventory Data Online. Available at http://apps.fs.fed.us/fido/standardrpt.html. Accessed October, 2012.
[36] Ingerson, A. and W. Loya. 2008. Measuring Forest Carbon: Strengths and Weaknesses of Available Tools. Science and Policy Brief. Washington, D.C. The Wilderness Society.

Baseline Condition:

As shown in Figure 14, the USFS estimates that in 2011 there were more than sixty million tons of biomass in the forests of the Finger Lakes region. Ontario County had the most with over eleven million tons, while Orleans County had the least with less than three million. Every ton of tree biomass represents hundreds of pounds of carbon that have been captured from the atmosphere and are, thus, not contributing to climate change as greenhouse gas.

Figure 14, Estimated Volume of Biomass in Trees, 2011

County	Short tons of dry-weight biomass in live trees larger than 1 inch in diameter at breast height
Genesee	5,270,724
Livingston	9,029,347
Monroe	6,184,679
Ontario	11,591,094
Orleans	2,919,078
Seneca	3,256,303
Wayne	8,319,484
Wyoming	9,375,560
Yates	4,991,255
Regional Total	*60,937,524*

F3: Number of Breeding Bird Species

One of the important aspects of sustainability involving forests is the diversity of wildlife species living in the region. This indicator quantifies the state of health of forests in the Finger Lakes Finger Lakes region by quantifying biodiversity in the forest habitat. A region with healthy and diverse habitats that supports many different species is more sustainable and resilient in that it is less vulnerable to a harmful invasive species threat. Also, a forest that is home to a variety of species provides greater economic, ecological, and social benefits.

It is difficult to find reliable data on the presence and diversity of populations of most wildlife species. The one source in New York State that is standardized in its measurement and repeated for tracking over time is the New York State Breeding Bird Atlas[37]. Therefore, as a surrogate for overall forest wildlife biodiversity, this indicator tracks the spread of breeding bird species that indicate the presence of high-quality forest interior habitats that are likely to serve as habitats for a diverse plant and animal community.

Calculation:

To calculate this indicator, the most recent (2000-2005) Breeding Bird Atlas statewide survey results were gathered for each of the nine counties. Four species of birds were selected as indicator species for high-quality forest interior habitat. These four species were selected based on criteria including ease of identification (to minimize error on the part of the survey volunteers), and the degree to which their presence in a survey block would indicate the presence of high quality forest interior habitat type. For each species, the number of survey blocks[38] they were observed in during the Breeding Bird Atlas Survey was recorded. These counts serve as the indicator value.

Required Data	Definition	Dataset Reference
Breeding Bird Species Observed Distribution	Number of survey blocks where four high-quality forest habitat indicator species were observed during the most recent NYS Breeding Bird Atlas Survey period (2000-2005) as reported in the NYNHP Nature Explorer database	http://www.dec.ny.gov/natureexplorer/app/location/county

[37] New York State Department of Environmental Conservation. 2007. New York State Breeding Bird Atlas 2000 [Internet]. Release 1.0. Albany (New York): Available at http://www.dec.ny.gov/animals/7312.html.

[38] The Breeding Bird Atlas is a survey conducted by volunteers using uniform size survey blocks. The entire state is covered by 5-kilometer-square blocks. These blocks serve as the unit of reporting for the survey. Each block is reported with a list (and count) of which breeding bird species were observed by the volunteers inside it during the survey.

Additional Comments:

The next New York State Breeding Bird Atlas survey is scheduled to begin in 2020. This will allow for the region to track its biodiversity progress and begin measuring the effectiveness of the strategies in this plan.

Another source considered for measuring biodiversity was the New York Natural Heritage Program's database[39] of significant natural communities and plant and animal community locations. These sources track the location of high-quality examples of natural communities throughout the state, and known locations of rare species respectively. While these certainly are important sources of information regarding biodiversity, they do not present a complete picture. These databases only track species and communities deemed to be either rare or exceptional examples. They are not meant to be an exhaustive survey of all species or communities present. For this reason, they are not appropriate for measuring regional species diversity.

While the Breeding Bird Atlas is a better source for measuring diversity, it is not a perfect one. Even though it is an attempt to document all species, instead of just the rare examples, it is a survey conducted by volunteers. Furthermore, it only measures diversity of bird species by presence or absence, not actual numbers of individuals observed. However, at this time, it is the most reliable and robust surrogate data source for measuring forest habitat quality in the region.

Baseline Condition:

As shown in Figure 15, the Black-and-white warbler, Ovenbird. Scarlet Tanager, and Veery were observed in 54, 289, 428, and 358 survey blocks respectively. These numbers serve as an index for the amount of high-quality forest interior habitat in the region. As these measurements are taken over time when the Bird Atlas Survey is repeated over time, the change in amount of quality forest habitat amount can be tracked over time.

[39] New York State Department of Environmental Conservation. 2012. New York Natural Heritage Program NY Nature Explorer Database. Available at http://www.dec.ny.gov/animals/29338.html Accessed December, 2012

Figure 15: Distribution of Four Selected Forest-Interior-Habitat-Indicator Species Observed in the New York State Breeding Bird Atlas Survey, 2000-2005

Indicator Species	Number of Survey Blocks Where Observed
Black-and-white Warbler (*Mniotilta varia)*	54
Ovenbird (*Seiurus aurocapilla)*	289
Scarlet Tanager (*Piranga olivacea)*	428
Veery (*Catharus fuscescens)*	358

F4: Invasive Species Index

This indicator reflects sustainability of forest resources by quantifying biological threats to the ecosystem. The observation data is updated regularly, and since it is an area of great concern (with large risks like the Emerald Ash Borer), it can be expected to be a strong and reliable measure of forest sustainability. An index was created for this indicator so as to measure both the presence and distribution of invasive species infestation in the region's forests. The New York Invasive Species (NYIS) Clearinghouse tracks the spread of multiple types of invasive species through the state.

One choice for the indicator would be to report the number of tracked species present in the region. Though this indicator choice would be simple, it would be misleading. Many of the species tracked are aquatic or otherwise not applicable to forestry. Just simply reporting the number of species in the region which are a threat to forests would be more precise. However, this indicator choice neglects the measurement of how widespread these species are in the region, a critically important detail. In order to quantify how many applicable invasive species are in the region, and how serious the infestations are with a single numerical measure, it was necessary to design an index. This index evaluates each invasive species present in the region individually. The index values for each species present is finally added together to give the regional index value.

Calculation:

Utilizing the maps of current known species ranges on the NYIS Clearinghouse website[40], the first step in calculating this indicator is to determine how many of the invasive species threatening forests are present in the area. Next, each of these species will get scored individually. For each species present, the number of counties in the region where it is known to be present is determined. Using this information, an index score ranging from one to five is assigned using the following formula:

Index Score = 1 + ([number of counties in the region in which it is present – 1] x 0.5)

This formula is used to calculate an index score for each species present. Finally, all of the scores are added together to determine the overall regional index value.

Example:
Species X and Species Y are the only two invasive species in the region. Species X is only in one county, while Species Y is in five counties.

[40] Cornell University. 2012. New York Invasive Species Clearinghouse. Available at http://www.nyis.info/index.php. Accessed December, 2012.

Species X Index Value = 1 + (1-1)(0.5) = 1 + 0 = 1*

Species Y Index Value = 1 + (4)(0.5) = 1+2 = 3*

Regional Invasive Species Index Value = 1 + 3

Regional Invasive Species Index Value = 4

The index was designed to quantify presence and spread differently. As described above, the first county in which a species is present adds 1 to its index score. Each additional county adds 0.5. This difference is meant to reflect the fact the introduction of a new foreign species threatening forests is arguably more of a problem than the spread of an existing problem species to an additional county within the region. On the other hand, eradicating a species completely from the region, however unlikely, would be more of an accomplishment than just removing it from a single county. The bottom line is that, judging from the point of view of a nine-county region, the mere presence of an invasive species into the region is a very large issue. Once present, though the extent of its distribution is important, much of the damage is already done with the initial introduction. The difference between the weights used in the index formula attempt to reflect this variation.

Required Data	Definition	Dataset Reference
Number of invasive insect and parasite species present in region, and their range	Range of Priority Species tracked by the New York Invasive Species Clearinghouse which are a threat to forest resources	USDA and DEC Species Range Maps found at: http://www.nyis.info/index.php

Additional Comments:

It is acknowledged that not all invasive species pose equivalent threat levels to regional forest resources. The vast difference between various potential impacts is mitigated to some degree by virtue of the selectivity inherent in the NYIS Clearinghouse data source. The Clearinghouse distinguishes between species of high potential threat and those that are merely foreign competitors, such as Norway maple.

Even still, some degree of generalization is required in an effort to achieve a single numeric values by which to describe both the presence and distribution of threatening invasive species on the whole. The nature of the invasive species threat is such that we cannot foresee which species

might possibly be introduced into the region, or how problematic they might be. For this reason, any measure must be general and flexible, even if somewhat simplified.

Baseline Condition:

The Regional Index value of 8.5 reflects the presence of three tracked species that exhibit known threats to forest resources (see Figure 16). European Woodwasp (*Sirex noctillo F.)* is present in all nine counties, Hemlock Wooly Adelgid (*Adelges tsugae)* is present in three, and Emerald Ash Borer (*Agrilus planipennis*) or EAB is present in two. EAB is the most problematic of these three. According to the NYIS Clearinghouse, "Slowing [EAB's] spread is imperative."[41] New York State has instituted a quarantine on ash products to attempt to limit their spread and mitigate potential catastrophic damage to the state's high number of ash trees.

Figure 16, Invasive Species Index Values, 2012

County	Emerald Ash Borer	European Woodwasp	Hemlock Wooly Adelgid
Genesee		Yes	
Livingston	Yes	Yes	
Monroe	Yes	Yes	Yes
Ontario		Yes	
Orleans		Yes	
Seneca		Yes	Yes
Wayne		Yes	
Wyoming		Yes	
Yates		Yes	Yes
Regional Index Value (subtotals)	*1.5*	*5*	*2*
Total Regional Index Value	*8.5*		

There are a few invasive species in New York that have not, as of yet, spread to the Finger Lakes region. A clear example is Asian Longhorned Beetle (*Anoplophora glabripennis),* which has been found in areas of New York City and Long Island. An important goal for the region will be to try and keep its index value from rising, in part by doing all it can to avoid the spread of existing invasives in the region, and keeping others like the Asian Longhorned beetle out.

[41]Cornell University. 2012. EAB Home Page. New York Invasive Species Clearinghouse. Accessed December 5, 2012. Available at http://www.nyis.info/index.php?action=eab

Climate Change Adaptation Baseline

Appendix For Climate Adaptation Indicators - References

1. Discussion of climate change and adaptation in Hazard Mitigation Plans

State/County	Status	Climate Change	Link
NY State	Update 2011	No	http://www.dhses.ny.gov/oem/mitigation/plan.cfm
Genesee	2006	No	http://www.gflrpc.org/GeneseeAllHazard.htm
Livingston	2005	No	http://www.gflrpc.org/LivingstonAllHazard.htm
Monroe	Update 2011	No	http://www.monroecounty.gov/File/PUBLIC%20SAFETY/OEM/2010%20Pre-Disaster%20Mitigation%20Plan%20FEMA%20&%20MC%20approved.pdf
Ontario		NA	
Orleans	2006	No	http://www.gflrpc.org/Publications/OrleansAllHazard/MitigationPlan/Index.htm
Seneca		NA	
Wayne	2007	No	http://www.gflrpc.org/Publications/WayneAllHazard/Index.htm
Wyoming	2008	No	http://www.gflrpc.org/Publications/WyomingAllHazard/MitigationPlan/Index.htm
Arcade Township	Update 2012	No	http://www.gflrpc.org/Publications/ArcadeAllHazard/HazardMitigationPlanUpdate/ArcadeHazardMitgationPlanUpdate.pdf
Yates	Update 2011	No	http://www.yatescounty.org/upload/12/4151.pdf

2. Reduction in agricultural economic losses attributable to temperature, drought, flooding

a. Crop losses from Hail (NY State Hazard Mitigation Plan, 2011, Table 3-41, pp. 3-209-3-211)

County	Cash Receipts from Farm Marketing's 2007 (All Crops)	Annualized Loss (Total x Annualized Loss %)
Genesee	$72,247,000	$144,494
Livingston	$44,139,000	$88,278
Monroe	$65,784,000	$131,568
Ontario	$56,467,000	$112,934
Orleans	$87,972,000	$175,944
Seneca	$27,831,000	$55,662
Wayne	$105,346,000	$210,692
Wyoming	$50,845,000	$101,690
Yates	$31,635,000	$63,270

Reference source: http://www.dhses.ny.gov/oem/mitigation/documents/3.8-Hail-Storm-2011.pdf

b. Government payments for agriculture loss and disaster assistance

(Thousands of Dollars, 2011)

	Direct Payments (2011)	Supplemental and Ad Hoc Disaster Assistance 6/	Milk Income Loss Payments
New York	24,300.2	3,351.9	6.6

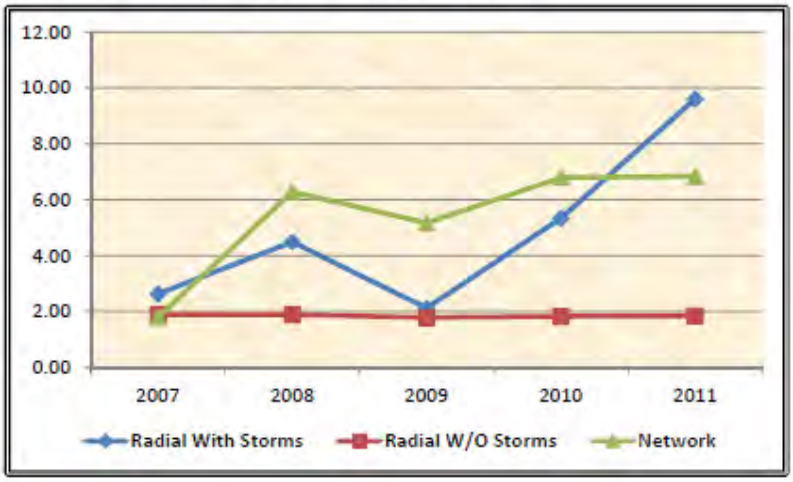
Note: Supplemental and ad hoc disaster assistance programs includes all programs providing disaster and emergency assistance payments to growers. Programs include Crop Assistance Program, Dairy Indemnity Program, Durum Wheat Quality Program, Emergency Assistance Program, Emergency Conservation Program, Emergency Forest Restoration Program, Geographic Disadvantaged Program, Livestock Forage Program, Livestock Indemnity Program, Livestock Indemnity Program 2005/2007, Market Loss Assistance Program - Asparagus, Noninsured Assistance Program, Supplemental Assistance Program (SURE), Trade Adjustment Assistance Program, Tree Assistance Program.

Reference Source: US Department of Agriculture, http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics.aspx#27428

3. Reduction in # of residents put at risk from loss of at least one critical infrastructure services for more than 1 day per year

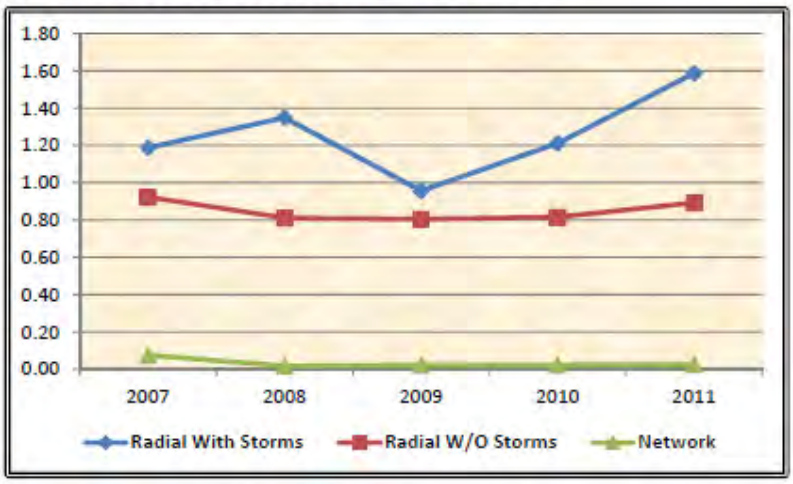
a. Electric service reliability- New York State Energy Planning Board- New York State Transmission and Distribution Systems Reliability Study and Report

Figure 12. New York State CAIDI for Radial and Network



Source: PSC 2011 Annual Reliability Report

Figure 13. New York State SAIFI for Radial and Network



Source: PSC 2011 Annual Reliability Report

Reference Source: http://nyssmartgrid.com/wp-content/uploads/2012/09/reliability-study.pdf, Retrieved 12/14/2012

Electric service reliability – Galvin Electric Initiative – Electricity Reliability: Problems, Progress, and Policy Solutions

Table 1: International Comparison of 2007 Reliability Indices

COUNTRY	SAIDI	SAIFI
United States	240	1.5
Austria	72	0.9
Denmark	24	0.5
France	62	1.0
Germany	23	0.5
Italy	58	2.2
Netherlands	33	0.3
Spain	104	2.2
UK	90	0.8

Source: Council of European Energy Regulators ASBL. (2008). *4th Benchmarking Report on the Quality of Electricity Supply.* Brussels: CEER.

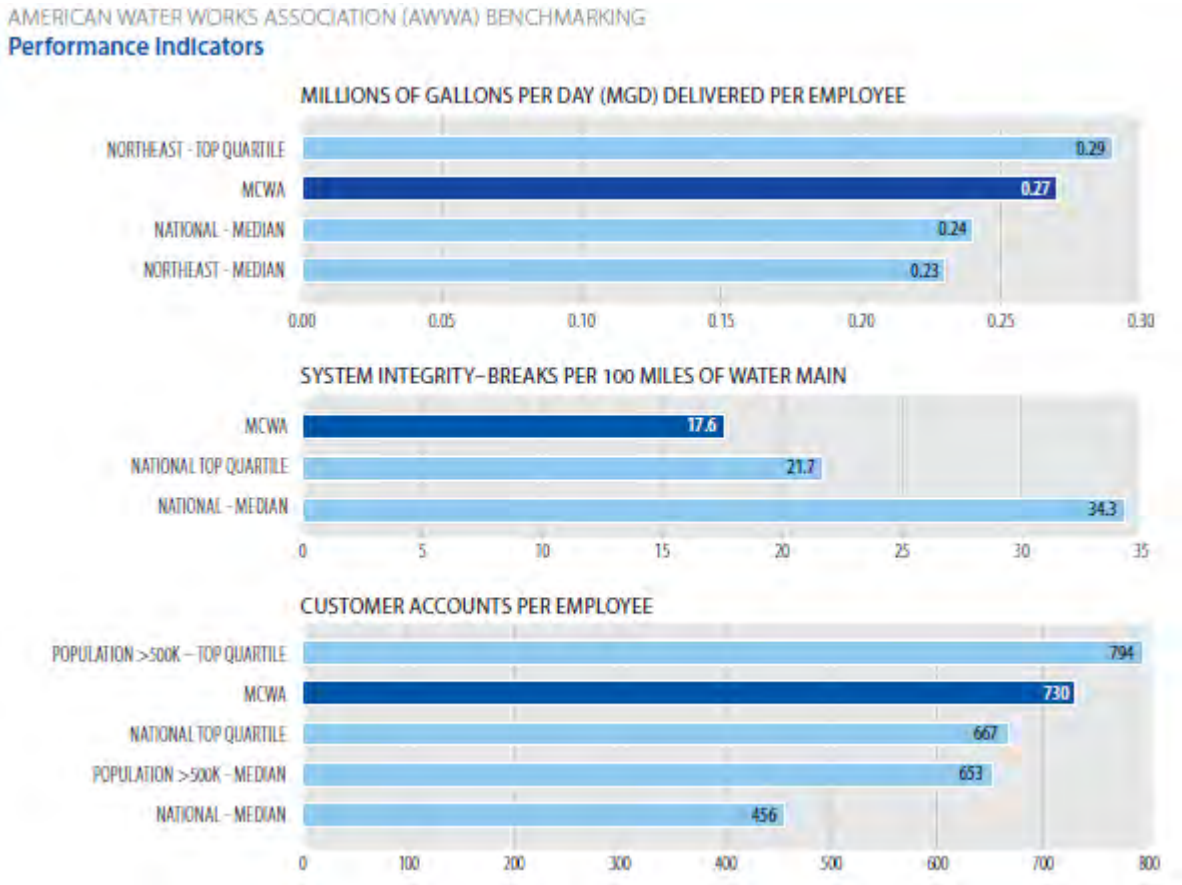
Table 5: Summary of U.S. Regional Reliability Data, Some With and Without Major Events

CENSUS DIVISION	SAIDI (MINUTES)	SAIFI	MAIFI
New England	198	1.44	No Data (ND)
Middle Atlantic	225	1.28	ND
East North Central	498	1.46	ND
West North Central	166	1.31	5.11
South Atlantic	320	1.86	11.1
East South Central	ND	ND	ND
West South Central	134	1.38	ND
Mountain	118	1.22	ND
Pacific	296	1.99	3.4
U.S. Average	**244**	**1.49**	**6.55**
Events		**0.07**	**ND**

Source: Tracking the Reliability of the U.S. Electric Power System: An Assessment of Publicly Available Information Reported to State Public Utility Commissions. (October 2008). LBNL Report 1092E.

Reference source: http://www.galvinpower.org/sites/default/files/Electricity_Reliability_031611.pdf, Retrieved 12/14/2012

b. Water mains – breaks: Monroe County- Breaks Per 100 Miles of Water Mains



Reference Source: Monroe County Water Authority, http://www.mcwa.com/AboutMCWA/HowWeMeasureUp.aspx, Retrieved 12/20/2012

c. Estimated highway infrastructure and landslide repair (total road miles, est road miles in steep areas, estimated per mile repair)

Potential Highway Infrastructure Repair Costs for a Landslide					
Town	Total Road Miles (See Table 5-8)	Estimated Road Miles in Steep Slope Areas	Estimated Per Mile Repair	Potential Highway Infrastructure Repair Cost	
				Landslide Affecting 1.5 % of Steep Slope Roads	Landslide Affecting 15 % of Steep Slope Roads
Barrington	86.6	15%	$14.1 million	$2.8 million	$27.5 million
Italy	71.1			$2.3 million	$22.6 million
Jerusalem	151.3			$4.8 million	$48.0 million
Middlesex	69.5			$2.2 million	$22.0 million
Milo	87.6			$2.8 million	$27.8 million

Reference Source: Yates County Hazard Mitigation Plan, Section 5, p. 23, Table 5-14 (http://www.yatescounty.org/upload/12/4148.pdf)

d. Additional potential data sources and measures

Flight Delays by Extreme Weather

Flight Delays by Cause
New York, NY: LaGuardia (June, 2003 - October, 2012)

Most Recent Month Year to Date View Individual Months View Pie Chart Print Table Download Raw Data

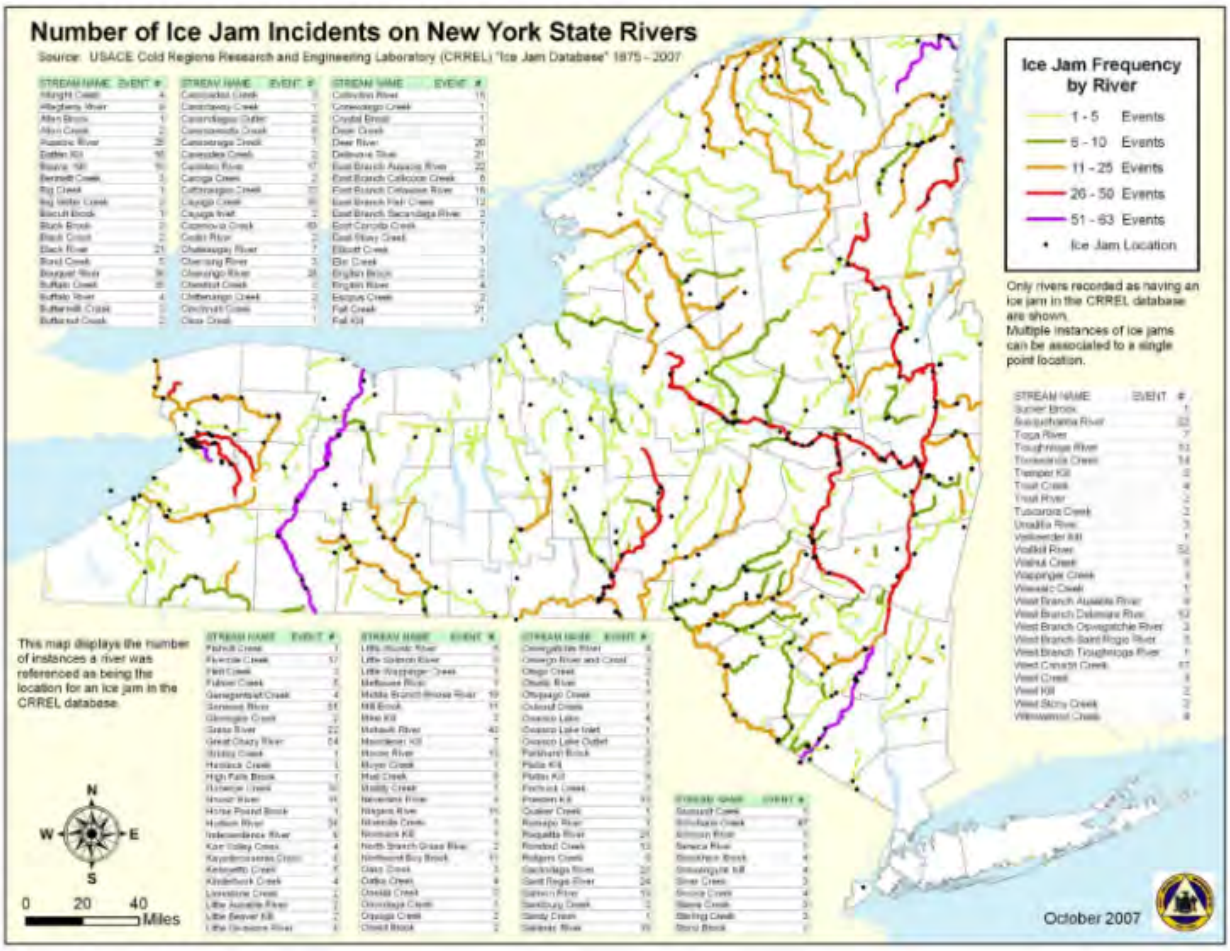
	Number of Operations	% of Total Operations	Delayed Minutes	% of Total Delayed Minutes
Air Carrier Delay	46,581	4.34%	2,859,536	16.68%
Aircraft Arriving Late	57,392	5.35%	3,826,876	22.33%
Security Delay	233	0.02%	9,420	0.05%
National Aviation System Delay	172,401	16.07%	9,473,105	55.26%
Extreme Weather	13,481	1.26%	972,710	5.67%
Total Operations	1,072,689	100.00%	17,141,647	100.00%

A flight is considered delayed when it arrived 15 or more minutes than the schedule (see definitions in Frequently Asked Questions).
Delayed minutes are calculated for delayed flights only. Data presented summarizes arriving flights only.
When multiple causes are assigned to one delayed flight, each cause is prorated based on delayed minutes it is responsible for. The displayed numbers are rounded and may not add up to the total.

SOURCE: Bureau of Transportation Statistics, Airline Service Quality Performance 234

Reference Source: http://www.transtats.bts.gov/OT_Delay/OT_DelayCause1.asp?pn=1

Number of Ice Jam Incidents on New York State Rivers



Reference Source: New York Multi-Hazard Mitigation Plan 2011

Appendices

Part 3—Recommended Strategies and Projects

Projects included in the appendices or within the content of this report are meant to provide examples of potential ways to address the strategies identified in the report and were submitted to the planning consortiums as part of the public outreach efforts by the consortium. These projects are in no way prioritized or guaranteed to receive funding through Phase II Implementation Funding of the Cleaner, Greener Communities Program. Projects not listed in the appendices section or content of the plan will have equal opportunity to submit an application for funding through Phase II. Regardless of being listed in the plan, a Consolidated Funding Application must be submitted in order to be considered for funding in Phase II. All projects must address the qualifications and eligibility requirements as listed in the Cleaner, Greener Communities Phase II solicitation notice.

APPENDIX E: EVALUATION PROCESS

EVALUATION PROCESS

For representation in matrix format, the following symbols were used to conduct a qualitative assessment of all Broad Strategies and Specific Projects. This will give the highest ranking to those ideas with the most positive characteristics:

	positive impact or high feasibility/ low cost/ high GHG reduction potential
	neutral or no impact or medium feasibility/ cost/ GHG reduction potential
	negative impact or low feasibility/ high cost/ low GHG reduction potential

EVALUATION CRITERIA

- **Benefits multiple subject areas**
    1. Energy
    2. Transportation
    3. Land Use & Livable Communities
    4. Materials/Waste Management
    5. Water Management
    6. Economic Development
    7. Agriculture & Forestry
    8. Climate Change Adaptation
    9. Governance
    10. GHG Emissions - GHG reduction potential

	Benefits 7-10 subject areas
	Benefits 4-6 subject areas
	Benefits 1-3 subject areas

- **Benefits multiple Capitals**
    1. Human – public health/quality of life
    2. Social – education/arts/culture
    3. Natural
    4. Built/Manufactured - infrastructure
    5. Financial

	Benefits all 5 Capitals
	Benefits 3-4 Capitals
	Benefits 0-2 Capitals or diminishes any one Capital

- **Benefits multiple communities –** directly benefits or has potential to be replicated in communities in more than one county within the region or beyond the region/across REDC boundaries
    1. Genesee
    2. Livingston
    3. Monroe
    4. Ontario
    5. Orleans
    6. Seneca
    7. Wayne
    8. Wyoming
    9. Yates

	Benefits communities in 4 or more counties or provides benefits beyond the region/across REDC boundaries
	Benefits communities in 2 to 3 counties
	Benefits communities in only 1 county

- **Implementation feasibility** – include consideration of timeframe, availability of technology and support/partnerships

●	Short implementation timeframe (0-9 yrs); technology currently available and in use; established support network
◐	Implementation timeframe (10-19 yrs); technology in R&D phase; support framework currently being developed but not formalized
○	Long implementation timeframe (20+ yrs); technology currently unavailable; no established support framework or partnerships

- **Consistent with planning efforts** – consistent with or identified in regional and local planning efforts

●	Consistent with 2 or more regional or local planning efforts/plans
◐	Consistent with 1 regional or local planning effort/plan
○	Conflicts with a goal or strategy in a regional or local planning effort/plan

- **Financial feasibility** – consideration of order of magnitude and life cycle costs, potential to leverage other resources, consideration of immediacy of benefit

●	Low/medium order of magnitude and life cycle cost; High potential to leverage other funding sources – list; significant benefit early in strategy/project life cycle
◐	High order of magnitude and life cycle costs but high potential to leverage other funding sources – list; Low/medium order of magnitude and life cycle costs but low potential to leverage other funding sources Benefits are distributed evenly across the life of strategy/project
○	High order of magnitude and life cycle cost; low potential to leverage other funding sources; benefit is delayed or ramps up over life of strategy/project

APPENDIX F: SUBJECT AREA STRATEGIES

Energy Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)				Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Develop, produce, and employ alternative energy (bio-energy, waste to energy, etc.)										●	●	●	●	●	◐	Subject Areas Benefited: All; Capitals Benefited: All; Potentially benefits all communities; Short implementation timeframe, technology currently available and in use, established support network; Consistent with Planning Efforts: Yes Financial Feasibility: high order of magnitude cost with high potential to leverage other funding sources
	Develop Greater Market Use & Interest in Bio-Fuels		All	X	X	X	GFLRPC		Bio-Fuel Production Tax Credit; Heavy Duty Alternative Fuel and Advanced Vehicle Purchase Vouchers; Bio-Fuel Station Initiative Program; Alternative Fuel Vehicle Program; Alternative Fuel Tax Incentive & rate Reduction							
	Promote rewards & incentives for generating and using Bio-Fuels		All 9 Counties	X	X	X	NYS Dept of Taxation and Finance; NYSERDA;									
	Increase availability and geographic coverage of alternative public fueling stations using Electricity, Hydrogen, Bio-Fuel, CNG, Ethanol, LNG or Propane		All	X	X	X	NYS Dept of Taxation and Finance; NYSERDA;									Communities with active fueling stations as of February 2013 include: East Rochester, Canandaigua, Webster, Rochester, Macedon, West Seneca, Pittsford, Spencerport, Fairport, Rush, Geneva, Penn Yan.
	Move towards a transportation system that does not use fossil fuels		All			X		Protection of health, environment and quality of life.								
	Identify funding for and encourage implementation of projects that use food waste to produce energy															
	Support research and development, deployment of pilot projects to validate technology and eventual commercialization of new alternative energy technology															
	Educate the public and municipal officials on the benefits of renewable energy generation and address the potential negative impacts		All	X	X	X	REDC									
	Develop and promote the adoption of local policies that accommodate the development of on-site and community alternative and renewable energy generation		All	X	X	X	NYS Public Service Commission									
	Encourage counties, municipalities and local districts to conduct an inventory of potential alternative and renewable production and prioritize projects for implementation		All	X	X	X										

Energy Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)				Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Rural College Bio-Energy Hubs	Provide grants to study the feasibility of creating energy hubs at local colleges. Sources of energy could include manure wastes, bio-wastes and other waste or organic materials. The primary use of electrical energy and thermal energy would be for the colleges. Excess electrical energy could be sold to the utility. Thermal energy would be used as the colleges. Research into the use of bio-energy could enhance classes. Renewable energy options for the colleges could also be reviewed for feasibility. This is a strategy that applies to at least two sectors - Colleges - Educational and Agricultural - Farms.	All	X			Local colleges could be the lead. Tie in with research projects and student projects.	Farms would get rid of manure wastes; generate thermal and electrical energy with bio-gas burning; provide energy to colleges; provide hands on working projects for college research and students; return fertilizer fluid to farms for their use; decide on share of utility savings that can be shared with farmers.								
	Vitale 'Sustainable' Park - Alternative Energy Additions - Study Phase	Funding for consulting services to study the feasibility of alternative energy additions at Vitale Park in the Town of Livonia. This project could serve as a model for other municipalities interesting in curbing energy costs, reducing their carbon footprint, and having clean energy solutions at municipal parks, which will help inspire residents to make similar choices at the residential and business levels. Money is needed to fund a study to look at the options for adding alternative energy generators at this location including wind (given it's at the north end of a lake with brisk breezes), solar, and other methods that would be viable for producing energy that would be utilized to light and power the park uses. The feasibility study needs to identify how the project would be funded, implemented and maintained.	Livingston but replicatable	X												
	Vitale 'Sustainable' Park - Alternative Energy Additions - Implementation Phase	Seed funding for implementation of alternative energy additions at Vitale Park in the Town of Livonia. This project could serve as a model for other municipalities interesting in curbing energy costs, reducing their carbon footprint, and having clean energy solutions at municipal parks, which will help inspire residents to make similar choices at the residential and business levels. Money is needed to assist with establishing alternative energy generators at this location including wind (given it's at the north end of a lake with brisk breezes), solar, and other methods that would be viable for producing energy that would be utilized to light and power the park uses.	Livingston but replicatable	X												
Promote energy conservation and efficiency by developing educational programs, increasing participation in available state and federal incentive programs, and by adopting local and regional policies			All	X	X	X	NYSERDA, NYS DEC, US DOE, US EPA		Energy $mart Programs, Energy Efficiency Conservation Block Grant, Climate Smart Communities, Energy Star Programs	●	●	●	●	●	●	Subject Areas Benefited: All; Capitals Benefited: All; Potentially benefits all communities; Short implementation timeframe, technology currently available and in use, established support network; Consistent with Planning Efforts: Yes Financial Feasibility: low order of magnitude
	Promote and incentivize energy auditing/measurements and verification, commissioning, and the implementation of energy conservation and efficiency measures (i.e. lighting, motor, service hot water heating, and HVAC controls)		All 9 Counties	X	X	X	NYSERDA		NYSERDA Existing Facilities Program							
	Educate and promote energy conservation and efficiency measures to municipalities, businesses, and residents highlighting the benefits of simple measures (i.e. maximize the use of daylight, use of occupancy sensors, installation of energy efficient lighting, and adjusting temperature controls)		All	X	X	X	Lighting Research Center, NYSERDA		RPI Daylight Dividends, New York State Pollution Prevention Institute at RIT, Golisano Institute for Sustainability at RIT							
	Develop and promote the adoption of local codes and policies that exceed the minimum requirements of the NYS Energy Conservation Construction Code		All	X	X	X	NYS Energy Conservation Construction Code	Reduce GHG and pollutants and protect health, environment and quality of life.								

