



Clean Ocean Action  
49 Avenel Blvd.  
Long Branch, NJ 07740  
[Info@cleanoceanaction.org](mailto:Info@cleanoceanaction.org)  
732-872-0111

July 26, 2021

Michelle Morin, Program Manager  
Office of Renewable Energy Programs  
Bureau of Ocean Energy Management  
45600 Woodland Road  
Sterling, Virginia, 20166

*Submitted Electronically*

**Re: Bureau of Ocean Energy Management Notice of Intent to Prepare an Environmental Impact Statement for Empire Offshore Wind, LLC's Proposed Wind Energy Facilities Offshore New York [Docket No. BOEM-2021-0038]**

Dear Ms. Morin,

Clean Ocean Action (COA) is a regional, broad-based coalition of conservation, environmental, fishing, boating, diving, student, surfing, women's, business, civic and community groups with a mission to protect and enhance the degraded water quality of the marine waters off the New Jersey/New York coast. We submit the following comments on the Bureau of Ocean Energy Management's (BOEM) Notice of Intent to Prepare an Environmental Impact Statement (EIS) for Empire Offshore Wind, LLC's Proposed Wind Energy Facilities Offshore New York [Docket No. BOEM-2021-0038].

**COA supports responsible and reasonable offshore wind energy development; this includes operation, management, and decommissioning, as well as the associated onshore infrastructure.** However, the NY/NJ coast now faces multiple large-scale proposed commercial offshore wind projects, without the benefit of any prior pilot or full-scale project in this environmentally sensitive, highly utilized and widely treasured area of the Mid-Atlantic. We are further without the benefit of current and comprehensive baseline data for the diverse marine life that presently live, frequent, and visit the area. Accordingly, this EIS process is absolutely critical to the legitimacy of such development.

In all, there are four large-scale commercial offshore wind energy projects, including Empire Wind, totaling over 420,000 acres of shore habitat in various stages of development off

in the NY/NJ Bight, and in addition, over 800,000 acres more currently being leased by BOEM<sup>1</sup>. Given the scope and magnitude of this infrastructure, both on- and offshore, it is imperative that each project be environmentally responsible, and the cumulative impacts considered and first avoided, then minimized, and if unavoidable, mitigated. As this new industrial development has been initiated, cultivated, and promoted, proponents – especially state and federal leaders – are committed to moving forward responsibly.

The purposes of National Environmental Policy Act (NEPA) are

*to declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation.*<sup>2</sup>

As these offshore wind projects are now moving forward, now is the time for meaningful commitments to meet that standard. In this context, COA submits the following comments on the NOI for an EIS for the Empire Wind offshore wind energy projects.

Overall, COA has concerns about the scope and magnitude of the totality of projects and proposals currently moving rapidly forward in the NY/NJ Bight, especially with the dearth of science available about the impacts to the physical environment, benthos, fisheries, mammals, bird, and bats. BOEM's process is woefully inadequate and fails to fully recognize the massive impact of all this industrialization in the Atlantic Ocean. The ecosystem is interconnected and fluid and all projects in the Atlantic from the North to the South Atlantic Planning Areas will impact marine life and waters that are shared within the ecosystem.

Indeed, recent studies and agency letters underscore that BOEM has not conducted the biological and ecological assessments needed to determine the effects and impacts of the extensive development. As such, BOEM will be unable to appropriately evaluate the individual projects much less the cumulative effects or harm. This is also true in individual planning areas. For example:

- New York State Environmental and Technical Working Group recently released a report that is the culmination of over 200 scientists considering the state of science in seven areas (environmental change, fisheries and mobile invertebrates, bats, birds, sea turtles, marine mammals, and benthos). These impressive assessments make clear that there is a lack of comprehensive science to determine the effects and impacts. Thus, it is premature for EIS' for individual projects, including Empire Wind 1 & 2. The result will be the damage will be done too late to avoid, reduce or mitigate the harm.<sup>3</sup>
- The National Oceanic and Atmospheric Administration (NOAA) and National Marine Fisheries Service (NMFS) are charged under the Magnuson-Stevens Fishery Conservation and Management Act to protect important habitats of federally

---

<sup>1</sup> Bureau of Ocean Energy Management website, New York Bight Lease Areas Proposed sales, *available at* <https://www.boem.gov/renewable-energy/state-activities/nybightoverviewmap>.

<sup>2</sup> 42 U.S.C. § 4321.

<sup>3</sup> State of the Science Workgroups, State of the Science Workshop on Wildlife and Offshore Wind Energy 2020: Cumulative Impacts, [2020 State of the Science Workshop Work Groups | ETWG \(nyetwg.com\)](#).

managed marine and anadromous fish species, including by protecting Essential Fish Habitat. It appears the repeated requests by this federal agency have been ignored or not fully complied with as evidenced in a NOAA/NMFS March 29, 2021<sup>4</sup> letter:

*“As we discussed in our May 27, 2020, letter to you, we have found that the existing Bureau of Ocean Energy Management (BOEM) benthic survey guidelines for collecting acoustic and benthic data across a lease area **have not been applied consistently and are inadequate** to ensure the collection of sufficient site-specific baseline data for our consultations. While your guidelines state that consultation with our agency is recommended prior to conducting these surveys, applicants have not consistently done so and, as a result, **our recommendations have not been incorporated consistently across all projects**. We hope that these recommendations will help to alleviate that inconsistency.*

