

**Audubon New York - National Wildlife Federation - Natural Resources Defense Council
The Nature Conservancy in NY - Wildlife Conservation Society**

August 10, 2018

Alicia Barton, President & CEO
New York State Energy Research and Development Authority
17 Columbia Circle
Albany, New York 12203-6399

RE: RFI OSW-2018 Comments – Large Scale Renewables Team

Dear Ms. Barton:

As science-based conservation organizations that participate on the Environmental Technical Working Group (E-TWG) for offshore wind convened by the New York State Energy Research and Development Authority (NYSERDA), we appreciate the continued opportunity to engage in the process to achieve New York's ambitious renewable energy goals. We recognize that the procurement process for Offshore Wind Renewable Energy Credits presents an important opportunity for New York to ensure that the state's priorities are fully considered as offshore wind energy is developed and that selected projects contain the necessary environmental safeguards to allow for a smooth and expedient review process.

The Procurement Order issued by the Public Service Commission includes a number of directives for NYSERDA on environmental issues, particularly with respect to potential fisheries impacts, and a great deal of discretion on how best to incorporate what we view as necessary actions to ensure that offshore wind is developed in a manner that protects our treasured and valuable coastal and marine wildlife. With this in mind, we offer the following recommendations for how NYSERDA can move forward from here and finalize a procurement process that can position New York as the leader in advancing the responsible development of offshore wind projects at this pivotal moment in America's offshore wind story.

When reviewing offshore wind project proposals, we strongly recommend that NYSERDA utilize the mitigation hierarchy approach, which is broadly viewed as best practice for balancing conservation needs and development priorities. It involves a sequence of actions to anticipate and *avoid* impacts on biodiversity and ecosystem services; and where avoidance is not possible, *minimize*; and when impacts occur, rehabilitate or *restore*; and where significant residual impacts remain, *offset*.¹ Critical to the success of the mitigation hierarchy is managing at an ecoregional scale to proactively identify potential

¹ As defined by the Cross Sector Biodiversity Initiative (2013). "Framework for Guidance on Operationalizing the Biodiversity Mitigation Hierarchy," December 2013. Available at: <http://www.csbi.org.uk/wp-content/uploads/2017/10/Mitigation-Hierarchy-Executive-summary-and-Overview.pdf>

tradeoffs and understand cumulative impacts. The mitigation hierarchy has been cited by the Bureau of Ocean Energy Management (BOEM) as a useful tool for structuring the development of best management practices (BMPs) for offshore wind,² and we strongly recommend NYSERDA follow the same approach to help ensure that all projects built to meet New York's offshore wind goal are developed responsibly with strong protections in place for coastal and marine wildlife.

Following are responses to key questions (30: Project Viability, 31: Setbacks, 32: Environmental Concerns/BMPs, 33: Data Availability, 36: Additional Eligibility Requirements) from the RFI that pertain to environmental considerations in the procurement process, with a specific focus on what information should be provided to NYSERDA in each bid application.

In its authority as the entity that will select projects for offshore wind contracts with New York State, we urge NYSERDA to require bidders to provide comprehensive information regarding the status of their plans to secure all required federal, state and local permits, including an analysis of potential impacts to the environment from the development of their project and their plans to mitigate them. This information is essential for NYSERDA to assess the project's viability in light of the many permit review processes ahead. Strong environmental review, following science-based criteria, is essential for minimizing risks of litigation and costly project delays.

Notably, the PSC order contains a directive to NYSERDA to require bidders to submit a Fisheries Mitigation Plan and includes language providing NYSERDA with the necessary discretion to incorporate a parallel requirement for marine wildlife and habitat mitigation plans. To achieve this, we recommend that NYSERDA require all bidders to carry out an environmental impact analysis and submit an Environmental Mitigation Plan outlining the steps that will be taken to avoid, minimize, and/or offset potential environmental impacts from the design, construction, operations, and decommissioning of the project. Establishing such a process would create a national model for state leadership in advancing environmentally responsible offshore wind development and minimize potential challenges to offshore wind development in New York in the subsequent permitting processes. It is critical that impact analysis and mitigation plans be applied starting in Phase 1 and continuing forward for all projects built for New York, including inclusion of additional BMPs that may be developed for incorporation in Phase 2.