Energy Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)				Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Support research and development, deployment of pilot projects to validate technology and eventual commercialization of Net-Zero energy technologies.		All	X	X	X	US DOE		National Renewable Energy Laboratory, New York State Pollution Prevention Institute at RIT, Golisano Institute for Sustainability at RIT							
	Net Zero Energy Housing Development	Brownfield's represent parcels of land in communities that can be cleaned and developed as Green development projects to assure the future users highest level of health and environmental benefits. Under NY State Brownfield program, tax credit incentive provides some financial reward for taking the risk. Since energy costs are of concern to occupants, this issue can be addressed by designing-developing a Green communjity that generates as much energy as it consumes. There is no such housing development known to be in New York State. It could attract more economic growth if the local communities and County agencies supported the Developer who is willing to invest in cleaning and development of Brownfield sites.	Monroe and others	X			County Economic Development Agency	This strategy relates a project (Lotus Green) under development in the Village of Churchville NY where a 4 acre parcel is to be developed into 30+ units Green housing development with Net-Zero homes. The property values on adjacent area to existing Brownfield's would increase and new tax revenues will be generated by converting the land to beneficial use. Demonstration of Green technology with net-zero housing developments would enhance adaptation of better home building technologies in our area and offer Healthy living Green housing options to seniors who need to control the expenses of owning a residence. Rochester FInger Lakes Region needs to be known as Green Innovation Center and such a project would enhance the image and improve tourism to our area to see such unique developments.							
	Municipal energy policies/plan	Develop municipal energy policies that deal with all potential municipal energy development and intergrateable with comp plan and implementable through municipal land use regulation and control and development.	All	X			Regional, county and municipal entities.	Position municipalities to strategically deal with energy sources and adapt to changing technology.	Municipal energy policies/plans.							
Upgrade the existing conventional energy production and distribution system in a sustainable way										◐	●	●	●	●	●	Subject Areas Benefited: Energy, Land Use, Materials & Waste Management, Economic Development, Climate Change, Governance, GHG Emissions, Agriculture & Forestry; Capitals Benefited: All; Potentially benefits all communities; Short implementation timeframe, technology currently available and in use, established support network; Consistent with Planning Efforts: Yes Financial Feasibility: low order of magnitude cost
	Replace inefficient lighting with modern, energy-efficient lighting		All	X	X	X	NYSERDA Rebates									
	Pursue Net-Zero Energy Technologies		All		X	X	US DOE		National Renewable Energy Laboratory							
	Obtain full compliance with the minimum requirements of the NYS Energy Conservation Construction Code		All	X	X	X	NYS DCEA, NYSERDA									
	Study ways to reduce public and private outdoor illumination		All	X												
	Retrofit existing public and private buildings with more efficient thermal envelopes		All	X	X	X										
	Study ways to and then overcome capture energy usage and distribution losses		All	X												
	Upgrade the transmission infrastructure to reduce distribution loss		All	X	X	X	NYS Public Service Commission									

Energy Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)				Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Increase the use of demand response program to better manage supply and consumption		All	X	X	X	NYS Public Service Commission									
	Promote distributed generation		All	X	X	X	NYS Public Service Commission									
	Energy Reduction with LED Lighting	Replace 105 metal halide high bay lights with energy efficient LED light fixtures in the production area.	Livingston	X												
	High Efficiency Strategy for Ski Resorts	Replace high energy snow guns with high efficient snow guns or fans. Implement smart valves to increase efficiency of existing snow guns/fans. Snow making automation. Replace inefficent lighting with high efficiency lighting. Water reservoir on top of hill. VFDs for pumps.	Ontario	X												
	Increase energy efficiency in buildings.	County-based clean energy outreach to facilitate the number of buildings with energy-efficiency retrofits, onsite renewable energy, and CHP; as well as vehicle upgrades for economic development that reduce GHG emissions. As much as $100MM is potentially available in the total mix of: federal grants, production/investment tax credits, incentives; state grants, incentives and financing (NYSERDA, NYPA, EFC, NY ISO, ESD); utility (RG&E, NSEG, National grid, national Fuel, municipal utilities), incentives and economic development. These funds leverage private investment and provide ongoing energy cost savings. For an example using $10MM: assuming the incentive is 25% of project cost, it could spur a so much as $400MM annual investment, with $300MM from the private sector; assuming the project has a simple payback of 5 years, this investment generates $80MM in reduced energy costs or new generation each and every year for the life of the project. So year 2 would see $160MM in energy savings from year 1 and year 2 projects, year 3 would see $240MM in energy savings from years 1, 2, and 3 projects, etc. County-based outreach can include a number of elements to spur higher clean energy investment: one stop shop website of all Federal, State, and Utility incentives across program administrators such as GreenMonore.org,	All	X	X	X	County IDAs, County Administration, Blue Springs Energy provides these services today to counties and IDAs.	Greater efficiency reducing GHG. Leading with economic development to reduce GHG creates a larger pool of support across the political spectrum. Although a high percentage of people and business owners identify themselves as "green", a low single-digit percentage utilize NYSERDA, utility, and Federal incentive programs. Also, less than single-digit today have onsite generation, and single-digit percentage of electric purchases use green energy via RECs.							
	Incentivize Net Zero Energy buildings that will produce all the energy they need.	Improve minimum standards for building energy efficiency. Reward/rebate insulation and conservation efforts and create more local jobs to accomplish the work.	All			X		Reduce GHG and pollutants and protect health, environment and quality of life.								
	Local Public Works Energy Use Reduction	Each County Planning Department will distribute a questionnaire to each local Department of Public Works to request summaries of the total energy used by category by each month. Separate by (at least) the following categories: truck/vehicle fuel used, electrical energy used, heating fuel and natural gas and propane. County to summarize the data and then it should be summarized by the entire region and state. Opportunities to reduce energy use shall then be reviewed such as switching vehicles to natural gas, improving lighting, furnace and motor efficiencies, or building insulation. In addition to traditional energy conservation improvements, options to share vehicles, staff or building should be evaluated. The options of renewable energy sources at the DPW locations should be considered.	All	X			County Planning Departments	Increase awareness of energy use patterns by the local DPWs; increase potential of sharing services and equipment to reduce overall energy use; increase the potential of the DPWs to purchase (together) newer vehicles that can use alternative fuels; review options for installation of on-site renewable energies at the DPW locations.								
	Regional Sustainability	Overseeing revisions to, implementation of, and evaluation of Regional Sustainability Plan.	All	X	X	X	Regional	Relevancy of the Regional Sustainability Plan, implementation of the Regional Sustainability Plan, monitoring and evaluation of the Regional Sustainability Plan, and integration with regional plans, studies, strategies and implementation. Adjusting to federal, state, regional and local policies.	Regional Sustainability Plan							

Energy Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)				Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Energy Development Strategy for the Town of Avon	In 2005, the Town of Avon purchased and began renovating a historic building, known as the Opera House Block, in the Village of Avon for location of town offices. The Town Board made the important decision to support the village core and renovate an existing building rather than convert valuable farmland to a non-farm use. The goal of the project was to renovate the building in a way that preserves historic and community character and is energy efficient. As of 2013, the Town Board has renovated most of the building with the exception of the third floor, which was the original Opera House. For energy efficiency, a geothermal heating and cooling system was successfully installed. We estimate the yearly savings of the geothermal system vs. a more convention system is $8,000 - $10,000 per year. The Town would like to continue renovating the building and restore the Opera House floor for historic and cultural enrichment. The Town would also like to continue to incorporate energy efficient measures into the renovation process and have this project serve as a community model of how energy efficiency can be achieved in historic	Livingston	Yes			Town of Avon	Generate green energy to take advantage of net metering to reduce energy costs to constituents with a goal of energy independence.								
	Energy Storage for Peak Demand Reduction	Utility companies charge commercial customers and other large electricity users demand charges for periods when they use the most energy throughout the billing period. These "demand charges" significantly increase the cost of electricity, and are often 30% to 70% of a customer's electricity bills. A system consisting of energy monitoring, energy storage and power electroncis can be deployed to store energy when costs are low and release this energy during periods of high demand, thereby significantly reducing demand charges. The system can also be utilized as emergency backup power for critical loads in the event of a grid outage. System costs are driven largely by the size and chemistry of the energy storage technology. These costs can be significantly reduced through a NYSERDA PON similar to the CHP Acceleration Program (PON 2568) recently released where customers are pre-approved and awarded fudnign on a per kW basis for reducing base load. A similar funding structure could be implemented based on demonstrated demand reducion (kW) or the size of the energy storage system (kWh) given a minimum utilization percentage.	All	Yes			Arista Power, NYSERDA	Reduced electricity costs fo large commercial and industrial customers. Reduced peak demand burden for utilities and NYISO. These systems can also be utilized for demand response programs without the need for load shedding, making DR enrollment transparent to the customer. The system can also be utilized as emergency backup power for critical loads in the event of a grid outage. These are green system from the standpoint that they willr educe the carbon footprint of customers who implement them and also reduce GHG emissions for the utilities as they will be able to reduce overall power generation.							
	Farm Energy Sustainability Plans	Individual Farm Energy Analysis, including review of loads, timing, motor efficiencies, lighting and fuel uses. Review of potential energy sources such as bio-gas, wind, solar and other renewable should be included. Creation of a realistic plan is the goal. Present worth calculations of potential savings will help farmers identify which ones should be prioritized.	All	X			County Planning Departments for oversight with NYSERDA	Engagement of farmers in the study will make them more likely to implement changes; identification of possible improvements; reduction in energy use; identification of possible farm equipment to switch to natural gas; identification of opportunities to share equipment and vehicles.								
Develop, produce, and employ renewable energy (wind, hydroelectric, solar, and geothermal)		Fossil fuels are expected to continue to play a significant role as a reliable energy course in the Finger Lakes, region, due to it's abundance and reasonable cost, relative relative to other energy sources								●	●	●	●	●	◑	Subject Areas Benefited: All; Capitals Benefited: All; Potentially benefits all communities; Short implementation timeframe, technology currently available and in use, established support network; Consistent with Planning Efforts: Yes Financial Feasibility: high order of magnitude cost with high potential to leverage other funding sources
	Reduce the reliance and use of fossil fuels		All	X	X	X										
	Develop storage and capture mediums for renewable energy		All	X	X	X	NYS Public Service Commission		Net Metering Law							
	Increase the use of wind power		All	X	X	X	NYS PSC, IRS (Federal Tax Credit) NYS Dept of Taxation (NYS Tax Credit)		See Notes							There are currently 12 incentive or rebate programs offered for the Finger Likes region for installing various types of solar or wind systems
	Seek broader access to hydroelectric power		All	X	X	X	NYPA, NYS PSC, IRS (Federal Tax Credit) NYS Dept of Taxation (NYS Tax Credit)									
	Increase the use of solar power		All	X	X	X	NYPA, NYS PSC, IRS (Federal Tax Credit) NYS Dept of Taxation (NYS Tax Credit)		See Notes							There are currently 12 incentive or rebate programs offered for the Finger Likes region for installing various types of solar or wind systems
	Increase the use of geothermal power		All	X	X	X	Geothermal Exchange Organization, American Groundwater Trust		ARRA							

Energy Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)				Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Develop and promote the adoption of local policies that accommodate the development of on-site and community renewable energy generation		All	X	X	X	NYS Public Service Commission									
	Explore and develop innovative funding and financing options for the development of renewable energy production		All	X	X	X	REDC									
	Research the potential for and promote the use of public-private partnerships and/or purchase power agreements to encourage the development of renewable energy generation		All	X	X	X	REDC									
	Increase availability and geographic coverage of alternative public fueling stations using Electricity, Hydrogen, Bio-Fuel, CNG, Ethanol, LNG or Propane		All	X	X	X			Seneca Ag-bio Green Energy Park							
	Support research and development, deployment of pilot projects to validate technology and eventual commercialization of new renewable energy technology (i.e. on-site anaerobic digester system or mid-scale wind projects)		All	X	X	X	REDC									
	Educate the public and municipal officials on the benefits of renewable energy generation and address the potential negative impacts		All	X	X	X	REDC									
	Encourage counties, municipalities and local districts to conduct an inventory of potential alternative and renewable production and prioritize projects for implementation		All	X	X	X										
	Increase the use of wind power	Paradigm exists of POWER being massive, able to power entire communities, etc. This strategy involves the design/purchase/placement of small (500 watt scalable to 5 Kilowatt) systems placed on private residences to supplement existing grid provided electricity. The components necessary are currently available in the marketplace. A system is estimated to have a UMC of approximately $2000 (2010 price list). Price includes all components necessary including grid tie inverter. The wind power would b provided by a VAWT mounted to the users roof similar to attic vent turbines that are commonplace and commercially available, wildlife safe, noiseless and barely noticeable ascetically.	All	X	X	X	Energy?	Low cost electricity, less green house gases, employment.								
	Regional Renewable Energy Generation Inventory	Have all municipalities and subdivisions (fire, school districts, etc.) conduct a renewable energy generation inventory that details potential for wind, solar, biomass or other electricity production opportunities. The goal would be to create a list of potential projects, including information on costs and MW production, which could then apply for partial funding from NYSERDA. Municipalities could use the NYSERDA subsidy to assist in financing PPAs that make the use of renewable cost competitive. NYSERDA would also be asked to fund creation of the inventory as a potential Phase 2 project under the Sustainability Plan.	All	X	X	X	Individual Counties									
	Regional Household Energy Audit Clearinghouse	Working in conjunction with local colleges and universities, the Region could establish a Household Energy Audit Clearinghouse where engineering students could either conduct themselves or verify energy audits conducted by vendors. The clearinghouse would provide homeowners with assurance that energy efficiency projects they are considering would actually provide the benefits and payback being sold. Consumers could then purchase products and services with their chosen vendor confident that the are making a financially sound decision. The benefits of the program would be reduced home energy use and economic development from the increase in the number of projects completed.	All	X	X	X	Individual Counties									
	Bio-gas Powered Fuel Cell and Hydrogen Development Research and Implementation	The Golisano Institute for Sustainability is interested in pursuing research where bio-gas from landfills and anaerobic digesters is used to power stationary fuel cells. The fuel cells would produce electricity and hydrogen from a sustainable feedstock fuel. The long-term potential exists to create hydrogen depots that could provide fuel for commercial fueling stations to sell to consumers driving hydrogen vehicles. The long term benefits from the project include greatly reduced GHG emissions from hydrogen vehicles, increased renewable electricity production, reduced VMT from the shipping of petroleum fuels and enhanced local job creation from establishment of a regional hydrogen distribution network.	All	X	X	X	Individual Counties									

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	Community Based Incentive Solarization Program	Create community based (county) solarization programs that will create renewed focus to implementing PV Solar technology through Solarization Marketing program that will assist interested consumers through organizing public information sessions, no charge siting assessments, bulk pricing arrangements with regionally based certified installers, and additional limited time program based incentive rebate of $1,000-2,000 per site. The incentive funding can be allocated to the IDA for distribution on a first come first serve basis. Recommend conducting the program twice a year with each county IDA as this will provide the periodic visibility and create continued interest that is time sensitive. Example: In addition to the federal and NYSERDA based credits, and additional incentive of $1-2k will promote those considering solar PV to make a commitment. It has been demonstrated that once a community is participating in the program additional installations will result above the incentive threshold. Recommended each county select 1-2 suppliers based on competitive bidding to the program, having a number of installations all in same area and relative know time frame will allow the venders to provide bulk based pricing that a resident may not typically see if the program did not exist. The programs previously done in Madison County are a good example of how well	All	Yes			County IDA's and regional based certified NYSERDA Solar PV installers	Accelerate PV Solar installations through creating periodic incentive based initiative allowing focused marketing efforts to combine with a package of educational information, competitive bulk pricing of turnkey systems, and efficient installations. Contribute to increase solar PV in counties/regions/NYS; provide additional jobs for installations; increased and accelerated contribution to reduction of green house gases (GHG)	Solarize Madison County http://www.solarizemadison.com/solar-program.html						
	Energy Efficiency and Renewable Energy	Many communities in the Finger Lakes Region are located near bodies of water. Wherever there is an elevation gradient in a stream, river or canal, it is possible to generate electricity through micro hydropower. Electricity is generated using the natural flow of water, a turbine and a generator. Scottsville, NY used to generate hydropower at neighboring Oatka Creek. The hydropower provided the electricity needed to run lumber mills years ago, a very important historical facet of th ecommunity. Scottsvilel could use this fantastic water power resource to create micro hydropower again. There is a pavilion in Canawaugus Park in Scottsville that could be totally powered through natural renewable energy (micro hydropower and solar energy - recently the Village applied for a grant for a PV solar system to supply electricity to municipal building and parks). Energey efficient LED lights could replace current park lighting. The Village also has a lab maintenance building, part of the sewage treatment (which will soon be closed) that they would like to power with renewable energy.	Monroe	Yes			Village of Scottsville	Electricity cost savings for a community, funds that are saved could be used on other important community projects. The Village could use this as a great educational opportunity, a way to show residents, school groups, and special interest groups that it is possible to generate electricity without using fossil fuels and forms of energy that pollute our earth. The Village could also explain its modern day and historic connection to micro hydropower generation and share this with the community and tourists. There could be signage throughout the							
	Energy Generation Using Hydropower	Many communities in the Finger Lakes Region are located near bodies of water. Wherever there is an elevation gradient in a stream, river or canal, it is possible to generate electricity through micro hydropower. Electricity is generated using the natural flow of water, a turbine and a generator. MEdina would like to generate electricity through micro hydropower focusing on the area whewre Oak Orchard Creek crosses the Erie Canal to the north of the VIllage. This is the former site of a flour mill. The energy produced through this process could power Medina's Canal Basin Park. Th epark could be powered entirely through renewable energy - solar energy (Medina has applied for a PV solar system to supply electricity to municpal buildings) and a micro hydropower. Educational materials - signs descfribing and depicting how the park is powered coudl be on display. Tours could be given to school groups, interested touritsts and residents describing how the park is powered sustainably.	Orleans	Yes			Vilage of Medina, Civil or Environmental Engineer, Contractor	Electricty cost savings for community, funds that are saved can be used on other important community projects. The community could have a park that is powered by renewable forms of energy. This could be a great educational tool for residents, school groups and special interest groups. The park could be a great attraction for tourists since is is already in a wonderful, picturesque location alogn the Erie Canal. Carbon footprint can be reduced in the community, through thte use of natural renewable energy.							
	New Town Energy Independence	Riverton and Ganada were both planned as self-sufficient new towns. Failure of region to grow as projected limited their growth development an dprevented several of the common/independent facilities/institutions. This would use open land for large sclae solar farm to supply low cost green energy to community residents and industry.	Monore, Wayne				Towns, Utility Companies, Community Associations	Green energy production. Strengthen new town - self sufficiency philosophy. Inducement for new residential and business development	Original Federal New Town Development Plans							
	Accelerate local production of energy from agricultural waste.	The proposed strategy is focused on filling research gaps and creating the incentives needed to strengthen the value proposition of technologies like anaerobic digestion to local landowners. The following tactics would support the achievement of this strategy: Complete longer term study on waste profiles that are best suited for the use of anaerobic digestion, biomass conversion, biodiesel production, etc.; Complete cost-benefit analysis of the technologies mentioned above; Develop decision-making and technical assistance tools that can engage landowners; Create infrastructure for enabling farmers to sell waste energy to the grid; Use tax and other vehicles to incent local energy production	All	Yes			Regional economic development agency via partnership with university, county government, and NYSERDA	Regional economic development agency via partnership with university, county government, and NYSERDA							
	Energy Generation Using Hydropower	Many communities in the Finger Lakes Region are located near bodies of water. Wherever there is an elevation gradient in a stream, river, or canal, it is possible to generate electricity through micro hydropower. Electricity is generated using the natural flow of water, a turbine, and a generator. Lyons, NY used to have hydropower generation at the Erie Canal locks. Lyons would like to look into re-implementing micro hydropower in the lock system of the Canal. The energy produced through this process could power the nearby Lyons Canal Park. Energy efficient LED lights could replace current park lighting; the park could be powered entirely through renewable energy - solar energy (Lyons has applied for a grant for a PV solar system to supply electricity to municipal buildings) and micro hydropower. Educational materials - signs describing and depicting how the park is powered could be on display. Tours could be given to school groups, interested tourists, and residents describing how the park is powered sustainably.	Wayne	X			Village and Town of Lyons, Civil or Environmental Engineer, Contractor	Electricity cost savings for a community, funds that are saved could be used on other important community projects. The community could have a park that is powered by renewable forms of energy. This could be used as a great educational tool for residents, school groups, and special interest groups. The park could be a great attraction for tourists, since it is already in a wonderful, picturesque location along the Erie Canal. The carbon footprint of the community could be reduced, through the use of natural renewable energy.							

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Develop and implement micro-grid technology that integrates the advantages of independent local production and distribution systems with the storage and distribution capacity of a large grid										●	●	●	○	○	○	Subject Areas Benefited: All; Capitals Benefited: All; Potentially benefits all communities; Long implementation timeframe, technology currently undeveloped; Financial Feasibility: high order of magnitude cost with low potential to leverage other funding sources
	Local Energy	Regionalize control of energy generation and distribution	All		X	X										The advancement of a Micro-Grid could benefit a group as small as a cul-de-sac, or as large as a village.
	Community self-reliance	Community self-reliance (regional or multiple micro-grids)	All		X	X										There is an existing project in NYS to study elements of Smart Grid technology, which may lead to development of Micro-Grid strategies going forward
	Support research and development deployment of pilot projects to validate technology and eventual commercialization		All	X	X	X										
	Explore and develop innovative approaches to address micro-grid financing, ownership, and service models		All	X	X	X										
	Support sustainable cooperative business construction that reduces the dependency on traditional imported energy sources	Support development of micro-grids, defined here as 'a group of businesses in a symbiotic relationship using renewable energy and/or creating energy with micro turbines from natural gas or wind or shared thermal, that can operate off the grid for extended periods of time.'	Wayne	X			Wayne County IDA, Private Industry, NYSEDC, EDA, NYSERDA	Reduced dependence on imported energy, more efficient use of onsite energy lowering operating expenses for the company.	CEDS, Wayne EDC Strategic Plan, Wayne Industrial Sustainability Project (WISP)							

Transportation Strategies

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Provide for and promote alternative modes of transportation		also noted in GTC LRTP - the expansion of the bicycle, pedestrian, and public transportation network is warranted to expand travel choices	All					Reduce VMT, health benefits	●	●	●	◐	●	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, agriculture & forestry, climate change adaptation, GHG emissions Capitals Benefited: all Communities Benefited: all including other regions Planning Efforts: GTC LRTP 2035, REDC Strategic Plan
	Integrate the regional commuter choice program with the statewide 511NY program	from GTC LRTP - since roceasyride.org and 511NY share common goals, integrating them will increase traveler benefits by providing a one-stop-shop for residents to obtain information	All	x											
	Improve the diversity & safety of connections between community destinations	Improve the diversity & safety of connections between community destinations	All					Improve accesibility, connectivity & safety							
	Develop safe routes to school, especially in urban areas	Develop safe routes to school, especially in urban areas	All	x											
	Develop car sharing program	Develop car sharing program – to accommodate both urban and rural areas	All	x											
	Work with large employers, agencies, facilities, municipalities, etc to promote transportation demand management strategies	Work with large employers, agencies, facilities, municipalities, etc to promote transportation demand management strategies	All	x											
	Evaluate potential for BRT, light rail or fixed transit service serving major employers/destinations		All	x											
	Expand network of car-free cycleways		All	x			Local universities, school districts, Social and for-profit businesses	Increasing active transporation and ultralight electric vehicle use Creating and educating and enlightened workforce of sustainability workers and citizen scientists. Increasing tourism. Creating a model program particularly well-suited for our region, but adaptable nationally, helping establish a new image for 21st century sustainable innovation. Economic Development.							
	Subsidize Car Sharing Programs	Government could subsidize car sharing progrmas like ZipCar so that those programs would be available to many more people.	All	x				Increasing the number of people who could access car sharing programs would hopefully have several benefits. It would encourage more people to consider completely getting rid of a car, or at least downsizing from a two car household to a one car household. some poeple have short commuts and could walk or bike regularly, but may need a car now and then. If they could know that they would have access to a car when needed then they may get rid of car. If they do not have a car then we save energy and resources that would have gone into making that car. Also, if they do not have a car then they are more likely for any given trip to walk, bike, or take public transportation. This would help to reduc congestion and wear and tear on roads. It may even turn out that the subsidy invested would end up saving money in the long-run in reduced road maintenance.							
	Enhance & expand mobility & access for bicyclists	from GTC LRTP - Bicycle needs are often paired with pedestrian needs but they are different - need to improve conditions that facilitate bicycling as an active transportation mode	All	x											
	Enhance & expand connectivity & access for pedestrians	from GTC LRTP - Need to enhance & expand connectivity & access for pedestrians in regional & sub-regional urban cores, mature suburbs, rural centers, employment centers, local retail & higher education places - however all places will benefit from improved pedestrian facilities	All	x											
	Close the gaps in existing bike/ped infrastructure on- and off-road	Close the gaps in existing bike/ped infrastructure on- and off-road	All	x											
	Develop ped/bike master plans	Develop ped/bike master plans	All	x											
	Implement bike sharing program	Implement bike sharing program	All	x											
	Bicycle sharing program for downtown Rochester	Bicycle sharing program for downtown Rochester	Monroe	x			RGRTA	Less congestion in downtown Rochester, improve air quality, health benefits							
	Institute a regional ADA-compliant retrofit program	From GTC LRTP - Institute a regional program to prioritize the retrofit and/or new installation of ADA-compliant treatments	All	x											
	Implement recommendations from the Regional Trails Initiative	From GTC LRTP - Expand the amount of & increase the connectivity of multi-use trails in the Region as per the Regional Trails Initiative	All	x											
	Increase bike parking	From GTC LRTP - Increase the amount of bike parking at key locations in the regional & sub-regional urban cores, employment centers, retail and higher education places	All	x											
	Evaluate the feasibility of and implement car & bike sharing programs	From GTC LRTP - Institute car & bike sharing programs to expand access to automobiles & bicycles without requiring ownership	All	x											
	Increase frequency of existing public transportation service	From GTC LRTP - Increase frequency of existing public transportation service in the regional & sub-regional urban cores, mature suburbs, employment centers, medical/health institutions, higher education institutions and the airports	All	x											from GTC LRTP
	Add new public transportation services	From GTC LRTP - Increase service to employment centers and medical/health places - expansion should be tied to investments from those entities that will gain from additional service	All	x											from GTC LRTP
	Consolidate or reorganize rural transit systems to be most effective and efficient	Consolidate or reorganize rural transit systems to be most effective and efficient	All	x											

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	Encourage and/or develop partnerships to provide different public transportation options (vanpool, shuttles, etc)	Look for and encourage partnerships among private organization or between private/public agencies to provide different public transportation options – vanpools, shuttles, etc	All	x											
	Continue to leverage advances in technology to make public transportation desirable	Continue to leverage advances in technology to make public transportation desirable	All	x											
	Establish more regional park and rides		All	x											
	Regularly assess public transportation services	From GTC LRTP - Regularly assess and, as necessary, adjust existing public transportation services based on current & projected needs, demands and market potential	All	x											
	Improve bike accomodations on fixed route buses	From GTC LRTP - Install racks for bikes on public transportation buses	All	x											
	Create a mobility management program	From GTC LRTP - Design & implement a mobility management program that coordinates existing & future services of public, not-for-profit and private transportation providers	All	x											
	Construct satellite transit stations	From GTC LRTP - Construct satellite transit stations in the City of Rochester and assess their feasibility in mature and recent/emerging suburbs	Monroe, all	x											
	Improve bike/ped access focusing on existing or future nodes	Encourage pedestrians and bicycle use through developing friendly environments in nodes, improving pedestrian and bicycle access on local streets (complete streets is only one option), providing guidelines which assist local government officials to audit and improve the accessibility of and funding opportunities for their pedestrian and cyclist infrastructure	All	x											
	Emphasize the benefits of cycling and pedestrian programs for health and environmental benefits in an effort to better coordinate program and funding arrangements.		All	x											
	Reduce direct & indirect energy usage	From GTC LRTP - Providing opportunities to reduce the amount of energy consumed in the use & construction of transportation facilities & services can reduce dependence on foreign oil & decrease harmful fossil fuel & GHG emissions	All	x											from GTC LRTP
	Promote alternative transportation choices	This strategy addresses the promotion of transportation choices in the region to increase awareness of the availability and benefits of alternatives to travel via the single occupancy vehicle. This would include the development of a marketing campaign via both traditional and emerging (e.g., social) media that would emphasize the ability for travelers to improve the environment and save money by replacing single occupancy vehicle trips by using public transit, carpooling, bicycling, and walking and provide information on how to obtain information on each of them. This strategy will advance efforts currently underway and anticipated to be implemented in the region per the Long Range Transportation Plan for the Genesee-Finger Lakes Region 2035, some of which are being or will be advanced through conceptual planning in the current and future Unified Planning Work Programs of GTC.	All	x			NYSDOT, NYSTA, local transportation/ highway/public works dept, RGRTA, GTC, non-for-profit transportation providers, public interest/advocacy groups	Maximize the use of existing alternatives to the single-occupancy vehicle – namely, public transportation services, multi-use trails and dedicated bicycle space, ROCEASYRIDE.org, 511NY – as well as the future ones included in the GTC LRTP 2035 (Expanding the multi-use trails and improved connectivity between them;Increasing the availability of sidewalks along federal-aid highways;Promoting safe routes to school programs;Increasing the amount of bicycle parking at key locations;Insuring that all fixed-route buses can accommodate bicycles;Opening of the Renaissance Square Downtown Transit Center;Design and implementation of a regional mobility management program that will coordinate the services of public, not-for-profit, and private transportation providers;Increased frequency of fixed-route public transportation services;Construction of satellite transit stations; and Instituting car sharing and bike sharing programs) This strategy is integral to meeting the targets for all of the non-freight transportation indicators. Increasing awareness through active marketing and promotion may lead to significant increases in some of the non-single occupancy vehicle alternatives by users							
Promote livibility corridors			All					Use of existing infrastructure, reduce VMT & GHG emissions, improve affordability, access & connectivity	●	●	●	◑	●	◑	Subject Areas Benefited: all Capitals Benefited: all Communities Benefited: all including other regions Planning Efforts: REDC Strategic Plan, G/FLRPC Comp Econ Dev Strategy
	Shorten commute times – encourage living closer to work somehow		All	x											
	Support land use-transportation planning through education	From GTC LRTP - Support development that more fully considers & integrates transportation needs by creating & providing associated information materials for local planning & zoning boards	All	x											
	Construct multi-modal facilities at key locations		All		x										
	Maximize the opportunity to increase residential, employment, retail, community, and entertainment activity, around key population nodes		All	x											
	Prioritize initiatives to focus development on existing regional population nodes and population and employment corridors, thereby developing an opportunity to increase travel demand in non-peak directions and times, allow greater use of existing resources and capacity on the bus system, perhaps move to other means of rapid transit, and make walking and biking more feasible		All	x											
	Develop incentives to encourage nodal development	Develop programs that increase mixed-use development, as contextually and economically appropriate in nodes and connective corridors, and where possible identify public transport requirements and funding support as part of development applications	All	x											
	Identify and implement demonstration projects that fully consider and integrate transportation needs	Encourage demonstration projects that actively address communities' concerns and the perceived negative impacts of increased residential densities	All	x											
	Treat rural towns/communities like campuses for public transportation concerns		All	x											

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	Invest in Community & Industrial Development & Infrastructure	From FLREDC Strategic Plan	All	x											
Leverage transportation system assets to encourage economic development			All						◐	◐	●	◐	●	●	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: human, built/manufactured, financial Communities Benefited: all including other regions Planning Efforts: GTC LRTP 2035, REDC Strategic Plan, GTC Freight Goods & Movement Study, G/FLRPC Comp Econ Dev Strategy
	Multi-modal/cultural tourism infrastructure development	Support building upon the existing cultural & ecological resources & multi-modal networks to develop the Region into a cultural tourism destination - link the historic, ecological & social resources of the Region	All	x			All levels of government	Economic development, potential reduced GHG emissions through increased use of hiking/biking trails, use of existing infrastructure							
	Educate the public & key stakeholders on the importance of freight transportation		All	x											
	Develop or promote existing recreational tourism projects within the region (biking, hiking, watersports, etc)		All	x											
	Develop/implement policies & infrastructure to encourage rail vs truck freight		All	x											
	Develop a regional rail system - light & commuter rail		All												
	Implement VMT tolls on the Thruway	VMT tolls instead of existing Thruway tolls to encourage alternative modes and rail freight	All	x											
	Encourage buying local to reduce VMT and energy consumption due to freight	Encourage buying local to reduce VMT and energy consumption due to freight	All	x											
	Encourage consolidated freight planning to maximize efficiency and promote rail	Encourage consolidated freight planning to maximize efficiency and promote rail	All	x											
	Encourage the expansion of freight rail infrastructure to effect modal change	Encourage the expansion of freight rail infrastructure to effect modal change	All	x											
	Expand connectivity & access for freight	From GTC LRTP - Connectivity & access for freight is identified as a primary economic need for the region now and in the future	All	x											from GTC LRTP
	Construct rail sidings to major regional landfills	From Freight & Goods Movement Report - Construct rail sidings to major regional landfills to facilitate the shift of inbound municipal solid waste from truck to rail	All	x			Rail operators, landfill operators, NYSDOT	Encourage freight via rail, economic development							
	Consider an intermodal transfer facility	From Freight & Goods Movement Report - Identify the appropriate location(s) for a regional-scale rail/highway intermodal transfer facility & identify potential customers to justify private rail investment in new intermodal rail service to the Region	All			x	Rail agencies/companies, NYSDOT, USDOT	Encourage freight via rail, economic development							
	Identify locations for access to regional short line railroads	From Freight & Goods Movement Report - Identify possible locations for local businesses to access regional short line railroads at small cross dock & transload facilities throughout the region	All		x		GTC, NYSDOT, IDAs, rail agences/companies	Encourage freight via rail, economic development							
	Improve overhead clearance restrictions & sidings on RSR line	From Freight & Goods Movement Report - Improve overhead clearance restrictions & sidings on RSR line to allow for improved connections to Rochester & Monroe County from NSs Southern Tier line	Monroe, all		x		NYSDOT, rail agencies/companies	Encourage freight via rail, economic development							