*The attached updated document provides additional information for each step in the mapping process, includes details on sampling frequency, and incorporates recommendations for mapping inshore habitats, such as submerged aquatic vegetation. In addition, as we have discussed with your staff, we understand that in many cases, benthic sampling is conducted concurrently with the collection of acoustic data. However, **this method is not consistent with standards for habitat mapping**. We strongly recommend that you work with the developers to ensure that they use the 2 acoustic data to focus and refine additional, targeted benthic sampling to characterize habitat delineations. Incorporating these recommendations will provide the level of accurate and precise baseline habitat data necessary for an efficient and effective consultation process.”<sup>5</sup>*

The letter also states:

*“We encourage BOEM and developers to meet with us early in the process, prior to developing benthic survey plans, to facilitate an understanding of our resource concerns and information needs for the consultation process.”<sup>6</sup>*

Enclosed in the letter is NMFS’ “Recommendations for Mapping Fish Habitat” document. The fact that the agency must make repeated efforts to obtain cooperation and compliance by applicants and even BOEM is unacceptable and is evidence of a reckless approach by BOEM in OSW development.

Of note is that New Jersey Department of Environmental Protection’s (NJDEP) studies on offshore wind were completed in July 2010 – over 11 years ago. These studies are dated. It is also unlikely that they would meet the NMFS’s Recommendations for Fish Habitat assessments.

---

<sup>4</sup> March 29, 2021 Letter from Louis A. Chiarella, Assistant Regional Administrator for Habitat Conservation, National Oceanic and Atmospheric Administration, National Marine Fisheries Service to Michelle Morin, Chief, Environmental Branch, Office of Renewable Energy Programs, Bureau of Ocean Energy Programs, RE: “Updated Recommendations for Mapping Fish Habitat,” available at [Mappings Recs FINAL \(squarespace.com\)](https://www.squarespace.com).

<sup>5</sup> March 29, 2021, Letter from Louis A. Chiarella, Assistant Regional Administrator, NMFS to Michelle Morin, Environmental Branch Chief, BOEM, at 1-2 (emphasis added).

<sup>6</sup> See id, at 2.

It is clear the state of knowledge and science on the impacts to the marine ecosystem from one project, much less numerous OSW projects, is extremely limited to non-existent. Federal and state resource agencies are not embraced and even ignored. Thus, decisions made by BOEM will not allow effects and impacts to be avoided, reduced or mitigated. Indeed, how do you protect or mitigate that which has failed to be measured?

## **I. General Comments on Empire Wind 1 & 2**

BOEM's Notice of Intent "begins the public scoping process for identifying issues and potential alternatives for consideration in the Empire Wind EIS." Through BOEM's leasing process, Empire Wind plans to construct and operate two separate offshore wind facilities -- Empire Wind 1 and 2 -- 12 nautical miles south of Long Island, NY, with 71 turbines and about 17 miles east of Long Branch, NJ, with 103 turbines. Each project is large-full scale development, and in total, Empire Wind's project includes "174 wind turbine generators, two offshore substations, inter-array cables, up to three submarine export cable routes, up to three export cable landfalls that connect to onshore export cable systems, and two onshore substations providing connection to the existing electrical grid in New York."

Moreover, COA is specifically concerned about the location of Empire Wind's projects; the widespread and largely unknown significant environmental impacts as identified by marine scientists, and the cumulative impacts of the numerous large offshore wind projects in various stages of development in the NY/NJ Bight. The majority of known effects associated with constructing wind turbine generators and foundations are most severe during the construction and surveying periods of a project's lifecycle. Moreover, there is uncertainty regarding the long-term and onshore impacts associated with this unprecedented scale of offshore development.

COA appreciates the acknowledgement by BOEM and Equinor in the Construction and Operations Plan (COP) that there will be adverse impacts and welcomes the consideration of avoidance, minimization and mitigation. In general, COA's expectation for responsible development off offshore wind energy focuses on the following principles, which COA recommends being applied in the EIS:

- the siting of an offshore wind project must avoid prime fishing areas; Empire Wind is siting in historically and economically important fishing areas.
- identifying and assessing cumulative environmental impacts from the first and each successive project as well as the cumulative impacts from all known and proposed projects being considered in the region. The land use experience over the last 200 years has proven that piecemeal development will lead to mistakes and ecological harm.
- transparency to the public at all levels of design, construction, operation and maintenance, and decommissioning, which means more disclosure of activities onshore and offshore with minimal redaction;
- meeting legal requirements through the lens of maximizing opportunities for environmental protection;
- implementation of coastal resiliency and adaption for sea level rise and storm surges for all onshore and offshore facilities, especially as the life span of these projects is 35 years;

- Meaningful interagency review at the local, state and federal levels; this is especially important during the EIS development with natural resource agencies and community and citizen resource agencies to ensure environmental justice, public health, over-development and over-burdened communities’ issues are identified and addressed;
- protecting undersea Public Trust lands as these facilities are occupying, constructing, and altering what was (and still will be) treasured public resources, and habitat for extraordinary marine life; therefore, they must have the utmost respect and care.
- Meaningful public involvement —not just hosting meetings but actual measurable evidence of project modification to meet public concerns.

