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June 29, 2023

Janet Stewart, Manager  
Bureau of Coastal Permitting  
P.O. Box 420, Code 501-02A  
Trenton, New Jersey 08625

**Re: *Atlantic Shores Offshore Wind, LLC***  
***Public Comments on Request for Federal Consistency Certification***

Dear Ms. Stewart:

On behalf of Long Beach Township, Beach Haven, Ship Bottom, Barnegat Light, Surf City, and Harvey Cedars (the LBI Municipalities), we submit these comments on the pending request by Atlantic Shores Offshore Wind, LLC (Atlantic Shores) for a Federal Consistency Certification. As detailed herein, the LBI Municipalities submit that the application violates New Jersey's enforceable coastal policies as set forth in its Coastal Zone Management Rules, N.J.A.C. 7:7-1.1, *et seq.*, and thus the Department of Environmental Protection (DEP) should decline to issue the consistency certification.

To be clear, the LBI Municipalities are not opposed to developing wind power and recognize the urgent need to transition towards clean energy sources. Nor are these simply "Not In My Backyard" objections. Rather, the impacts of a project of this size and scope this close to shore – the closest large-scale project in the country – on the shore economy as well as environmental resources are simply too great and would destroy the coastal resources upon which the LBI Municipalities rely and that New Jersey's Coastal Zone Management regulations were designed to protect.

The LBI Municipalities are aware of an alternative lease location, known as Hudson South, which they understand is available for development of an offshore wind project. Should Atlantic Shores or another applicant submit an application for that site, the LBI Municipalities would look forward to supporting it. But for the reasons detailed below, the project Atlantic Shores has proposed cannot be permitted to be developed.

The LBI Municipalities also wish to express that they have significant concern about DEP's ability to impartially review Atlantic Shores' request and objections thereto in light of Governor

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Murphy's executive orders directing DEP and other state agencies to facilitate the development of offshore wind projects. See Executive Order 8 and Executive Order No. 92. For that reason, the LBI Municipalities plan to request that the application be referred for an adjudicatory hearing in the Office of Administrative Law to ensure it is reviewed by a neutral party. Nonetheless, the LBI Municipalities submit these comments to DEP in the hope that DEP prioritizes its charge to protect the State's coastal resources and, after considering the comments and all other relevant aspects of the proposal, denies Atlantic Shores' request for a consistency certification.

The LBI Municipalities specific objections to the Atlantic Shores Project are detailed below.<sup>1</sup>

**I. There will be major visual impacts from the siting of large-scale offshore wind turbines, which is not permitted by DEP's rules.**

**a. The Atlantic Shores Project would cause a drastic visual impact on LBI.**

LBI ranges from a national wildlife refuge at one end to a historic state park at the other, with pristine beaches in between. It is difficult to imagine coastal development that would have a more significant adverse impact on these arguably unmatched scenic resources of Long Beach Island (LBI) than one proposing to dominate vast amounts of natural ocean landscape with several hundred massive turbine structures – each nearly the height of the Eiffel Tower and as wide as they are tall<sup>2</sup> – in close proximity to the shoreline. The Atlantic Shores proposal is comprised of two projects spanning over 100,000 acres of undeveloped ocean with the nearest turbine located less than 12 miles off LBI's beaches (and less than 9 miles from other shore locations). It will include construction of 200 wind turbines, each 1,064 feet tall with blade spans over 900 feet in diameter. If approved, the Project will be the first of its kind in the United States; it will be the largest and tallest wind farm that comes closest to shore.

Of significant note, at the time offshore wind was initially studied for the New Jersey coastline and lease areas designated, wind turbines were significantly shorter. BOEM's environmental studies were prepared in 2006-2008, a time when rotor diameter was well under 100 meters. *See* Atlantic Shores Construction and Operations Plan (COP) 1-12 to 1-13; COP 3-16

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<sup>1</sup> We note that we are currently awaiting the completion of DEP's response to an Open Public Records Act request filed by this firm concerning the Atlantic Shores Project. The LBI Municipalities reserve their right to supplement these comments after receiving the outstanding documents.

<sup>2</sup> <https://www.tou Eiffel.paris/en/the-monument/key-figures> (indicating that the current height of the attraction is 1,083 feet).

to 3-17 & Figure 3.5-1. Const Turbines today are three times the size. The visual impacts of wind turbines from the lease were thus not adequately assessed at the time the lease area was designated and awarded to Atlantic Shores. Visual impacts cannot simply be hand-waved away by DEP because the proposed project is in a designated lease area.

Atlantic Shores cannot dispute the scale or severity of the visual impact (among other related environmental impacts) that the Project, as proposed in its Construction and Operations Plan (COP), will have not only on LBI, but will span miles of New Jersey's scenically renowned shoreline.<sup>3</sup> The results of the visual impact assessment (VIA) performed on behalf of Atlantic Shores as part of its COP are alarming, particularly as those findings relate to LBI.