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	Preserve rights-of-way as noted in the Regional Right-of-Way Preservation Study	From Freight & Goods Movement Report - Take action to preserve rights-of-way on other lines identified in the Regional Right-of-Way Preservation Study, with higher priority given to lines on which potential new customers have been identified (6 noted in plan)	All		x		GTC, NYSDOT, rail agencies/companies, IDAs, local governments	Encourage freight via rail, economic development							
	Improve interchanges of rail cars between rail operators	From Freight & Goods Movement Report - Improve the efficiency & lower costs associated with interchanges of rail cars between rail operators	All		x		Rail agencies/companies	Encourage freight via rail, more efficient connections, resiliency & capacity of rail system, economic development							
	Facilitate trade with Canada via rail	From Freight & Goods Movement Report - Explore options to move freight across the border by non-highway modes, including roll-on/roll-off highway trailer-on-flatcar rail shuttle service	All			x		Encourage freight via rail, economic development							
	Utilize and build upon the existing rail system	Utilize and build upon the existing rail system including the shortline rail system, to improve efficiency of product movement and lower GHG emissions.	All	x											
	Establish/maintain wildlife crossings where transportation corridors cross habitat corridors to improve ecological connectivity within the region	Reduce negative impact of transportation networks where they intersect natural systems	All	x											
	Where transportation networks cross hydrologic networks, account for floodplains and natural conveyance that allow passage for aquatic life, mainain stream and floodplan capacity, and riparian corridors	Reduce negative impact of transportation networks where they intersect natural systems	All	x											
Maintain and improve the functionality, safety and efficiency of the existing transportation infrastructure		from GTC LRTP	All						◐	◐	●	◐	●	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, GHG emissions Capitals Benefited: human, built/manufactured, financial Communities Benefited: all including other regions Planning Efforts: GTC LRTP 2035, REDC Strategic Plan
	Increase transportation system efficiency & operations	Encourage & promote TSMO projects and consolidation of municipal services such as waste collection	All	x				Reduce GHG emissions, improve air quality & safety							
	Improve or install wayfinding signage in business, cultural, and other unique districts as well as interregional travel facilities	From GTC LRTP - Providing information at key points is an important element in providing access to specific locations and can reduce delay and visitor angst	All	x											
	Continuously identify ways to increase & improve real-time travel information	from GTC LRTP - improved information on travel choices will lead to better decisions for all modes, and the means for doing so will continuously change	All	x											
	Continue conducting programs and training to improve incident response, management and clearance times	from GTC LRTP - programs like the NYSDOT Highway Emergecny Local Patrol (HELP) decrease delay and increase safety on roadways	All	x											
	Institute informational programs to reduce distracted driving	from GTC LRTP - distracted driving is a major safety hazard and the problem will only increase without the development and implementation of educational and enforcement programs to reduce distracted driving	All	x											
	Continue to fund and promote the Regional Traffic Operations Center and promote interagency collaboration & coordination in progressing regional concepts of transportation operations	from GTC LRTP - to take full advantage of the capabilities of the RTOC and other regional concepts of transportation operations adequate number of trained personnel and interoperability are important	Monroe	x											
	Upgrade or install regional communications infrastructure for greater integration of transportation agency operations	from GTC LRTP - as new capabilities become available existing and expanded communications devices connecting instrumentation and TSMO staff will be implemented	All	x											
	Develop integrated/coordinated interchange & arterial signal timing systems & plans	from GTC LRTP - optimizing signal timings along and between major corridors improves efficient, leading to reduced delay and vehicle emissions	All	x											
	Identify & implement circulation, access & parking studies or complete streets recommendations, where appropriate	from GTC LRTP - the CAP plans have integrated transportation and land use planning and include recommendations that should be advanced as part of reconstruction and rehabilitation projects in the region	All	x											
	Operational improvements of interchanges/intersections	From GTC LRTP - Improve the function of interchanges on major highways & intersections throughout the region through improved design that increases safety, reduces delay & improves mobility	All	x											
	Advance access management recommendations as part of rehab & recon projects, where appropriate	From GTC LRTP - proactively managing access from highways to adjacent land can improve efficiency and reduce crashes, mitigating recurring and non-recurring incident delay without requiring physical expansion of infrastructure	All	x											

Transportation Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Consolidate municipal services to reduce VMT	Encourage consolidate municipal services (like waste collection, plowing, etc) to reduce vehicle miles traveled, especially for heavy vehicles	All	x											
	Green technologies in transportation projects	From GTC LRTP - Increase the use of recycled materials & incorporate green technologies in the rehab & recon of highways & bridges	All	x											
	Analyze where people live vs work and/or use mobile phone data for transit planning		All	x											
	Strengthen transportation infrastructure through preservation & maintenance of the existing system	From FLREDC Strategic Plan	All	x											
	Implement transportation system management & operations (TSMO) recommendations	From GTC LRTP - Maximize the effectiveness and improve the safety of the existing transportation system through TSMO recommendations as noted in the GTC LRTP 2035	All	x											
	Preserve existing rights-of-way for future transportation uses	From GTC LRTP - when portions of existing linear rights-of-way are used for non-transportation uses, it is very challenging and expensive to reestablish or create a new corridor	All	x											
	Improve the functionality of waterways for boating through dredging		All	x											
	Implementing transportation infrastructure resiliency measures	This strategy addresses the vulnerability of critical surface transportation infrastructure to natural and man-made hazards, including the anticipated weather-related impacts of climate change on the regional transportation system. Regional emergency response plans designate floods, ice events, and snowstorms as major areas of concern. Each of these hazards has unique impacts on infrastructure and community transportation needs, particularly in the aftermath of a major event. This strategy will advance efforts to plan, build, and manage transportation infrastructure elements that have greater resiliency not only to recurring hazards like ice storms and floods, but also to severe weather events, such as extreme heat and heavy precipitation, that may occur with greater frequency as a result of gradual, long-term shifts in climate patterns.	All	x			NYSDOT, NYS Police, NYSTA, local transportation/ highway/public works dept, RGRTA, county emergency management agencies, county sheriff dept, local fire/emergcency dept	This strategy will improve the safety, reliability, and sustainability of the regional transportation system by identifying and assessing critical transportation infrastructure vulnerabilities: result in actionable information that can be used by agencies and organizations to remedy infrastructure vulnerabilities and better manage and operate their facilities, which will safeguard lives and property in the event of a hazard event: identify potential capital and programmatic actions that can mitigate both the short-term, severe impacts of hazard events and the long-term, incremental impacts resulting from climate change: facilitate efficient investments of public and private financial resources by reducing the expenses incurred by communities, businesses, and individuals during both short-term hazard event response and long-term recovery activities: reduce costs associated with disaster response and recovery operations: maximizes the return on investment (ROI) of public transportation funds by fostering projects that are not exposed to hazards or are better able to withstand hazard events should they occur: advance sustainability initiatives in the region by identifying ways to protect and							Noted in GTC Diversion Route Planning Initiative and forthcoming Regional Critical Transportation Infrastructure Vulnerability Assessment
Promote the development and adoption of alternative fuels and power sources		also noted in GTC LRTP	All					Reduce GHG emissions, improve air quality	◐	◐	●	◐	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, GHG emissions Capitals Benefited: human, natural, built/manufactured, financial Communities Benefited: all including other regions Planning Efforts: GTC LRTP 2035
	Install alternative fuel infrastructure		All	x											
	Promote R&D, deployment of pilot projects to validate technology and eventual commercialization of advanced technology vehicles (e.g., electric hybrid, fuel cell, etc.)		All	x											
	Continue to encourage alternative fuel fleet vehicles (private or government owned)		All	x											
	Find ways to make alternative fuels/vehicles more affordable		All	x											
	Install infrastructure to support compressed natural gas (CNG) fueling		All	x			Municipalities, refuse companies, food & beverage processors, large dairy farmers	Lower GHG emissions, more affordable (33-55% less than gas), domestically (and potentially locally) produced							
	Install alternative fuel vehicle infrastructure for fleets	from GTC LRTP - develop stations to dispense alternative fuels and charging stations	All	x											
	Encourage alternative fuel vehicles for fleets	from GTC LRTP - incentivize the replacement of gasoline and diesel vehicles with those that are more energy efficient and environmentally friendly	All	x											
	Incentivize alternative modes & fuel vehicles by designating preferred parking in public parking facilities for alternative fuel vehicles, carpools, etc		All	x											
	Promote the awareness of alternative fuel technology and encourage their adoption in public and private fleets		All	x											
	Reduce direct & indirect energy usage	From GTC LRTP - Providing opportunities to reduce the amount of energy consumed in the use & construction of transportation facilities & services can reduce dependence on foreign oil & decrease harmful fossil fuel & GHG emissions	All	x											from GTC LRTP

Transportation Strategies

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	Building a sustainable transportation system: enhancing the use of AFVs in Upstate New York	This strategy is based upon the premise that we can change our communities for the better through cooperation and voluntary partnerships, working to reduce our reliance on imported oil and improve air quality. Through this strategy, public/private partnerships will be developed to promote alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction. The main focus of the strategy is to establish funding aimed at incentivizing purchases and use of AFVs and their supporting infrastructure in the region. In addition, education and promotional material will be developed and distributed. This strategy has been successfully implemented in other parts of the country and our organization in particular has experience delivering such programs regionally.	All	x			Genesee Region Clean Communities	Increased use of AFVs and development of supporting infrastructure will lead to new jobs, better air quality, less reliance on petroleum, and – perhaps most importantly – bring us closer to the "tipping point" along the technology penetration curve whereby a vibrant AFV transportation system can be self-sustaining.						
Explore enhanced parking management options		from GTC LRTP - more efficient parking options could reduce VMT/GHG emissions	All												
	Implement an electronic parking guidance system for Downtown Rochester	from GTC LRTP - erect dynamic messaging signs and develop an application for smart phones and in-vehicle communication technologies to provide information on the availability of parking spots and where alternatives exist	Monroe		x										
	Encourage flexibility in local government parking policy		All	x											
Transportation System without Fossil Fuels	Move towards a transportation system that does not use fossil fuels.		All			x		Protection of health, environment & quality of life							

Land Use Strategies

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Create healthy, safe and sustainable communities		Promote the development of healthy, safe and vibrant communities that have access to a full range of opportunities and services.	All	X				Achievement of healthy, safe, sustainable communities where people have access to healthy foods, active living, cleaner water and cultural and social amenities.	●	●	●	◐	●	◐	This strategy benefits energy, transportation, land use and livability, materials/waste management, water management, economic development, agriculture and forestry,climate change, governance and GHG emissions. This strategy also benefits all five capitals and has the potential to benefit multiple communities. It can be applied in communities and in every county in the region, and has benefits that extend beyond the region. Implementation hinges on changing practices and processes and, therefore, there is the potential to accomplish it in a relatively short term. This strategy is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects), but it would reduce life cycle costs over the long term. It also has high potential to leverage other funding sources, including public sector monies. It was ranked a 3 for financial feasibility because the return on investment can be significant.
	Encourage the use of development practices, and invest in projects and green infrastructure that enhance water access, retain and improve water quality, and increase water safety to improve the quality of water resources and reduce erosion	Water quality and access to clean and safe waters is a priority for improving the quality and health of communities. Most water quality impacts are directly related to land use activities and development.	All	X											
	Increase the number of communities with current Comprehensive Plans that promote sustainability	Communities should adopt or update comprehensive plans to establish clear and innovative vision, policies, recommendations and strategies for sustainable land use and management.	All	X											
	Create a municipal sustainability office or a dedicated function for all counties or larger communities to provide cooperative stewardship of the Finger Lakes Regional Sustainability Plan.	To ensure that the Finger Lakes Regional Sustainability Plan is implemented, evaluated and updated on a regular basis it is important to have a designated entity to oversee and promote this effort. This can be accomplished either through the establishment of a municipal sustainability office or as a function of regional government.	All	X											
	Greenfield development should be sustainable	Greenfield development will continue to occur, particularly in rural areas, adjacent to centers. Such development should be undertaken in a sustainable manner that preserves open space resources, uses green infrastructure, and follows other sustainable principles.	All	X											
	Support the development of inter-connected road and off-road trails that link the historic, ecological and social resources	Having connected resources provides wide reaching benefits to communities and enables residents and visitors easier access to cultural and natural resources in support of healthier living (recreational opportunities) as well as tourism and economic development.	All	X	X										
	Incorporate climate change considerations into comprehensive plans and zoning	Develop comprehensive plans to address climate change; analyze the built environment and identify ways in which municipalities, companies and residents can adjust or modify it in preparation for climate change. Enable municipalities to modify land use laws to incorporate climate change criteria for new development.	All	X											
	Support tourism infrastructure development (*economic development*)	Support building upon the existing cultural and ecological resources and multi-modal networks to develop the region into a cultural tourism destination spot.	All		X										
	Encourage use of STAR Community Rating System	Promote the use of the STAR Community Rating System, which is designed to help local governments assess how sustainable they already are, set a clear path to a sustainable future and measure progress toward sustainability goals. This system is flexible enough to accommodate communities of all sizes at various levels of involvement. The STAR Community Rating System offers recognition and certification.	All	X											
	Design communities to support active living	Communities should be designed to support the ability to walk to places (active living) and have mixed uses and a concentration of services in centers (re-establish traditional development patterns and neighborhood environments that don't depend on cars).	All	X											
	Ensure access to affordable, healthy foods	One important factor for creating quality communities and improving public health is access and availability of affordable, healthy foods. There are neighborhoods and centers where such access is not readily available.	All	X											
	Promote increased investment and social networks to improve the quality and safety of our neighborhoods	This strategy is tied to the need to make neighborhoods and centers better quality, safer places to live. Establishing this as a priority for increased investment and promoting this effort through social networking would help to turn things around.	All	X											
	Improve local educational systems	Improving school systems and educational services increases the quality and capacity of underperforming school districts, both urban and rural, and help rebuild population.	All	X											
	Dedicate public safety resources to promote safe neighborhoods	Community leaders need to consider policies and programs aimed at creating safer living environments and improving public safety.	All	X											
	Incorporate traffic calming measures in areas where there is a high density of activity	Pedestrians should have a safe and comfortable environment within centers with roadways that accommodate higher volumes of traffic, which may travel at higher speeds, to promote walking and streetside activity, particularly in areas with schools, parks, shopping districts, etc.	All	X											
	Use education and public outreach to raise awareness about sustainability	There are a wealth of academic institutions in the region that can be capitalized on to raise public awareness through ongoing education, public discussion and debate on the value and importance of sustainability for the future of the region's built environment and to embed sustainability into the local culture.	All	X											
	Use ecological frameworks as a basis for land use planning	Develop an ecological framework to identify preferred areas for development, working lands, ecological networks and landscape linkages. Integrate this information into local comprehensive plans to facilitate sustatinable growth at a community level.	All	X											

Land Use Strategies

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	Train local boards and officials in site plan and regulatory review that promotes more sustainable site design and development	Local land use decisions impact long term development patterns throughout the region. Local boards and other officials who are responsible for these decisions need a better understanding of sustainable land use to protect important natural resources, protect community character, improve quality of life and locate development in appropriate locations.	All	X											
Revitalize existing centers and prioritize the value of place making		Concentrate residential, employment, retail, community, and entertainment activity in areas with existing infrastructure to control sprawl and revitalize communities suffering from disinvestment.	All	X				Increased investment, decreased sprawl, stronger local economies, greater diversity, transportation efficient development, reduced energy use, protection of agricultural and forest lands and other natural resources and greater concentration of population in centers.	●	◐	●	◐	●	◐	This strategy benefits transportation, land use and livability, materials/waste management, economic development, climate change, governance and GHG emissions. This strategy also benefits all five capitals, except natural, and has the potential to benefit multiple communities. It can be applied in every center in the region (and every county), and has benefits that extend beyond the region. Implementation may take more than nine years as development patterns in communities change more slowly and this is a continuous and ongoing process. Furthermore, existing governance structures tend to constrain the ability for communities to implement revitalization efforts. This strategy is consistent with multiple regional and local planning efforts, including the Regional Economic Development Plan, the GTC Long Range Transportation Plan and local comprehensive plans. It has higher order of magnitude costs (capital projects), but it would reduce life cycle costs over the long term. It also has high potential to leverage other funding sources, including public sector monies.
	Prioritize the value of placemaking to enhance quality of life and create vital communities	Placemaking fosters active, engaged relationships between citizens and the spaces that they inhabit, the landscapes of their communities, that creates a sense of communal stewardship and connection. It establishes a sense of place that hold deep and long lasting meaning to those who live, work and visit these places.	All		X										
	Create and recreate traditional neighborhoods	Revitalization efforts must recognize the need to create and recreate traditional neighborhoods (places) that provide a sense of identity and offer a mix of uses (quality of life factors).	All	X											
	Take streetscaping beyond the public right of way	Recognize that surrounding neighborhoods are an extension of the public space and design streetscaping and traffic calming projects within this context. Such efforts should help improve the local context, not just improve the ability to move people.	All		X										
	Discourage development in areas without infrastructure and support services to strengthen local economies	The expansion of infrastructure into undeveloped areas increases a system of services that requires maintenance and expenditures and promotes inefficient and unsustainable patterns of development (sprawl).	All	X											
	Invest in improvements to the public realm to promote private sector investment	Invest in improvements to the public realm (streetscapes, plazas, parks) in strategic areas (e.g., Main Streets) to promote private sector investment.	All	X											
	Facilitate and incentivize adaptive reuse of historic buildings and underutilized lands in traditional centers	There are many buildings that have potential for reuse, but developing green fields is cheaper and easier. Need to develop mechanisms to incentivize redevelopment of existing structures and investment in traditional areas of development.	All	X											
	Facilitate and incentivize 'in-fill' development through zoning regulations and design standards	Redevelopment in existing centers should be focused on vacant, underutilized parcels to fill in developed areas and keep development concentrated in these areas (which reduces costs, helps control sprawl and is more sustainable).	All	X											
	Revitalize City of Rochester residential neighborhoods	Increase density in 36 residential neighborhoods in the City of Rochester through infill, renovation of derelict housing and repair of unoccupied homes using sustainable construction and design standards. Deconcentrate poverty by welcoming all incomes.	Monroe		X										
	Increase economic opportunities for all residents	There will not be revitalization of centers if poverty remains overconcentrated in these areas. There is a need for more opportunities for jobs, education and other necessities to allow residents to prosper.	All		X										
	Invest in the development, promotion and preservation of cultural, artistic and historic assets	Cultural, artistic and historic assets are part of the fabric and character of communities centers and are important in maintaining the value and quality of life in this places.	All	X											
	Invest in community, industrial development, and infrastructure to reinforce the identity, sense of place and character of the area through downtown redevelopment, adaptive reuse of existing buildings and infrastructure, and historic preservation.	Building on existing assets (buildings, infrastructure, etc.), results in stronger centers through the recognition of community identity and character.	All	X											
	Improve access to credit and capital for revitalization and reinvestment to enable businesses to locate or expand in the region, particularly in centers where infrastructure exists to support such development.	Mechanisms and incentives are needed enable businesses to locate or expand in the region, with emphasis on areas where infrastructure exists to support such development. Consider public sector land banking, demolitions, land assembly, and real property tax incentives.	All	X											
	Practice efficient Regional Land Use Planning to discourage sprawl without population growth	Reform the inefficient way land is developed and steer development to already developed areas with existing infrastructure; avoid overdevelopment and sprawl without growth. Preserve community character in urban, suburban and rural areas.	All	X											

Land Use Strategies

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	Use context-sensitive design to enhance the character of the surrounding community and provide better accommodations for non-vehicular traffic	As part of focusing development in centers, improve the design and use of local streets for walking and biking (sidewalks, bike lanes, transit stops, etc.) to integrate the roadway into the context of the surrounding neighborhood and encourage people to get out of their cars.	All		X										
	Improve core institutions in centers to build and retain population	To create livable communities, services, schools and safety are three factors that must be acknowledged and improved in order to attract people back to centers.	All	X											
	Take advantage of state programs to remediate and promote the adaptive reuse of brownfields	Reuse brownfield properties in developed places as a means of reinvesting in underutilized and abandoned areas, and consider use for agriculture (which provides inputs for advanced technologies).	All	X											
	Develop incentive structures that encourage development in centers and developed areas	Need to promote and incentivize development and redevelopment in existing centers and developed places, and discourage development on rural and agricultural lands. Keeping development and people closer to centers helps to capture investment and keep dollars in communities.	All	X											
	Encourage 'buy local' campaigns	It is important to support local businesses to help keep existing commercial centers vital.	All	X											
	Promote new job creation within existing centers	Develop programs to promote new job creation within existing centers where there is ample access to existing residential development and a supply of labor (reduces VMT, etc.).	All	X											
	Adopt a "fix it first" policy for infrastructure investment	Infrastructure investment should prioritize spending on improving and enhancing existing assets, and using available capacity in developed areas, rather than funding the extension of new services that support sprawl.	All	X											
Support and preserve rural centers and the character of rural areas		Public infrastructure, particularly sanitary sewer service, should be focused in centers to protect rural character and preserve farmland assets. Development and redevelopment should be focused in and around centers where services exist or can be readily extended rather than extending service into undeveloped areas.	All	X				Lower land consumption and preservation of agricultural and forestry resources, preservation of open space and natural resources, protection of habitats and scenic resources, water quality, lower capital and operating costs for infrastructure, economic development (finger lakes tourism), protection of rural character, and resiliency and reduced public risk from natural disasters (flooding, slope failure, etc.).	●	◐	●	◐	●	◐	This strategy benefits land use and livability, water management, economic development, agriculture and forestry, climate change, governance and GHG emissions. This strategy also benefits the human, natural and financial capitals and has the potential to benefit multiple communities. It can be applied in every county in the region, because all have rural areas to protect; benefits extend beyond the region. Implementation can be achieved faster than the revitalization of centers because it tends to have lower capital costs. However, existing governance structures tend to constrain the ability for communities to protect rural centers and character because there is pressure to grow. This strategy is consistent with multiple regional and local planning efforts, including the Regional Economic Development Plan, the GTC Long Range Transportation Plan and local farmland protection and watershed plans. Some of the implementation strategies may be expensive (land acquisition). It should reduce life cycle costs over the long term. The return on investment can be significant.
	Promote the conservation of undeveloped lands, habitats and scenic resources	Land development practices need to recognize the resource value and importance of open lands as habitat and community assets. Focusing new development in centers and existing areas of development helps protect rural lands and landscapes, important natural resources and community character, as well as control the costs of infrastructure investment.	All	X											
	Utilize land use tools to preserve agricultural lands and open space	Promotion, training, implementation of land use tools such as purchase of development rights, transfer of development rights, conservation easements and incentive zoning to preserve agricultural lands and open space in perpetuity.	All	X											
	Inventory lands and parcels of significant ecological and/or scenic value to protect highest value land	Inventorying important resources within a municipality provides the community with a better understanding of existing assets in order to balance development with environmental protection.	All	X											
	Educate policy makers about true fiscal costs of development, including operations and maintenance	Policy makers often do not understand the fiscal costs associated with development. It is important to consider not only the capital costs of installing additional infrastructure, but on-going operations and maintenance costs, including future repair or replacement costs when the systems reach the end of their expected life cycle.	All	X											
	Provide disincentives and increase the costs of unsustainable development, and reward (provide incentives for) good development.	Because it often costs more to develop in centers (or in the right place), communities need to provide incentives for good design and development and disincentives for developing green lands.	All	X											
	Recognize the value of natural systems and resources	Recognize that natural systems and resources are regionally significant assets worthy of protection and conservation when making land use decisions.	All	X											
	Support and encourage educational programs that integrate an understanding of ecology and environmental stewardship	There is a need to develop and expand educational programs that integrate an understanding of ecology and environmental stewardship into planning and design knowledge and practices. In doing so, it will result in better, more sustainable development in the right places.	All	X											

Land Use Strategies

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	Protect and preserve agriculture as a means of protecting rural character	Recognize the value of agriculture and agricultural lands for community character, preservation of resources and economic sustainability. Farmland generates more tax revenue than it demands in services.	All	X											
	Protect natural systems, such as wetlands, stream banks and floodplains, for resiliency	Wetlands, streambanks, flood plains and other such natural resources provide important habitat and natural protection from storm events. These areas should remain free of development to reduce long term costs (maintain resiliency and reduce public risk).	All	X											
	Revise local zoning and subdivision standards to achieve more sustainable design and protect important resources and assets.	Revising local standards for parking, setbacks, minimum lot size and other requirements achieves more sustainable design. Creative subdivision design standards should also be adopted to protect important resources and assets.	All	X											
Encourage diversity of our communities to bring about a greater mixture of uses, people, ages and incomes		Strong communities are comprised of a mixture of cultures, assets, land uses and people of all ages and incomes. Such diversity can result in more prosperous, sustainable neighborhoods and centers that offer better quality of life and resiliency.	All	X				Better quality of life, reduction of poverty, enriched housing choice including affordable housing opportunities, supports aging in place, promotes mixed use communities that are more likely to be walkable, strengthens neighborhoods and revitalizes local economies, builds resilient communities.	◐	◐	●	◐	○	◐	This strategy benefits transportation, land use and livability, economic development, climate change, governance and GHG emissions. This strategy also benefits the human, social and built capitals and has the potential to benefit multiple communities. It can be applied in every community (and every county) in the region, and benefits can extend beyond the region. Implementation could take longer because of potential resistance to change in terms of how we develop our communities, although more diverse communities are more resilient. Existing governance structures tend to constrain the ability for communities to be more diverse. This strategy tends not to be directly addressed in regional and local plans. Financial feasibility is hard to determine, as it is hard to predict what costs might be (every community is different and the range of activities needed to implement this strategy varies). There are areas where it is easier to achieve diversity than others.
	Adopt flexible zoning that allows for mixed use development	Encourage local governments to adopt more flexible zoning that allows for mixed use development at appropriate locations to improve and enhance neighborhood and community diversity and vitality.	All	X											
	Support programs that facilitate aging in place	The needs of seniors, including housing availability and support services, need to be recognized to enable them to remain in their communities and maintain quality of life.	All	X											
	Eliminate funding and regulatory barriers to bring about more mixed use development	Existing policies and regulations constrain the ability and flexibility required to undertake mixed use development.	All	X											
	Invest in strong local school systems to atract and retain young families	Young families are more likely to locate in areas with better quality education systems.	All		X										
	Enrich living environments by increasing access to affordable housing and mixed income units	The utilization of zoning provisions and other mechanisms and policies that support housing choices and improve access to affordable and senior housing, such and apartment, accessory units and other creative options, promote community strength and diversity.	All	X											
	Increase the number of communities with current Comprehensive Plans that promote sustainability	Communities should adopt or update comprehensive plans to establish clear and innovative vision, policies, recommendations and strategies for sustainable land use and management.	All	X											
	Develop specific vision plans for community centers (urban design)	Create or update community comprehensive plans to include vision planning for core areas to establish what form the physical/built environment should take, identify sites for future development and redevelopment, identify development and economic strategies, identify strategies for a sustainable public realm, represent a regulating plan for revised zoning codes (form based codes), be the basis for a community marketing plan, and show where new housing and mixed use development should be located to achieve a more walkable community center. This would enable more predictable designs for potential investment opportunities.	All	X											
	Provide assistance to lower income homeowners to enable them to stay in place	Work with non-profit housing organizations to provide programs, such as home repair assistance, tool libraries, housing education and energy efficiency programs, to enable lower income homeowners to stay in their homes and maintain them in good condition.	All	X											
	Encourage a broader mix of housing types and price ranges	Residential development should offer a mix of housing options to accommodate the needs of all residents and help to create diverse neighborhoods.	All		X										
	Encourage “fine grain” development, at a human scale	This is about creating neighborhoods and vital communities with a mix of uses that avoids ‘superblocks,’ and large single-use developments.	All	X											
	Incorporate quality of life factors into land use decisions	Land use decisions and development should "build communities" rather than separate uses and support sprawl. Residential development should have access to parks, transportation choices, cultural assets, jobs and services that are typically available in centers.	All	X	X	X									
	Adopt and amend local regulatory policies, practices and processes to achieve sustainable design and development	Local regulatory policies, practices and processes should be flexible and allow for mixed use, diversity and placemaking. Codes should reflect community goals and promote sustainability, equity and innovation.	All	X											

Materials Waste Management Strategies

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Reduce the amount of solid waste generated in the region.			All	X			Primarily overseen by county-level waste management agencies, but all waste generators will have a role.	Decrease in public health risks; decrease in GHG emissions; decrease in leachate and thus water quality issues	●	●	●	●	◐	◐	Subject Areas Benefited: Energy, Land Use, Materials/Waste Management, Water Management, Climate Change Adaptation, GHG Emissions Capitals Benefited: Human, Natural, Built/Manufactured, Financial Communities Benefited: All Implementation Feasibility: Short implementation timeframe, technology currently available and in use, established support network Consistent with Planning Efforts: Yes Financial Feasibility:
	Target incoming waste for reduction at the sources, and new management methods at the disposal locations (landfills in the Finger Lakes)	Better characterize what is coming into region. Define highest and best use for the major components of this waste stream. Work to extract highest value of this material (which is not necessarily landfilling). Potentially work with state regulators to limit material coming into the region using strategies such as: "We won't take anything from anywhere not already reaching a 40% diversion/recycling rate."	All	X			County governments; NYS								
	Develop local innovative approaches to: 1) reduce packaging, 2) incorporate sustainable materials in packaging, and 3) develop reusable packaging	Use already established local materials expertise, purchasing power, and legislative initiatives, including local resources such as existing manufacturers, new private sector interests, and existing academic resources (e.g., at RIT's Golisano Institute).	All		X		A number of regional organizations								
	Develop innovative approaches to source reduction policy incentives	Successful implementation of this strategy requires strong government leadership to create educational material and policies that encourage businesses and residents to reduce their waste generation. This strategy supports the development and expansion of waste management/recycling businesses.													
	Explore feasibility of banning disposal of food scraps and yard trimmings		All	X			Led by local governments								
	Add Zero Waste Programs as part of new state Climate Action Plan		All	X			Led by local governments								
Increase the percentage of materials reused (upcycled), recycled, and composted within the region.			All	X			Organizations at all levels	Decrease in GHG emissions; decrease in materials generated and then landfilled; materials will enter local supply-chain enhancing economic development	●	◐	●	●	◐	●	Subject Areas Benefited: Land use, Materials/Waste Management, Economic Development, Climate Change Adaptation, GHG Emissions Capitals Benefited: Social, Natural, Built/Infrastructure, Finance Communities Benefited: All Implementation Feasibility: Short implementation timeframe, technology currently available and in use, support network established Consistent with Planning Efforts: Yes Financial Feasibility: Yes
	Develop local markets for recyclables	This provides regional self reliance, provides longer term solutions, and adds to the local economy	All	X			Led by local governments and economic development agencies; NYS								
	Explore feasibility of halting all increases in capacity at state's largest landfills		All	X			Led by local governments								
	Require local solid waste planning units to prepare plans that increase waste reduction and diversion and decrease disposal	Must decrease disposal by 50% by 2015, 75% by 2020	All	X			NYSDEC								
	Develop a new system to capture pre-consumer organics, then expand this system - once proven - to post-consumer organics	e.g., vegetable and fruit waste at point of processing (pre-consumer organics); food waste (post-consumer organics)	All		X		Led by local governments and large institutions								
	Develop innovative approaches to material diversion policy incentives	There are a host of innovative diversion initiatives for discarded materials that can be deployed particularly in the area of source reduction	All	X											
	Further support and develop existing recycling infrastructure	Such as Monroe County single-stream MRF and other recycling infrastructure	All	X			Local governments								
	Encourage on-site/backyard composting program	Provide training on proper installation and management	All	X			Led by local governments								
	Provide on-site digestion vessels	At the region's colleges, schools, hospitals, nursing homes, manufacturing plants and other facilities with cafeterias	All	X			Local governments working with NYS								
	Move toward composting, digestion, and appropriate land-application solutions for bio solids and other organic waste	Land application of bio solids are causing serious problems in various locations across the region--a new management regime needs to be developed	All	X			Led by local governments								

Materials Waste Management Strategies

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	Reuse efforts should include the development and enhancement of materials exchange programs	That includes waste materials exchange program to facilitate use of waste materials as inputs	All	X			Led by local governments								
	Encourage building deconstruction and subsequent material reuse and recycling, as opposed to building demolition.		All	X			Led by local governments								
	Cultivate Industry Partnerships with Wastewater Treatment Plants to Stablizie System Capacity	The proposed strategy is focused on treating publically-owned wastewater treatment plants and their upstream users as a single system that can be optimized to meet future demands. The following tactics would support the achievement of this strategy: Identify WWTPs that operate at or near capacity for a single water quality parameter; Develop projections of industry growth in 5-10 years upstream of these plants; Target individual companies in growing sectors for pollution prevention/water conservation projects that address the parameters identified above. Key metrics might include the following: % of WWTP that operate with ≥ x% of excess capacity relative to specific set of parameters (e.g. BOD)	All	X			Agencies that provide technical assistance services focsued on the environment/water.	Eases the burden on aging infrastructure for wastewater treatment; Reduces the need for and urgency of capital investment in additional infrastructure; in the near term, reduces energy costs at WWTPs; Reduces cost associated with discharge to individual companies; Promotes the development of best practice that can be transferred across industry sectors; Applies the proven framework of watershed management to a smaller scale system; Enhances communication across stakeholder groups (currently connected only by regulatory constructs							
	Increase efficiency of landfill gas capture/conversion to energy	Improve waste to energy management and conversion through introduction of new technologies and research	All	X			Local governments and technical assistance providers								
	Expand reuse to include construction and demolition (C&D) debris and building development opportunities, such as deconstruction and demolition	Increase C&D recycling operations; Create more aggressive building codes encouraging use of recycled materials, reuse, and deconstruction; Develop a debris management plan for extreme weather events	All	X			Local governments and technical assistance providers, stakeholders								
Address financial barriers through new revenue and business models	E.g., incentives, appropriate user fees, etc.	Goal is to make sustainable materials management a viable option from a financial standpoint vs. waste disposal models.	All		X		Local governments working with academic institutions and others.	Creates business opportunities utilizing local materials to enhance local economy.	●	●	●	◐	◐	◐	Subject Areas Benefited: Energy, Land Use, Materials/Waste Management, Water Management, Climate Change Adaptation, GHG Emissions, Economic Development Capitals Benefited: Human, Social, Natural, Built/Infrastructure, Financial Communities Benefited: All Implementation Feasibility: Implementation timeframe, support network being developed but not formalized Consistent with Planning Efforts: Yes Financial Feasibility:
	Develop incentive programs to encourage materials use/reuse vs. disposal	For instance, take back/deposit programs	All	X			Local governments working with NYS								
	Manufacturers responsible for funding of recycling efforts on their products (product stewardship)		All		X		Local governments working with NYS								
	Develop "green fee" system	Would provide reliable source of revenue to help fund materials programs - reduce disincentive	All		X		Local governments								
	Encourage carbon credit policies	Focus on highest and best use of materials from a standpoint of carbon reduction	All		X		Local governments working with NYS								
	Address low tipping fees	Tipping fees currently do not include all externality costs (thus, they are a disincentive to sustainable approaches to materials/waste management)	All	X			Local governments working with NYS								

Materials Waste Management Strategies

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	Taxes on packages that are not reusable, recyclable, or compostable		All	X			Local governments working with NYS								
	Institute more Pay-as-You-Throw programs and every-other-week trash pickup	Would generate revenue, encourage source reduction, and build efficiencies into infrastructure	All	X			Local governments								
	Address net-metering as it is a challenge and particularly limiting in rural areas	This relates to digestion, energy production, and distributed energy	All		X		Local governments working with NYS								
	Develop financing opportunities for pilot projects that validate new waste reduction and diversion technology and the benefits of implementation.		All	X			Local governments, academic institutions, other technical assistance providers								
Promote comprehensive sustainable materials management education, awareness, and research services			All	X			Local governments	Decrease in solid waste generated and landfilled; increase in recycling, composting, and reuse programs; producer and consumer responsible for appropriate materials management	◐	◐	●	●	◐	●	Subject Areas Benefited: Materials/Waste Management, Climate Change Adaptation, GHG Emissions, Economic Development Capitals Benefited: Social, Natural Communities Benefited: All Implementation Feasibility: Short implementation timeframe, established support network Consistent with Planning Efforts: Yes Financial Feasibility:
	Educate the public, government, businesses, and institutions regarding waste management regulations and requirements, and the cost of waste management, as well as the benefits of sustainable materials management and how to effectively reduce, reuse, and recycle		All	X			Local governments working with academic institutions and others.								
	Develop metrics and education strategies to define and articulate the true value of materials		All	X			Local governments working with academic institutions and others.								
	Utilize the expansion of SMM markets and initiatives to create collaborative services and economic development opportunities	Developing local markets requires a working partnership between the county departments responsible for solid waste management and local economic development agencies.	All	X											
	Provide service opportunity analysis assistance for institutions and businesses	Provide intensive consulting services to organizations to help reduce waste throughout process steps in the organization	All		X		Local governments, academic institutions, other technical assistance providers								
	Hold a series of sustainable economic development workshops	Educate around highest and best use dictum	All	X			Local governments working with academic institutions and others.								
	Leverage, support and promote regional organizations that provide research and education in efficient materials use, reduction of waste and energy efficiency	including FAME, MACNY and P2I.	All	X			Local governments, academic institutions, other technical assistance providers								
	Develop new, creative outreach approaches	Which: 1) looks beyond email, websites, and electronic social networking (while all are good to deploy), and 2) recognizes that large segments of society don't have access to these means of communication	All	X			Local governments								
	Bring waste haulers and transporters under jurisdiction of DEC through licensing, requiring reporting of all waste and recyclable collections and disposal, and providing for oversight and compliance		All	X			NYSDEC and local governments								
	Develop and Implement Model for Brokering Materials Regionally	The proposed strategy is focused on filling research gaps and creating the incentives needed to strengthen the value proposition of technologies like anaerobic digestion to local landowners. The following tactics would support the achievement of this strategy: Complete longer term study on waste profiles that are best suited for the use of anaerobic digestion, biomass conversion, biodiesel production, etc.; Complete cost-benefit analysis of the technologies mentioned above; Develop decision-making and technical assistance tools that can engage landowners; Create infrastructure for enabling farmers to sell waste energy to the grid; Use tax and other vehicles to incent local energy production	All	X			Regional economic development agency via partnership with university, county government and NYSERDA	Mitigates emerging regional concern regarding the overuse of land application; Supports the local energy economy and promotes energy independence; Results in direct cost savings for landowners; Reduces GHG emissions derived from energy production from fossil fuels; May accelerate green technology development (strengthens market demand)							