## II. Environmental Impacts from Offshore Wind Development

The NY/NJ Bight is rich with diverse species and extraordinary natural features. Species diversity include over 30 species of whales and dolphins, including the endangered Northern Atlantic right whale; 5 species of sea turtles; 300 species of fish; 350 species of birds; 4 species of seals; hundreds of invertebrates<sup>7</sup>, eels and other species; and 20 threatened and endangered species.

The NY/NJ Bight experiences intense ocean mixing, called a “Cold Pool” effect, that stimulates massive phytoplankton blooms central to the structure of all NY/NJ Bight ecosystems. Due to its relative warmth, heavy flows of freshwater and inland nutrients from the Hudson River, and unique bathymetry, the NY-NJ Bight holds rich habitat for whales and other species. Ocean currents wash over these bottom features and stir up nutrients that are absorbed by phytoplankton. In essence, the NY/NJ Bight has unique features that are ideal for a vast variety of ocean life, ranging from deep sea corals to over 300 fish species.<sup>8</sup>

The Cold Pool in the Mid-Atlantic Bight supports some of the richest ecosystems and fisheries in the nation, including the most profitable shellfish fisheries and “second-most lucrative single-species fishery, sea scallops, in the western Atlantic.”<sup>9</sup> The Bight is also vital to the migratory patterns of many different species, ranging from deep sea corals to invertebrates.<sup>10</sup> The Atlantic sea scallop (*Placopecten magellanicu*), Atlantic surfclam (*Spisula solidissima*), and ocean quahog (*Arctica islandica*) habitat along the Mid-Atlantic Bight is consistently among the most profitable fisheries in the world.<sup>11</sup>

---

<sup>7</sup> Hutchison *et al.*, The Interaction Between Resource Species and Electromagnetic Fields Associated with Electricity Production by Offshore Wind Farms, 96 *Oceanography* Vol. 33, No. 4 (December 2020).

<sup>8</sup> New York Ocean Action Plan, Department of Environmental Conservation (2016-2026), available at [https://www.dec.ny.gov/docs/fish\\_marine\\_pdf/nyoceanactionplan\\_final.pdf](https://www.dec.ny.gov/docs/fish_marine_pdf/nyoceanactionplan_final.pdf)

<sup>9</sup> Travis Miles, Josh Kohut, and Daphne Munroe *et al.*, Could federal wind farms influence continental shelf oceanography and alter associated ecological processes? A literature review, Rutgers University and Science Center for Marine Fisheries (SCMFIS) (Dec. 1, 2020), available at <https://scmfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf>

<sup>10</sup> New York Ocean Action Plan, Department of Environmental Conservation (2016-2026), available at [https://www.dec.ny.gov/docs/fish\\_marine\\_pdf/nyoceanactionplan\\_final.pdf](https://www.dec.ny.gov/docs/fish_marine_pdf/nyoceanactionplan_final.pdf)

<sup>11</sup> National Marine Fisheries Service, 2020: Fisheries of the United States, 2018. U.S. Department of Commerce, NOAA Current Fishery Statistics No. 2018.

Further, water column stratification could affect a number of species vital to fisheries and local ecosystem health, including summer flounder.<sup>12</sup> The health of habitat for these and other species is closely associated with Mid-Atlantic Ocean conditions. Further, increased mortality and reduced reproductive success of shellfish and other species has been associated with warming-induced shifts to the stratification of cycles in oceanographic conditions.<sup>13</sup> This indicates that further alterations to ocean mixing may lead to changes in vital species activities across the board. Turbine arrays may directly or indirectly affect seasonal processes that dictate water column nutrient transfer among ecosystems and species.<sup>14</sup>

Many species in the waters and migratory corridors surrounding and within the project area could be vulnerable to interruptions in foraging, migration, or other effects of the foundations, cables, and all submerged gear. With these diverse marine resources and wildlife in mind, the ecological and socioeconomic impacts to include, assess, and address in Empire Wind's COP EIS are described in the following sections. In sum, siting offshore wind turbines will affect marine species, many of which are already "on the brink" of becoming threatened or endangered.

### ***Impacts to Water Quality***

With regard to Section 4.2 "Water Quality," the Empire Wind projects will intersect many impaired waterbodies in the NY/NJ Bight. These waterbodies are impaired by PCBs, dioxin, pathogens, and floatables, to name a few, and as pointed out in Table 4.2-1 in the COP. The NY/NJ Harbor region is notorious for toxic chemicals found in benthic sediments. These sediments will be disturbed in the digging and cable-burying process. According to Empire Wind's COP, "Despite improvements in water quality, legacy chemicals in the sediments, including mercury, polychlorinated biphenyls (PCBs), dichlorodiphenyltrichloroethane, and dioxin, still exceed acceptable levels, and these contaminants can be resuspended in the water column during major storm events or from activities such as dredging." These pollutants have found their way into the human food chain and have caused numerous species to be subject to fish consumption advisories.<sup>15</sup> COA recommends sediment quality testing be required in the areas identified for cabling to understand how water quality will be impacted by stirring-up sediments to bury cables.