A number of potential impacts to marine life resulting from offshore wind development have already been identified by scientists and other experts, as have existing, practicable solutions to address those impacts. It is imperative that NYSERDA acknowledge and apply this information in the development and subsequent evaluation of an Environmental Mitigation Plan. We acknowledge that there is also a great deal of uncertainty around how species respond to offshore wind construction and operation. To that end, it is critical that NYSERDA also establish mechanisms for monitoring and data collection, and require that developers share data to ensure that impacts are fully examined and mitigated moving forward.

² Bureau of Ocean Energy Management. "Summary report: Best management practices workshop for Atlantic offshore wind facilities and marine protected species." OCS Study BOEM 2018-015. Available at: <https://www.boem.gov/Final-Summary-Report-for-BMP-Workshop-BOEM/>

The Environmental Mitigation Plan developed for Phase 1 can subsequently evolve over time to include compliance with the BMPs being actively developed through NYSERDA's E-TWG, as they are finalized and announced, and to ensure the Plan reflects the best available data as well as technical advancements in offshore wind practices and monitoring technologies. As members of the E-TWG, we stand ready to support this process and look forward to working in partnership with scientific experts, state and federal officials, and industry participants to achieve this goal.

We recommend the Environmental Mitigation Plan required for Phase 1 include a thorough environmental characterization of the proposed project site and cable routes—including potential environmental impacts during all phases of development—and a detailed plan to avoid, minimize, and/or offset impacts to coastal and marine ecosystems and wildlife, including but not limited to marine mammal, bird, turtle, and fish populations. Specific attention must be paid to protection of state or federally listed species, given both the critical conservation needs of these species and the significant legal protections afforded to them, as well as species protected under the Migratory Bird Treaty Act, which would be consistent with the Memorandum of Understanding BOEM signed with the U.S. Fish and Wildlife Service in 2009 to protect migratory birds. These plans should draw upon best available data and robust input from scientific experts and stakeholders.

Following is an outline of key components we believe should be included in a robust Environmental Mitigation Plan, as well as examples of principles NYSERDA should look for in reviewing project proposals. Additionally, where possible we have provided recommendations of specific science-based actions or practices NYSERDA could readily include in its Phase 1 procurement solicitation in advance of completing more comprehensive BMPs for subsequent procurements.

Key components of a comprehensive Environmental Mitigation Plan include:

(1) Siting

Siting and development decisions should carefully consider the risks and the mitigation measures necessary to conserve the ecological integrity of prospective development areas. Multiple sites should be evaluated and selected on the basis that they avoid obvious ecological conflicts at the very outset. Projects should avoid impacts to highly sensitive marine and coastal resources to the maximum extent practicable, taking into account considerations such as existing technology, available science, costs relative to ecological benefits, the likelihood of success, and long-term sustainability of our coastal and marine resources.

Recommendation: Avoid important avian habitat areas

The coastal zone has been identified as an important area for many stages of the avian life cycle, including nesting, foraging, and migration – particularly for several protected shorebird species such as the Red Knot, Roseate Tern, and others. Research suggests that avoiding areas that are known to be important, for example, moving projects further offshore (outside of state waters of the mainland at

minimum) and avoiding known critical migratory routes and important foraging areas could significantly reduce potential avian conflicts.

(2) Project Design & Operations

For some species, project design and operations protocols can be used to avoid or minimize potential impacts during offshore wind construction and, over the longer-term, operations. There are several approaches and available technologies to mitigate potential impacts to marine life during all phases of development, including, but not limited to, (a) noise reduction and (b) comprehensive monitoring during site assessment and construction activities, (c) dynamic protocols during operations, and (d) vessel collision risk reduction throughout the lifetime of the project.

Recommendation: Lighting restrictions for birds

Some bird species may be attracted to the lights on offshore wind turbines, increasing the risk of collision. Design solutions include eliminating light sources wherever possible, altering intensities and colors of blinking lights rather than constant, and extinguishing lights in periods of exceptionally hazardous flight conditions.