Materials Waste Management Strategies

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	Promote Mainstreaming Efforts for Innovative Waste Treatment (such as Vermiculture)	Sewage sludge is often trucked long distances for disposal. This costs the community a great deal of money uses natural resources (gas to fuel hauling truck), and creates air pollution. Vermiculture (also called vermicomposting) is an innovative technique that can be used to solve this waste disposal issue. In vermiculture the sludge needs to first be dewatered, then this material is fed to worms (this can be done in a trench system). The worms convert the dry sludge into worm castings, which is great, odorless fertilizer, which cab actually be sold. This process reduces pollution, saves money (by reducing transport distances for sludge disposal), and turns the sludge into something useful. Project: The Village of Lyons currently has sludge from their wastewater treatment plant trucked to Canandaigua, NY, approximately 25 miles away, where if a vermicomposting system was developed at a Village owned site near the existing plant then money and natural resources could be saved.	Wayne	X			Village and Town of Lyons, Civil or Environmental Engineer, Contractor	Cost savings for a community, funds that are saved can be used on other important community projects. Reduction in use of fossil fuels (reduced hauling distance). Decrease in air pollution through minimizing sludge hauling distance. Positive environmental impact by converting sludge (a pollutant) into a fertilizer that can be used in agriculture. It is important to reduce carbon footprint to reduce global warming and climate change. The vermicomposting project would enable a community (in this case Lyons) to make a significant reduction in their carbon footprint by modifying the distance of hauling operations.							
	Accelerate local production of energy from agricultural waste.	The proposed strategy is focused on filling research gaps and creating the incentives needed to strengthen the value proposition of technologies like anaerobic digestion to local landowners. The following tactics would support the achievement of this strategy: Complete longer term study on waste profiles that are best suited for the use of anaerobic digestion, biomass conversion, biodiesel production, etc.; Complete cost-benefit analysis of the technologies mentioned above; Develop decision-making and technical assistance tools that can engage landowners; Create infrastructure for enabling farmers to sell waste energy to the grid; Use tax and other vehicles to incent local energy production	All 9	X			Regional economic development agency via partnership with university, county government, and NYSERDA	Regional economic development agency via partnership with university, county government, and NYSERDA							

Water Management Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Inventory, monitor and educate to create a better understanding of the region's water resources.		Promote a better understanding of the balance of the region's "water system". In this context, the water system includes inputs from precipitation and watercourse flow. Outputs include withdrawals for human use and different aspects of the hydrologic cycle, including watercourse flow.	All			x	All levels of local government	Increases the chances that future efforts to enhance the quality of the water environment will be successful	◐	●	●	◐	●	●	This broad strategy should benefit 5 subject areas: Energy, Water Management, Agriculture & Forestry, Climate Change Adaption, and GHG Emissions; all feasibility capitals. Implementation will be straight forward, but will require diligent follow-through. The Financial Feasibilty is scored high. This startegy will not be particularly expensive, but will require consistennncy in approach.
	Track USGS-compiled and published"Water Use County Data"	Track and record trends in this published data. Promote understanding of the inputs and withdrawls to/from regional water bodies and groundwater. This will help to better understand the functions of the region's water process which will allow the region to anticipate and react to stresses on the system.	All			x	All levels of local government								
	Create a repository of rainfall/runoff data and models	A thorough collection of hydrologic and hydraulic models created and managed in a cionsistent manner will help in the understanding of the region's water system. Rainfall runoff models are created as part of development projects, municipal master planning, academic studies, canal authority management procedures, and other efforts. some municiaplities have been successful in creating, assembling, and managing master hydrologic models based on calculations paid for by project applications.	All			x									
	Invasive Species Monitoring	Create a regional aquatic invasive species prevention/monitoring program	All												
	Develop natural resource inventories	Develop natural resource inventories to identify high priority water and natural resources and prioritize protection and restoration projects	All												
Promote regional standardization of regulations and management		Collaborate regionally through the standardization of water resource management practices across villages, cities, towns and counties. Water resource management strategies should consider all water-related strengths, weaknesses, opportunities, and threats. Water resource management strategies should also consider their relationship to each of the tenets of sustainability.	All			x	All levels of local government	Better alignment of regulations in problem areas. Increased awareness and cooperation.	◐	●	●	◐	●	●	This broad strategy should benefit 5 subject areas: Energy, Water Management, Agriculture & Forestry, Climate Change Adaption, and GHG Emissions; all feasibility capitals. Implementation will challenging, particularly beacause of strong 'home rule'. The Financial Feasibilty is scored high. This startegy will cost more political capital than financial capital.
	Promote Community Vision Planning	Concentrate future growth in existing centers and protect open space. Creating or updating community comprehensive plans including a Vision Plan (master plan) that would guide future development for its center including the use of innovative land use tools (transfer of development rights and form based codes), be the basis for a communities marketing plan and economic development plan, and make the expectations more predictable for potential developers.	All			x	All levels of local government								
	Establish the Genesee River Institute	The Finger Lakes Regional Sustainability Plan Consortium would convene a group representing agencies, universities, and organizations that are involved in water quality management, floodplain management, emergency mitigation, recreation, public educaiton and economic development with an interest in the Genesee River Watershed. This group would be charged with foudning the Genesee River Institute, modeled in part on the FInger Lakes Institute in Geneva, NY. The Institute's mission would be to collaborate on watershed research and programs; share program, policy educaiton and outreach materials with institute members; and apply for Great Lakes (and other) grant funding.	All			x									
	Continue to support the development, update and implementation of watershed management plans	As watershed management plans arre developed and adopted, follow though with the implementation of the initiatives described therein.	All		x		All levels of local government								
	Provide training and technical resources to support local government in the implementation of land use regulations to support water resources and mitigate flooding	Identify and provide resources to implement land use tools and regulations such as conservation easements, purchase of development rights, riparian buffer ordinances, etc	All	x			All levels of local government								
Preserve existing ecosystem services and promote green infrastructure to reduce reliance on grey infrastructure		Reduce grey infrastructure costs (construction, maintenance) through rewarding ecosystem services such as tax valuation or credits, stormwater utilities, and the use of green infrastructure.	All		x		All levels of local government	Improved surface water quality, reduced O&M costs for utilities, reduction flashy hydrograph peaks	◐	●	◐	◐	●	◐	This broad strategy should benefit 5 subject areas: Energy, Water Management, Agriculture & Forestry, Climate Change Adaption, and GHG Emissions; all feasibility capitals. Implementation is feasible, but will take time and will come with acceptance of the idea. The Financial Feasibilty receives an average score becasue under the current system, the installer may not directly receive the benefits.
	Encourage Net Zero Pervious Surfaces	Aim for net zero change to pervious surfaces. Any new development that adds pavement should be offset by restoring paved land to pervious/green space.	All		x		All levels of local government								
	Preserve Open Space	Promotion, training,and assistance with implementation of land use tools such as purchase of development rights, transfer of development rights, conservation easements and incentive zoning to preserve agricultural lands and open space in perpetuity	All		x		All levels of local government								
	Provide Financial Incentives	Increase the number of municipalities offering financial incentive to increase green infrastructure or reduce the amount of Stormwater runoff leaving a property. Examples of incentive could include (but would not be limited to) such things as tax credit, reduced Stormwater permit and other fees based on reduction of impervious surfaces, etc.	All		x		All levels of local government								

Water Management Strategies

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	Improve Onsite Wastewater Treatment Systems	Onsite Wastewater Treatment Systmes (OWTSs) are a significant source of nutrients and bacteria to surface water in the Finger Lakes Region. The nutrients contribute to algal blooms in the regions ponds, bays and lakes; swimmers can experience negative health impacts from bacteria associated with some algal blooms and the waste water. OWTSs are emblematic of two very natural human behaviors: "out of sight, out of mind" and "why should I bother with this if my neighbors aren't bothering?" While routine OWTS maintenance is affordable, it is usually deferred until the situation and no longer be ignored and the only options are very costly. The Departments of Health in FInger Lakes Region counties could develop a method of obtaining permit originiation and renewal fees for OTWSs that would be put in a reserve fund for education and outreach efforts and income-eligible grants for maintenance and replacement.	All		x		Counties								
	Explore use of natural systems for wastewater treatment	Support research instutitions in the research and development and implementation of pilot projects to validate effectiveness	All		x		Research instutions								
	Support Invasive Species Management Program	Coordinate with the NYS Partnership for Regional Invasive Species Management Finger Lakes Chapter to develop invasive species management goals and priorities in the region	All			x	All levels of local government								
	Promote the implementation of best management practices	Promote the implementation of agricultural and transportation best management practices to improve water quality	All		x		All levels of local government								
	Implement stream and riparian restoration projects	Implement stream and riparian restoration projects identified in watershed management plans.	All		x		All levels of local government								
	Explore incentive and permitting programs as funding sources	Explore incentive and permitting programs as potential avenues to fund improvement projects (i.e. carbon crediting , TMDL or habitat mitigation banking)	All	x			All levels of local government								
	Implement the recommendations of the Great Lakes Compact (VB 7)	Implementation of Great Lakes Compact - Sustainable Flows in Lake Ontario (BV7) – http://www.nature.org/ourinitiatives/regions/northamerica/areas/greatlakes/policy/plan-bv7.xml . The International Joint Commission (IJC) has proposed a new plan to balance the needs of people and nature, a plan that benefits hydropower, shipping, hunting and fishing, recreational boating, and shoreline property, while focusing on the health of the Lake Ontario – St. Lawrence ecosystem as a whole.	All		x		All levels of local government								
Through water conservation, ensure adequate timing and flow of water in streams, rivers, lakes and aquifers for sustainable use for people, industry, energy and nature		Treating wastewater and potable water requires large amounts of energy. Moving water can provide energy. Make the relaitonship of energy and water more beneficial to the region.	All			x	All levels of local government, utility providers	Reduction in GHG emissions. Reduction in water treatment costs.	◐	◐	●	○	●	○	This broad strategy should benefit 5 subject areas: Energy, Water Management, Agriculture & Forestry, Climate Change Adaption, and GHG Emissions; Benefits social, natural, built and financial capitals. Implementation is feasible, but will take time and will come with the availability of funding. The Financial Feasibilty receives an low score becasue under the current climate, it is assuemd that securign funding will be difficult.
	Encourage and support organizations that can improve water-related energy practices.	Leverage, support and promote regional organizations that provide research and education in efficient materials use, reduction of waste and energy efficiency, including FAME, MACNY and P2I. Develop financing opportunities for pilot projects that validate new technology and the benefits of implementation.	All	x			All levels of local government, utility providers								
	Decrease energy usage by water-related utilities.	Reduce the water/energy nexus by reducing the amount of grid delivered energy needed to manage water. Water treatment is extremely energy-intensive. New and improving technologies all for nearly constatnt opportunities to improve efficiency. Close monitoring and contiual evaluation of equipment and practices will identify the best opportunities for upgrades.	All			x	All levels of local government, utility providers								
	Generate renewable energy from used water.	Moving water contains energy. In many cases, moving water contias more energy than is needed to transport it to its destination. Micro-turbine and other energy-capture technologies have developed to the point where small-scale applications might provide a desirable benefit/cost ratio. Increase the percent of renewable energy generated from used water, including stormwater.	All			x	All levels of local government, utility providers								
	Promote and educate businesses and residents on water reuse and reducing water use		All	x			All levels of local government, utility providers								
	Educate and promote the implementation of best management practices to improve water efficiency of crop irrigation and landscaping practices		All	x											
Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems			All	x			Authorities/agencies/ government entities responsible for maintenance of infrastructure		○	◐	●	◐	◐	◐	This broad strategy benefit 3 subject areas: Energy, Water Management and Economic Development; Benefits social, natural, built and financial capitals. Technology for implementation is available. Consistent with REDC Plan to maintain and improve infrastructure. Potential to leverage other funding sources

Water Management Strategies

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	Decrease water loss in water supply infrastructure systems	Implement improvements in infrastructure systems to reduce water loss in transport	All	x			Authorities/agencies/ government entities responsible for maintenance of infrastructure								
	Develop, implement and update asset management programs	Begin to establish data bases of water-related infrastructure and other assets. Asses the condition of these assets and their primary components. Prepare a plan for their management, maintenance, and replacement.	All			x	All levels of government	Develop, implement and update asset management program to more effectively and efficiently manage assets and infrastructure.							
	Cultivate Industry Partnerships with wastewater treatment plants	Explore the possibility of forming public/private partnerships to manage this infrastructure	All	x			Authorities/agencies/ government entities responsible for maintenance of infrastructure								

Economic Development Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
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Embed the framework of this Plan into all planning, execution and measurement activities throughout the region			All	X	X	X	REDC & Regional Planning & Municipal Entities	Unique branding and alignment, focused investment, competitive advantage	●	●	●	●	○	●	This strategy is a new concept that emerged during this planning effort, therefore is not contained within any existing planning documents. Executed properly, has potential to benefit across subject areas, the region and all 5 capitals, is readily implementable and finacially feasible.
	Expand the representation at all regional and municipal planning entities to include expertise from all 5 capitals		All												
	Incorporate FLRSP measurement matrices into the tracking and reporting of all investments		All												
	Develop project evaluation forms that contain the complete project criteria recommended in the FLRSP for use on all projects applying for economic development support and funding		All												
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 Capitals (Financial, Human, Social, Natural & Built) and have broad commercialization potential.			All	X	X	X	REDC, Economic Development Entities	Leveraging region's unique capabilities, innovation pipeline	●	●	●	●	●	◑	This strategy was taken from the REDC Plan and expanded to incorporate the 5 capitals while focused to encourage the development of an economy founded on the uniqueness of the place, rather than chasing generic strategies
	Network, collaborate and promote regional organizations that encourage and support entrepreneurship, technology transfer and small business - align their criteria & priorities with the Finger Lakes Regional Sustainability Plan		All												
	Identify and support innovation throughout the regional nutrition supply and processing chain		All												
	Support innovation in alternative, renewable and distributed energy and its enabling infrastructure		All												
	Develop funding center to identify and connect emerging innovations with financial resources (seed, grants, venture capital, etc.)		All												
	Increase collaboration between educational institutions and existing businesses to support innovation of products & services aligned with the Finger Lakes Regional Sustainability Plan		All												
	Expand access to seed, early-stage, venture, and public/private capital.		All												
Invest in critical infrastructure to foster economic expansion and advance sustainable initiatives (access, function, resiliency)			All	X	X	X	REDC & Regional Planning & Municipal Entities	Incorporation of sustainable goals into infrastructure investment, strategic support of economic vitality & community benefit	●	◑	●	●	●	◑	Need to remian mindful to avoid sacrificing natural capital in the pursuit of the other capitals. Current funding model for infrastructure is challenged to provide for these needs. This strategy exists in the REDC plan but was refined to address access, function and resilience.
	Develop regional condition, capacity and vulnerability assessments and inventories for all critical infrastructure		All												
	Accelerate the development and adoption of independent, local networks of critical infrastructure (communications, energy, water, wastewater, micro-grid, etc.)		All												
	Invest in ecological resource-related projects that enhance ecological systems, improve water access, retain water quality, and increase water safety.		All												
	Invest in key projects that will address transportation system barriers to growth and strengthen transportation infrastructure through systemic analysis.		All												
Expand and align training and education initiatives to target strategic sectors and meet the needs of existing and emerging industries.			All	X	X	X	Educational providers and business leaders	Reduction of unemployment while filling local hiring needs	◑	◑	●	●	●	◑	This strategy has the potential to benefit Energy, Land Use & Livable Communities, Transportation, Economic Development and GHG Reduction. Benefits all capitals with the exeption of Natural Capital expilcitly.
	Connect private industry with the educational system to stimulate early awareness and interest in manufacturing career opportunities and align programs to deliver qualified candidates		All												
	Develop education and re-training networks to enable displaced or under-employed workers to fill strategic regional employment needs.		All												
	Foster closer cooperation among the region's companies and institutions of higher education to accelerate technology transfer and align workforce training programs with the skill sets required by the sector.		All												
Protect, enrich and market the unique natural, cultural, agricultural, and destination assets of the region.			All	X	X	X	Ecological, economic development, tourism and cultural institutions	Preservation of the core assets of the region, preservation of the free services that the ecological elements provide, natural beauty and quality of life, economic attraction	◑	◑	●	●	●	●	Benefits Land Use & Livable Communities, Water Management, Economic Development, Ag & Forestry, & GHG Reduction. Benefits Human, Natural and Financial Capitals.
	Support the efforts of regional partners in identifying and securing funding for tourism promotion		All												
	Recreation and Water Quality Special Projects Fund		All												

Economic Development Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Develop, network, and promote the region's growing wine, culinary, agricultural, and food micro-enterprises.		All												
	Strengthen and support the development of the Finger Lakes' diverse water resources and recreational tourism opportunities, allowing greater access and promoting year-round use.		All												
	Build on a positive destination image by leveraging partnerships and promotions of the region's high profile events, and healthcare and educational assets for business development, expansion, and retention.		All												
Leverage the Story of Place™ to build community capacity, align and focus business development and branding			All	X	X	X	Economic planning entities, educational and cultural institutions	Restore a strong sense of place to the region, align, reconnect and engage citizens, brand the region, provide strategic focus	●	●	●	◐	○	●	This strategy has the potential to benefit widely across all subject areas, all capitals and all areas of the region. It is very feasible to implement financially, although cultural changes will be necessary. This concept was newly introduced during the planning process therefore it is not contained within existing regional plans.
	Promote "storytelling" events (through museums, schools, local media, professional associations, and other venues) that invites local people to share and deepen their understanding of what makes this region distinctive.		All												
	Use the Story of Place™ process initiated by this report to inform branding efforts for the region.		All												
	Set up a Sustainability Advisory/Resource Group to help businesses, NGO's, research groups, governments, and others to use what has been learned from this sustainability planning exercise to develop more successful and sustainable proposals.		All												
	Enlist regional universities to design sustainability curricula that develop higher order systemic thinking skills for use in workforce training. K-12 education, and other venues.		All												

Climate Change Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Enhance mutual aid and support among neighboring communities, counties, and regions to share, develop, and create capabilities, resources, and special assets.		Designed to mitigate risks and respond during and after extreme events. This strategy will include research, education, training, and continuing education, as well as a process to identify and share critical resources (e.g., listing of willing and trained medical personal, strategic location of special response equipment for easy deployment).	All	X				improve disaster resiliency, reduce community costs (e.g., municipal budget) for disaster mitigation, preparation and response, save lives and protect livelihoods, provide economic opportunity	●	●	●	●	●	●	1. Benefits all subject area, since each subject area relies upon local capacity and capabilities, and advancements in these capabilities can be used more broadly. 2. Benefits all 5 capitals; 3. Benefits all communities; 4. Feasible to initiate implementation immediately; 5. Consistent with Hazard Mitigation Plans for each county and New York State; 6. Unknown total cost (potentially high) but high potential to leverage other funding sources.
	Develop research, education, training, and continuing education to solve local problems.		All												
	Develop processes to identify and share critical resources (e.g., listing of willing and trained medical personal, strategic location of special response equipment for easy deployment).		All												
Upgrade existing assets and modify municipal and business practices to better withstand extreme conditions.			All	X				economic development, improve disaster resiliency, reduce community costs (from mitigation rather than repair), saves lives and livelihoods	●	●	●	●	●	◐	1. Benefits all subject area, since each subject area relies upon local capacity and capabilities, and advancements in these capabilities can be used more broadly. 2. Benefits all 5 capitals; 3. Benefits all communities; 4. Feasible to initiate implementation immediately; 5. Consistent with Hazard Mitigation Plans for each county and New York State; 6. Unknown total cost (potentially high) but high potential to leverage other funding sources.
	Develop research, training and deployment of multiple strategies ("hardening" as well as "softening"/breakaway/crumple zones) to upgrade existing assets.		All												
	Develop research, development and evaluation of innovative approaches to regenerate natural systems to improve the performance of built systems (e.g., restore wetlands as buffer zones during flooding).		All												
	Upgrade existing facilities (e.g., buildings, industrial facilities) to reduce resource use (e.g., energy, waste, materials, etc.)		All												
	Upgrade county E911 communication systems to ensure proper public safety response		All												
Create self-sufficient "places of refuge" in each community/ neighborhood for critical resources, shelter and aid under normal and extreme conditions.		The critical services may include energy production, water and wastewater (sewage) treatment, and solid waste treatment/processing (especially organic waste), as well as food, medical and emergency services (maybe also education/cultural).	All	X				If the critical services are provided under normal conditions, they can offset community/municipal costs and/or be sources of revenue, and these on-site services can save lives during extreme conditions. If these "places of refuge" are local historical/cultural centers, this strategy may also help preserve the sense of place for each community - and give these centers a new lease on life.	●	●	●	●	●	◐	1. Benefits all subject area, since developments for these "places of refuge" directly relates to each subject area, and can be used more broadly. 2. Benefits all 5 capitals; 3. Benefits all commnities; 4. Feasible to initiate implementation immediately; 5. Consistent with Hazard Mitigation Plans for each county and New York State; 6. Unknown total cost (potentially high) but high potential to leverage other funding sources.
	Focus on on-site critical services that include energy production, water and wastewater (sewage) treatment, and solid waste treatment/processing (especially organic waste), as well as food, medical and emergency services.		All												
	Enhance "places of refuge" in local historical/cultural centers to help preserve the sense of place for each community - and give these centers a new lease on life.		All												
	Link on-site services to the regional centralized systems (e.g., electricity grid) to offset community/municipal costs, and provide new sources of revenue.		All												
	Provide medical service, education/training, and other services in these “places of refuge” for day-to-day activities		All												
	Focus on on-site critical services that include energy production, water and wastewater (sewage) treatment, and solid waste treatment/processing (especially organic waste), as well as food, medical and emergency services		All												
	Enhance "places of refuge" in local historical/cultural centers to help preserve the sense of place for each community - and give these centers a new lease on life.		All												
	Link on-site services to the regional centralized systems (e.g., electricity grid) to offset community/municipal costs, and provide new sources of revenue.		All												
	Provide medical service, education/training, and other services in these “places of refuge” for day-to-day activities		All												

Climate Change Strategies

Create localized networks for critical services (e.g., local food sources, micro-grids for energy, water, sewage, solid waste treatment, district heating, etc.) to complement existing centralized systems (at a larger scale than the "places of refuge").		These localized networks can be created/deployed in rural as well as urban and suburban settlements .	All	X				improve disaster resiliency, provide new revenue sources and reduce environmental impacts	●	●	●	◐	●	◐	1. Benefits all subject area, since localized networks directly relates to each subject area, and can be used more broadly. 2. Benefits all 5 capitals; 3. Benefits all communities; 4. Feasible to initiate implementation immediately; 5. Consistent with Hazard Mitigation Plans for each county and New York State; 6. Unknown total cost (potentially high) but high potential to leverage other funding sources.
	Create/deploy localized networks in rural as well as urban and suburban settlements, using local inputs (e.g., manure from farms).		All												
	Develop and approve options for “islanding” these networks under extreme conditions to protect lives and livelihoods.		All												
	Develop market and financial mechanisms to use localized networks as a new revenue source for participants/providers (e.g., farmers)		All												

Governance Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Promote the development of local and regional sustainability initiatives to serve as a dynamic means of supporting the goals of the Regional Sustainability Plan across all Subject Areas		The Finger Lakes Regional Sustainability Plan is intended as a means for improving the economic and environmental health, and quality of life of the region to achieve a more sustainable future. By embedding the Plan into the culture and gaining the support of local and regional officials, communities can establish the framework necessary to guide future planning and investment-related decisions aimed at sustainability. Additionally, the promotion and support of training programs for local officials is a means of providing a greater understanding of the importance of sustainability and increasing awareness of the adverse impacts of increasing greenhouse gas emissions. This can result in the development and updating of comprehensive plans and other long range planning documents that incorporate land use policies and other measures that promote sustainability.	All	X			NYSERDA, G/FLRPC, REDC, GTC, County Planning Departments, etc.	Improve regional planning and local efforts and decision making; cost reductions and government efficiency; resiliency, flexibility and ability to adapt to change; environmental protection; economic development	●	●	●	●	◐	●	This strategy has the potential to bring about measures and initiatives to benefit all subject areas. This strategy can also benefit all five capitals and multiple communities. It can be applied in communities and in every county in the region, and has benefits that extend beyond the region. Implementation could be achieved in less than 10 years as the notions and benefits of sustainability become more embedded in local governance structures. This strategy is consistent with regional planning, although not specifically mentioned. It could have low to medium order of magnitude costs and result in significant financial benefits.
	Increase participation in the Climate Smart Communities program	This program is a means of establishing a state and local partnership to enable communities to reduce greenhouse gas emissions, save taxpayer dollares and advance sustainable community goals for health and safety, economic vitality, energy independence and quality of life.	All	X											
	Incorporate sustainability measures into local and regional level planning documents, such as comprehensive plans, stormwater management plans, farmland and agricultural protection plans, watershed management plans, Comprehensive Economic Development Strategy (CEDS), etc.	Local planning is the foundation for land use and infrastructure investment decisions. Comprehensive plans and other long range planning documents provide vision and guidance for local officials and include recommendations and implementation strategies that can help drive decision making processes. Communities are encouraged to prepare and/or update their plans to incorporate policies and measures that support and promote sustainability to ensure an improved future for their communities.	All	X	X										
	Create municipal sustainability office at local and/or county level to provide stewardship over this plan.	To help local officials and the public understand and embrace the benefits of sustainability, and to make sustainability and the Finger Lakes Regional Sustainability Plan a mainstay in the region, it is important to provide proper tools and resources. Having regional or local entities to assist with this effort is one way to ensure success. Sustainability offices could function as a specialized element of local government to carry out the mission of the sustainability plan and help communities gain the knowledge and information required to develop better plans and make better decisions for their future.	All	X	X										
	Provide training and technical resources to municipal officials and local boards to promote more sustainable policies and decision making.		All	X	X										

Governance Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Encourage regional cooperation and coordination		Municipal cooperation and intermunicipal planning, particularly between towns and villages, can result in better decision making, cost savings and consistent land use policies that can impact all subject areas and capitals.	All	X			DOS, NYSERDA, GTC, G/FLRPC, County Planning Departments	Better coordination of regional planning efforts, cost reduction and government efficiency, resiliency, flexibility and ability to adapt to change, shared services, economic development	●	●	●	◐	◐	●	This strategy benefits land use and livability, materials/waste management, water management, economic development, and governance. This strategy also benefits all five capitals and has the potential to benefit multiple communities. It can be applied in communities and in every county in the region, and has benefits that extend beyond the region. Implementation may take more than nine years because governance structures make it difficult for communities to cooperate across municipal boundaries. This strategy is consistent with regional planning, although not specifically mentioned. It can have significant and immediate financial benefits and the return on investment can be significant.
	Evaluate the potential for regional revenue sharing	Utilize revenue sharing as a means of regional planning to steer development to the right places and defuse issues with home rule.	All	X											
	Encourage greater coordination between the Regional Economic Development Council and the Finger Lakes Regional Sustainability Plan	The regional sustainability plans should be acknowledged and incorporated into the decision making of the FLREDC. Future economic development decisions must take into consideration the importance of developing the region in a sustainable manner.	All	X											
	Incorporate sustainable approaches and policies into government systems to promote a stronger understanding of sustainability and bring about change to established systems	To achieve true sustainability, there is a need to promote change in established regional systems that support sprawl (e.g., county sewer districts). The incorporation of sustainable practices and policies will lead to better development, reduce infrastructure costs and investments, allow for better economic development and improve quality of life. Continuing unsustainable practices will only further disadvantage communities, constrain spending, adversely impact natural resources and use land in an impractical fashion.	All	X	X										
	Build intermunicipal relationships focused on mutual and sustainable improvements	Encourage municipal collaboration and relationship building to achieve consistent and sustainable land use planning across community boundaries that recognizes the intangible benefits gained from social, human, built and natural capitals. Its not just about return on investment (financial capital). The pressure to capture individual municipal revenue results in competition among communities and overdevelopment.	All	X	X										
	Fund development of local sustainability plans	Communities, institutions and businesses should be provided funding incentives to prepare their own plans to implement regional sustainability strategies on a local basis.	All	X	X										
	Encourage intermunicipal shared services agreements	Communities should evaluate opportunities to share and combine services through intermunicipal agreements to reduce costs (including conducting feasibility studies).	All	X	X										

Agriculture Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Support the continued development of an efficient and productive regional food system.			All	x				Increases exposure of regional food producers, processors, distributors, retailers, and customers to one another; increases the circulation of capital within the region; improves public health and food security; decreases vulnerability to external market forces.	●	●	●	●	●	●	This strategy is recommended to begin immediately due to current needs and is expected to continue improving over the long-term. Subject Areas: Energy, Transportation, Land Use, Materials/Waste, Water, Economic Development, Ag/Forestry, Climate Change, Governance, GHG Emissions Capitals: Human, Social, Natural, Built/Manufactured, Financial Communities: Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, Yates Implementation Feasibility: Network either in place or emerging; several projects currently underway Planning efforts: FLREDC, G/FLRPC CEDS, AFT-NY, regional hazard mitigation plans Financial Feasibility: Low to medium life cycle cost; high potential to leverage USDA, NYS Ag & Markets, and local institutional funding; significant benefit early in strategy life cycle
	Processing & Distribution: Support the development of a regional system that expands processing and distribution opportunities, and/or adding value to regional food products.		All	x											
	Food Security: Increase food security for individuals and households at risk of hunger.		All	x											
	Farm to Institution: Increase regional farms' sales to regional institutions (e.g. schools, hospitals)		All	x											
	CSA Support: Support the development and/or expansion of multi-farm networks of Community-Supported Agricultural operations.		All	x											
	Urban Agriculture: Support the development of urban agricultural projects in the City of Rochester.		Monroe	x											
	Farm to Table: Increase regional farms' direct sales to consumers.		All		x										
Increase adoption of distributed bio-energy production technologies to increase production of renewable energy from farm and forest products and product waste.			All	x				Increases energy production; reduces dependency on centralized grid; potential revenue source for producers; reduces GHG emissions through reduction of fossil fuel use.	●	●	●	●	●	●	This strategy is recommended to begin in the near-term because of current deficiencies in the existing bioenergy production and is expected to conitnue for the long -term growth opportunity for the sector. Subject areas: Energy, Transportation, Land Use, Materials/Waste, Water, Economic Development, Ag/Forestry, Climate Change, Governance, GHG Emissions Capitals: Human, Social, Natural, Built/Manufactured, Financial Communities: Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, Yates Implementation Feasibility: Some technologies currently available and in use, with some degree of regional support network; others in R&D phase Planning efforts: FLREDC, G/FLRPC CEDS, NYS Climate Action Council Financial Feasibility: Start-up costs range from low to high order of magnitude; high potential to leverage EPA, USDA, NYSERDA, NY Ag & Markets, NYS ESD funding; significant benefits early in the strategy life cycle
	Plug and Play: Advance the availability and affordability of scalable plug-and-play bio-energy production systems, and provide standards for selling excess power into the grid.		All	x											

Agriculture Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Purchase Agreements: Develop purchase agreements for the sale of bio-energy produced by the agricultural and forestry sectors to the power grid.		All	x											
	Farm Energy Planning: Assist farm operators in analyzing energy demand, as well as opportunities for efficiency and potential energy production capacity.		All	x											
	Community Generation & Distribution: Establish local policy framework and incentives for community-scale bio-energy generation and distribution		All	x											
	Energy Research: Complete longer term study on waste profiles that are best suited for the use of anaerobic digestion, biomass conversion, biodiesel production, etc.; complete cost-benefit analysis of the technologies mentioned above; develop decision-making and technical assistance tools that can engage landowners; .		All	x											
	Commercialization Partners: Improve partnerships between the agricultural sector and educational, financial, and economic development institutions to commercialize sustainable technologies		All	x											
Reduce the conversion of quality farmland.			All	x				Maintains carbon sequestration capacity; reduces impairment of water quality; maintains sector-wide economy; maintains community character and regional identity.	●	●	●	●	●	◐	This strategy is recommended for short, mid, and long-term action because it represents both an immediate need and a continual state. Subject Areas: Transportation, Land Use, Economic Development, Ag/Forestry, Climate Change, Governance Capitals: Human, Social, Natural, Built/Manufactured, Financial Communities: Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, Yates Implementation Feasibility: Most support network either in place or emerging; regulatory support not as strong as in previous years, but network and institutional knowledge remains Planning efforts: FLREDC, G/FLRPC CEDS, NYS Climate Action Council, regional hazard mitigation plans Financial Feasibility: Low order of magnitude costs; limited potential to leverage other potential funding sources at present; benefit is delayed or ramps up over life of strategy
	Land Use Regulations: Align local land use regulations with the functional and financial needs of farms		All		x										
	Farmland Protection Plans: Support the creation and implementation of municipal farmland protection plans.		All	x											
	Development Rights: Improve regulatory context for the purchase, lease, and/or transfer of development rights, and promote and implement conservation easements and incentive zoning.		All	x											
	Grassland Utilization: Increase use of underutilized grasslands for livestock production.		All	x											
	Land Access: Facilitate farmer-landowner "matching".		All	x											
	Succession Planning: Expand or create opportunities to engage existing and new farmers in succession planning efforts.		All	x											

Agriculture Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Support farm-scale diversity of product types, both in-season and across seasons, and support the establishment and growth of a diversity of operations with regard to size, market, and operation type.			All	x				Increases both operational and sector resilience; increases economic opportunities for growers, distributors, and retailers; increases access for underserved populations; increases market for regionally-sourced products.	●	◑	●	●	●	◑	This strategy is recommended for short, mid, and long-term action due to the nature of the strategy. Certain aspects of sector-scale diversity (e.g. the support of small and mid-sized operations) represent an immediate need; others (e.g. farm-scale diversity and specialty products) are not immediately pressing but would benefit the long-term resilience of the sector. Subject Areas: Energy, Transportation, Land Use, Materials/Waste, Water, Economic Development, Ag/Forestry, Climate Change, Governance, GHG Emissions Capitals: Human, Social, Natural, Financial Communities: Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, Yates Implementation Feasibility: Network either in place or emerging Planning efforts: FLREDC, G/FLRPC CEDS, NYS Climate Action Council Financial Feasibility: Primarily low to moderate order of magnitude costs for most substrategies; unknown potential for leveraging outisde funding sources; benefits distributed evenly across the strategy life cycle
	Diversity Management Models: Develop models to assist in the management of farm-scale diversity for small and medium-sized operations.		All		x										
	Specialty Products: Strengthen opportunities for producing, marketing, and exporting specialty agricultural products.		All		x										
	Environmental Markets & Incentives: Support the development of environmental markets and incentives that are aligned with both the functional and financial needs of farms		All		x										
	Carbon Sequestration: Research carbon sequestration potential of regional agricultural sector in advance of potential establishment of credit trading markets.		All	x											
	Water Quality: Research water quality improvement potential of regional agricultural sector in advance of potential establishment of credit trading markets		All	x											
Educate the non-farming community about the economic, environmental, and social impact that the agricultural sector has on the region.			All	x				Improves the public discourse regarding the future of farming; educates non-farmers about the long-term consequences of land use decisions; increases the viability of new operations.	◑	◑	●	●	●	●	This strategy is recommended to begin in the near-term with expectations that improvements in the public's knowledge of the sector may decrease long-term needs for outreach. Subject Areas: Land Use, Economic Development, Ag/Forestry, Governance Capitals: Human, Social, Natural, Financial Communities: Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, Yates Implementation Feasibility: Network either in place or emerging; several projects currently underway Planning efforts: FLREDC, G/FLRPC CEDS, AFT-NY Financial Feasibility: Low life cycle cost; high potential to leverage other USDA, SBA, DOL, NYS ESD, NYS Ag & Markets funding
	New Farmer Networking: Align a network for direct and specific educational opportunities, where new farmers have access to experienced producers, lenders, employers, etc.		All	x											
	Training Program: Establish a new farmer training program, similar to NOFA-NY's Beginning Farmer, Apprentice, and Mentorship programs.		All	x											