We are additionally concerned that the project cables will come ashore at the Brooklyn Marine Terminal. This Terminal was previously found to have a cocktail of pollutants at levels

---

<sup>12</sup> T.M. Grothues and E. A. Bochenek, 2011: Fine scale spawning habitat delineation for winter flounder (*Pseudopleuronectes americanus*) to mitigate dredging effects –Phase II (Cycle 8), 2/2011.

<sup>13</sup> D. A. Narvaez, D. M. Munroe, E. E. Hofmann, J. M. Klinck, and E. N. Powell, 2015: Long-term dynamics in Atlantic surfclam (*Spisula solidissima*) populations: the role of bottom water temperature. *Journal of Marine Systems*, 141, 136-148.

<sup>14</sup> Travis Miles, Josh Kohut, and Daphne Munroe *et al.*, Could federal wind farms influence continental shelf oceanography and alter associated ecological processes? A literature review, Rutgers University and Science Center for Marine Fisheries (SCEMFIS) (Dec. 1, 2020), available at <https://scemfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf>

<sup>15</sup> See e.g., [https://www.nj.gov/dep/dsr/Fish\\_Advisories\\_2018.pdf](https://www.nj.gov/dep/dsr/Fish_Advisories_2018.pdf).

exceeding the Effects-Range Low and Median guidelines.<sup>16</sup> PAHs, PCBs, copper, lead, silver, and dioxins compounds were found to bioaccumulate in clams and worms tested in sediment from the Terminal.<sup>17</sup> The cable-burying process will cause suspension of such pollutants at the Terminal and throughout the NY/NJ Bight.

Further, a baseline for water quality is not known for the NY/NJ Bight (Empire Wind COP, 4-48). For instance, “the surface waters along the onshore export and interconnection cable routes have not been monitored, likely due to their small size.” Therefore, how will water quality impacts be measured if there are no baselines? How can there be mitigations if baselines are not known? The EIS must address this lack of baseline data.

### ***Impacts to Marine Mammals***

The NY/NJ Bight is habitat for numerous marine mammals, some of which are threatened or endangered. Whales, dolphins, porpoises and seals can be found in the Bight, including the endangered North Atlantic Right Whale, the Blue Whale and the Sperm Whale.<sup>18</sup> COA is concerned about the impacts that this project will have upon these animals.

#### (1) Noise Pollution from Construction

- a. Studies have shown that construction noise related to offshore wind farms (especially pile driving) may cause behavioral changes and negative impacts in seals, porpoises, dolphins, and whales.
- b. Disruption effects have been measured up to 20 miles from the construction site.

#### (2) Noise from Operation

- a. This includes both the noise from the turbines themselves, which emit a constant low-frequency noise, and also the increased vessel traffic from operations and maintenance (O&M) activities.
- b. The operational noise stems from vibrations in the tower caused by the gearbox mesh in addition to the generator, causing underwater noise.

#### (3) Vessel Strikes

- a. Increased vessel activities may result in increased strikes with marine mammals, such as the critically endangered Northern Atlantic right whale. This includes from construction and O&M.
- b. There is also concern that the wind farms will displace other marine commerce and transit funneling those vessels into narrower lanes which may increase strikes.
- c. The COP EIS must account for competing uses and navigation impacts of offshore wind facilities. With increased or altered traffic patterns, the risk of collisions and spills of gas, oil, and chemicals may increase, with negative effects to water quality and marine life. Exposure to oil and other hydrocarbons from oil spills can drastically affect marine mammals and ecosystems. Further, vessel strike mitigation is vital to reducing collision between both commercial and noncommercial vessels and North Atlantic right whales.<sup>10</sup> The COP EIS should

---

<sup>16</sup> May 1, 2000, Letter from Clean Ocean Action to John R. Hartmann, Operations Division Chief, USACE regarding Permit number Buttermilk-00.

<sup>17</sup> See id.

<sup>18</sup> NYDEC, Marine Mammals of New York (<https://www.dec.ny.gov/animals/108573.html>)



also consider spacing between offshore wind turbines and high-traffic areas through either increased spacing or based on consultation with the National Marine Fisheries Service and the United States Coast Guard.

(4) More Protective Consideration of the North Atlantic Right Whale

- a. This highly endangered species is exceptionally vulnerable to additional barriers in its migratory patterns and prime foraging habitat. While BOEM requires mandatory minimization procedures and marine mammal observers for construction and operation of offshore wind farm, it is not enough. Current minimization measures, including passive acoustic monitoring (PAM) via glider<sup>19</sup> do not account for when marine mammals are not vocalizing. Right whales vocalize frequently. But these vocalizations tend to be “irregular and non-repetitive” and based on activity level.<sup>20</sup> Further, it is likely that most known marine mammal mortalities occur via ship-strike.<sup>21</sup> While PAM, marine mammal observers, shut-down procedures, and other mitigation measures can be useful during construction and building spatio-temporal baseline data, there is uncertainty regarding right whale behavior and offshore wind foundations and vessel activity. The COP EIS needs to address this problem.