As part of the VIA, a panel of credentialed landscape and architectural planners compared the aesthetic character of views based on photo simulations from 22 selected key observation points<sup>4</sup> (KOP), with and without the Project in place, and rated its visual impact accordingly. 7 of those KOPs are located on LBI, which, along with their proximities to the nearest turbine, are as follows: Barnegat Lighthouse State Park (27.3 miles), Beach at Long Beach Island Arts Foundation (24.9 miles), Ship Bottom Borough Municipal Beach (19.4 miles), Beach Haven Historic District (13.5 miles), Centre Street, Beach Haven (13.5 miles), Holyoke Avenue, Beach Haven, and Edwin B. Forsythe National Wildlife Refuge (NWR) at the Holgate Nature Conservatory (11.8 miles).

Views from Centre Street in Beach Haven on LBI received **the highest** visual impact rating of any other KOP at -5.3 and a visual threshold level of 6, with the visual impact labeled as "**significant.**" COP, Appendix II-M1, at 98-99. For context, a visual threshold level of 6 was the highest achievable score and means,

An object/phenomenon with strong visual contrasts that is so large that it **occupies most of the visual field**, and **views of it cannot be avoided except by turning one's head more than 45 degrees from a direct view of the object**. The object/phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. In addition to size, contrasts in form, line, color, and texture, bright light sources and moving objects associated with the study subject may contribute substantially to drawing viewer attention. **The visual prominence of the study**

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<sup>3</sup> However, Atlantic Shores bewilderingly ignores the visual impact of the turbines in its consistency submission.

<sup>4</sup> Key observation points were selected to represent "individuals or groups of people who may be affected by changes in views and visual amenity." Draft EIS, at 3.6.9-25.

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subject detracts noticeably from views of other landscape/seascape elements.

Attachment E to COP, Appendix II-M1 (Photo Simulations Centre Street Beach Haven), at 58 (emphasis added); *see also* COP, Appendix II-M1, at 98.

**Centre Street, Beach Haven (13.4 miles from nearest turbine)**



In other words, the massive turbine structures, organized in a dense, stacked array as proposed, will be an unavoidable, unsightly and uncharacteristic component of the existing serene ocean views enjoyed from this viewpoint by the many residents and tourists who frequent the Beach Haven beachfront, which Atlantic Shores acknowledges is a “very popular stretch of beach” and that “the ocean is an integral part of their beach experience” for various forms of recreation, ranging from stationary sunbathing and swimming to walking and running along the coast. As a result, the presence of the structures will directly interfere with utilization and enjoyment of the pristine, undeveloped ocean environment for those engaging in beach recreation.

The visual impacts of the Project at five other selected KOPs located on LBI are no less concerning, likewise being classified as “significant” from views at Forsythe NWR in Holgate, Holyoke Avenue in Beach Haven, Beach Haven Historic District, Ship Bottom Beach and the Beach

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at the LBI Arts Foundation in Long Beach Township. Those observation points received visual impact ratings ranging from -4.2 (LBI Foundation) to -5.0 (Holgate) and each received a visual threshold level score of 5 (the object/phenomenon “contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold that attention”). *Id.* at 99. Consequently, the VIA indicates that the scenic quality of the views from each of these locations under the proposed conditions will be “modified” and the existing views only “partially retained.” *Id.* at 99-100 (Table 3.2.1).

At an undeveloped beach such as the Forsythe NWR at the southern tip of LBI in Holgate, which is one of the closest land-based viewing opportunities of the Project, Atlantic Shores acknowledges there are “a large number of beach goers and associated beach and ocean activity” during the summer season who would “consider the ocean the character defining element of the beach and the focus of their activities typically relies on the presences of the ocean and ocean views.” *Id.* at 27 (emphasis added). As such, the VIA plainly indicates that presence of the turbines “changes the undeveloped character of the ocean horizon by adding large, manmade infrastructure which would be visible from shore **during most clear days** and **some partially obscured days.**” *Id.* at 119 (emphasis added).

#### Holgate (11.8 miles from nearest turbine)



The character of views from residential beach areas such as Ship Bottom beach will be fundamentally altered by the expansive addition of “large, manmade infrastructure” along the

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ocean horizon. *Id.* at 119. The panel determined that “the quantity and placement of the turbines creates an industrial feel to the view” in an otherwise residential zone and “[a]lthough portions of the WTGs are screened by curvature of the earth at a distance of 19.4 miles, they are still large enough to attract viewer attention under clear conditions.” Attachment E to COP, Appendix II-M1, at 30. The presence of turbines “stacked” on each other as proposed will be “clearly visible as dark features against an otherwise featureless blue sky and horizon line.” *Id.*