Agriculture Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Economic Impact: Support efforts to document the economic impact of agriculture and forestry throughout the region.		All	x											
	Small-Farm Services: Expand access to service programs specifically oriented toward small farms.		All	x											
	Regional Food Identity: Create or expand opportunities to build a regional food "identity" focused on the Finger Lakes region.		All		x										
	Agriculture and the Arts: Facilitate direct relationships between the agricultural and arts communities (e.g. craftspeople, literary, visual arts, etc.) to incorporate food-related issues in their work.		All		x										
Align workforce development efforts with sector needs.			All	x				Supports economic sustainability of the entire agricultural sector; creates employment opportunities; increases diversity of farm sizes.	◐	◐	●	●	●	◐	This strategy is recommended to be implemented within the near-term because workforce development should represent continual improvement in the quality and size of the available workforce. It should be noted that while the size of the required workforce over the long-term is uncertain, the quality of available workers should continue to increase. Subject Areas: Land Use, Economic Development, Ag/Forestry, Governance Capitals: Human, Social, Financial Communities: Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, Yates Implementation Feasibility: Network either in place or emerging Planning efforts: FLREDC, G/FLRPC CEDS Financial Feasibility: Unknown order of magnitude costs; moderate potential to leverage USDA or DOL funding; significant benefit early in the strategy cycle
	New Farmer Attraction: Facilitate the entry of new farmers into the marketplace.		All	x											
	Business Retention: Support the development of Agribusiness Retention, Expansion, and Attraction plans at the local, county, and regional level.		All	x											
	Guest Workers: Improve the federal Guest Worker program.		All		x										

Forestry Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Support efforts to increase equitable forest recreation opportunities and urban forestry/green infrastructure initiatives.			All	x				Increases access to recreation, Reduces environmental impact of stormwater and wastewater, Expands access to quality urban forest resources	●	●	●	●	●	◑	Subject Areas: Energy, Economic Development, Water, Ag/Forestry, Climate Change, GHG Emissions Capitals: Human, Natural,Social, Built, Financial Communities: All Counties Implementation Feasibility: Technology in Use Planning Efforts: NYSDEC Forest Resources Asessment and Strategy, and general consensus of advantages of green infrastructure/ recreation Financial Feasibility:Established funding sources for green infrastructure, less for forest recreation access
	Urban forestry networking: Encourage networking opportunities for community tree boards.		All	x											
	Promote community adoption of the four standards to become a Tree City USA		All	x											
	Standardized urban forestry data: Encourage use and sharing of a standardized community tree inventory database.		All		x										
Support watershed, riparian, shoreline, and habitat protection and restoration efforts to increase resiliency and diversity of the native species ecosystems, delicate watersheds, and critical habitats.			All	x				Preserves environmentally fragile areas, Helps protect against drinknig water pollution, Strengthens forest ecosystem against threats	◑	◑	●	●	●	●	Subject Areas: Water, Ag/Forestry, Climate Change, GHG Emissions Capitals: Human, Natural, Built, Financial Communities: All Counties Implementation Feasibility: Technology in Use Planning Efforts: NYSDEC Forest Resources Asessment and Strategy, and general consensus of advantages of green infrastructure/ recreation Financial Feasibility:Established funding sources
	Connectivity: Encourage stronger landscape connectivity and forest management rehabilitation practices that can support adaptation and increase resilience of individual species and nature systems at the landscape level (2500 acre units).		All		x										
	Biological threats: Continue to support programs at all levels of government to combat invasive pests and diseases, like the Emerald Ash Borer.		All	x											
	Fund Action Plans: Provide near-term funding for NYSDEC Forest Resource Assessment and Wildlife Action Plans to practice adaptive management for climate adaptation and target early responses to major stressors on forest related to climate change.		All	x											
	Non-biological threats: Support and improve wildfire management services.		All	x											
	Provide assistance for rural fire departments to make application to programs such as Federal Excess Personal Property program to obtain better equipment and training to reduce the occurrence of wildfires		All	x											

Forestry Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Encourage landowners to participate in NY CREP and similar programs to receive compensation for protecting/restoring natural features		All	x											
	Water resource management: Promote consolidation of water resource management agencies from county and municipal into watershed units of governance, funded by water purveyors.		All		x										
	Plant trees: Plant many, many more trees to absorb GHG, create oxygen, create habitat, and help moderate windsotrms, erosion and increasing temperatures.		All	x	x	x									
Educate the general public, landowners/industry professionals, and decision-makers regarding the relationships between watershed land uses, forest management, water quality protection and rural economic viability, and forest sustainability issues.			All	x				Increases awareness of the value of forest resources and interconnectivity of the environment; Reduces environmental impact of unsustainable forest management and silviculture; Helps cultivate an ethic of value for forest resources among citizens	●	◐	●	●	◐	◐	Subject Areas: Energy, Transportation, Land Use, Materials/Waste, Water, Economic Development, Ag/Forestry, Climate Change, GHG Emissions Capitals: Human, Natural, Built, FInancial Communities: All Counties Implementation Feasibility: Established support network of agencies/organizations offering information regarding sustainable practices Planning Efforts: NYSDEC Forest Resource Assessment and Strategy Financial Feasibility: High Start-up investment, but could lead to benefit in near term after education of issues begins
	Best Management Practices: Increase the use of silvicultural BMPs through direct financial incentives to landowners		All	x											
	Continue to support and encourage participation by SWCD in the NYSDEC/NRCS EQIP Forestry Initiative		All	x											
	Support and partner with advocacy organizations that provide outreach and education on forest and land management issues	e.g., The Nature Conservancy Central & Western NY, Rochester Regional Group of the Sierra Club	All	x											
	Support the Profession: Support retention and recruitment of sustainable timber harvesters		All		x										
	Fund tuition and re-imbursement of two days of missed work so that loggers in the Region can attend two logger training courses: Game of Logging 1 and Forest Ecology and Silviculture.		All		x										
	Environmental Awareness: Increase consideration of environmental issues at all levels of economic decision-making		All	x											
	Smart Growth and Sustainable Development: Phase out subsidies for development patterns and production methods that are environmentally harmful and socially inequitable in favor of supporting systems and policies.		All		x										

Forestry Strategies

Broad Strategy	Sub-Strategy/Project Idea	Strategy Description	Strategy Applies to which County(ies)	Relative Time Frame of Strategy			Agency, Company, Organization Responsible for Strategy	Anticipated Benefits	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)			Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Encourage the valuation of ecological services provided by regional forest resources.			All	x				Provides compensation for environmental benefits to owners of forest resources; Has potential to reduce GHG emissions	●	◐	●	◐	◐	◐	Subject Areas: Energy, Transportation, Land Use, Materials/Waste, Water, Economic Development, Ag/Forestry, Climate Change, GHG Emissions Capitals: Human, Natural, Built, FInancial Communities: All Counties Implementation Feasibility: Techniques not in use in region in this specific way, but could be adapted from other environmental markets suh as wetland mitigation Planning Efforts: NYSDEC Forest Resource Assessment and Strategy Financial Feasibility: High Start-up investment
	Forestry Carbon Offset Program: Encourage forestry carbon offset programs (with minimal transaction and compliance costs) , with eligible activities including avoided clearing, sustainable management, and reforestation		All	x											
	Encourage landowner participation in the NYS Real Property Tax Law 480-a Program and advocate for changes to forestry tax laws to encourage stewardship		All	x											
	Carbon Measurement: Expand and refine standardized methods of quantifying carbon flow in and out of forest resource carbon pools (living biomass, dead wood, soils, and harvested products) to allow for expanded, meaningful participation in carbon offset markets.		All	x											
Forestry Product Markets: Support policies that increase availability, diversity, and economic viability of markets for sustainable regional forest products and services.			All	x				Provides incentive for sustainable and high quality timber production; Contributes to economic development in rural areas; reduces environmental harm of unsustainable forest management methods	◐	◐	●	◐	◐	◐	Subject Areas: Energy, Economic Development, Water, Ag/Forestry, Climate Change, GHG Emissions Capitals: Human, Natural, FInancial Communities: All Counties Implementation Feasibility: Established support network of agencies/organizations, but could organize together for more effectiveness Planning Efforts: NYSDEC Forest Resource Assessment and Strategy Financial Feasibility: High Start-up investment, but could show benefit as soon as employment benefits are seen
	Lumber Mill Certification: Provide local training to develop lumber grading cooperatives so that local lumber mills are able to obtain certification that their products are Grade 2 or better, which allows local lumber to be utilized in compliance with the NYS Building Code, modeled after Local-Use Dimension Lumber Grading program in Wisconsin. This would provide a market for, and encourage production of high quality timber.		All	x											
	Forestry Revenue Re-investment: Dedicate regional revenue streams from sustainably harvested forest products back into programs supporting forest protection and sustainable management within the region.		All		x										
	Equitable economic opportunity: Provide equitable economic opportunity in the regional forestry sector.		All		x										

APPENDIX G: SUBJECT AREA SPECIFIC PROJECTS

Energy Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
							Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Develop and implement micro-grid technology that integrates the advantages of independent local production and distribution systems with the storage and distribution capacity of a large grid.	Wayne EDC Strategic Plan, Wayne Industrial Sustainability Project (WISP)	A county initiative designed to promote sustainable economic growth through utilization of renewable energy resources like wind, geothermal, solar voltaic, etc.through innovation and improved efficiencies	Wayne	Wyane County	X		●	●	●	●	●	●	Subject Areas Benefitted: Reducing our regional dependence on traditional energy sources impacts all subject areas of sustainability in a positive and collaborative way. Capitals Benefitted: The 5 capitals of sustainability are all enriched by reducing our dependence on traditional (fossil) fuels. Communities Benefitted: All communiteis within a region benefit directly or indirectly from reducing our dependence on traditional (fossil) fuels
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency.	Energy Star Programs	A government-backed program helping businesses and individuals protect the environment through superior energy efficiency.	All 9 Counties	NYSERDA, NYS DEC, US DOE, US EPA	X		●	●	●	●	●	●	Subject Areas Benefitted: Energy Conservation impacts all subject areas of sustainability in a positive and collaborative way. Capitals Benefitted: The 5 capitals of sustainability are all enriched by Energy Conservation; Communities Benefitted: All communiteis within a region benefit directly or indirectly from Energy Conservation
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency.	Climate Smart Communities	A state-local partnership designed to advance community goals for health and safety, economic vitality, energy independence and quality of life.	All 9 Counties	NYSERDA, NYS DEC, US DOE, US EPA	X		●	●	●	●	●	●	Subject Areas Benefitted: Energy Conservation impacts all subject areas of sustainability in a positive and collaborative way. Capitals Benefitted: The 5 capitals of sustainability are all enriched by Energy Conservation; Communities Benefitted: All communiteis within a region benefit directly or indirectly from Energy Conservation
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency.	EDGE Program	The replacement for the Energy Smart Communities program is designed to bring community resources together in an effort to increase economic and environmental sustainability	All 9 Counties	NYSERDA, NYS DEC, US DOE, US EPA	X		●	●	●	●	●	●	Subject Areas Benefitted: Energy Conservation impacts all subject areas of sustainability in a positive and collaborative way. Capitals Benefitted: The 5 capitals of sustainability are all enriched by Energy Conservation; Communities Benefitted: All communiteis within a region benefit directly or indirectly from Energy Conservation
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency.	Energy Efficiency Conservation Block Grant	A US Dept of Energy grant program intended to assist U.S. cities, counties, states, territories, and Indian tribes to develop, promote, implement, and manage energy efficiency and conservation projects and programs	All 9 Counties	NYSERDA, NYS DEC, US DOE, US EPA	X		●	●	●	●	●	●	Subject Areas Benefitted: Energy Conservation impacts all subject areas of sustainability in a positive and collaborative way. Capitals Benefitted: The 5 capitals of sustainability are all enriched by Energy Conservation; Communities Benefitted: All communiteis within a region benefit directly or indirectly from Energy Conservation
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency.	NYSERDA Existing Facilities Program	Custom incentives for larger-scale electric, natural gas, energy storage, demand response and other projects	All 9 Counties	NYSERDA	X		●	●	●	●	●	●	Subject Areas Benefitted: Energy Conservation impacts all subject areas of sustainability in a positive and collaborative way. Capitals Benefitted: The 5 capitals of sustainability are all enriched by Energy Conservation; Communities Benefitted: All communiteis within a region benefit directly or indirectly from Energy Conservation
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency.	RPI Daylight Dividends	Established to build market demand for daylighting as a means of improving indoor environmental quality; to overcome technological barriers to effectively reap the energy savings of daylight	All 9 Counties	Lighting Research Center, NYSERDA	X		●	●	●	●	●	●	Subject Areas Benefitted: Energy Conservation impacts all subject areas of sustainability in a positive and collaborative way. Capitals Benefitted: The 5 capitals of sustainability are all enriched by Energy Conservation; Communities Benefitted: All communiteis within a region benefit directly or indirectly from Energy Conservation
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Compressed Matural Gas, One Source	Conversion of gasoline & diesel vehicles to run on CNG. This is an REDC Transformative Priority Project.	All 9 Counties	One Source	X		●	●	●	●	●	●	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. Low/medium order of magnitude and life cycle cost with significant benefit early in life cycle.
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Mill Seat Lanfill	Expansion of existing methane fueled power plant to power a new 130 acre development. This is an REDC Additional Priority Project.	Monroe & surrounding Counties	Mill Seat Waste to Energy	X		●	●	●	●	●	●	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. Low/medium order of magnitude and life cycle cost with significant benefit early in life cycle.
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Seneca AgBio Green Energy Park	Creation of a cluster of companies that convert agricultural byproducts and other waste into bio-fuels and bio-materials. This is an REDC Transformative Priority Project.	All 9 Counties	Seneca Bio-Energy; Akron Ag Products; Novera Feeds; Upstate Oil Recyclers	X		●	●	●	●	●	●	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. Low/medium order of magnitude and life cycle cost with significant benefit early in life cycle.
Develop, produce, and employ renewable energy (wind, hydroelectric, solar, and geothermal).	Renewable Energy Generation Inventory	Regional municipalities and subdivisions (fire, school districts, etc.) conduct a renewable energy generation inventory that details potential for wind, solar, biomass or other electricity production opportunities with the goal to create a list of potential projects, including information on costs and MW production.					●	●	●	●	●	●	Subject Areas benefited: Energy, Transportation, Materials/Waste Management, Water Management, Economic Development, Agriculture & Forestry, Climate Change Adaptation, Governance, GHG Emissions. Benefits all Capitals. Benefits multiple communities. Short implementation timeframe with technology available. Consistent with local planning efforts, low/medium order of magnitude and life cycle cost.
Upgrade the existing conventional energy production and distribution in a sustainable way.	Eastman Business Park	Development of new energy storage technologies. This is an REDC Additional Priority Project.	All 9 Counties	NOHMs Technologies	X		●	●	●	●	●	●	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. Low/medium order of magnitude and life cycle cost with significant benefit early in life cycle.
Upgrade the existing conventional energy production and distribution in a sustainable way.	Eastman Business Park	Production of materials used for energy storage devices. This is an REDC Additional Priority Project.	All 9 Counties	Graphene Devices	X		●	●	●	●	●	●	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. Low/medium order of magnitude and life cycle cost with significant benefit early in life cycle.
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency.	Net Metering Law	A NYS law which permits eligible customer-generators to designate net metering credits from equipment located on property which they own or lease to any other meter	All 9 Counties	NYS Public Service Commission	X		●	●	●	●	●	◑	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. High order of magnitude and life cycle cost but high potential to leverage other funding sources. Benefits distributed evenly across life cycle.
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Alternative Fuel Vehicle Tax Incentive & Rate Reduction	Sales and use tax exemption for operating a motor vehicle engine uwing E85, compressed natural gas or hydrogen fuel.	All 9 Counties	NYS Dept. of Taxation and Finance, NYSERDA	X		●	●	●	●	●	◑	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. High order of magnitude and life cycle cost but high potential to leverage other funding sources. Benefits distributed evenly across life cycle.
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Bio-Fuel Production Tax Credit	A state tax credit for the production of bui-diesel or ethanol fuel made avaialble for sale in NYS	All 9 Counties	GFLRPC	X		●	●	●	●	●	◑	Subject Areas Benefitted: Responsible Alternative Energy impacts all subject areas of sustainability in a positive and collaborative way. Capitals Benefitted: The 5 capitals of sustainability are all enriched by Alternative Energy. Communities Benefitted: All communiteis within a region can benefit from Alternative Energy
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Bio-Fuel Station Initative Program	Intended to increase the number of retail E85 and B20 Biodiesel service stations selling these fuels to the general public in New York State through a comprehensive approach	All 9 Counties	NYS Dept. of Taxation and Finance, NYSERDA	X		●	●	●	●	●	●	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. Low/medium order of magnitude and life cycle cost with significant benefit early in life cycle.
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Epiphergy	Conversion of expired, leftover or non-consumable food products into Bio-Fuel	Monroe & surrounding Counties	Epifergy	X		●	●	●	●	●	●	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. Low/medium order of magnitude and life cycle cost with significant benefit early in life cycle.
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Heavy Duty Alternative Fuel and Advanced Vehicle Purchase Vouchers	An incentives for alternative fuel trucks, buses and diesel emission controls.	All 9 Counties	NYS Dept. of Taxation and Finance, NYSERDA	X		●	●	●	●	●	◑	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. High order of magnitude and life cycle cost but high potential to leverage other funding sources. Benefits distributed evenly across life cycle.

Energy Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria: Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	Notes
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Sweetwater Energy	Conversion of crops and wood waste (cellulosic material) to create Bio-Fuels and Feedstock	All 9 Counties	Sweetwater Energy	X		●	●	●	●	●	●	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. Low/medium order of magnitude and life cycle cost with significant benefit early in life cycle.
Develop, produce, and employ renewable energy (wind, hydroelectric, solar, and geothermal).	ARRA	The American Reinvestment & Recovery Act, which has funded over $58B in energy related programs & projects since 2009	All 9 Counties	Geothermal Exchange Organization, American Groundwater Trust	X		●	●	●	●	●	◑	Benefits all Subject Areas, all Capitals, and Multiple Communities. Short implementation timeframe with technology available and support network established. Generally consistent with other planning efforts. High order of magnitude and life cycle cost but high potential to leverage other funding sources. Benefits distributed evenly across life cycle.
Develop, produce, and employ renewable energy (wind, hydroelectric, solar, and geothermal).	National Renewable Energy Laboratory	The only federal laboratory dedicated to the research, development, commercialization and deployment of renewable energy and energy efficiency	All 9 Counties	US DOE	X		◑	●	●	●	●	●	Subject Areas Benefitted: Energy Efficiency impacts all subject areas of sustainability in a positive and collaborative way. Capitals Benefitted: The 5 capitals of sustainability are all enriched by Energy Efficiency Communities Benefitted: All communiteis within a region benefit from Energy Efficiency
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency.	Acceleration of Renewable Energy Technology Adoption	NYS P2I research and development project for using agriculture and food waste in the production of methane (anaerobic digestion), ethanol (fermentation) or biodiesel (transesterification).					◑	◑	●	●	●	◑	Subject Areas benefited: Energy, Materials/Waste Management, Economic Development, Agriculture & Forestry, Climate Change Adaptation, GHG Emissions. Capitals benefited: Natural, Built, Financial. Benefits multiple communities. Short implementation timeframe with technology in development. Consistent with planning efforts. High order of magnitude life cycle cost but high potential to leverage other funding sources.
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency.	Finger Lakes Food Cluster Energy Integration Challenge	NYS P2I research and education initiative to holistically and systemically evaluate the best options for reducing the energy demand of food processors while evaluating alternative energy production, closed-loop and integrated energy systems.					◑	◑	●	●	●	◑	Subject Areas benefited: Energy, Materials/Waste Management, Economic Development, Agriculture & Forestry, Climate Change Adaptation, GHG Emissions. Capitals benefited: Natural, Built, Financial. Benefits multiple communities. Short implementation timeframe with technology in development. Consistent with planning efforts. High order of magnitude life cycle cost but high potential to leverage other funding sources.
Develop local and regional policies and plans that accommodate incentives and educational programs to promote energy conservation and efficiency.	Genesee Community Digester Project	Planning and engineering analysis for the development of a large digester, or multiple digesters, that would accept animal waste from multiple farms while combining it with the waste from local yogurt, cheese and food manufactures as well as other food waste from the region. (Genesee County Comprehensive Plan)					◑	◑	●	●	●	◑	Subject Areas benefited: Energy, Materials/Waste Management, Economic Development, Agriculture & Forestry, Climate Change Adaptation, GHG Emissions. Capitals benefited: Natural, Built, Financial. Benefits multiple communities. Short implementation timeframe with technology in development. Consistent with planning efforts. High order of magnitude life cycle cost but high potential to leverage other funding sources.
Develop, produce, and employ renewable energy (wind, hydroelectric, solar, and geothermal).	Livonia Library Green Elements	The Town of Livonia has a desire to expand the public library to accommodate the growing need for community educational space, improved accessibility for the community, and improved energy efficiency in municipal space. This project is a request to assist with adding energy efficient elements to the design and construction of the library space, providing long term energy cost savings, and providing a reduction in the Town's carbon footprint.					◑	●	○	●	●	●	Subject Areas benefited: Energy, Economic Development, Climate Change Adaptation, and Governance. Benefits all Capitals. Benefits only Livonia and surroundings. Short implementation timeframe, consistent with local planning efforts, and low/medium order of magnitude and life cycle cost.
Develop, produce, and employ renewable energy (wind, hydroelectric, solar, and geothermal).	Municipal Energy Park - Livonia, NY - Study Phase	The Town of Livonia has a desire to study the feasibility of creating a municipally-owned and operated energy park. This park could be established at an existing municipally-owned parcel, potentially on school property, or on a parcel of land to be acquired. The energy park could include the following: Sustainable energy production such as geothermal, solar, wind could be incorporated. The energy created would be harnessed and put back into a community grid for residential, municipal and business use, reducing energy ; Educational elements – kiosks throughout park showing technology being utilized, school programs based on tracking the energy produced/used by community and how that impacts the Green House Gas emissions of the town/county/region; Community garden that allows membership, community involvement, organic farming practices, etc.					◑	●	○	●	●	●	Subject Areas benefited: Energy, Economic Development, Climate Change Adaptation, and Governance. Benefits all Capitals. Benefits only Livonia and surroundings. Short implementation timeframe, consistent with local planning efforts, and low/medium order of magnitude and life cycle cost.
Develop, produce, and employ renewable energy (wind, hydroelectric, solar, and geothermal).	Municipal Energy Park - Livonia, NY- Implementation Phase	The Town of Livonia has a desire to create a municipally-owned and operated energy park. This park could be established at an existing municipally-owned parcel, potentially on school property, or on a parcel of land to be acquired. The energy park could include the following: Sustainable energy production such as geothermal, solar, wind could be incorporated. The energy created would be harnessed and put back into a community grid for residential, municipal and business use, reducing energy ; Educational elements – kiosks throughout park showing technology being utilized, school programs based on tracking the energy produced/used by community and how that impacts the Green House Gas emissions of the town/county/region; Community garden that allows membership, community involvement, organic farming practices, etc. This project would look to fund elements of the project that the previous feasibility plan identifies as requiring seed money. Livonia's Energy Park could serve as a pilot project for other communities within the region, by providing "lessons learned", information on start up and operation costs, and how the park is being integrated into the educational community.					◑	●	○	●	●	●	Subject Areas benefited: Energy, Economic Development, Climate Change Adaptation, and Governance. Benefits all Capitals. Benefits only Livonia and surroundings. Short implementation timeframe, consistent with local planning efforts, and low/medium order of magnitude and life cycle cost.
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Regional Household Energy Audit Clearinghouse	Partnership with academic institutions to have engineering students conduct or verify energy audits and provide homeowners with a list of recommended energy efficiency projects.					◑	◑	●	●	○	●	Subject Areas benefited: Energy, Economic Development, Climate Chance Adaptation, GHG Emissions. Capitals benefited: Human, Natural, Built, Financial. Benefits multiple communities, short implementation timeframe with technology available. Unknown alignment with other planning efforts. Low/medium order of magnitude life cycle cost.
Develop, produce, and employ alternative energy (bio-energy, waste to energy).	Genesee County Airport Terminal/ Hangar Replacement Project	Replacement of facilities to relocate them out of the primary surface and address poor energy performance. Facilities will be designed meet a LEED Silver standard. (Genesee County Comprehensive Plan, FAA Airport Improvement Program)					◑	◑	○	●	●	◑	Subject Areas benefited: Energy, Transportation, Economic Development, Climate Change Adaptation, GHG Emissions. Capitals benefited: Natural, Built, Financial. Benefits only Genesee County. Consistent with local planning efforts. High order of magnitude cost.
Develop, produce, and employ renewable energy (wind, hydroelectric, solar, and geothermal).	Batavia Community Hydroelectric Microgrid	Provide renewable electricity to fire department and ice arena, creating a self-sufficient "place of refuge."					◑	●	○	●	◑	◑	Subject Areas benefited: Energy, Land Use & Livable Communities, Economic Development, Climate Change Adaptation, GHG Emissions. Benefits all Capitals. Benefits only Batavia and surroundings. Short implementation timeframe with technology available. Consistent with local planning efforts. High order of magnitude and life cycle costs but high potential to leverage other funding sources.
Develop, produce, and employ renewable energy (wind, hydroelectric, solar, and geothermal).	Emerson St. Landfill Solar Power Purchase Agreement Project	Investigate the requirements for siting a large (2 MW) solar PV generating facility on a parcel within the City of Rochester's former Emerson St. Landfill. Upon completion, the City of Rochester would enter into a power purchase agreement (PPA) with a private vendor for the purchase of the power generated by the system.					◑	◑	○	●	●	◑	Subject Areas benefited: Energy, Land Use & Livable Communities, Economic Development, Climate Change Adaptation, GHG Emissions. Capitals benefited: Human, Natural, Built, Financial. Benefits only City of Rochester. Short implementation timeframe with technology available. Consistent with local planning efforts. High order of magnitude and life cycle cost but high potential to leverage other funding sources.

Transportation Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Alternative modes	Continue to support the Active Transportation Summit	The Active Transportation Summit is an opportunity to educate, promote and encourage active transportation in the region	All	x								◑	●	●	●	●	●	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: all Communities Benefited: all
Alternative modes	Increase marketing & promotion for receasyride.org	Maximize the use of existing alternatives to the single-occupancy vehicle - educate the public on the Greater Rochester Regional Commuter Choice Program - roceasyride.org	All	x							GTC LRTP	◑	●	●	●	●	●	Subject Areas Benefited: energy, transportation, land use & livable communities, GHG emissions Capitals Benefited: all Communities Benefited: all including other regions
Alternative modes	Update GTC Regional Trails Initiative	Last updated was conducted in 2004 - this document focuses on filling gaps and increasing connections to the core trails in the region	All	x							GTC LRTP	◑	●	●	●	●	●	Subject Areas Benefited: energy, transportation, land use & livable communities, GHG emissions Capitals Benefited: all Communities Benefited: all including other regions
Livibility corridors	Support Main Street revitalization projects	Support Main Street revitalization projects that will emphasize local community engagement within their business attraction & revitalization efforts as well promoting center-based development	All	x				Noted in 2012 Comprehensive Econ Dev Strategy, FLREDC Strategic Plan		Emphasize local community engagement within their business attraction & revitalization efforts as well promoting center-based development	Noted in 2012 Comprehensive Econ Dev Strategy, FLREDC Strategic Plan	●	●	●	●	●	◑	Subject Areas Benefited: energy, transportation, land use & livable communities, water management, economic development, agricultural & forestry, GHG emissions Capitals Benefited: all Communities Benefited: all
Alternative modes/economic asset	Lyons to Port Byron Canalway Trail	Extend Erie Canalway Trail for 30-miles between towns of Lyons & Port Byron through the Montezuma National Wildlife Refuge	Wayne	x						close a gap in the trail system, better connections, economic development		◑	●	●	●	●	◑	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: all Communities Benefited: Wayne County, other regions
Alternative modes/economic asset	Canandaigua Lake Water Trail	Construct a recreation trail that highlights the natural resources of Canandaigua Lake & will include access points, signage and waterway connections	Ontario	x						close a gap in the trail system, better connections, economic development		◑	●	◑	●	●	●	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: all Communities Benefited: Ontario & Yates County
Alternative modes	Silver Lake Trail	Add a bike path around Silver Lake in Wyoming Co and connect to Letchworth State Park	Wyoming, Livingston, all	x						close a gap in the trail system, better connections, economic development		◑	◑	●	●	●	●	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: human, natural, financial Communities Benefited: all
Alternative modes	Complete a Finger Lakes Regional trail & greenway system of interconnected multi-use trails as a component of a statewide trail network	Complete a Finger Lakes Regional trail & greenway system of interconnected multi-use trails as a component of a statewide trail network	All			x						◑	◑	●	●	●	◑	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: human, social, natural, financial Communities Benefited: all including other regions
Existing system	Replace the Portage Bridge on NS's Southern Tier rail line	Replace the Portage Bridge on NS's Southern Tier rail line to eliminate a major weight & speed restriction	Wyoming, Livingston, all	x			$39M	Noted in Freight & Goods Movement plan	Rail agencies/companies, NYSDOT, USDOT	Encourage freight via rail, economic development	TIGER III grant application/Freight & Goods Movement plan, GTC LRTP 2035, FLREDC Strategic Plan	◑	●	●	◑	●	◑	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: all Communities Benefited: all
Leverage assests/economic development	Lyons Freight Village	Multi-modal, multi-business facility that will allow regional businesses to utilize the most cost effective transportation option for importing or exporting product - truck, shortline rail, Class 1 rail or canal barge.	Wayne, Monroe, Ontario, Seneca, yates, Cayuga, Oswego	x			$7-18M	Noted in 2012 Comprehensive Econ Dev Strategy	Finger Lakes Rail, Norfolk Southern, CSX, Port of Oswego, Wayne, Ontario, Seneca IDAs, TFC, ESD, Canal Corp, NYSDOT, Federal Transportation	Reduced GHG, improved transportation efficiencies, multi-modal project, reduced transportation-related energy costs, regional business impact.	CEDS, Freight & Goods Movement Study, also noted in 2012 Comprehensive Econ Dev Strategy	◑	●	●	◑	●	◑	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: all Communities Benefited: all
Livibility corridors/alternative modes	Construct the Rochester Intermodal Station	Construct the Rochester Intermodal Station for interregional rail & bus services at the site of the current Amtrak station	Monroe	x			$25M	Noted in GTC LRTP 2035	RGRTA	Improved mobility, connections, VMT/GHG emissions		◑	●	●	●	◑	◑	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: all Communities Benefited: all

Transportation Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Leverage assests/economic development	Rebuild & repair Rochester & Southern Railroad line to Dansville Properties (between Dansville & Mt. Morris)	This project includes improvements to track, grade crossings, and bridges that are necessary to keep existing operations going and to allow for business and job growth.	Livingston	x			$2.5M	Noted in 2012 Comprehensive Econ Dev Strategy - preliminary engineering cost estimates prepared by Rochester-Southern Railroad	NYS, Livingston County Industrial Development Agency, EDA, rail agencies/companies	Sustaining existing jobs and creating new job growth opportunities in the Dansville area, using freight trains over trucking is more environmentally friendly b/c it reduces greenhouse gas emissions and fewer trucks on the road helps to reduce costs associated with road and bridge maintenance and repair	Noted in 2012 Comprehensive Econ Dev Strategy, Freight & Goods Movement Study	◐	◐	●	●	●	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: human, natural, built/manufactured, financial Communities Benefited: all
Alternative modes	Establish a Center City Circulator Service	Establish a Center City Circulator Service to serve daily commuters, visitors and tourists	Monroe	x			$1.5-1.7M per bus, $2-3M annually	Noted in GTC LRTP 2035	RGRTA	Improved mobility, connections, VMT/GHG emissions		◐	●	○	●	◐	●	Subject Areas Benefited: energy, transportation, land use & livable communities, GHG emissions Capitals Benefited: all Communities Benefited: Monroe County
Educate/market/promote		Determine costs associated with transportation system per capita	All	x								○	○	●	●	●	●	Subject Areas Benefited: n/a Capitals Benefited: n/a Communities Benefited: all
Alternative modes	Downtown Peoplemover	Reserved right-of-way connecting new MCC Campus and new downtown transit terminal and/or midtown plaza redevelopment area with spur to new train station. Initially green walkway, eventually becoming rout for people mover or trolley. Include solar heating.	Monroe		x				RGRTA, City of Rochester, Monroe County	Year-round, climate controlled access linking new transit terminal with primary destinations and reserved parking around downtown. Quicker and more energy efficient than transferring modes. Encourages common patronage. New residential/business clusters around nodes.	Any of the mass-transit, multi-made transportation studies in the last 20 years and individual project plans for transit, terminal, midtown, MCC Campus and rail station.	◐	●	○	●	◐	●	Subject Areas Benefited: energy, transportation, land use & livable communities, GHG emissions Capitals Benefited: all Communities Benefited: Monroe County
Existing system	Install AVL & weather information instrumentation on public fleets to maximize routing & serve as real-time sensors	The data provided from AVL technology installed on publically-owned vehicles such as snow plows and refuse trucks allows operating agencies to optimize routing of these vehicles	All	x							GTC LRTP	◐	◐	●	●	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, materials/waste management, GHG emissions Capitals Benefited: human, natural, built/manufactured Communities Benefited: all
Existing system	Install relevant pedestrian ITS instrumentation at identified intersections & crossings to reduce vehicle/pedestrian crashes	Installation of pedestrian countdown signals, audible/tactile devices, and similar ITS elements can improve pedestrian safety and accessibility	All	x							GTC LRTP	◐	◐	●	●	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, GHG emissions Capitals Benefited: human, natural, built/manufactured Communities Benefited: all
Existing system	Continue the implementation of & expand Technology Initiatives Driving Excellence (TIDE) for RTS	TIDE is a comprehensive Advanced Public Transportation Systems suite that improves operational efficiency and customer service. The benefits from TIDE are critical to attracting choice riders and reducing delay on the highway/bridge network	All	x							GTC LRTP	◐	◐	●	●	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, GHG emissions Capitals Benefited: human, natural, built/manufactured Communities Benefited: all
Existing system	Introduce transit signal priority on heavily traveled RTS routes	Transit signal priority allows buses to signal their arrival at an intersection and receive a green light (when operationally allowed) to continue through	All	x							GTC LRTP	◐	◐	●	●	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, GHG emissions Capitals Benefited: human, natural, built/manufactured Communities Benefited: all
Leverage assests/economic development	Integrated Plan for Low-carbon transportation and economic development	Develop a multi-pronged initiative with several other parties to create a model program for culture- and economic transformation directed toward carbon-reducing economic development	All	x					Local universities, school districts, Social and for-profit businesses	Increasing active transporation and ultralight electric vehicle use Creating and educating and enlightened workforce of sustainability workers and citizen scientists. Increasing tourism. Creating a model program particularly well-suited for our region, but adaptable nationally, helping establish a new image for 21st century sustainable innovation. Economic Development.	RIT/Rochester Cycling Alliance	◐	◐	●	●	○	●	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: human, social, natural, financial Communities Benefited: all