### ***Impacts to Sea Turtles***

Four species of sea turtles can be found in the waters of the NY/NJ Bight: Atlantic green (*Chelonia mydas*), loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*) and Kemp’s ridley (*Lepidochelys kempii*) turtles (Morreale, S. and Standora E., 1998, 2005). All of these species are either threatened or endangered at the state and federal levels.<sup>22</sup>

- (1) It is important to note that expert marine scientists do not know the noise impacts on sea turtles. The COP states, “There is limited information available on the effects of noise on sea turtles, and the hearing capabilities of sea turtles are still poorly understood.” It is important that this information be known and addressed in Empire Wind’s COP and BOEM’s EIS.

***Impacts to Birds.*** Various species of birds visit the shores of New Jersey and New York on an annual basis, including the Red Knot, a federally threatened migratory bird.

(1) Displacement of Habitat

- a. Behavioral responses to offshore wind farms may cause birds to avoid previously used habitats. This phenomenon has been dubbed displacement. At Robin Rigg offshore wind farm in Scotland, the monitoring program showed evidence of a decrease in the number of common scoter (*Melanitta nigra*) one year after construction.

(2) Risk of Collision

---

<sup>19</sup> Moscrop *et al.*, Vocalization rates of the North Atlantic right whale, *J. CETACEAN RES. MANAGE.* 3(3):271–282, 2001, available at

[https://www.researchgate.net/publication/268273193\\_Vocalisation\\_rates\\_of\\_the\\_North\\_Atlantic\\_right\\_whale](https://www.researchgate.net/publication/268273193_Vocalisation_rates_of_the_North_Atlantic_right_whale)

<sup>20</sup> *Id.*

<sup>21</sup> Ship Strikes and Right Whales, Marine Mammal Commission (last accessed 4/28/2012), available at <https://www.mmc.gov/priority-topics/species-of-concern/north-atlantic-right-whale/ship-strikes/>

<sup>22</sup> Summary Report of the New York Bight Sea Turtle Workshop (Jan 30, 2018).



- a. There is concern for birds colliding with wind turbines. This has been a big issue with onshore wind projects, specifically in the middle of the country.
- b. Weather increases the risk of collision, and the ocean is an area with some of the harshest weather conditions, which will only increase due to climate change impacts.

(3) Migration Barriers

- a. The barrier effect may have a negative impact of birds. The birds' behavioral avoidance response to the wind farm may lead to detours circumventing the structures, ultimately extending the total flying distance and energy use. This energy loss is critical for birds experiencing other stressing factors to their populations.
- b. Furthermore, for species such as the common eider (*Somateria mollissima*) the reproductive success is related to the females' body reserves during the breeding period. By increasing the energy use for common eiders their body mass may drop, thus affecting the breeding output.
- c. Results from the monitoring programs at Nysted and Horns Rev offshore wind farms in Europe showed that all birds generally avoid wind farms if they block migration pathways. The specific level of avoidance depends on the species with some going further out of their way to avoid the area. Over 50 percent of the birds avoided passing through the wind farms at half a mile to a mile.

***Impacts on Fish / Benthic Species***

(1) Electromagnetic Fields

- a. Main cables associated with the Empire Wind project include interarray cables and larger export cable. The orientation of fish may be impaired by the magnetic fields surrounding electric cables and thus impact migration patterns.
- b. Electricity produced at offshore wind farms is usually transmitted to shore through high voltage alternating or direct current cables. The current in these cables creates electric and magnetic fields (EMF). While the electric field generated by the current is isolated within the cable, the magnetic field is measurable around the cable.
- c. There has been significant concern about the impact on crustaceans and their sensibility to EMF as it can impact their ability to locate food and may cause avoidance or large areas.
- d. Fish species that employ electrical currents for orientation such as sharks and rays, eels and electric fish are the most sensitive. It has been suggested that many such species may be able to detect EMF at a distance over 1,000 ft.

(2) Habitat Change

- a. Introducing hard substructures into the marine environment creates artificial reefs leading to the settlement of marine organisms in the area. This can be positive, as well as negative. It increases biodiversity but can also potentially introduce new harmful species (including invasive species) and disrupt food chains.
- b. The creation of these large homogenous changes to the sea floor will change the environment and the impact it has on the marine life is uncertain but could result in displacement.

### ***Impacts to Competing Ocean Uses***

The NY/NJ Bight is already home to numerous industries and activities that support significant economic and social values, including commercial fishing, commercial shell-fishing, recreational fishing, recreational boating, water recreation, whale-watching, and shore tourism. For example, the summers of 1987 and 1988 provide stark evidence of water quality's link to state and local economies. During this time, raw sewage, medical waste, and dead and dying dolphins washed ashore in the bi-state region. When all indirect effects of the 1988 event are included, losses were estimated at \$820.7 million to \$3.8 **billion** [in 1987\$].<sup>23</sup>

Today, specific economic values of the marine resources of the NY/NJ Bight continue to sustain the region; indeed, they are the backbone of the region's economy.