Recommendation: Underwater noise reduction and attenuation

Noise generated during site assessment and characterization and construction of offshore wind projects has been identified as a major potential stressor to marine mammals, and may also affect other marine life, including fish. The most effective means of mitigating the impacts of noise on marine life during construction activities is to employ foundation types that eliminate or reduce noise during construction. There are also a number of mitigation technologies developers can employ to attenuate the noise generated during pile driving, for example, bubble curtains, AdBm technology, etc. Preference should be afforded to technologies proven to provide the greatest levels of noise reduction (in dB) that are commercially available and practicable for the wind project site. New installation methods that reduce the sound at the source during pile driving are also emerging (e.g., Blue Piling).

Recommendation: Vessel speed restrictions and monitoring measures for whales and sea turtles

Vessel strikes are considered one of the main causes of sea turtle mortality in the New York Bight and are also a primary driver of mortality for large whales. Collision risk is greatest when vessels travel at speeds greater than 10 knots and even small vessels (<65 ft.) are capable of causing significant harm. A vessel speed restriction of 10 knots should be required for all vessels associated with offshore wind development at times of greatest density of vulnerable whales and sea turtles. Developers should also indicate intent to research and develop less-impactful vessel designs and monitoring technologies to further reduce the risk of vessel collision-related mortality and serious injury.

(3) Project Construction Plan

One of the most effective ways to avoid or minimize potential impacts to marine life is to avoid undertaking certain offshore wind construction activities during times when vulnerable populations are

present in the area in high densities, or are performing important life history behaviors, such as feeding or breeding. To enable the accurate assessment of potential impacts to marine life from a specific project, bidders must include a construction schedule as part of their Environmental Mitigation Plan.

Recommendation: Seasonal restrictions to protect North Atlantic right whales

Construction activities and geophysical surveys with noise levels that could cause injury or harassment in marine mammals must not occur during periods of highest risk to North Atlantic right whales, defined as times of highest relative density of animals during their migration, and times when mother-calf pairs, pregnant females, aggregations of three or more whales (including surface active groups; indicative of feeding or social behavior), or entangled animals, are, or are expected to be, present, as supported by best available science. Additionally, the dynamic adjustment of construction schedules, including no construction for a certain period time after a North Atlantic right whale detection has occurred, should be considered. While existing and potential stressors to the right whale must be minimized as far as possible to enable any chance of the recovery of the species, it is also incumbent upon NYSERDA to address potential impacts to other species, including endangered fin whales and blue whales, and protected humpback whales, which are all experiencing prolonged seasonal occurrence in the New York Bight, and particularly in light of the unusual mortality events declared for right whales, humpback whales and minke whales.

Recommendation: Combined visual and passive acoustic monitoring for large whales

The effectiveness of any exclusion zone (for example, to mitigate the potential impacts of noise on marine mammals during surveys or construction) depends entirely on the developer's ability to effectively monitor that area for the presence of species of concern. A comprehensive monitoring plan is required to maximize the likelihood that species will be detected. Science shows that the likelihood of visually detecting even the most conspicuous large whale species is significantly reduced with increasing sea state. Moreover, detectability of marine mammals is highly dependent on the species and behavior. To maximize the probability of detection of large whales, including North Atlantic right whales, comprehensive exclusion zone monitoring is essential. At minimum, a combination of certified Protected Species Observers ("PSOs") and passive acoustic monitoring ("PAM") should be required at all times. Staffing and shift-schedules should allow for each PSO to monitor a maximum of 180° during daylight hours. Aerial surveys may also provide a useful supplement to increase detection probability particularly for considering broader areas beyond the construction site. At night, a combination of night-vision, thermal imaging, and PAM should be used.