Transportation Projects

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Leverage assests/economic development	Orleans Co rail infrastructure expansion/development	Orleans Co rail infrastructure expansion/development	Orleans, all	x			$2.5M	Noted in 2012 Comprehensive Econ Dev Strategy	Orleans County IDA, NYS, Local and federal agencies	Encourage freight via rail, economic development	Noted in 2012 Comprehensive Econ Dev Strategy	◐	◐	●	●	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: human, natural, built/manufactured, financial Communities Benefited: all
Leverage assests/economic development	Elmwood Avenue Railroad Siding	Elmwood Avenue Railroad Siding	Yates, all	x			$1.15M	Noted in 2012 Comprehensive Econ Dev Strategy	Village of Penn Yan	More efficient freight movement		◐	◐	●	●	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: human, natural, built/manufactured, financial Communities Benefited: all
Livibility corridors	Keuka Waterfront Development	Consists of a mixed-use redevelopment of a 14.7 acre brownfield site at the north end of Keuka Lake & adjacent to historic Penn Yan	Yates	x								◐	●	○	●	●	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: all Communities Benefited: Yates County
Alternative fuels	Install alternative fuel charging stations along the Thruway	Existing Thruway service areas are ideal locations to install public charging stations for alternative vehicles	All	x								◐	◐	●	◐	◐	◐	Subject Areas Benefited: energy, transportation, economic development, GHG emissions Capitals Benefited: human, natural, built/manufactured, financial Communities Benefited: all including other regions
Existing system	Reconstruct the eastern portion of the Inner Loop as an at-grade boulevard "Inner Loop East Transformation Project"	Reconstructing the eastern portion of the Inner Loop would allow for bicycling and walking and improve the overal contribution of the roadway to community character	Monroe		x		$21.5M	Noted in GTC LRTP 2035	GTC, NYSDOT, City of Rochester	Economic development, encourage walking/biking, more sense of community	Noted in GTC LRTP 2036, also noted in FLREDCS Strategic Plan	◐	●	○	◐	●	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: all Communities Benefited: Monroe County
Leverage assests/economic development	Support the establishment of high-speed rail service on Empire Corridor	Support efforts to establish high-speed passenger rail service on the Empire Corridor	Monroe, Wayne		x				NYSDOT	Improved mobility, connections, VMT/GHG emissions		◐	●	●	◐	◐	○	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: all Communities Benefited: all
Leverage assests/economic development	Preserve right-of-way along NSs Corning Secondary Line between Geneva & Lyons	NS has suspended service on this line but reactivating this line would provide direct linkage from Geneva to Lyons		x					GTC, NYSDOT, IDAs, rail agences/companies	Encourage freight via rail, economic development	Noted in Freight & Goods Movement plan	◐	◐	●	◐	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: human, natural, built/manufactured, financial Communities Benefited: all
Leverage assests/economic development	Determine feasibility of improvements noted in Seneca Army Depot Industrial Rail Facility Concept Plan	Determine feasibility of improvements noted in Seneca Army Depot Industrial Rail Facility Concept Plan	Seneca, all		x		$12M - Cost for concept plan improvements = $800k +	Noted in Freight & Goods Movement plan, Seneca Army Depot Industrial Rail Facility Concept Plan	Seneca County IDA, NYSDOT, rail agencies/companies	Encourage freight via rail, economic development	Noted in Freight & Goods Movement plan, 2012 Comprehensive Econ Dev Strategy	◐	◐	●	◐	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: human, natural, built/manufactured, financial Communities Benefited: all
Leverage assests/economic development	Revitalize Port of Rochester "Port of Rochester Public Marina & Mixed-use Development"	Continue to advance plans documented in the 2006 Port Master Plan and 2008 Marina Development Feasibility Study	All		x		$89-133M total project private investment	Noted in 2012 Comprehensive Econ Dev Strategy	City of Rochester	Encourage freight movement other than truck, economic development	Noted in 2012 Comprehensive Econ Dev Strategy - Initial design, permitting and DEIs have been completed and some funding has been secured for redevelopment, also noted in the FLREDC Strategic Plan	◐	◐	●	◐	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: human, natural, built/manufactured, financial Communities Benefited: all
Leverage assests/economic development	Industrial Road-Town of Ontario, Beh to Lincoln	Develop access road to industrial land north of Route 104 and the Ontario Midland Railroad between Lincoln Rd & Dean Parkway in Ontario	Wayne, all	x			$5M	Noted in 2012 Comprehensive Econ Dev Strategy	Wayne Co IDA, Town of Ontario	Encourage freight via rail, economic development	Noted in 2012 Comprehensive Econ Dev Strategy	◐	○	●	●	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: has benefits to different capitals but includes the construction of new infrastructure Communities Benefited: all
Leverage assests/economic development	Wyoming County Rail Initiative	Construct a rail spur into the site of the Hillcrest Industries site	Wyoming, all	x			$1.5M	Noted in 2012 Comprehensive Econ Dev Strategy	Wyoming Co IDA	More efficient freight movement		◐	○	●	●	◐	◐	Subject Areas Benefited: energy, transportation, land use & livable communities, economic development, GHG emissions Capitals Benefited: has benefits to different capitals but includes the construction of new infrastructure Communities Benefited: all

Transportation Projects

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				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Alternative fuels	Bio gas powered vehicles from landfill waste	A growing RNG industry today has the capabilities to economically convert digester and landfill biogas into vehicle fuel. There are currently 10 RNG projects operating in the U.S., all generating this clean, green fuel from an otherwise wasted resource.	All		x							◐	◐	●	◐	○	◐	Subject Areas Benefited: energy, transportation, materials/waste management, economic development, GHG emissions Capitals Benefited: human, natural, financial Communities Benefited: all including other regions
Alternative fuels	Bio-gas Powered Fuel Cell & Hydrogen Development Research	The Golisano Institute for Sustainability is interested in pursuing research where bio-gas from landfills and anaerobic digesters is used to power stationary fuel cells. The fuel cells would produce electricity and hydrogen from a sustainable feedstock fuel. The long-term potential exists to create hydrogen depots that could provide fuel for commercial fueling stations to sell to consumers driving hydrogen vehicles.	All		x					The long term benefits from the project include greatly reduced GHG emissions from hydrogen vehicles, increased renewable electricity production, reduced VMT from the shipping of petroleum fuels and enhanced local job creation from establishment of a regional hydrogen distribution network.		◐	◐	●	◐	○	◐	Subject Areas Benefited: energy, transportation, materials/waste management, economic development, GHG emissions Capitals Benefited: human, natural, financial Communities Benefited: all including other regions
Alternative modes	Address the capital backlog at NYS Parks & Historic Sites	Progress projects that could provide critical safety & health benefits, environmental benefits and enhance the visitor experience		x								○	◐	●	●	○	◐	Subject Areas Benefited: transportation Capitals Benefited: human, social, natural Communities Benefited: all
Alternative fuels	Increase the number of truck stop electrification (TSE) facilities	from GTC LRTP - expanding the number of facilities that provide TSE options can have significant benefits such as improved air quality, reduced fuel usage and decreased maintenance costs	All	x						Lower transportation energy costs, reduction in GHG emissions	GTC LRTP	○	◐	●	●	○	◐	Subject Areas Benefited: energy, transportation, GHG emissions Capitals Benefited: human, natural, built/manufactured, financial Communities Benefited: all
Existing system	NYS Route 96 Corridor – Victor, Ontario County	Link traffic signals on the Route 96 corridor with the Regional Traffic Operations Center (RTOC) through fiber optic and wireless means	Ontario	x							GTC LRTP	○	○	○	●	◐	◐	Subject Areas Benefited: energy, transportation, GHG emissions Capitals Benefited: while improved mobility can cause less emissions, this project encourages sprawl and vehicle based infrastructure Communities Benefited: Ontario County
Alternative fuels	Track-mounted electric vehicle system	Establishment of a lightweight vehicle system that will utilize abandoned rail lines by allowing specialized vehicles to access the lines that are equipped with guide wheels for the rail lines as well as regular wheels for street access. The cars would be able to life their wheels off of the ground in order to align the vehicles on the rail line and then be able to lower their wheels to drive in areas where rail access was not present. The vehicles would be powered by electricity while on the rail line.	All			x				Lower transportation energy costs, reduction in GHG emissions		○	◐	●	○	○	○	Subject Areas Benefited: energy, transportation, GHG emissions Capitals Benefited: human, natural, built/manufactured Communities Benefited: all including other regions

Land Use Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Create healthy, safe and sustainable communities	Lyons to Port Byron Canalway Trail	This project will extend the Erie Canalway Trail along a 30-mile segment between the towns of Lyons and Port Byron. The gap passes through the Montezuma National Wildlife Refuge and will improve continuity of the system and enhance the visibility of, and stimulate use of, services in the communities along this stretch of the canal.	Wayne County	X								◑	●	●	●	●	◑	REDC 5-Year Action Initiative. This project benefits transportation, land use and livability, economic development and GHG emissions. This project also benefits all fi ve capitals and has the potential to benefit or be replicated in multiple communities. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects), but could have reduced life cycle costs over the long term. It also has potential to leverage other funding sources, including public sector monies.
Create healthy, safe and sustainable communities	Canandaigua Lake Water Trail	This project will consist of a recreational trail to highlight the natural resources of Canandaigua Lake, including boat launches and pull outs, interpretive signage and waterway connections to resources at the north and south ends of the lake.	Ontario County		X				Finger Lakes Land Trust, Canandaigue Lake Watershed Alliance, City of Canandaigue and Finger Lakes Visitors Connection			◑	●	◑	●	●	●	REDC 5-Year Action Initiative. This project benefits transportation, land use and livability, water management and economic development. This project also benefits all five capitals and has the potential to benefit Ontario and Yates County, at a minimum, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with regional and local planning efforts. It can have low to medium order of magnitude costs (including capital projects), with lower life cycle costs over the long term. It also has potential to leverage other funding sources, including public sector monies.
Create healthy, safe and sustainable communities	Rochester Public Market	Expansion of the City of Rochester's nationally-recognized public market as a destination, while strengthening its connections with the region's farmers and small businesses.	Monroe County	X			$10 million	FLREDC	City of Rochester			◑	◑	●	●	●	◑	REDC 5-Year Action Initiative. This project benefits land use and livability, economic development, governance and agriculture/forestry. This project also benefits four of the five capitals and has the potential to benefit several counties through sale of ag products from farms in the region, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This project is consistent with regional and local planning efforts. It has higher order of magnitude costs (including capital projects), but could reduce life cycle costs over the long term. It also has potential to leverage other funding sources, including public sector monies.
Revitalize existing centers and prioritize the value of placemaking	Finger Lakes Cultural and Natural History Museum	Conversion of a former elementary school into an institution that will offer educational, recreational and interpretive resources to tell the environmental and cultural story of the region and advance the Finger Lakes "brand" as a destination for visitors.	Yates County	X			$58.3 Million	FLREDC	Finger Lakes Cultural and Natural History Museum, Empire State Development and State Parks			◑	●	◑	●	●	◑	REDC Transformative Priority Project. This project benefits energy, land use and livability, materials/waste management and economic development. This project also benefits four of the five capitals and has the potential to benefit several counties. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects), but could reduce life cycle costs over the long term. It also has potential to leverage other funding sources, including public sector monies.
Create healthy, safe and sustainable communities	FoodLink Food Hub	This project allows FoodLink to increase the size and capacity of its food storage, processing and distribution facilities to accommodate increasing demand to supply food to hospitals, corner stores, schools and the emergency food network in the region.	All	X								◑	◑	●	●	●	◑	REDC Priority Project. This project benefits energy, land use and livability, economic development and agriculture/forestry. This project also benefits four of the five capitals and has the potential to benefit several counties and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects), but could reduce life cycle costs over the long term. It also has potential to leverage other funding sources, including public sector monies.
Revitalize existing centers and prioritize the value of placemaking	Regional Build-Out and Fiscal Analysis	Understanding of the extent of potential development and costs of such development will help to encourage more sustainable development practices.will help to encourage more sustainable development practices.	All		X							◑	●	●	●	◑	◑	This project benefits land use and livability, agriculture/forestry, governance and economic development. This project also benefits three of the five capitals and has the potential to benefit several counties, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with local planning efforts, although not specifically mentioned. It can have low to medium order of magnitude costs.
Create healthy, safe and sustainable communities	Finger Lakes Regional Green Products and Services Guide	Will help homeowners choose sustainable strategies for restoring and rehabilitating their homes and serve as a tool for preserving historical details to ensure that an older house can continue to provide safe, affordable shelter and meet current building performance standards without adversely compromising the integrity of the structure. The sustainable products and services accumulated for this manual can also serve as a compendium of smart, sustainable choices to improve the region's business marketability and economic development while providing conscientious customers a “green” resource.	All	X								◑	◑	●	●	◑	●	This project benefits energy, land use and livability, governance and economic development. This project also benefits three of the five capitals and has the potential to benefit several counties, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with local planning efforts, although not specifically mentioned. It can have low to medium order of magnitude costs. It also has potential to leverage other funding sources.
Create healthy, safe and sustainable communities	Establish USGBC certified green schools	Employ Green School Fellows who will select up to four school districts, or 60 schools, to become USGBC certified Green SchoolsSelected schools would be engaged in energy efficiency efforts, waste reduction and recovery, clean air initiatives, water conservation, transportation efficiencies, and other “green” efforts such as gardening and natural habitat restoration.	All	X								◑	◑	●	◑	●	●	This project benefits energy, land use and livability, materials/waste management, water management, climate change adaptation and GHG emissions. This project also benefits three of the five capitals and has the potential to benefit several counties, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with local planning efforts, although not specifically mentioned. It can have low to medium order of magnitude costs.
Create healthy, safe and sustainable communities	Community green living demonstration facility and curriculum development	Develop a “living classroom” within the community that can serve K-12 students with hands on exposure to various sustainable living elements at work at a residence/business. Provide funding for curriculum development as well as site improvements that match the proposed lessons. Examples would be windmills, solar panels, rainwater collection systems, home gardens, etc. Students can do lessons on-site, and follow up with classroom activities that analyze the positive impacts of the facility on the carbon footprint, on energy costs, and on disaster resiliency.	All	X								◑	◑	●	●	◔	●	This project benefits energy, land use and livability, materials/waste management, water management, climate change adaptation and GHG emissions. This project also benefits four of the five capitals and has the potential to benefit several counties, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with local planning efforts, although not specifically mentioned. It can have low to medium order of magnitude costs.

Land Use Projects

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				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Support and preserve rural areas and the character of rural areas	Promotion and Protection of Canandaigua Lake	This project will promote tourism and recreation, protect the lake as a drinking water source, create wetlands, manage stormwater in Sucker Brook subwatershed, stabilize eroding road banks and streams, value and identify ways to protect the high rate of return that natural capital provides to the economy, and enhance watershed educational programs.	Ontario County	X			$680,000	FLREDC	Department of State			◐	◐	◐	●	●	●	This project benefits land use and livability, water management, governance and economic development. This project also benefits four of the five capitals and has the potential to benefit the 2 to 3 counties in the vicinity of the lake, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with local and state planning efforts. It can have low to medium order of magnitude costs (including capital projects), with lower life cycle costs over the long term. It also has potential to leverage other funding sources.
Support and preserve rural areas and the character of rural areas	Strategy for a Sustainable Keuka Lake	To advance the Keuka Lake Watershed Land use Planning Guide by development resourcesfor municipalities, including model laws, land use training and public outreach, the creation of a water quality internship program; watershed, zoning, infrastructure and viewshed mapping, and an agricultural assessment.	Ontario, Yates and Wayne County	X			$268,500	FLREDC	Department of State			◐	◐	◐	●	●	●	This project benefits land use and livability, water management, governance, economic development and agriculture/forestry. This project also benefits four of the five capitals and has the potential to benefit the 3 counties in the vicinity of the lake, and could be replicated in other areas. Implementation could be accomplished in less than 10 years. This strategy is consistent with local and state planning efforts. It can have low to medium order of magnitude costs.
Revitalize existing centers and prioritize the value of placemaking	Finger Lakes Education, Arts & Community Council	Give communities across the region a venue to inform, support and reinforce each other's educational programs and opportunities, arts and cultural resources and activities, and help to reduce disparities experienced from birth through old age	All	X								○	◐	●	●	●	●	This project benefits land use and livability, governance and economic development. This project also benefits three of the five capitals and has the potential to benefit all counties in the region. Implementation could be accomplished in less than 10 years. It is consistent with local planning efforts, although not specifically mentioned. It can have low order of magnitude costs.
Revitalize existing centers and prioritize the value of placemaking	Village of Spencerport Heritage Trail and Park	This project expands on numerous improvements that have been made along the canal in Spencerport over the in the last fifteen years, including new docks, a promenade, and a canalside Visitor Center with restrooms, showers, a library, and local information for canal tourists to help expand our canalside area for public enjoyment.	Monroe County		X							○	●	●	●	◑	◑	This project benefits transportation, land use and livability and economic development. This project also benefits three of the five capitals and has the potential to benefit more than one county along the canal, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with regional and local planning efforts. It can have low to medium order of magnitude costs (including capital projects). It also has potential to leverage other funding sources.
Encourage diversity of our communities	College Town Development Project	Completion of a mixed-use development located adjacent to the University of Rochester campus.	Monroe County	X			$90 million	FLREDC	Empire State Development, University of Rochester			◐	◐	◐	●	●	◑	REDC Transformative Priority Project. This project benefits energy, transportation, land use and livabilit and economic development. This project also benefits three of the capitals and has the potential to benefit Monroe County. Initial implementation could be accomplished in less than 10 years, although full implementation could take longer. This strategy is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects).
Revitalize existing centers and prioritize the value of placemaking	Downtown Warsaw Revitalization	This project will improve commercial and residential mixed-use buildings in the Town of Warsaw, including rehabilitation of 12 buildings consisting of 15 residential and 19 commercial units.	Wyoming County	X				FLREDC	Village of Warsaw			◐	◐	○	●	●	●	This project benefits energy, land use and livability, materials/waste management and economic development. This project also benefits three of the five capitals and has the potential to benefit Wyoming County. and could be replicated. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium to high order of magnitude costs, with potential to leverage other funding.
Revitalize existing centers and prioritize the value of placemaking	Albion - Main Street 2011	This project includes streetscaping enhancements and rehabilitation of thirteen building with 12 commercial and four residential units on a three-block section of North Main Street and East Bank Street in downtown Albion.	Orleans County	X				FLREDC	Village of Albion			◐	◐	○	●	●	●	This project benefits energy, land use and livability, materials/waste management and economic development. This project also benefits three of the five capitals and has the potential to benefit Orleans County. and could be replicated. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium to high order of magnitude costs, with potential to leverage other funding.
Revitalize existing centers and prioritize the value of placemaking	Geneseo Downtown Revitalization Program	This project includes streetscape enhancements and the renovation of 9 buildings in its designated National Landmark Downtown, including the vacant and historic Riviera Theater, and interior renovations to 10 commercial and 11 residential units..	Genesee County	X				FLREDC	Village of Geneseo			◐	◐	○	●	●	●	This project benefits energy, land use and livability, materials/waste management and economic development. This project also benefits three of the five capitals and has the potential to benefit Genesee County. and could be replicated. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium to high order of magnitude costs, with potential to leverage other funding.
Revitalize existing centers and prioritize the value of placemaking	Downtown East Rochester Revitalization Initiative	This project focuses on the rehabilitation of 29 commercial and 37 residential units in mixed-use buildings in the business district of the village along Main Street and West Commercial Street.	Monroe County	X				FLREDC	Village of East Rochester			◐	◐	○	●	●	●	This project benefits energy, land use and livability, materials/waste management and economic development. This project also benefits three of the five capitals and has the potential to benefit Monroe County. and could be replicated. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium to high order of magnitude costs, with potential to leverage other funding.
Revitalize existing centers and prioritize the value of placemaking	Downtown Batavia Revitalization Program	This project will improve commercial and residential mixed-use buildings in the City of Batavia, incldng the rehabilitation of 20 buildings consisting of 20 commercial and 10 residential units and enhancement of streetscapes.	Genesee County	X				FLREDC	City of Batavia			◐	◐	○	●	●	●	This project benefits energy, land use and livability, materials/waste management and economic development. This project also benefits three of the five capitals and has the potential to benefit Genesee County. and could be replicated. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium to high order of magnitude costs, with potential to leverage other funding.

Land Use Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Revitalize existing centers and prioritize the value of placemaking	Eastman Business Park (REDC Plan)	Eastman Business Park (EBP) occupies approximately 1,200 acres in the City of Rochester and Monroe County. As Eastman Kodak emerges from bankruptcy the sustainability of EBP as a national center of manufacturing and commerce hinges on the continued operation of the unique utility infrastructure present (railroad, dedicated power generation, water and wastewater processing and treatment facilities) , the creation economic conditions needed to both attract and retain tenants and buyers, and successful transition of environmental obligations and permitting requirements. Identification and resolution of issues that may be barriers to the EBP's sustainability and viability is essential. Reinvestment in the comprehensive existing available utility infrastructure and redevelopment of the industrial and commercial land within EBP is needed to ensure that one of the nation's premier industrial redevelopment sites achieves its potential to attractive to high tech and manufacturing companies.	Monroe		X				Monroe County			◐	◐	○	●	●	●	REDC Transformative Priority Project. This project benefits energy, transportation land use and livability, and economic development. This project also benefits four of the five capitals and has the potential to benefit Monroe County. Progress toward implementation could be accomplished in a relatively short term (less than 10 years); full implementation could take longer. This strategy is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects). It also has potential to leverage other funding sources and significant benefits early in the project life cycle.
Revitalize existing centers and prioritize the value of placemaking	Village of Avon Downtown Revitalization Project	This project involves renovations to seven buildings in downtown Avon, including interior and exterior improvements, to five commercial and seven residential units and streetscaping enhancements.	Livingston County	X			$500,000	FLREDC	DHCR			◐	◐	○	●	●	●	This project benefits energy, land use and livability, materials/waste management and economic development. This project also benefits three of the five capitals and has the potential to benefit Livingston County. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium order of magnitude costs, with potential to leverage other funding.
Create healthy, safe and sustainable communities	Access improvements to Seneca Lake	Design and construction of shoreline improvements along the Seneca Lake waterfront, a multi-use trail from Castle Creek to Lakefront Beach, boat launch jetty improvements, and a raised planter roundabout with multi-use paths to connect to the Finger Lakes Boating Museum.	Ontario County	X			$625,000	FLREDC	City of Geneva			○	◐	○	●	●	●	This project benefits transportation, land use and livability and economic development. This project also benefits four of the five capitals and has the potential to benefit Ontario County. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium order of magnitude costs, with potential to leverage other funding.
Revitalize existing centers and prioritize the value of placemaking	Penn Yan / Keuka Lake Waterfront Development	This project includes mixed use brownfield redevelopment to create approximately 170,000 square feet of retail, office, restaurant, residential and hotel development at the north end of Keuka Lake, adjacent to the historic Penn Yan community.	Yates County		X			FLREDC	NY Department of State			◐	◐	○	●	●	◑	REDC Priority Project. This project benefits energy, transportation, land use and livability and economic development. This project also benefits three of the five capitals and has the potential to benefit Yates County. Initial implementation could be accomplished in less than 10 years, although full implementation could take longer. This strategy is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects). It also has potential to leverage other funding sources, including public sector monies.
Create healthy, safe and sustainable communities	Town of Odgen Heritage Trail and Park	This project involves the construction a 1,600-foot extension of the Heritage Trail from Spencerport and the development of a canalside park (the first park in Ogden), including benches shaded picnic tables and grills, visitor parking and an 80-foot dock for boaters. Future plans include the construction of pavilions, and a lodge with a fireplace and restrooms.	Monroe County	X								○	◐	◐	●	◐	●	This project benefits transportation, land use and livability and economic development. This project also benefits three of the five capitals and has the potential to benefit more than one county along the canal, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with regional and local planning efforts. It can have low to medium order of magnitude costs (including capital projects). It also has potential to leverage other funding sources.
Revitalize existing centers and prioritize the value of placemaking	Former Vacuum Oil Refinery Brownfield Clean-up and Redevelopment	The City is completing a land use and environmental planning process on the west side of the river between the Ford Street Bridge and the Riverview Student Housing Project. This property represents a substantial economic and community development opportunity. The clean-up and redevelopment of the long underutilized 28 acre site, just south of downtown is on the river across from UR. The Vaccuum Oil Site is the center of a 150 acre BOA and stretches over a mile of underdeveloped waterfront. The City plans to proceed with several implementation actions in 2013. The BOA process is identifying viable opportunities for waterfront public access, recreation and open space; private mixed use and commercial redevelopment; and tranportation improvements.	Monroe		X				City of Rochester			◐	●	○	●	◐	◐	This project benefits transportation, land use and livability, water management and economic development. This project also benefits four of the five capitals and has the potential to benefit Monroe County. Initial implementation could be accomplished in less than 10 years, although full implementation could take longer. It is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects). It also has potential to leverage other funding sources, including public sector monies.
Revitalize existing centers and prioritize the value of placemaking	GardenAerial Eco-district	The GardenAerial project will transform the High Falls neighborhood into an eco-district. Greening the district will include landscaping the middle gorge area with native flora; a 'bridge of flowers' across the Genesee River on the Pont de Rennes pedestrian bridge; extending the existing trail; and building a new pedestrian bridge/public park overlooking High Falls. Public education, community engagement and enhanced stewardship of the Genesee River corridor are also proposed.	Monroe		X				Friends of the Garden Aerial			◐	●	○	●	◐	◐	This project benefits transportation, land use and livability, water management and economic development. This project also benefits four of the five capitals and has the potential to benefit Monroe County. Initial implementation could be accomplished in less than 10 years, although full implementation could take longer. It is consistent with local planning efforts. It can have higher order of magnitude costs (including capital projects). It also has potential to leverage other funding sources, including public sector monies.
Revitalize existing centers and prioritize the value of placemaking	Smart Genesee Zoning Reform Pilot Project	This pilot project would fund comprehensive planning and the development of form-based land use regulation codes for communities that might experience development pressure as a result of the Western New York Science Technology and Advanced Manufacturing Park. The new codes would incorporate Smart Growth principles into local land use regulations and would streamline and simplify the development process while promoting mixed-use, walkable neighborhoods, farmland protection, and environmental sustainability. The project would serve as a model for other communities that do not have professional planning staff and would build knowledge and expertise in the region regarding this innovative approach to land use regulation. (Genesee County Comprehensive Plan)	Genesee	X					Genesee County			◐	◐	○	●	◐	●	This project benefits land use and livability, agriculture/forestry, governance and economic development. This project also benefits four of the five capitals and has the potential to benefit Genesee County. Implementation could be accomplished in a relatively short term (less than 10 years). It is consistent with the Genesee County Smart Growth Plan. It can have low to medium order of magnitude costs.

Land Use Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Revitalize existing centers and prioritize the value of placemaking	Midtown Town and Redevelopment .	Redevelopment of land into seven parcels creating an urban street grid pattern, and adaptive reuse of the Midtown Tower, to create a focal point for downtown revitalization and accommodate approximately one million square feet of office, residential, hotel and retail space.	Monroe County	X			$54 million	FLREDC	City of Rochester and Empire State Development			◐	◐	○	●	●	◐	REDC Transformative Priority Project. This project benefits energy, transportation, land use and livability, governance and economic development. This project also benefits three of the five capitals and has the potential to benefit Monroe County. Initial implementation could be accomplished in a relatively short term (less than 10 years) as it is a priority project that is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects), but could reduce life cycle costs over the long term. It also has potential to leverage other funding sources, including both public and private sector monies.
Revitalize existing centers and prioritize the value of placemaking	Finger Lakes Boating Museum	This project proposes a new museum and visitor's center on the north end of Seneca Lake in Geneva that will house the extensive collection of boats, artifacts and archival material related to the Finger Lakes boating industry.	Ontario County		X							○	◐	◐	●	●	◐	REDC Priority Project. This project benefits land use and livability and economic development. This project also benefits three of the five capitals and has the potential to benefit Seneca and Ontario Counties, possibly more. Implementation could be accomplished in a relatively short term (less than 10 years) as it is a priority project that is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects).
Revitalize existing centers and prioritize the value of placemaking	Infrastructure assessment	Provides an understanding of infrastructure capacity and vulnerability and assists with planning for future growth and development	All	X								◐	◐	●	◐	◐	◐	This project benefits transportation, land use and livability, water management and economic development. This project also benefits four of the five capitals and has the potential to benefit multiple counties. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium to high order of magnitude costs, with potential to leverage other funding.
Revitalize existing centers and prioritize the value of placemaking	Irondequoit Mall Redevelopment	Redevelopment of a former mall as a mixed use development.	Monroe County	X				FLREDC				◐	◐	○	●	●	◐	REDC 5-Year Action Initiative. This project benefits energy, land use and livability, materials/waste management and economic development. This project also benefits three of the five capitals and has the potential to benefit Monroe County, and could be replicated. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium to high order of magnitude costs, with potential to leverage other funding.
Revitalize existing centers and prioritize the value of placemaking	Seneca Falls Central Business District Revitalization Program	This project will rehabilitate six buildings with 9 residential and 7 residential units, and streetscape enhancements.	Seneca County	X			$2.8 million	FLREDC	DHCR, DOT and private			◐	◐	○	●	●	◐	This project benefits energy, land use and livability, materials/waste management and economic development. This project also benefits three of the five capitals and has the potential to benefit Seneca County. Implementation could be accomplished in less than 10 years, and could be replicated. It is consistent with regional and local planning efforts. It can have medium to high order of magnitude costs, with potential to leverage other funding.
Create healthy, safe and sustainable communities	Seneca Falls Canal Harbor Improvement Project	Boater amenities and canalside improvements	Seneca County	X			$300,000	FLREDC	Canal Corporation			○	◐	○	●	●	◐	This project benefits land use and livability and economic development. This project also benefits three of the five capitals and has the potential to benefit Seneca County. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium to high order of magnitude costs.
Revitalize existing centers and prioritize the value of placemaking	Canandaigua Lakefront Redevelopment	This project will develop 33.5 acres of land adjacent to Kershaw Park on the north end of Canandaigua Lake for mixed use.	Ontario County		X							○	◐	○	●	●	◐	REDC 5-Year Action Initiative. This project benefits transportation, land use and livability, and economic development. This project also benefits three of the five capitals and has the potential to benefit Ontario County, and could be replicated. Implementation could be accomplished in less than 10 years. It is consistent with regional and local planning efforts. It can have medium to high order of magnitude costs, with potential to leverage other funding.
Revitalize existing centers and prioritize the value of placemaking	I-Square	This project entails the creation of 92,000 square feet of urban style town square development in the Town of Irondequoit that will revitalize 2.5 acres of empty storefronts, vacant office space and rundown business district that will include new retail, restaurants and professional space, with state of the art infrastructure and eco-friendly amenities.	Monroe County		X				EFC			◐	◐	○	●	●	◐	REDC Priority Project. This project benefits energy, transportation, land use and livability, water management, governance and economic development. This project also benefits four of the five capitals and has the potential to benefit Monroe County. Implementation could be accomplished in a relatively short term (less than 10 years) as it is a priority project that is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects), but could reduce life cycle costs over the long term. It also has potential to leverage other funding sources, including public sector monies.
Revitalize existing centers and prioritize the value of placemaking	Port of Rochester Public Marina and Mixed Use Development	A two-phased project to redevelop the Port of Rochester area to enhance public waterfront recreational facilities and support private mixed use development.	Monroe County		X		$30 million	FLREDC	City of Rochester			○	◐	○	●	●	◐	REDC 5-Year Action Initiative. This project benefits land use and livability, water management and economic development. This project also benefits four of the five capitals and has the potential to benefit Monroe County. Initial implementation could be accomplished in less than 10 years, although full implementation could take longer. It is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects). It also has potential to leverage other funding sources, including public sector monies.
Support and preserve rural areas and the character of rural areas	Seneca Art and Cultural Center at Ganondagan	This project involves the development of a new facility at the Ganondagan State Historic Site that will include education, exhibit, archival and guest services space for year-round visitation.	Seneca County		X			FLREDC	NYS Parks			○	◑	○	●	◑	◑	REDC 5-Year Action Initiative. This project benefits land use and livability and economic development. This project also benefits four of the five capitals and has the potential to benefit Seneca County. Initial implementation could be accomplished in less than 10 years, although full implementation could take longer. It is consistent with regional and local planning efforts. It can have higher order of magnitude costs (including capital projects). It also has potential to leverage other funding sources, including public sector monies.