- **Commercial Fishing:** In 2015, according to the National Marine Fisheries Service, NJ's commercial fishermen harvested over 148,504,000 pounds of fish which sold for nearly \$166,000,000.<sup>24</sup> Overall, NJ's commercial fishing industry generates \$6 billion. In New York, the commercial harvest was over 24,560,000 pounds and valued at \$11,140,000.<sup>25</sup> NJDEP state that New Jersey is the nation's the leading suppliers of surf clams and ocean quahogs. Cape May, NJ has the second largest commercial fishing dock on the east coast, and the 5<sup>th</sup> largest in the nation.
- **Recreational Fishing:** NJ and NY's recreational fishermen took over 7.5 million trips and generated \$2.7 billion. In 2003, the American Sportfishing Association estimated that recreational fishing brought \$724,634,011 in retail sales with a total multiplier effect<sup>26</sup> of \$1,363,259,834 to the state of New Jersey.<sup>27</sup> Recreational fishing accounts for 12,021 jobs in New Jersey, with salaries and wages totaling \$328,359,434.<sup>28</sup> The sport generates \$7,750,295 in New Jersey income taxes and \$56,339,961 in federal income taxes.<sup>29</sup> The same report indicates that recreational fishing in New York generated \$1,116,861,525 in retail sales with a total multiplier effect of \$2,011,716,251.<sup>30</sup> The sport accounts for 17,083 jobs and \$503,486,172 in salaries and wages in New York.<sup>31</sup>

---

<sup>23</sup> Ofiara, Douglas D. and Bernard Brown, Marine Pollution Events of 1988 and Their Effect on Travel, Tourism, and Regional Activities in New Jersey, referenced as an Invited Paper presented at the Conference on Floatable Wastes in the Ocean: Social Economic and Public Health Implications. March 21-22, 1989, at SUNY- Stony Brook.

<sup>24</sup> [https://www.st.nmfs.noaa.gov/Assets/commercial/fus/fus15/documents/02\\_Commercial2015.pdf](https://www.st.nmfs.noaa.gov/Assets/commercial/fus/fus15/documents/02_Commercial2015.pdf)

<sup>25</sup> *Id.*

<sup>26</sup> "Multiplier" is defined as "An effect in economics in which an increase in spending produces an increase in national income and consumption greater than the initial amount spent. For example, if a corporation builds a factory, it will employ construction workers and their suppliers as well as those who work in the factory. Indirectly, the new factory will stimulate employment in laundries, restaurants, and service industries in the factory's vicinity," *The New Dictionary of Cultural Literacy*, Third Edition, Houghton Mifflin Company, 2002. Available at *Answers.com* 26 Oct. 2005. <http://www.answers.com/topic/multiplier-effect>.

<sup>27</sup> American Sportfishing Association, Fishing Statistics, Economic Impacts of Fishing available at [http://www.asafishing.org/asa/statistics/economic\\_impact/state\\_allfish\\_2003.html](http://www.asafishing.org/asa/statistics/economic_impact/state_allfish_2003.html) (last visited July 14, 2005).

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> American Sportfishing Association, Fishing Statistics, "Economic Impacts of Fishing" available at [http://www.asafishing.org/asa/statistics/economic\\_impact/state\\_allfish\\_2003.html](http://www.asafishing.org/asa/statistics/economic_impact/state_allfish_2003.html) (last visited July 14, 2005).

<sup>31</sup> *Id.*

- In New Jersey aquaculture is a growing industry and is coastal dependent.
- **Tourism:** According to the New Jersey Department of Commerce, travel and tourism in New Jersey contributes \$44 billion in economic activities each year and generates over 517,000 jobs direct and indirect jobs (the third largest private sector employer) and keeps growing.<sup>32</sup> <https://www.visitnj.org/sites/default/master/files/2016-nj-economic-impact.pdf>
- New York’s coastal economy is valued at \$20 billion<sup>33</sup>.
- **Surfing:** A report conducted in 2011 by Surfrider entitled, *"Socioeconomic and Recreational Profile of Surfers in the United States"* found that NJ and NY accounted for over \$3.8 million, and that NJ’s surfing economic impact is twice NY’s.<sup>34</sup>
- **Natural Capital:**<sup>35</sup> According to the New Jersey Department of Environmental Protection, the ecological goods and services provided by the state’s marine ecosystems equate to \$5.3 billion/year for estuaries and tidal bays and \$389 million/year for other coastal waters [in 2004\$], including the coastal shelf out to the three-mile limit. New Jersey beaches provide the highest value per acre of any other habitat by far, with an ecoservices value of \$330 million/yr.<sup>36</sup> New Jersey did not include the economic value of the fish and shellfish present in these ecosystems, nor the important and valuable resources of the OCS, such as the reef and canyon systems, in their analysis. Similar values can be expected for both the northern and southern shores of Long Island, but actual dollar values are not readily available as New York has not conducted a formal analysis of the ecosystem services of their natural resources.

However, all these revenues rely directly on a healthy marine environment and would appear to be highly incompatible with the industrialization of the NY/NJ Bight.