(4) Data Collection Requirements

NYSERDA should require developers to commit to conducting robust and coordinated baseline scientific research (*i.e.*, pre-construction) and long-term monitoring of their lease areas to advance understanding of the effects of offshore wind development on marine life. Long-term monitoring will help determine if there are negative impacts to identified species and if adjustments should be made in offshore wind development to avoid, minimize, and/or offset impacts. Science should be conducted in a collaborative and transparent manner, utilizing recognized marine experts, engaging relevant stakeholders, and

making results publicly available. Developers should coordinate with state and regional scientific efforts to ensure results from individual lease areas can be interpreted within a regional context and contribute to the generation of regional-scale data, which is required to address questions related to population-level change and cumulative impacts across the geographic range of migratory species, such as the North Atlantic right whale and Roseate Tern.

Recommendation: Require collection of publicly available baseline and long-term monitoring data. Baseline data collection plans should include:

- Presence and localized abundance of key species (*i.e.*, marine mammals, with a focus on the North Atlantic right whale, sea turtles, seabirds, shorebirds, fish, bats, and benthic organisms, among others) in the proposed or potential lease areas and energy transmission infrastructure areas. Data should be collected at spatial scales appropriate to the size of the lease area and capable of assessing the ecology of key species and broader oceanographic influences, and at temporal scales capable of capturing seasonal or inter-annual variability.
- The physical characteristics and community composition of the sea floor in proposed or potential lease areas, including rates of community turnover, so that environmental changes resulting from foundations and/or anchoring can be assessed.

Long-term monitoring data collection plans should include:

- Using the baseline data and existing data portals to identify key species for long-term monitoring, identify trends that point to population impacts, and understand behavioral changes, such as avoidance of offshore wind development and associated infrastructure.

(5) Mitigation & Offset Initiatives

After efforts have been made to avoid and minimize environmental impacts from an offshore wind project to the maximum extent practicable, strategies to offset remaining residual impacts should be explored. We acknowledge that there is currently no existing structure for offsets in the context of offshore wind energy development and the feasibility of this approach requires further examination. In places where mitigation structures have been successful, they have adhered the following principles:

- Decisions about the appropriate amount and type of compensation are based on an understanding of the conservation needs at an ecoregional scale;
- **Additionality:** Offsets should provide a new contribution to conservation, additional to what would have occurred without the offset;
- **Equivalence:** Offsets should provide ecologically equivalent – in amount and type – as those lost to project impacts;
- **Location:** Offset benefits should accrue in the project-affected region; and
- **Durability:** Offsets should be durable.

Following are responses to key questions (33, 34) from the RFI that pertain to environmental research with a specific focus on the collection of publicly available data to guide stakeholder and regulator decision making.

As detailed above, ongoing research, data collection and monitoring should be key components of a successful bid and an ongoing priority for NYSERDA. As critical is the availability of that data to academic institutions, non-governmental organizations, regulators and the public at large. To the extent practical, we encourage as much transparency and data sharing for information collected through the procurement and permit process as possible. At a minimum, baseline data and monitoring information must be made public, as well as any information that contributes to an understanding of impacts from offshore wind development including construction and operation.

As part of the Clean Energy Investment Plan, NYSERDA, in concert with neighboring states and ongoing regional efforts, should invest in maintaining and analyzing this data. The developers may be best suited in some instances to collect and provide the data, however, it should be NYSERDA's responsibility to fund the necessary research, staff, and database-maintenance to evaluate impacts. Additionally, while we can anticipate some impacts, there is still some uncertainty as to what, if any, impacts may occur as we make progress on achieving New York's aggressive offshore wind goals. The Environmental Research Program Clean Energy Investment Plan should include funding to better understand those impacts, with special attention to marine mammal, sea turtle, bird monitoring and fisheries interactions. We encourage a \$5-7 million fund that could come from multiple funding streams, including from developers and other science based research programs.

Thank you for the opportunity to provide comments on the Offshore Wind Renewable Energy Credits Request for Information. We look forward to working together in the months and years ahead on these important issues, and would be happy to provide any additional information on our recommendations. We strongly support New York State's bold leadership to shape offshore wind energy development in a manner that protects our valuable coastal and marine wildlife, while moving forward at a pace and scale with a critical climate change solution.

Sincerely,

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