Materials Waste Management Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Increase the percentage of materials recycled, composted, and reused within the region.	Revised curbside pick-up program	Provide proper bins for recyclable and compostable materials, increasing efficiency in vehicle fleet.	All	X			Unknown	Unknown	Local/NYS	Increased diversion, public education, energy efficient	NA	◐	◐	●	◑	Unknown	◐	Subject Areas Benefited: Energy, Transportation, Materials/Waste Management, Economic Development, Agriculture & Forestry, GHG Emissions Capitals Benefited: Human, Built/Infrastructure, Financial Communities Benefited: All, and surrounding regions Implementation Feasibility: Consistent with Planning Efforts: Unknown Financial Feasibility:
Promote education, awareness, and research services	Pre- and Post-Consumer Organics Management Education Programs	Need seed money for education programing, in which the public and businesses would learn about how to properly manage organic waste.	All	X			Unknown	Unknown	Local governments	Public education, increased diversion	NA	○	○	●	●	Unknown	●	Subject Areas Benefited: Materials/Waste Management, Economic Development Capitals Benefited: Human, Social Communities Benefited: All, and surrounding regions Implementation Feasibility: Consistent with Planning Efforts: Unknown Financial Feasibility:
Promote education, awareness, and research services	Material Generation and Disposal Reporting System for Non-Residential Sectors	Web-based software system for non-residential waste generators to report data on materials they generate and dispose of off-site. Future waste material reduction and reuse programs such as industrial ecology programs that use one company's waste materials as another company's feedstock. (From CNY Regional Plan)	All	X			Unknown	Unknown	Local governments	Waste monitoring, potential for fees as income source and incentive for businesses to reduce and divert waste	NA	○	○	●	●	Unknown	●	Subject Areas Benefited: Materials/Waste Management, Governance, GHG Emissions Capitals Benefited: Human, Financial Communities Benefited: all Implementation Feasibility: Consistent with Planning Efforts: Unknown Financial Feasibility:
Increase the percentage of materials recycled, composted, and reused within the region.	Limit Your Waste Challenge	Advertise a challenge within the community that limits families to one trash bag a week. Encourage them to limit their waste by using recyclable materials, composting and decreasing overconsumption.	All	X			Unknown	Unknown	Local governments	Reduced and Diverted household waste, public education	NA	○	○	●	●	Unknown	●	Subject Areas Benefited: Materials/Waste Management Capitals Benefited: Human, Social Communities Benefited: All Implementation Feasibility: Consistent with Planning Efforts: Unknown Financial Feasibility:
Increase the percentage of materials reused, recycled, and composted within the region.	I-Square Community Self-Reliant Waste Management	I-Square is a sustainable multi-use redevelopment project in the Center of the Town of Irondequoit. The project will incorporate energy conservation, solar power, green infrastructure and possibly and electric vehicle charging station. This suggested strategy will enable I- Square owners to address a critical trait of sustainablity;the reduction, reuse and recycling of waste generated on site. The material conservation program will provide enterprises and residents with the opportunity to design, own and manage their own material (waste) stream from the point of generation and share in the cost savings and revenue derived from marketing their own recycled materials. For example food waste may be composted on site with the end product being used in organic rooftop gardens, generating fresh produce to be used by the resturants located in the redevelopment. Fat, oil and grease from the resturants may be converted to bio-fuel on site. Businesses would jointly market recycled white office paper and plastics directly to end markets rather than working through traditional waste management companies. Materials from the demoliiton of current structures will be recycled or possibly even reused in the reconstructed enterprises.	Monroe	X			$50,000-$100,000		I-Square/Larsen Engineers	Model Community Material Management for other developers and communities. Contributes to overall sustainability of the Finger Lakes Region. Reduced landfilling of waste. Reduced carbon footprint from transportation of waste to landfills and reduced us of gas. Operational and Maintenance cost savings to site owern, businesses and residents. Revenue opportunities fo rdevelopment owner and I-Square Enterprises. Possible material remanufacturing. Contributes to growth of green collar jobs in the growing regional recycling and material remanufacturing industry.	I-Square Redevelopment Plan / Town Approved	◐	◐	○	◑	Unknown	◐	Subject Areas Benefited: Materials/Waste Management, Energy, Economic Development, Land Use/Livability Capitals Benefited: Natural, Built/Manufactured Communities Benefited: Monroe Count Implementation Feasibility: Consistent with Planning Efforts: Unknown Financial Feasibility:
Increase the percentage of materials reused, recycled, and composted within the region.	Sustainable Rochester 20/20	Fully revitalizing City of Rochester's 36 residential neighbroods; maximizing densities with new house projects replacing empty lots; maximizing densities with renovation to existing abandoned and derelict houses; applying sustainable construction and design standards comprehensively to all projects; maximizing densities, quality of life and sustainable practices by repairing and rehabilitating existing unoccupied houses; deconcentrating poverty by ewelcomng new residents across a broad diverse socio-economical range	Monroe	X			Less than the cost of not doing this	Common Sense		Sustainable Rochester 20/20 (now only a vision plan and dream) could become a project for profit entity, however such a project would ?? Input and support from everyon; huge increase in tax revenues for oru city; walkable, bicycle able, neighborhood desire, diverse, vibrant; will allow much ?? segment of society/community to live more sustainably; less auto dependence; smaller footprint		◐	○	○	●	Unknown	◐	Subject Areas Benefited: Materials/Waste Management, Energy, GHG Emissions, Economic Development Capitals Benefited: Human/Built infrastructure Communities Benefited: Town of Irondequoit Implementation Feasibility: Consistent with Planning Efforts: Unknown Financial Feasibility:

Materials Waste Management Projects

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				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Reduce the amount of solid waste generated in the region.	Solid Waste Generation Reduction Assistance for Finger Lakes Businesses	The New York State Pollution Prevention Institute (NYSP2I) will provide sustainable production assistance, green product and process development assistance, and sustainable supply chain assistance to companies across the Finger Lakes region to reduce environmental footprint, manufacturing costs and increase process efficiencies. Solid waste reduction can be addressed at many stages of a product's lifecycle, in the product design phase, through selection of packaging materials, and in the production process to name a few. NYSP2I is positioned to help reduce the amount of solid waste entering landfills by assisting Finger Lakes businesses through three existing programs: Direct Client Assistance (sustainable production assistance), the Green Technology Accelerator Center (new product and process development assistance), and Sustainable Supply Chain & Technology Program (assistance with sustainability practices and certification attainment).	All	X			$550,000	Estimated per NYSP2I Typical cost per project type.	NYSP2I	Increased profitability of businesses in the region, Increased employment, Energy use reduction, Reduction in waste to landfill	Y – This project would be a targeted expansion of the three existing programs listed above.	◐	○	●	●	Unknown	◑	Subject Areas Benefited: Materials/Waste Management, Energy, GHG Emissions, Economic Development Capitals Benefited: Human, Built infrastructure Communities Benefited: All Implementation Feasibility: Consistent with Planning Efforts: Unknown Financial Feasibility:

Water Management Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Commun-ities	Implemen-tation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Inventory, monitor and educate to create a better understanding of the region's water resources.	Wayne County Comprehenisve Shoreline Management Project	Elevation site assessment and tisk analysis of built environment and development of cost estimates for repairing and relocating facilities. Will serve as the basis to modify comprehenisve plans	Wayne	x			$300,000	Grant submission - Great Lakes Restoration Initiative	Wayne County	Plan for climate change, improve water management, provide technical resources to local gov't to		●	●	◑	●	●	●	Benefits following subject areas: Transportation, Land Use & Livability, Water Management, Economic Development, Climate Change Adaptation, Governance; Benefits the following Capitals: Human, Social, Natural, Built and Financial; Ability to be replicated in communities in multiple regions; consistent with Great Lakes Restoration Initiative and Wayne County All Hazard Multi-jurisdictional Mitigation Plan
Inventory, monitor and educate to create a better understanding of the region's water resources.	Green Genesee Roadmap	Support the development of an interconnected, functional ecosystem by conducting an inventory and providing a science-based, community-based tool to optimize land use by understanding ecosystem components, environmental services, and functions, as well as goals for preservation, restoration, and enhancement of the ecological networks.	Genesee	x					Genesee County	Provide technical resource for land, water resource, tranportation, agriculture, forestry and climate chanage adaptation planning		●	●	●	●	●	◑	Benefits following subject areas: Transportation, Land Use & Livability, Water Management, Economic Development, Climate Change Adaptation, Governance; Benefits the following Capitals: Human, Social, Natural, Built and Financial; Ability to be replicated in communities in multiple regions; consistent with Genesee County Hazard Mitigtation Plan
Promote Regional Standardization of Regulations and Management	Promotion And Protection Of Canadaigua Lake	Promote tourism and recreation and protect the lake as a drinking water supply, create wetkands, manage stormwater in Canadaigia Lake's Sucker Brook subwatershed, stabilize eroding road banks and stream in South Bristol, Naples, Italy and Gorham, enhance watershed educational programs, and support a Watershed Program Manager position (REDC 2012).	Ontario, Yates, Wayne	x			$ 340,000	CFA award	City of Canadaigua Lake Watershed Couincil	Promote consistency in regulations, increase awareness, education		◑	●	●	◑	●	◑	Benefits the following subject areas: Land Use and Livable Communities, Water Management, Economic Development. Benefits the following capitals: Human, Social, Built, Financial. Benefits Canadaigua Lake and areas both surrounding and downstream (Ontario, Yates, Wayne Seneca counties). Consistent with local and regional planning efforts.
Promote Regional Standardization of Regulations and Management	Preparation Of A Strategy For A Sustainable Kueka Lake	Advance the Kueka Lake Watershed Land Use Planning Guide by developing resources for municiaplities, including model laws, land use training and public outreach; creation of a water quality internship program; watershed, zoning, infrastructure and viewshed mapping; an agricutural assessment; and will update the Planning Guide for the Kueka Lake Land UseLeadership Alliance (REDC 2012, Yates County Hazard Mitigation Plan).	Yates, Stueben	x			$ 134,600	CFA award	Town of Wayne	Promote consistency in regulations, increase awareness, education		◑	●	●	◑	●	◑	Benefits the following subject areas: Land Use and Livable Communities, Water Management, Economic Development. Benefits the following capitals: Human, Social, Built, Financial. Benefits Canadaigua Lake and areas both surrounding and downstream (Ontario, Yates, Wayne Seneca counties). Consistent with local and regional planning efforts.
Promote Regional Standardization of Regulations and Management	Develop Wayne County Drinking Water Plan	In collaboration with Wayne County Water and Sewer Authority (WCW&SA), develop a long term plan for providing clean drinking water. Providing clean drinking water is one of the primary existing goals of the WCW&SA, and part of their overall mission and long-term planning (Wayne County Hazard Mitigation Plan).	Wayne		x				Wayne County	Improve disaster resilience, promot ebetter water service.		◑	●	○	●	●	●	Benefits the following subject areas: Land Use and Livable Communities, Water Management, Economic Development. Benefits the following capitals: Human, Social, Natural, Built, Financial. Benefits Wayne County. Consistent with local planning efforts.
Promote Regional Standardization of Regulations and Management	Establish a Transfer of Development Rights Program	Establish a method to transfer development rights from floodplain areas into designated receiving areas. A Transfer of Development Rights Program allows the buying and selling of a property's development rights on a voluntary, market-driven basis, providing local government with the ability to transfer development rights will offer more balanced planning with nearby towns (Wayne County Hazard Mitigation Plan).	Wayne		x				Wayne County	Reduce development pressure in floodplains. Provide a benefit to landowners bothinside and outside of floodplains.		◑	●	○	●	●	●	Benefits the following subject areas: Land Use and Livable Communities, Water Management, Economic Development. Benefits the following capitals: Human, Social, Natural, Built, Financial. Benefits Wayne County. Consistent with local planning efforts.
Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems	Town Of Canadaigua Sewer District Improvements	Formation of a 213.5 ac Sanitary Sewer district with 3900 lineal feet of 10" diameter sewer, 3500 lineal feet of 8" diameter sewer, and 24 manholes and appurtenances. Project is along Purdy Road, Mobile Road and SR 332. Conveyances will connect to exisitng Town of Farmington WWTP (REDC 2012).	Ontario	x			$ 600,000	CFA award	Town of Canandaigua	Reduction in number of on-site systems and associated polllutant loading.		◑	●	◑	●	◑	◑	Benefits the following subject areas: Land Use and Livable Communities, Water Management, Economic Development. Benefits the following capitals: Human, Social, Built, Natural, Financial. Benefits the Town of Canandaigua and areas downstream (Ontario, Seneca counties). Consistent with local planning efforts.
Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems	Village Of Naples Sewer Feasibility Study	Evaluation of installation fo conveyance system throughout the Main Street area. Sewage would be conveyed to the Ghazlitt 1852 Vineyards Sewage Treatment Plant (REDC 2012).	Ontario	x			$ 30,000	CFA award	Village of Naples	Potential reduction in number of on-site systems and associated polllutant loading.		◑	●	◑	●	◑	◑	Benefits the following subject areas: Land Use and Livable Communities, Water Management, Economic Development. Benefits the following capitals: Human, Social, Natural, Built, Financial. Benefits the Village of Naples and areas downstream (Ontario, Seneca counties). Consistent with local planning efforts.
Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems	Genesee Street Water Transmission Main Replacement Project	Replace 5,000 linel feet of cast iron water supply pipe that serves the entire Village of Clyde (REDC 2012).	Wayne	x			$ 600,000	CFA award	Village of Clyde	Reductions in unaccounted-for water. Improvements in service.		◑	●	○	●	◑	●	Benefits the following subject areas: Energy, Land Use and Livable Communities, Water Management, Economic Development, GHG Emissions. Benefits the following capitals: Human, Social, Natural, Built, Financial. Benefits the Village of Clyde and it's water source (Wayne County). Consistent with local planning efforts.

Water Management Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Commun-ities	Implemen-tation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems	Wayne County Water & Sewer Authority Engineering Study	Complete an engineering report to evaluate upgrades to the existing waste water treatment plant in Wayne County (REDC 2012).	Wayne	x			$ 30,000	CFA award	Wayne County Water & Sewer Authority	Potential decrease in energy usage.		◐	●	◐	●	◐	◐	Benefits the following subject areas: Energy, Land Use and Livable Communities, Water Management, Economic Development, GHG Emissions. Benefits the following capitals: Human, Social, Natural, Built, Financial. Benefits the Village of Perry and areas downstream (Wyoming, Genesee, Monroe Counties). Consistent with local planning efforts.
Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems	Village of Arcade Sewer Repair Engineering Study	Complete an engineering report to evaluate inflow and infiltration in the existing sewer system in the Village of Arcade (REDC 2012).	Wayne	x			$ 30,000	CFA award	Wayne County Water & Sewer Authority	Potential reduction of sewer overflows. Potential decrease in energy usage.		◐	●	◐	●	◐	◐	Benefits the following subject areas: Energy, Land Use and Livable Communities, Water Management, Economic Development, GHG Emissions. Benefits the following capitals: Human, Social, Natural, Built, Financial. Benefits the Village of Perry and areas downstream (Wyoming, Genesee, Monroe Counties). Consistent with local planning efforts.
Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems	Village of Perry Stormwater Drainage Project	Construct new storm sewers and catch basins in the Village of Perry (REDC 2012).	Wyoming	x			$ 600,000	CFA award	Village of Perry	Reduction in flooding, and associated erosion.		◐	●	◐	●	◐	◐	Benefits the following subject areas: Land Use and Livable Communities, Water Management, Economic Development. Benefits the following capitals: Human, Social, Natural, Built, Financial. Benefits the Village of Perry and areas downstream (Wyoming, Genesee, Monroe Counties). Consistent with local planning efforts.
Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems	Town of Jerusalem Wastewater Engineering Study and Waterfront Development	Complete an engineering study to evaluate the need for public sewers in the Hamlet of Branchport and the surrounding area in the Town of Jerusalem. Prepare a waterfront revitalization strategy for the town's Kueka Lake and Sugar Creek waterfront areas (REDC 2012).	Yates	x			$ 57,500	CFA award	Townof Jerusalem	Potential reduction in number of on-site systems and associated polllutant loading.		◐	●	◐	●	◐	◐	Benefits the following subject areas: Energy, Land Use and Livable Communities, Water Management, Economic Development, GHG Emissions. Benefits the following capitals: Human, Social, Natrual, Built, Financial. Benefits the Town of Jerusalem and areas downstream (Wyoming, Genesee, Monroe Counties). Consistent with local planning efforts.
Promote Regional Standardization of Regulations and Management	Set up a Countywide Drainage District in Orleans County.	Establish a county-wide drainage district in Orleans County. This will provide the County with a means to plan, manage, and maintain drainage infrastructure though a system that generates funds based on contributing stormwater runoff (Orleans County Hazard Mitigation Plan).	Orleans		x				Orleans County	Provide regulatory means to fund and provide operation and maintenance of stormwater infrastructure.		◐	●	○	◑	●	●	Benefits the following subject areas: Land Use and Livable Communities, Water Management, Economic Development. Benefits the following capitals: Human, Social, Natural, Built, Financial. Benefits Orleans County. Consistent with local planning efforts.
Maintain and improve the functionality and efficiency of the water supply and wastewater infrastructure systems	Village of Macedon Wastewater Treatment Plant Study	Complete an engineering report to evaluate upgrades to the existing treatment plant in the Village of Macedon (REDC 2012).	Wayne	x			$ 30,000	CFA award	Village of Macedon	Potential decrease in energy usage.		◐	●	○	●	◐	◐	Benefits the following subject areas: Land Use and Livable Communities, Water Management, Economic Development. Benefits the following capitals: Human, Social, Natural, Built, Financial. Benefits the Village of Macedon and areas downstream (Wayne County). Consistent with local planning efforts.
infrastructure systems	Improve streams and hillside runoff along South Lake Road and Canandaigua Lake (Yates County)	Multiple sites and projects have been identified on South Lake Rd where erosion and bank restoration, and improved drainage are required to mitigate flooding in steep slope areas. The Town of Middlesex has completed an engineering study that identifies areas of concern, proposed improvements and estimated costs (Yates County Hazard Mitigation Plan).	Yates	x				$1M to $2M (Yates County Hazard Mitigation Plan)	Town of Middlesex	Reduce erosion damage occuring along Seneca Lake Shore.		◐	◐	◐	●	●	○	Benefits the following subject areas: Land Use and Livable Communities, Water Management. Benefits the following capitals: Human, Social, Natural, Built. Benefits Yates County and all counties affecte dby Seenca Lake (Ontario, Seneca). Consistent with local planning efforts.
Preserve existing ecosystem services and promote green infrastructure to reduce reliance on grey infrastructure	Rochester Museum and Science Center (RMSC) Green Innovations	Create a single high profile and accessible location where developers, municipal planners, and the general public can see several different green infrastructure practices in action and be educated in their function and implementation.	Monroe	x			$525,000	CFA Application based on concept design	RMSC, Water Education Collaborative, Monroe County Stormwater Coalition	Education and validity of a variety of green infrastructure projects for commercial application		●	●	◐	◑	○	◐	Benefits following subject areas: Land Use & Livability, Water Management, Economic Development, Climate Change Adaptation, Governance; Benefits the following Capitals: Human, Social, Natural, Built and Financial; Ability to be replicated in communities in multiple regions
Conserve water and leverage its value in energy production	Williamson WWTP Solar Panels and Improvements	Project components include: A 60 kw solar (photovoltaic) array producing as much as 80,000 of kWh each year resulting in a savings of over $8000.00 per year, 1200 square feet of green roof reducing stormwater runoff, demand for heating and cooling and extending the life of the roof membrane, and the installation of an belowground storage tank and yard hydrant which will recycle rainwater for non-potable uses such as equipment cleaning and irrigation	Wayne	x			$700,000	CFA Award	Town of Williamson	Reducing energy costs, reducing quanitity of runoff, imporving quality of runoff. Imporvement of plant process		●	●	○	◑	◑	◑	Benefits following subject areas: Land Use & Livability, Water Management, Economic Development, Climate Change Adaptation, Governance; Benefits the following Capitals: Human, Social, Natural, Built and Financial; Ability to be replicated in communities in multiple regions

Economic Development Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project: Short term (0 - 5 yrs)	Relative Time Frame of Project: Mid-term (6 - 10 yrs)	Relative Time Frame of Project: Long term (11-15 yrs)	Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria: Benefits Multiple Subject Areas	Evaluation Criteria: Benefits Multiple Capitals	Evaluation Criteria: Benefits Multiple Communities	Evaluation Criteria: Implementation Feasibility	Evaluation Criteria: Consistent with Planning Efforts	Evaluation Criteria: Financial Feasibility	Notes
Embed the framework of this Plan into all planning, execution and measurement activities throughout the region	Regional Sustainable Innovation Fund	Provide funding to catalyze the deployment of new, innovative, sustainable technologies and products which are designed and manufactured by New York State companies	All	Y			$5 Million	Proposed by Submitter	P2I/GIS NYSERDA	- Electric (kW) demand reduction - Impacts to infrastructure reliability and resilience - Deployment of NYS-based alternative, clean, and energy efficiency technologies which support regional economic growth and development - Financial mechanism to support long-term sustainment of manufacturers in the State	Finger Lakes Food Processing Cluster Initiative (FLFPCI)	●	◑	●	●	◑	●	Potential to benefit all capitals but Social
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	Integrating the Sustainable Production and Innovation Entrepreneurial Ecosystem of the Region	"connect the dots" between existing funding initiatives so that unseen opportunities can materialize for the benefit of the regional and state economy	All	Y			$625,000	Proposed by Submitter	P2I/GIS NYSERDA	- Stakeholder engagement - Financial risk management/mitigation - Fostering greater accountability, transparency, and collaboration - Efficient use of regional resources for sustainable innovation, deployment, and entrepreneurship - Connecting entrepreneurs with viable opportunities for growing early-stage companies focused on sustainable production, products, innovation, and manufacturing - Enabling the regional transition to an advanced and sustainable manufacturing economy	- NY-BEST - Clean Energy Incubator - NYSERDA Entrepreneur-in-Residence Program - NYSERDA Proof-of-Concept Center	●	◑	●	●	◑	●	Potential to benefit all capitals but Social
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	Finger Lakes Business Accelerator Cooperative	Taken from REDC's 2012 Strategic Plan Progress Report - Create an interconnected network of business support services and incubation facilities that spans all nine counties of the region. The initiative will support the creation and growth of early-stage companies	All				$18.5 Million	REDC Strategic Plan 2012 Update	HighTech Rochester			●	◑	●	●	●	◑	Identified by REDC as a Tranformative Priority Project. Note: Project cost identified as $35 Million in initial REDC Strategic Plan Potential to benefit all capitals but Social
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	PathStone Finger Lakes Enterprise Fund	Taken from REDC's 2012 Strategic Plan Progress Report - Create a revolving loan fund that is designed to address the specific needs of community-based micro and small business ventures.	All				$4.2 Million	REDC Strategic Plan 2012 Update	PathStone Corporation			◑	◑	●	●	●	●	Identified by REDC as a Tranformative Priority Project. Potential to benefit all capitals but not expressly natural
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	Regional Internal Harvesting and Economic Gardening	Taken from REDC's 2012 Strategic Plan Progress Report - Focuses on working with existing growth-oriented companies to help them expand	All				$2 Million	REDC Strategic Plan	Greater Rochester Enterprise			◑	◑	●	●	●	●	Identified by REDC as a Priority Project. Potential to benefit all capitals not expressly Natural & Social
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	Finger Lakes Health Collaborative	Taken from REDC's 2012 Strategic Plan Progress Report	All				$3 Million	REDC Strategic Plan	RBA & FLHSA			○	◑	●	●	●	●	Identified by REDC as a Priority Project. Benefits Land Use and Livable Communities and Economic Development subject areas. Benefits Economic, Human and Social capital
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	Golisano Institute for Sustainability at RIT	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe				$107 Million	REDC Strategic Plan	RIT			●	●	◑	◑	●	◑	Identified by REDC as a Tranformative Priority Project. Primarily benefits Monroe County (potential to benefit others)
Protect, enrich and market the unique natural, cultural, agricultural, and destination assets of the region.	Finger Lakes Museum	Taken from REDC's 2012 Strategic Plan Progress Report	Yates w/ Satellites				$58.3 Million	REDC Strategic Plan	The Finger Lakes Cultural and Natural History Museum			◑	●	◑	●	●	◑	Identified by REDC as a Priority Project. Benefits Land Use and Livable Communities, Water Management, Ag & Forestry and Economic Development subject areas.

Economic Development Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	Seneca AgBio Green Energy Park	Taken from REDC's 2012 Strategic Plan Progress Report - Develop an innovative program for agricultural processing and renewable energy production. Expand businesses and innovation	Seneca				$8 Million	REDC Strategic Plan 2012 Update	Seneca BioEnergy			●	◑	○	●	●	◑	Identified by REDC as a Tranformative Priority Project. Note: Project cost identified as $16 Million in initial REDC Strategic Plan. Benefits all capitals but Social. Primarily benefits Seneca County
Expand and align training and education initiatives to target strategic sectors and meet the needs of existing and emerging industries.	Multiple Pathways to Middle Skills Jobs	Taken from REDC's 2012 Strategic Plan Progress Report	All				$4.9 Million	REDC Strategic Plan 2012 Update	MCC			○	◑	●	●	●	◑	Identified by REDC as a Tranformative Priority Project. Benefits Land Use and Livability, Economic Development. Benefits all capitals except Natural
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	Eastman Business Park	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe				$579 Million	REDC Strategic Plan	US Renewables Group			◑	○	◑	●	●	◑	Identified by REDC as a Tranformative Priority Project. Benefits Land Use and Livability, Economic Development. Benefits all capitals except Natural
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	Finger Lakes Small Business Expansion Fund	Taken from REDC's 2012 Strategic Plan Progress Report	All				$9.2 Million	REDC Strategic Plan 2012 Update	FLREDC			○	○	●	●	●	◑	Identified by REDC as a Tranformative Priority Project. Benefits Land Use and Livability, Economic Development, Transportation. Benefits Financial and Human Capital
Protect, enrich and market the unique natural, cultural, agricultural, and destination assets of the region.	Value Added Direct to Market Grants Program	Taken from REDC's 2012 Strategic Plan Progress Report - Provide funding that enables farms to build new structures, buy equipment, renovate buildings, and access working capital	All					REDC Strategic Plan 2012 Update	Farm Credit East			○	◑	●	●	◑	◑	Identified by REDC as a Priority Project. Benefits Land Use and Livability, Economic Development, Ag & Forestry. May not address Natural capital and Social capital
Invest in critical infrastructure to foster economic expansion and advance sustainable initiatives (access, function, resiliency)	Rochester Midtown Redevelopment and Tower	Taken from REDC's 2012 Strategic Plan Progress Report - Redevelopment of the Midtown parcel into a mixed-use area designed to attract a critical mass of residents, commercial activity, and amenities that will contribute to a vibrant work-life environment	Monroe				$54.2 Million	REDC Strategic Plan 2012 Update	City of Rochester Christa/Morgan Management			◑	◑	○	◑	●	◑	Identified by REDC as a Tranformative Priority Project. Note: Project cost identified as $73.5 Million in initial REDC Strategic Plan. Benefits Land Use and Livability, Economic Development, Energy, Transportation, GHG Reduction. Benefits Built, Financial and Human Capital.
Invest in critical infrastructure to foster economic expansion and advance sustainable initiatives (access, function, resiliency)	CollegeTown	Taken from REDC's 2012 Strategic Plan Progress Report - Comprehensive plan to redevelop approximately 16 acres of University of Rochester-owned property in the City of Rochester and transform it into a vibrant neighborhood that will serve as a gateway to the City and the University	Monroe				$90 Million	REDC Strategic Plan 2012 Update	College Town Rochester, LLC			◑	◑	○	●	◑	◑	Identified by REDC as a Tranformative Priority Project. Benefits Land Use and Livability, Economic Development, Energy, Transportation, GHG Reduction. Benefits all capitals except Natural. Primarily benefits Rochester/Monroe County
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	Finger Lakes Clinical Quality Improvement Initiative	Taken from REDC's 2012 Strategic Plan Progress Report - Seek to achieve savings in healthcare costs by addressing unwarranted clinical variation, redundant tests, unproven treatments, and identifying alternatives to high-cost drugs and devices.	All				$11 Million	REDC Strategic Plan 2012 Update	Regional Health Care Alliance			○	◑	◑	●	◑	◑	Identified by REDC as a Tranformative Priority Project & 5-Year Pipeline Initiative. Benefits Land Use and Livable Communities and Economic Development. Benefits Financial, Social and Human capitals. Most communities would benefit
Invest in critical infrastructure to foster economic expansion and advance sustainable initiatives (access, function, resiliency)	Portageville Freight Rail Bridge Replacement Project	Taken from REDC's 2012 Strategic Plan Progress Report	Livingston				$68.5 Million	REDC Strategic Plan 2012 Update				◑	○	◑	●	◑	◑	Identified by REDC as a 5-Year Pipleline Initiative. Benefits Energy, Transportation, Land Use and Livable Communities, Economic Development and GHG Reductions. Benefits Built, Financial & Human capitals.Primarily benefits Livingston County (potential for collateral benefit to surrounding counties).
Invest in critical infrastructure to foster economic expansion and advance sustainable initiatives (access, function, resiliency)	I-Square	Taken from REDC's 2012 Strategic Plan Progress Report - create an urbanstyle town square in the Town of Irondequoit, converting vacant buildings and housing into a mixed-use cultural district	Monroe					REDC Strategic Plan 2012 Update				○	◑	○	●	◑	◑	Identified by REDC as a Priority Project. Benefits Land Use and Livability, Economic Development. May not address Natural capital. Primarily benefits Irondequoit/Monore County
Protect, enrich and market the unique natural, cultural, agricultural, and destination assets of the region.	Finger Lakes Regional Milk Production Growth Incentive Program	Taken from REDC's 2012 Strategic Plan Progress Report - Strengthen rural communities and help local dairy farmers meet the milk demands of the state's rapidly growing yogurt manufacturing sector	All				$4 Million	REDC Strategic Plan 2012 Update	Farm Credit East			○	◑	○	●	◑	◑	Identified by REDC as a Priority Project. Benefits Economic Development and Ag & Forestry. Benefits Financial, Built and Human capitals. Primarily benefits Genesee County (potential to benefit others).

Economic Development Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	The NewYork Battery and Energy StorageTechnology Consortium (NY-BEST)	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe				$20.5 Million	REDC Strategic Plan	NY-BEST			○	◐	○	◐	●	◐	Identified by REDC as a Priority Project. Benefits Economic Development, Energy. Benefits Financial, Built and Human capital. Primarily benefits Rochester/Monroe County (potential to benefit surrounding counties)
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	University of Rochester Health Sciences Center for Computational Innovation	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe				$100 Million	REDC Strategic Plan	U of R			○	◐	○	◐	●	◐	Identified by REDC as a Priority Project. Benefits Economic Development, Land Use and Livability. Benefits Financial, Built, Human and Social capitals. Primarily benefits Rochester/Monroe County (potential to benefit more)
Protect, enrich and market the unique natural, cultural, agricultural, and destination assets of the region.	Little Theatre Renovation	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe					REDC Strategic Plan 2012 Update				○	◐	○	●	◐	◐	Identified by REDC as a Priority Project. Benefits Land Use and Livability, Economic Development. Benefits Built, Financial, Human and Social Capitals. Primarily benefits Rochester/Monroe County
Protect, enrich and market the unique natural, cultural, agricultural, and destination assets of the region.	Geva Theatre	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe					REDC Strategic Plan 2012 Update				○	◐	○	●	◐	◐	Identified by REDC as a Priority Project. Benefits Land Use and Livability, Economic Development. Benefits Built, Financial, Human and Social Capitals. Primarily benefits Rochester/Monroe County
Protect, enrich and market the unique natural, cultural, agricultural, and destination assets of the region.	Finger Lakes Boating Museum	Taken from REDC's 2012 Strategic Plan Progress Report	Seneca					REDC Strategic Plan 2012 Update				○	◐	◐	●	●	◐	Identified by REDC as a Priority Project. Benefits Land Use and Livability, Economic Development, Water Management. Benefits all capitals but Natural. Benefits Primarily Seneca County (potential to benefit surrounding counties)
Expand and align training and education initiatives to target strategic sectors and meet the needs of existing and emerging industries.	Finger Lakes Regional Center for Advanced Optics Manufacturing	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe					REDC Strategic Plan 2012 Update	U of R			○	◐	○	●	◐	◐	Identified by REDC as a 5-Year Pipleline Initiative. Benefits Economic Development, Land Use and Livability. Benefits Built, Financial & Human capitals.Primarily benefits Rochester/Monroe County
Protect, enrich and market the unique natural, cultural, agricultural, and destination assets of the region.	2013 LPGA & PGA Championships	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe					REDC Strategic Plan 2012 Update				○	◐	○	●	◐	◐	Identified by REDC as a Priority Project & 5-Year Pipeline Initiative. Benefits Land Use and Livable Communities, Economic Development. Benefits Financial , Social and Human capital. Primarily benefits Monroe County
Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.	Science Technology and Advanced Manufacturing Park (STAMP)	Taken from REDC's 2012 Strategic Plan Progress Report - A 1,243 acre site in Genesee County that will serve to attract the next generation of nano-technology companies (semiconductor and solar), bio-manufacturing, and advanced manufacturing to the state, create a high tech corridor spanning upstate, and drive significant regional economic growth	Genesee				$250 Million	REDC Strategic Plan 2012 Update	Genesee Gateway Local Development Corp			○	◐	◐	◐	◐	◐	Identified by REDC as a Tranformative Priority Project. Benefits Ecconomic Development. Benefits Built, Human and Financial Capital. Primarily benefits Genesee County with collateral benefit to surrounding counties.

There was not sufficient information available to evaluate the following Projects. To provide a partial evaluation, each Project is sorted according to the evaluation of its associated Broad Strategy.

Identify, recruit and support entrepreneurial enterprises that have the potential to innovate consistent with the Story of Place, add value to all 5 capitals and have broad commercialization potential.												●	●	●	●	●	◐	
	Finger Lakes Procurement Consortium	Taken from REDC's 2012 Strategic Plan Progress Report	All															
	RIT Venture Creations	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe															
	Rochester BioVenture Center	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe															
	Finger Lakes Enterprise Fund	Taken from REDC's 2012 Strategic Plan Progress Report	All															
	Excell Partners	Taken from REDC's 2012 Strategic Plan Progress Report																
	Innovacracy	Taken from REDC's 2012 Strategic Plan Progress Report																
	Finger Lakes Food Processing Cluster	Taken from REDC's 2012 Strategic Plan Progress Report																
	Stem Cell Good Manufacturing Practice Lab	Taken from REDC's 2012 Strategic Plan Progress Report																

Economic Development Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Finger Lakes Regional Sustainable Packaging Project	Taken from REDC's 2012 Strategic Plan Progress Report																
	Buffalo East Technology Park	Taken from G/FLRPC's 2012 Comprehensive Economic Development Strategy (CEDS)	Genesee				$12.0 Million+	CEDS	GCEDC/GGLDC									
	The Upstate Med-Tech Project: Develop a Regional Med-Tech Business Park (34 acres) and Commercialization Center (Accelerator facility)	Taken from G/FLRPC's 2012 CEDS	Genesee				Park: $1.5-2.0M, Commercialization Center: $7-$8 Million	CEDS	GCEDC/GGLDC									
	Entrepreneurship Venture Capital	Taken from G/FLRPC's 2012 CEDS	Livingston				$500,000	CEDS	Livingston County IDA									
	Hydrogen Economy	Taken from G/FLRPC's 2012 CEDS	Monroe				$10,000,000 +	CEDS	Monroe County, City of Rochester									
	The Entrepreneurs Network	Taken from G/FLRPC's 2012 CEDS	Monroe				$300,000	CEDS	Monroe County Department of Planning and Development									
	Eastman Business Park Upgrades	Taken from G/FLRPC's 2012 CEDS	Monroe				$13,000,000+	CEDS	Monroe County, City of Rochester									
	Cornell Agriculture and Food Technology Park Finger Lakes Food Innovation Center	Taken from G/FLRPC's 2012 CEDS	Ontario				$7,000,000	CEDS	Ontario County OED/IDA									
	Smart System Technology and Commercialization Center (STC)	Taken from G/FLRPC's 2012 CEDS	Ontario				$6,400,000	CEDS	Ontario County OED/IDA									
	Small Business Assistance	Taken from G/FLRPC's 2012 CEDS	Seneca				$1,000,000	CEDS	Seneca County Workforce Development									
	Alternative Energy Initiatives- Wind-tamer turbines/bioenergy manure digester processing	Taken from G/FLRPC's 2012 CEDS	Wyoming				$4.5 Million	CEDS	Wyoming County Business Center									
	Develop Lower Cost of Power Solution(s): Cogeneration, Alternative Energy to lower power costs businesses	Taken from G/FLRPC's 2012 CEDS	Genesee				$1 Million	CEDS	GCEDC/GGLDC									
	Mill Seat Landfill Bioreactor	Taken from G/FLRPC's 2012 CEDS	Monroe				$12,000,000	CEDS	Monroe County DES									
	Ontario County Alternative Energy Park Infrastructure	Taken from G/FLRPC's 2012 CEDS	Ontario				$1,500,000	CEDS	Ontario County OED/IDA									
	Wayne Industrial Sustainability Park and pod infrastructure improvements—Ontario pod/Northeast Quadrant pod/Silver Hill Technology Pod	Taken from G/FLRPC's 2012 CEDS	Wayne				$7.10 Million	CEDS	Wayne County IDA									
	Increase economic viability and growth of the Finger Lakes Food Processing Cluster by improving environmental, energy and economic practices of these businesses	Invest in sustainable innovation of the regional food processing processes	All						Organizations that provide environmental technical assistance services, especially those focus on process improvement/green engineering, NYSP2I , academic institutions									
Invest in critical infrastructure to foster economic expansion and advance sustainable initiatives (access, function, resiliency)												●	◐	●	●	●	◐	
	Genesee Valley Agribusiness Park (202 acres)	Taken from G/FLRPC's 2012 CEDS	Genesee				$10 Million	CEDS	GCEDC/GGLDC									
	Re-development of the Batavia/Downtown Corridor	Taken from G/FLRPC's 2012 CEDS	Genesee				$5.0+ Million	CEDS	GCEDC/GGLDC									
	Assist Community Development via Main Street Projects, Housing issues and Quality of Life	Taken from G/FLRPC's 2012 CEDS	Genesee				$3 Million	CEDS	GCEDC/GGLDC									
	Multi-Tenant building at Dansville Industrial Park	Taken from G/FLRPC's 2012 CEDS	Livingston				$2 million	CEDS	Livingston County IDA									
	Photech Site	Taken from G/FLRPC's 2012 CEDS	Monroe				$10-$20 million	CEDS	City of Rochester									
	Vacuum Oil Site	Taken from G/FLRPC's 2012 CEDS	Monroe				$10-$20 million	CEDS	City of Rochester									
	Albion Business Park Development	Taken from G/FLRPC's 2012 CEDS	Orleans				$500,000	CEDS	County of Orleans IDA									
	Keppler Site Shovel Ready	Taken from G/FLRPC's 2012 CEDS	Orleans				$1,025,000	CEDS	County of Orleans IDA									
	Medina Park Spec Building	Taken from G/FLRPC's 2012 CEDS	Orleans				$3,000,000	CEDS	County of Orleans IDA									
	Medina Park Shovel Ready	Taken from G/FLRPC's 2012 CEDS	Orleans				$690,000	CEDS	County of Orleans IDA									