### ***Navigation Impacts – Funneling Navigation into Narrow Corridors***

In addition to the many potential impacts to wildlife and marine and coastal resources, Empire Wind’s COP EIS should consider the top-down impacts of the increased vessel activity, increased onshore activity, shifts in recreational and commercial ocean uses, and the foundation, cabling, and interconnection infrastructure associated with the project. In sum, the Empire Wind

---

<sup>32</sup> The Economic Value of Tourism in New Jersey, Tourism Satellite Account, Calendar Year 2016, Tourism Economics, An Oxford Economics Company

<sup>33</sup> National Ocean Economics Program

<sup>34</sup> [http://public.surfrider.org/files/surfrider\\_report\\_v13.pdf](http://public.surfrider.org/files/surfrider_report_v13.pdf)

<sup>35</sup> “Natural Capital” is defined by the NJ Department of Environmental Protection as “the economic value of goods and services provided by various naturally-occurring assets over an extended period, a period that for some assets is essentially perpetual on any meaningful human time scale.”

<sup>36</sup> Valuing New Jersey’s Natural Capital: An assessment of the economic value of the state’s natural resources. April 2007 State of New Jersey New Jersey Department of Environmental Protection  
<http://www.state.nj.us/dep/dsr/naturalcap/>

COP EIS must consider changing traffic patterns, navigational safety, and port access conflicts. Specifically:

- a. The siting of the Empire Wind project is squeezed in between busy shipping lanes.
- b. One danger is that vessel density – ships operating within the same sea space – would be increased by the funneling effect of constricting traffic between turbine arrays.
- c. There is also concern that the development of these wind projects in close proximity will displace transit corridors and create narrow lanes where vessels are expected to travel. This could lead to increase accidents and spills.
- d. The Port of New York and New Jersey is a massive economic enterprise that is a hub for vessel traffic. There are four container terminals in the port, whose combined volume makes it the largest on the East Coast, the third busiest in the United States.
- e. Consider these port statistics: 577,649 vehicles • 6.3 million TEUs of containerized cargo • 730,617 cruise ship passengers • 8,596 deep-sea vessel transits • Over 4,000,000 smaller vessel harbor transits.
- f. Another consideration is the speed and agility of large ships maneuvering a small, competitive space. For example, it can take an ultra large 2.5 miles of full astern to brake to a halt.
- g. A large area of the Outer Continental Shelf (OCS) has been leased for offshore wind development without any comprehensive analysis of the fishing industry’s need for safe transit or how the installation of large numbers of offshore structures will impact the operations of fishing vessels.
- h. The port imports petroleum, plastics, chemicals, oils and perfumes, pharmaceuticals, and other materials that if spilled into the ocean would be devastating. The port of NY/NJ is the largest U.S. petroleum product port.
- i. Another consideration is the radar shadow effect of rotating turbine blades that can affect navigation radars.
- j. During operations and maintenance, Empire Wind has committed to “Periodic inspections of offshore Project components, including foundations, scour protection, and submarine export and interarray cables, to verify integrity of the Project components and to confirm adequate burial.” The EIS must require a time frame commitment for inspections, such as every 6 months. This is necessary because sediments and sands shift and can expose cables or other infrastructure related to the Empire Wind projects, causing safety hazards.

### ***Coastal Development and Industrialization***

Another area of consideration is the onshore infrastructure necessary to manage this new coastal-dependent industry. Each offshore wind energy project will need operation and maintenance facilities. Further, there is the need for larger manufacturing centers and marshalling ports. As such, COP EIS must include the following for operation and maintenance:

- a. Type of maintenance approach (ship-based, air support);
- b. Land use requirements;
- c. Proximity to the offshore wind farm;

- d. Storage capabilities for spare components;
- e. Wharf area required Bearing capacity;
- f. Ship depth requirements; and
- g. Secondary impacts from influx of workers and support services.

Specifically, COA advocates that the COP-EIS include land-based facilities that:

- 1. reduce the overall footprint;
- 2. are climate resilient;
- 3. are as energy efficient as possible; and
- 4. sited in environmentally friendly locations.

The COP appendices focusing on port, conditions, operations, and maintenance activities are largely redacted. The COP EIS must be more transparent and require disclosure while understandably protecting sensitive legal and financial information.

### ***Mitigation Measures Needed***

Working to avoid and minimize impacts on the ocean and coastal environment is essential and must be a main goal of offshore wind energy development, as it is with any offshore or onshore activity. Therefore, the COP EIS must identify measurable, meaningful, and actionable effective mitigation measures for when impacts cannot be avoided or minimized.

For example, the COP also indicates that impacts to onshore and coastal ecosystems is likely. Specific mitigation of impacts to wetlands, seagrass beds, and other habitats should be specifically analyzed in the EIS. Particular attention should be paid to the seasonality of seagrass beds. Further, analysis of the impacts to seagrass beds should be analyzed beyond turbidity. The spatio-temporal variability in the distribution of vulnerable species should also be considered.

Empire Wind's COP states that they will be applying for authorizations under the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Marine Mammal Protection Act, Rivers and Harbors Act, Clean Water Act, Coastal Zone Management Act, and more. COA will provide feedback on these permitting decisions to the relevant authority as they become available.