Economic Development Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Demolition of derelict and unneeded buildings and facilities at the Seneca Army Depot	Taken from G/FLRPC's 2012 CEDS	Seneca				$5.5 Million	CEDS	Seneca County IDA									
	Improve Downtowns	Taken from G/FLRPC's 2012 CEDS	Wayne				$240,000 start up program	CEDS	TBD									
	Redevelopment of A&A Facility in Perry	Taken from G/FLRPC's 2012 CEDS	Wyoming				$2 million	CEDS	Wyoming County Business Center									
	Perry Business and Technology Park	Taken from G/FLRPC's 2012 CEDS	Wyoming				$2.2 Million	CEDS	Wyoming County Business Center									
	Digital Infrastructure andTransportation Asset Inventory	Taken from REDC's 2012 Strategic Plan Progress Report																
	Rebuild and Repair of Rail line to Dansville Properties	Taken from G/FLRPC's 2012 CEDS	Livingston				$2.5 million	CEDS	Livingston County IDA/G&W RR									
	Completion of Infrastructure at Crossroads Commerce Park, Avon	Taken from G/FLRPC's 2012 CEDS	Livingston				$1 million	CEDS	Livingston County IDA									
	Rochester District Heating Cooperative System Improvements	Taken from G/FLRPC's 2012 CEDS	Monroe				$12,400,000	CEDS	Monroe County, City of Rochester									
	Emerson Street landfill area	Taken from G/FLRPC's 2012 CEDS	Monroe				TBD	CEDS	City of Rochester									
	Fiber Optic Ring	Taken from G/FLRPC's 2012 CEDS	Ontario					CEDS	Ontario County									
	Orleans Fiber Optic Pipe	Taken from G/FLRPC's 2012 CEDS	Orleans				$500,000	CEDS	County of Orleans IDA									
	Rail Infrastructure Expansion/Development	Taken from G/FLRPC's 2012 CEDS	Orleans				$2.5 Million	CEDS	County of Orleans IDA									
	Electrical Upgrade – Seneca Army Depot	Taken from G/FLRPC's 2012 CEDS	Seneca				$8.0 Million	CEDS	Seneca County IDA									
	Infrastructure Improvements at the Seneca Army Depot – water, sewer, roads, rail and drainage	Taken from G/FLRPC's 2012 CEDS	Seneca				$12 Million	CEDS	Seneca County IDA									
	Route 318 Sewer Expansion/Upgrades to Connections	Taken from G/FLRPC's 2012 CEDS	Seneca				$4.50	CEDS	Seneca County									
	Industrial Road-Town of Ontario in its entirety, Beh to Lincoln	Taken from G/FLRPC's 2012 CEDS	Wayne				$5 Million	CEDS	Wayne County IDA; Town of Ontario									
	Water/sewer Improvements Town of Wolcott/Village of Red Creek	Taken from G/FLRPC's 2012 CEDS	Wayne				TBD	CEDS	Wayne County									
	Bridge Improvements	Taken from G/FLRPC's 2012 CEDS	Wayne				TBD	CEDS	New York State DOT									
	Lyons Industrial Park Development (highway, rail, possible water access) Multi modal transportation and logistics site	Taken from G/FLRPC's 2012 CEDS	Wayne				$7-$18 million	CEDS	Wayne County IDA; Town of Lyons									
	Fiber Optic Infrastructure (last mile)	Taken from G/FLRPC's 2012 CEDS	Wayne				$2 Million	CEDS	Wayne County									
	Wyoming County Rail Initiative	Taken from G/FLRPC's 2012 CEDS	Wyoming				$1.5 Million	CEDS	Wyoming County IDA									
	Installation of Fiber Optic Cable into and throughout Yates County	Taken from G/FLRPC's 2012 CEDS	Yates				$2,200,000	CEDS	Yates County Government & Finger Lakes EDC									
	Dundee Waste Water Treatment Plant Upgrades	Taken from G/FLRPC's 2012 CEDS	Yates				$2,000,000	CEDS	Finger Lakes EDC, Village of Dundee									
	Route 14 Eastern Corridor Water District	Taken from G/FLRPC's 2012 CEDS	Yates				$15,700,000	CEDS	Finger Lakes EDC, Yates County, Town of Torrey, Town of Milo, and Penn Yan Village									
	Keuka Park Water District Water Main Replacement	Taken from G/FLRPC's 2012 CEDS	Yates				$1,875,000	CEDS	Town of Jerusalem									
	Keuka Street Water and Sewer Replacements	Taken from G/FLRPC's 2012 CEDS	Yates				$1,700,000	CEDS	Penn Yan Village									
	Elmwood Avenue Railroad Siding	Taken from G/FLRPC's 2012 CEDS	Yates				$1,150,000	CEDS	Penn Yan Village									
	Branchport/West Bluff Drive Sewer District , Jerusalem	Taken from G/FLRPC's 2012 CEDS	Yates				$7,175,000	CEDS	Finger Lakes EDC									
	Torrey Water District #1 , Torrey	Taken from G/FLRPC's 2012 CEDS	Yates				$4,000,000	CEDS	Finger Lakes EDC									
	Downtown Revitalization	Taken from G/FLRPC's 2012 CEDS	Livingston				$100,000	CEDS	Livingston County Development Corporation									
	Buy Local Campaign	Taken from G/FLRPC's 2012 CEDS	Livingston				$100,000	CEDS	Livingston County Development Corporation									
	PORT of Rochester	Taken from G/FLRPC's 2012 CEDS	Monroe				$146 Million	CEDS	City of Rochester									

Economic Development Projects

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				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Sustainability Plan Implementation Grant Program	Provide funds (perhaps with match) for government and industry that prepares plans to implement priority projects.	All				$10 Million/yr	Recommended by submitter based on Average 20 projects per year at average cost of $500,000 per project	NYSERDA, Regional NFP, Supplement for existing state grants through CFA	1) Shares responsibility for achieving regional strategies with local governments and industry; 2) provides incenive to do plans; 3) provides start-up money for projects with longer term payoffs; 4) expands number of recipients of other applicable state and federal grant programs.								
	Regional Sustainability Project	Fund would provide short term "gap financing" money for these projects, with original amount, plus modest interest repaid with reimbursement.	All						Government or NFP, IDAs, Enterprise Funds	Allows interested governments, corporations, individuals lacking upfront cots to bridge funding gap until sustainability project funds are awarded or until cost savings repay loans.								
	Sustainable Communities and Sustainable Industries Planning Incentives Program	Communities, insitutions, and businesses would receive incentives to prepare their own plans to implement regional strategies on local, individualized basis. Region would provide some % of cost as incentive to prepare stategic plans. Plans would cover similar topics as regional plans and select implementation strategies from recommendations in the regional plan that were appropriate based upon type, location, size, and resources.	All				$1 Million/yr	Recommended by Submitter										
	Rochester & Southern Railroad (RSR) Rehabilitation Project Between Dansville and Mt. Morris	Rehabilitation of section of rail infrastructure critical to the ongoing operations and anticipated future expansion					$2.54M estimated	Prelminary engineering cost estimates prepared by the RSR Agency: Livingston County IDA		1. Keep LMC in operation, 2. Provide opportunity for LMC to expand operations 3. May provide opportunities to attract new customers; 4. Using freight trains over trucking is more environmentally friendly and ; 5. Fewer trucks on the road, helping to reduce costs associated with road and bridge maintenance and repair.								
Expand and align training and education initiatives to target strategic sectors and meet the needs of existing and emerging industries.												◐	◐	●	●	●	◐	
	NewYork State Pollution Prevention Institute at RIT	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe															
	Finger Lakes Community College Viticulture and WineTechnology Facility	Taken from REDC's 2012 Strategic Plan Progress Report	Ontario															
	Entrepreneurship Training	Taken from G/FLRPC's 2012 CEDS	Livingston				$20,000	CEDS	Livingston County IDA									
Protect, enrich and market the unique natural, cultural, agricultural, and destination assets of the region.												◐	◐	●	●	●	●	
	Muller Quaker	Taken from REDC's 2012 Strategic Plan Progress Report	Genesee															
	Veterans Memorial Cemetery	Taken from G/FLRPC's 2012 CEDS	Seneca				$3,170,000	CEDS	Seneca County									
	Waterfront Redevelopment Infrastructure Improvements	Taken from G/FLRPC's 2012 CEDS	Yates				$2,500,000	CEDS	Finger Lakes EDC, Yates County, Penn Yan, Milo									
	PathThrough History Initiative	Taken from REDC's 2012 Strategic Plan Progress Report	All															
	Genesee Country Village and Museum	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe															
	Seneca Park Zoo	Taken from REDC's 2012 Strategic Plan Progress Report	Monroe															
	Seneca Arts and Cultural Center at Ganondagan State Historic Site	Taken from REDC's 2012 Strategic Plan Progress Report	Ontario															
	Sonnenberg Gardens & Mansion State Historic Park	Taken from REDC's 2012 Strategic Plan Progress Report	Ontario															
	Letchworth State Park Signage	Taken from REDC's 2012 Strategic Plan Progress Report	Livingston															

Economic Development Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
	Recreation and Water Quality Special Projects Fund	Assist in funding research and management programs for water recreation and water quality in the Finger Lakes. Need coordinated, ongoing and dependable program to avoid future resource degradation.	All				$500,000/yr	Recommended by submitter based on existing programs	FL-LOWPA, Center for Environmental Initiatives (CET	1) Ongoing source of funding for research and projects relating to water quality; 2) maintaining regional lakes and rivers for recreation; 3) local improvement in Regional Sustainability Plan implementation related to water, recreation, land use and tourism								
	Sustainability Heritage Program	Provide funds for identification, interpretation and restoration of places/structures prominent to the history and growth of the region that contributed to on exhibited sustainable practices. Could be hyro facilities, windmills, irrigation, nursery/seed industry, technology research, energy savings/pollution reduction industries, etc.	All				$1 Million/yr	Recommended by submitter based on Funding for other hisotric preservation and tourism promotion programs.	Landmark society, museum, regional tourism offices	1) Reinforces perception of importance of sustainability; 2) recognizes local history and individual/industry contribution; 3) provides additional funding for historic preservation; 4) enhances tourism: Regional Sustainability Tral								

Climate Change Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Upgrade existing assets	Wayne County Comprehenisve Shoreline Management Project	Elevation site assessment and tisk analysis of built environment and development of cost estimates for repairing and relocating facilities. Will serve as the basis to modify comprehenisve plans	Wayne	X			$300,000	Grant submission - Great Lakes Restoration Initiative	Wayne County	Plan for climate change, improve water management, provide technical resources to local gov't to		●	●	◑	●	●	●	Benefits following subject areas: Transportation, Land Use & Livability, Water Management, Economic Development, Climate Change Adaptation, Governance; Benefits the following Capitals: Human, Social, Natural, Built and Financial; Ability to be replicated in communities in multiple regions; consistent with Great Lakes Restoration Initiative and Wayne County All Hazard Multi-jurisdictional Mitigation Plan
Upgrade existing assets	Green Genesee Roadmap	Support the development of an interconnected, functional ecosystem by conducting an inventory and providing a science-based, community-based tool to optimize land use by understanding ecosystem components, environmental services, and functions, as well as goals for preservation, restoration, and enhancement of the ecological networks.	Genesee	X			unknown	N/A	Genesee County	Provide technical resource for land, water resource, tranportation, agriculture, forestry and climate chanage adaptation planning		●	●	●	●	●	◑	Benefits following subject areas: Transportation, Land Use & Livability, Water Management, Economic Development, Climate Change Adaptation, Governance; Benefits the following Capitals: Human, Social, Natural, Built and Financial; Ability to be replicated in communities in multiple regions; consistent with Genesee County Hazard Mitigtation Plan
Enhance mutual aid and support among neighboring communities, counties, and regions	Finger Lakes Climate Change Adaptation Leadership and Resilience Council	Provide a 12-month process that aligns regional stakeholders and yields a pragmatic and defined outcome for continuing research, education, and training on climate change adaptation.	All	X			$150K	NYSERDA Regional Greenhouse Gas Initiative	NYSERDA	Will result in a comprehensive “Climate Adaptation and Resilience Operating Plan” which the region will use to prepare for the future taking into consideration Climate Adaptation requirements of the region; will bring together regional stakeholders so that clear strategies, goals, and processes can be put into place which will enhance mutual aid and support among neighboring communities, counties, and regions to share, develop, and create capabilities, resources, and special assets toward Climate Adaptation requirements; will reduce the future risk of the region regarding responding to emergency events and/or longer-term shifts in the natural and social environment as impacted by Climate Change; will align its efforts with other mutual activities within the region		●	●	●	●	○	●	Benefits all subject areas; Benefits all Capitals; Ability to be replicated in communities in multiple regions
Upgrade existing assets	Plan Bv7	A sustainable approach to water level regulation in Lake Ontario and the St. Lawrence River that will take steps to restore the shoreline habitats of the lake and river.	Orleans, Monroe, Wayne		X		unknown	N/A				◑	◑	◑	●	◑	◑	Benefits following subject areas: Land Use & Livability, Water Management, Economic Development, Climate Change Adaptation, Governance; Benefits the following Capitals: Human, Natural, Built and Financial; benefits multiple communities in Orleans, Monroe, and Wayne Counties
Create self-sufficient "places of refuge"	Batavia Community Hydroelectric Microgrid	Provide renewable electricity to fire department and ice arena, creating a self-sufficient "place of refuge".	Genesee		X		unknown	N/A	City of Batavia	Potential to have both municipal facilities’ electricity needs fully self-sustaining on renewable electricity generated from the Tonawanda Creek, enhance the economic viability of the ice arena, and the potential to create a self-sufficient “place of refuge” as the ice arena’s occupancy is 480 people		◑	●	○	◑	◑	◑	Benefits following subject areas: Energy, Water Management, Economic Development, Climate Change Adaptation; Benefits the following Capitals: Human, Social, Natural, Built and Financial; consistent with Genesee County Comprehensive Plan
Enhance mutual aid and support among neighboring communities, counties, and regions	Resilient Communications and Emergency Response	Use Eco-IT and renewable energy systems tied to back-up power generation.	All	X			$2.5M	NYSERDA	NYSERDA	Tangible electric (kW) demand reduction, electricity (kWh) savings; Tangible electric and operating cost savings; Quantifiable impacts to infrastructure reliability and resilience; Deployment of NYS-based alternative, clean, and energy efficiency technologies which support regional economic growth and development		○	◑	●	◑	○	◑	Benefits following subject areas: Energy, Climate Change Adaptation, Governance; Benefits the following Capitals: Human, Built and Financial; Ability to be replicated in communities in multiple regions

Governance Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
GOVERNANCE - Encourage regional cooperation and coordination	Finger Lakes Regional Sustainability Plan	Undertake revisions to, and implement the recommendations, of the Finger Lakes Regional Sustainability plan on an ongoing basis.	All	X					NYSERDA, GTC, REDC, G/FLRPC			●	●	●	●	●	●	This project benefits all subject areas and all five capitals. It has the potential to benefit all counties, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with regional and local planning efforts. It can have low to medium order of magnitude costs (including capital projects), with lower life cycle costs over the long term. It also has potential to leverage other funding sources.
GOVERNANCE - Encourage regional cooperation and coordination	Finger Lakes Climate Change Adaptation Leadership and Resilience Council	This project is aimed at aligning regional leadership and resources toward research, education and training to solve local problems; and develop processes to identify and share critical resources.	All	X					NYSERDA			●	●	●	●	◑	●	This project benefits all subject areas and all five capitals. It has the potential to benefit all counties, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with regional and local planning effort, but not specifically mentioned. It can have low to medium order of magnitude costs, with lower life cycle costs over the long term. It also has potential to leverage other funding sources.
GOVERNANCE - Promote the development of local and regional sustainability initiatives to serve as a dynamic means of supporting the goals of the Regional Sustainability Plan across all subject areas	Town of Perry Comprehensive Planning Approach	In conjunction with the development of a Comprehensive Plan. the Town of Perry plans to develop an integrated Farmland Protection Plan and Energy Policy. The intent is to combine the inventory of existing conditions and assets to provide efficiency and ensure consistency across the three documents. By developing the three documents concurrently, the recommendations of the Farmland Protection Plan and Energy Policy can be incorporated into the Comprehensive Plan including strategies to protect agriculture (i.e. zoning districts, conservation easements, purchase of development rights) and support an energy policy (i.e. changes in Energy Conservation Code, NYS adoption of the Green LEED bill, adoption of the Green Construction Code of NYS, and the NYS Climate Smart Communities program).	All	X					Wyoming County, Town of Perry			◑	◑	○	●	◑	●	This strategy benefits energy, land use and livability, economic development, agriculture/forestry and governance. This project also benefits four of the five capitals and has the potential to benefit Wyoming County, and could be replicated in other areas. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with local planning efforts. It can have low to medium order of magnitude costs, with lower life cycle costs over the long term. It also has potential to leverage other funding sources.
GOVERNANCE - Promote the development of local and regional sustainability initiatives to serve as a dynamic means of supporting the goals of the Regional Sustainability Plan across all subject areas	Wayne County Lakeshore Management Project	This project will utilize LIDaR imaging and GIS analysis to identify areas most at risk of severe weather events. It will allow for the creation of climate adaption plans and enable municipalities to modify land use laws to incorporate climate change criteria for new development.	Wayne County	X					Wayne County			◑	◑	○	●	◑	●	This project benefits land use and livability, water management, climate change and governance. This project also benefits four of the five capitals and has the potential to benefit Wayne County, but could be replicated in other lakeshore counties. Implementation could be accomplished in a relatively short term (less than 10 years). This strategy is consistent with local planning efforts. It can have low to medium order of magnitude costs, with lower life cycle costs over the long term. It also has potential to leverage other funding sources.

Agriculture Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project: Short term (0 - 5 yrs)	Relative Time Frame of Project: Mid-term (6 - 10 yrs)	Relative Time Frame of Project: Long term (11-15 yrs)	Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria: Benefits Multiple Subject Areas	Evaluation Criteria: Benefits Multiple Capitals	Evaluation Criteria: Benefits Multiple Communities	Evaluation Criteria: Implementation Feasibility	Evaluation Criteria: Consistent with Planning Efforts	Evaluation Criteria: Financial Feasibility	Notes
Holistic Food System	Headwater Food Hub	The Headwater Food Hub will support the regional food system by managing supply chain logistics, aggregation, distribution, and sales of local, sustainable, source-identified foods from a network of partner farms, including their own, and from local food producers.	All	x			$1,035,000	Project manager's construction estimates	Headwater Foods	The Headwater Food Hub will support the viability of small to mid-sized farms by working in partnership with farmers to connect the region's agricultural products to the substantial market that exists locally and across the northeast. The operation of this carbon-neutral food processing facility is expected to create 15 new jobs.	Headwater Food Hub	●	●	●	●	●	●	Subject Areas: Economic Development, Transportation, Energy, Land Use, Waste, Ag/Forestry, Climate Change, GHG Emissions Capitals: Human, Social, Natural, Built, Financial Communities: Many counties will benefit from the agricultural market and food system advantages produced by the Food Hub Implementation Feasibility: Established support network in food hub partners Planning Efforts: Consistent with overall goals of many ag-related plans in region at state and local level Financial Feasibility: Existing Project
Bio-energy Production	Seneca AgBio Green Energy Park	Agricultural and Renewable Energy Program with projects including grape waste processing, grapeseed oil production, and biodiesel production. Project currently delayed.	Seneca	x			$8,000,000	FLREDC 2012 Progress Report	Seneca BioEnergy	Four companies within the Seneca AgBio Green Energy Park are investing $8 million for redevelopment of site infrastructure, equipment purchases, pilot scale technology development, agricultural contracts fulfillment, and commercial operations of their green energy and environmental technologies for biodiesel and biomaterials production and biomass processing.	Seneca BioEnergy	●	●	●	●	●	●	Subject Areas: Ag/Forestry, Energy, Waste, Economic Development, Transportation, Climate Change, GHG Capitals: Human, Social, Natural, Financial, Buitl Communities: All counties could recieve direct or indirect benefits Implementation Feasibility: Existing Project Planning Efforts: Called for in FLREDC Economic Development Plan as a Priority Project, consistent with goals of many regional documents Financial Feasibility: Existing Project
Outreach and Communication	Annual Decision-Maker's Tour of Agriculture in Livingston County	Local planning and zoning officials earn educational credits for participating in an annual tour of agriculture within Livingston County.	Livingston	x					Livingston County Planning Department	The goal of the annual tour is to educate decision-makers and leaders in Livingston County as to the community benefits and challenges of the local agricultural sector and enhance the community connections between decision-makers and farm operators.	Livingston County Planning Department	◐	◐	●	●	●	●	Subject Areas: Ag/Forestry, Economic Development, Land Use, Governance Capitals: Natural, Built, Social, Human Communities: All communities can benefit Implementation Feasibility: techniques already in use Planning Efforts: Consistent with overall planning goals of many plans Financial Feasibility: Existing Project
Holistic Food System	Finger Lakes Food Processing Cluster Initiative	Leveraging the Jobs and Innovation Accelorator Grant from US Economic Development Agency and SBA and NYS to support this coordinated initiative that provides assistance, training, and collaborative partnerships. Project is underway.	All	x			Undetermined ($1.9 million in funding dedicated to date)	FLREDC 2012 Progress Report	RIT, Monroe and Genesee Community Colleges, others	The Food Processing Cluster Initiative aims to implement sustainable manufacturing process technologies to minimize environmental impacts and open market opportunities.	Partnership between educational institutions and private sector	◐	◐	●	●	●	●	Subject Areas: Economic Development, Ag/Forestry, Climate change, GHG Capitals: Human, Social, Financial Communities: Many counties will benefit from this project Implementation Feasibility: Project is underway Planning Efforts: Consistent with multiple economic development plans Financial Feasibility: Existing Project
Workforce Development	Finger Lakes Community College Viticulture and Wine Technology Facility	Helping to meet demands for skilled workers in region's vineyards. $3.3 million included in state budget to construct classroom, lab, teaching winery facilities. Construction Underway anticipated completion fall 2013.	All	x			$3,300,000	FLREDC 2012 Progress Report	Finger Lakes Community College	The Finger Lakes Community College (FLCC) Viticulture andWine Technology Facility will help meet the urgent and growing demands for skilled workers by the region's vineyards.		◐	◐	●	●	●	●	Subject Areas: Economic Development, Ag/Forestry, Land Use, Waste, Energy Capitals: Human, Financial, Built Communities: All counties could see direct or indirect benefits from this investment Implementation Feasibility: Existing Project Planning Efforts: Called for by FLREDC and consistent with goals of other regional planning documents Financial Feasibility: Existing Project

Agriculture Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Outreach and Communication	Agricultural Events	Support regional agricultural initiatives such as the Wyoming County Dairy Institute, Agri-Palooza, and Celebrate-Ag (taken from G/FLRPC's 2012 CEDS)	All	x			Undetermined		G/FLRPC	Makes funding available for assorted agricultural ventures addressing a variety of specific issues	G/FLRPC	◐	◐	●	●	●	●	Subject Areas: Economic Development, Ag/Forestry, Land Use/Livable Communities, Materials/Waste Management Capitals: Social, Human, Natural, Financial Communities: All communities have potential ot benefit if they have or start one of these initiatives Implementation Feasibility: Support networks already in place for existing events Planning Efforts: Consistent with G/FLRPC 2012 CEDS Financial Feasibility: Establshed sources for existing initatives,
Holistic Food System	Finger Lakes Enterprise Fund (PathStone)	Loans with flexible terms to support main street businesses and value added agriculture	All	x			$4,175,000	FLREDC 2012 Progress Report	PathStone Corporation	PathStone will invest a total of $3.3 million over a three-year period and is committed to providing at least 33 percent of total support from the fund to minority-and women-owned businesses. PathStone estimates that this activity will create and retain 284 jobs.	PathStone Corporation	◐	◐	●	●	●	●	Subject Areas: Economic Development, Ag/Forestry, Land Use, Transportation Capitals: Social, Human, Built, Financial Communities: All counties could see direct or indirect benefits Implementation Feasibility: Existing Project Planning Efforts: Consistent with goals of REDC, which reflect many regional planning documents Financial Feasibility: Existing Project
Holistic Food System	Foodlink Food Hub Expansion	Funding to expand facilities	All	x			Undetermined	FLREDC 2012 Progress Report	Foodlink	This project allows FoodLink to increase the size and capacity of its food storage, processing, and distribution facilities to accommodate increasing demand to supply food to hospitals, schools, corner stores, and the emergency food network in the Finger Lakes region.	Foodlink regional food bank	◐	◐	●	●	●	●	Subject Areas: Ag/Forestry, Economic Development, Transportation, Energy Capitals: Social, Human, Natural, Built Communities: All communities could benefit directly or indirectly from this investment Implementation Feasibility: Existing Project Planning Efforts: Called for in FLREDC Economic Development Plan and Consistent with overall goals of many regional planning documents Financial Feasibility: Existing Project
Outreach and Communication	Dairy Profit Teams	NYFVI grant helped fund pilot program where dairy farmers get one-on-one attention with a group of industry consultants in all different areas to help efficiently and cooperatively offer solutions tailored to individual issues	All	x			Undetermined		NYFVI	Allows farmer to access many sources of information regarding profitability and sustainability in one sitting, increasing efficiency	New York Farm Viability Institute's funded projects	◐	◐	●	●	●	●	Subject Areas: Economic Development, Ag/Forestry, Transportation, Climate Change, GHG, Energy Capitals: Natural, Human, Social Communities: All counties could potentially benefit from this type of investmment, directly or indirectly Implementation Feasibility: Existing Project Planning Efforts: Consistent with goals of NYFVI and overall goals of other regional documents Financial Feasibility: Existing Project
Holistic Food System	Precision Feeding Initative	NYFVI grant helped fund pilot project involving measurement and analysis of fertilizer inputs to find innefficiencies	All	x			Undetermined		NYFVI	Reduces feed waste and unnecessary environmental harm from maure nutrient runoff	New York Farm Viability Institute's funded projects	◐	◐	●	●	●	●	Subject Areas: Economic Development, Ag/Forestry, Transportation, Climate Change, GHG, Energy Capitals: Natural, Human, Communities: All counties could potentially benefit from this type of investmment, directly or indirectly Implementation Feasibility: Existing Project Planning Efforts: Consistent with goals of NYFVI and overall goals of other regional documents Financial Feasibility: Existing Project

Agriculture Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project: Short term (0 - 5 yrs)	Relative Time Frame of Project: Mid-term (6 - 10 yrs)	Relative Time Frame of Project: Long term (11-15 yrs)	Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria: Benefits Multiple Subject Areas	Evaluation Criteria: Benefits Multiple Capitals	Evaluation Criteria: Benefits Multiple Communities	Evaluation Criteria: Implementation Feasibility	Evaluation Criteria: Consistent with Planning Efforts	Evaluation Criteria: Financial Feasibility	Notes
Holistic Food System	Rochester Public Market Planned Expansion	$10 Million planned expansion	Monroe	x			$10,000,000	FLREDC 2012 Progress Report	City of Rochester	The City of Rochester has recently completed a master plan for the expansion of its nationally-recognized Public Market. The $10 million in enhancements will further develop this unique asset as a destination, while strengthening its connections with the region's farmers and small businesses.	Rochester Public Market	◐	◐	●	●	●	●	Subject Areas: Ag/Forestry, Economic Development, Land Use, Climate Change, Capitals: Natural, Human, Built, Financial Communities: All Counties have the potential ot benefit directly or indirectly Implementation Feasibility: Existing Project Planning Efforts: Called for in FLREDC Plan and consistent with goals of many regional planning documents Financial Feasibility: Existing Project
Bio-energy Production	Farm Energy Sustainability Plans	Energy analysts and farm service providers review loads, timing, motor efficiencies, lighting and fuel use to find demand efficiencies. Plans may also review potential for on-site renewable energy production, including biogas, wind, solar, and biofuels.	All	x					Private consultants, USDA/NRCS Technical Service Providers, Utility services	Increase farm energy efficiency, decrease overall farm energy demand, and increase on-site power generation.	Existing efforts on behalf of consultants, service providers, and utilities	◐	◐	●	◑	●	●	Subject Areas: Waste, Economic Development, Ag/Forestry, Energy Capitals: Natural, Human, Built Communities: All counties could benefit from these plans Implementation Feasibility: Established support network Planning Efforts: Conistent with overall planning goals of REDC, which reflect many regional planning documents Financial Feasibility: Low Start-up cost
Outreach and Communication	Conference Sessions	Continue efforts to educate economic development stakeholders on agricultural issues through sessions at the Local Government Workshop	All	x			Undetermined		G/FLRPC	Increases awareness of agricultural issues among local government decsion-makers	G/FLRPC	○	◑	●	●	●	●	Subject Areas: Ag/Forestry, Economic Development, Governance Capitals: Natural, Built, Social, Human Communities: All communities can benefit Implementation Feasibility: techniques already in use Planning Efforts: Consistent with overall planning goals of many plans Financial Feasibility: low initial cost, could see benefits starting after first workshop
Holistic Food System	Finger Lakes Regional Milk Production Growth Incentive Program	Project will help local farmers meet growing milk demands of yogurt sector by addressing capital needs of dairy operations looking to expand	Genesee	x			Undetermined ($5 million in pending funding)	FLREDC 2012 Progress Report	Farm Credit East	This program will strengthen rural communities and help local dairy farmers meet the milk demands of the state's rapidly growing yogurt manufacturing sector – two new plants in Genesee County alone will double the region's milk processing capacity.	Farm Credit East	○	◑	●	●	●	●	Subject Areas: Ag/Forestry, Economic Development Capitals: Financial, Built, Human Communities: Protential for direct/indirect benefits in all counties Implementation Feasibility: Exisitng project Planning Efforts: Called for by FLREDC and consistent with multiple regional documents Financial Feasibility: Existing project
Holistic Food System	Value Added Direct to Market Grants Program	Pending funding, project will assist estimated 40 farms pursue value added/direct to market strategies. Provides funding for farmers to build new structures, buy equipment, renovate buildings, and access working capital.	All	x			Undetermined	FLREDC 2012 Progress Report	Farm Credit East	The Value Added Direct to Market Grants Program will provide funding that enables farms to build new structures, buy equipment, renovate buildings, and access working capital. Pending funding approval, the project will assist an estimated 40 farms to pursue value-added or direct-to-market strategies.	Farm Credit East	○	◑	●	●	●	●	Subject Areas: Ag/Forestry, Economic Development, Land Use Capitals: Financial, Built, Human Communities: All communities could see direct/indirect benefits Implementation Feasibility: Existing Project Planning Efforts: Called for by FLREDC and many regional agricultural development documents Financial Feasibility: Existing Project

Agriculture Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Holistic Food System	Muller Quaker Yogurt Plant	New large yogurt plant in Genesee County supported by $13 Million in State Tax Credits.	Genesee	x			$208,000,000	FLREDC 2012 Progress Report	PepsiCo / Theo Muller Group	Muller Quaker is a joint venture between PepsiCo and the Theo Muller Group to create one of the country's largest yogurt manufacturing plants in Genesee County. At full build-out, the project will create 800 jobs.	PepsiCo and Theo Muller Group	○	◐	●	●	●	●	Subject Areas: Ag/Forestry, Economic Development Capitals: Built, Financial, Human Communities: All communities could benefit directly or indirectly from the jobs and new dmand created by the new plant Implementation Feasibility: Existing Project Planning Efforts: Called for in FLREDC Economic Development Plan and consistent with overall goals of many regional planning documents Financial Feasibility: Existing Project
Commercialization Partners	Finger Lakes Regional Sustainable Packaging Project	Project working with companies on sustainable packaging at RIT. CFA submittied in 2012	All	x			Undetermined	FLREDC 2012 Progress Report	RIT Finger Lakes Sustainable Packaging Project	RIT's Finger Lakes Regional Sustainable Packaging Project will establish the region as an innovator and leader in the rapidly growing field of sustainable packaging. This project will open up new markets for the food processors in the region.	RIT	◐	◐	●	◑	●	●	Subject Areas: Ag/Forestry, Economic Development, Materials/Waste, Energy Capitals: Human, Financial, Natural, Social Communities: All communities could see direct or indirect benefits Implementation Feasibility: Existing Project Planning Efforts: Consistent with FLREDC Economic Development plan and consistent with other regional documents Financial Feasibility: Existing Project
Sector-scale diversity	Finger Lakes Small Business Expansion Fund	Creation of a $1.15 million investmest pool targeting seven companies in identified key industries (including the Once Again Nut Butter processing facility) geographically distributed throughout region	All	x			$3,500,000	FLREDC 2012 Progress Report	Once Again Nut Butter	This project will enable the Once Again Nut Butter company to acquire 10 acres of land in downtown Nunda and build a 40,000 square foot, high-speed automated peanut butter processing facility.		○	◐	●	●	●	●	Subject Areas: Ag/Forestry, Economic Development Capitals: Human, Natural, Financial Communities: All Counties could see direct/indirect benefits of these investments Implementation Feasibility: Existing Project Planning Efforts: Called for in FLREDC Economic Development Plan and consistent with overall goals of many regional planning documents Financial Feasibility: Existing Project

Forestry Projects

Broad Strategy	Representative Specific Project	Project Description	Project Applies to which County(ies)	Relative Time Frame of Project			Project Cost	Costs Source (how was it determined)	Agency, Company, Organization Responsible for Project	Anticipated Benefits	If Existing Project, what is it related to or derived from	Evaluation Criteria						Notes
				Short term (0 - 5 yrs)	Mid-term (6 - 10 yrs)	Long term (11-15 yrs)						Benefits Multiple Subject Areas	Benefits Multiple Capitals	Benefits Multiple Communities	Implementation Feasibility	Consistent with Planning Efforts	Financial Feasibility	
Outreach and Education	EQIP Program	Continue to support participation in NYSDEC Environmental Quality Incentives Program (EQIP) Forestry Inititative	All	x			Undetermined		NYSDEC/NRCS in conjunction with County Soil and Water Conservation Districts	Encourage action by landowners to combat pressing environmental issues on forestland through direct funding, and encourage development of forest stewardship plans (required for application into program)	Existing NYSDEC/NRCS Partnership	◐	◐	●	●	●	●	Subject Areas: Energy, Water, Ag/Forestry, Climate Change, GHG Emissions Capitals: Human, Natural,Social, Financial Communities: All Counties Implementation Feasibility: Program already exists Planning Efforts: NYSDEC Forest Resources Assessment and Strategy, and general consensus of advantages of sustainable forest management Financial Feasibility:Established funding currently
Ecological Services Valuation	Finger Lakes Green Network Initiative (modeled after Green Genesee Road Map pilot project)	This effort includes community workshops, planning sessions and development of a publicly-accessible database to support current and future sustainable land use decisions along with implementation of priority strategies at the municipal level. Intent is to replicate existing Genesee County project to other counties.	All	x			$2,500,000	Project manager's estimate	New York Green	Re-establishment, rehabilitation, and protection of forest habitat, including blocks and connecting corridors, would lead to more mature forests, increased biodiversity of wildlife and bird species, and increased biomass in live trees. Active adaptive management of ecological networks would also result in reduced invasive species on the landscape.	New York Green's "Green Genesee Road Map" project	●	●	●	◑	●	◑	Subject Areas: Energy, Transportation, Land Use, Water, Economic Development, Ag/Forestry, Climate Change, Governance Capitals: Human, Natural,Social, Built, Financial Communities: All Counties Implementation Feasibility: Pilot program in existence Planning Efforts: Consistent with overall goals of many plans in region at state and local level Financial Feasibility: Pilot project underway, long-term funding availability unknown
Inventory, monitor and educate to create a better understanding of the region's water resources.	Wayne County Comprehenisve Shoreline Management Project	Elevation site assessment and tisk analysis of built environment and development of cost estimates for repairing and relocating facilities. Will serve as the basis to modify comprehenisve plans	Wayne	x			$300,000	Grant submission - Great Lakes Restoration Initiative	Wayne County	Plan for climate change, improve water management, provide technical resources to local gov't to		●	●	◑	●	●	●	Benefits following subject areas: Transportation, Land Use & Livability, Water Management, Economic Development, Climate Change Adaptation, Governance; Benefits the following Capitals: Human, Social, Natural, Built and Financial; Ability to be replicated in communities in multiple regions; consistent with Great Lakes Restoration Initiative and Wayne County All Hazard Multi-jurisdictional Mitigation Plan