### ***State-Specific Requirements***

The EIS should encompass all applicable protocols for evaluating wildlife impacts of wind turbines located in tidal waters that are set forth in NJDEP's Technical Manual for Evaluating Wildlife Impacts of Wind Turbines Requiring Coastal Permits. For offshore projects, the NJDEP Technical Manual requires, for instance, a habitat evaluation, including species surveys to establish the movement corridors and distribution of birds, bats and marine organisms at the project site. The surveys are to include information regarding species composition, abundance, distribution, behavior and, for birds and bats, flight patterns and heights. The surveys must further document species diversity, abundance, and behaviors of birds, bats and marine organisms, such as marine mammals, sea turtles, and fish using the habitat, including

airspace, where the turbine(s) will be constructed. BOEM should similarly require and review such surveys and other requirements included in the NJDEP Technical Manual<sup>37</sup>.

### III. Empire Wind and Expanding Cumulative Impacts Analysis

In an alternative analysis, BOEM should utilize an extensive cumulative impact analysis based on the potential harm to sensitive areas in the NY/NJ Bight, especially in consideration of the unprecedented footprint for offshore wind energy proposed across the East Coast. During the leasing and planning phases of offshore wind development, BOEM only reviews impacts that are “reasonably foreseeable.”<sup>38</sup> As a result, cumulative effects and extensive, precautionary steps have taken a back seat. Even though BOEM expanded the scope of their cumulative impact analysis during the Vineyard Wind programmatic review, there could still be cascading effects to vulnerable New Jersey and New York ecosystems, wildlife, and communities along the Mid-Atlantic Bight.

The siloed-nature of BOEM’s approach to Section 102 of the National Environmental Policy Act (NEPA) could prevent proper siting, construction, and analysis. Section 102 states simply that a “detailed statement be prepared by the responsible official” when appropriate for “actions significantly affecting”<sup>39</sup>. For instance, the Supplemental Environmental Impact Statement (SEIS) from Vineyard Wind 1 “assumes that best management practices (BMPs) incorporated from the [Record of Decision] on the 2007 Final Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf, will be implemented.”<sup>40</sup>

BOEM finally shifted their analysis from the 2007 Record of Decision during the Vineyard Wind extended environmental review process.<sup>41</sup> In July of 2020, BOEM published the SEIS, which exclusively focused on cumulative impacts from the project in relation to others in the same geographical area. The results of the SEIS detailed the importance of early planning and a robust cumulative impact analysis. The SEIS concluded that the proposed action, as well as all six alternatives, would result in “major impacts” to both commercial and recreational fishing as well as navigation.<sup>42</sup> The previous project specific EIS found that, individually, Vineyard Wind would only result in “minor” to “moderate” impacts to these industries.<sup>43</sup> The SEIS and a cumulative impact approach illustrate how the impacts change when viewed in relation to the surrounding developments. Further, the SEIS outlined why it is essential that regulators engage

---

<sup>37</sup> New Jersey Department of Environmental Protection Technical Manual, *available at* [https://www.nj.gov/dep/landuse/download/cp\\_013.pdf](https://www.nj.gov/dep/landuse/download/cp_013.pdf).

<sup>38</sup> Vineyard Wind Supplemental Environmental Impact Statement, p 1-2.

<sup>39</sup> *Id.*

<sup>40</sup> Federal Register, 1/10/2008, *available at* <https://www.federalregister.gov/documents/2008/01/10/E8-210/record-of-decision-for-the-final-programmatic-environmental-impact-statement-for-alternative-energy>

<sup>41</sup> Vineyard Wind 1 Offshore Wind Supplemental Environmental Impact Statement, 1-2 (2020).

<sup>42</sup> Vineyard Wind Supplemental Environmental Impact Statement (2020), p. ES-5.

<sup>43</sup> Bureau of Ocean Energy Management, Vineyard Wind – Draft Environmental Impact Statement, Docket No. BOEM 2018-060, at ES-8.

in increased cumulative impact analyses that focus on the development of the offshore wind industry holistically, as well as on an individual project-by-project basis.

With the Vineyard Wind project, BOEM changed their tiered analysis of “reasonably foreseeable” impacts to include “those proposed offshore wind projects with COPs submitted or approved at the time of analysis.”<sup>44</sup> BOEM expanded their “quantitative cumulative impacts analysis” in their SEIS to include all projects with submitted or approved COPs, all projects with onshore energy awarded, and all announced and future solicitations and lease sales. However, BOEM still did not expand this to apply to transmission, interconnection, or onshore impacts. Nor did they cover the full extent of navigation and transit concerns as “reasonably foreseeable.” COA supports the continued application of BOEM’s “quantitative cumulative impact analysis” and urges BOEM to continue revising its approach to include the aforementioned additional cumulative impacts.

#### IV. Conclusion

In sum, Clean Ocean Action is working to ensure all offshore wind energy development – both offshore and associated onshore infrastructure -- is properly sited, constructed, operated, maintained and decommissioned to avoid conflicts with marine life and existing ocean uses. COA appreciates the opportunity to submit comments on this notice of BOEM’s intent to prepare an EIS and suggest alternatives, mitigation measures, and vulnerable wildlife and ecosystem considerations. COA will be submitting substantive comments in response to BOEM’s modifications to the COP and throughout the EIS process. If you have any questions, feel free to contact COA.

Respectfully Submitted,



Cindy Zipf  
Executive Director  
Clean Ocean Action



Kari Martin  
Advocacy Campaign Manager  
Clean Ocean Action

---

<sup>44</sup> *Id.*