### Ship Bottom (19.4 miles)



The view from another residential beach area at the LBI Arts Foundation on the northern part of the island with the proposed Project in place would be likewise “dominated by a large, highly organized, and visible array of [wind turbines] that extend across a large portion of the ocean view to the southeast-south from this location.” Attachment E to COP, Appendix II-M1, at 25. The turbines’ “expansive layout and dense appearance on the horizon dominates and clutters the view.” *Id.* As a result, “[t]he sense of a pristine ocean horizon is no longer a component of the view with the Project in place under these exceptional viewing conditions.” *Id.* (emphasis added). Residents and vacationers to LBI who enjoy, among other forms of ocean-centered recreation, “a serene and simple view of the open ocean meeting the sky” from this “family-oriented beach” will assuredly experience an even more pronounced adverse impact. VIA, at 110. The VIA acknowledges that “[t]he ocean is a significant contributor to the visual character and sense of place” associated with residential beachfronts such as this beach and that “[h]omes were placed here for the purpose of the oceanfront setting.” COP, Appendix II-M1, at 119.

Atlantic Shores admits that even the view from LBI's northernmost point, at the famed, historic and landmarked Barnegat Lighthouse, will experience a "somewhat significant" impact. *Id.* at 99. The VIA correctly notes that the lighthouse is a major tourist attraction on the island, with "tourist and vacationers who visit this region in droves every summer." *Id.* at 109. In addition to picnicking, bird watching and walking, a major and unique form of recreation at the Lighthouse for those who visit includes climbing to its peak and admiring the impressive panoramic views from the bay to the ocean.<sup>5</sup> *Id.* Notably, the photosimulation from this LBI mainstay portrays the view under overcast conditions, which unmistakably reflects the presence of "the towers and full rotors of most of the turbines." Attachment E to COP, Appendix II-M1, at 20. Under clear conditions, the turbines would appear even "more prominent on the horizon, thus increasing their magnitude of impact" and with one of the primary views being the ocean, will "undoubtedly attract view attention." COP, Appendix II-M1, at 99. That is especially so given that, as the VIA notes, visitors to the lighthouse are there specifically for an extended and expansive view of the ocean horizon. Attachment E to COP, Appendix II-M1, at 20.

To the extent the VIA suggests that ocean views from the Barnegat Lighthouse (Old Barney) are "not pristine" due to development on LBI such that the turbines "may become secondary components" in the background, the LBI Municipalities strongly disagree. *Id.* at 110. Barnegat Lighthouse is a historic state park with some of the largest beaches, dunes, and pristine ocean views in New Jersey, with parts of the dune system having looks and feel akin to Martha's Vineyard. Nowhere on the beaches do you see the homes as illustrated in the photo simulation relied upon and, in any event, a residential development differs in orders of magnitude in scale and character from the proposed array of 1,000-foot industrial turbines.

Atlantic Shores repeatedly attempts to downplay the magnitude of visual impact by characterizing the photo simulations as representative of the "worst case in terms of atmospheric clarity and, in many cases, the high contrast lighting conditions." *Id.* at 107. The essence of Atlantic Shores' position is that the admitted visual impact while "significant" in many cases, will be infrequent. *Id.* at 102. Relying on historical metrological data from 2019 to predict visibility up to certain distances throughout the year, the VIA posits that clear conditions comparable to those in the photo simulations are rarer in the summer, with atmospheric perspective potentially screening the turbines to a greater extent. *Id.* at 110-111. In other words, under "more typical" viewing conditions, accounting for variable factors such as weather and lighting, Atlantic Shores claims that the turbines will not be as visible as the photo simulations illustrate. *Id.* at 107.

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<sup>5</sup> <https://www.longbeachislandjournal.com/attractions/barnegat-lighthouse>; see also <https://nj.gov/dep/parksandforests/parks/barnegatlighthousestatepark.html>.

That position is flawed in at least three respects. For one, researchers conducting a study commissioned by BOEM acknowledged the existence of evidence suggesting that “even well-executed simulations may sometimes **under-represent** project visibility.” Sullivan, R.,G., et. al, *Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States*, Bureau of Ocean Energy Management (April 2021) (emphasis added).

Moreover, a field study of the visual impact threshold of offshore windfarms in the United Kingdom (co-funded by BOEM and which is relied upon by Atlantic Shores), with turbines ranging from 377 to 449 feet from blade to tip, determined that “**under favorable but not exceptional viewing conditions, moderately sized** offshore wind facilities may frequently be visible at distances exceeding 35 km (22 mi); in this study, they were visible at a maximum distance of 44 km (27 mi)” and that “regardless of facility size or lighting conditions, on days with **good** visibility conditions, offshore wind facilities were judged to be a major foci of visual attention at distances of 16km (10 mi) or less.” Sullivan, R.,G., et. al, *Offshore Wind Turbine Visibility and Visual Impact Threshold Distances*, Bureau of Ocean Energy Management (2013).<sup>6</sup> This Project proposes constructing turbines that would dwarf those in the study – being at least **double** in height, rotor diameter and number in a comparable proximity to shore. If “moderately sized” turbines more than 50% shorter than those currently at issue were “frequently” visible under imperfect viewing conditions, Atlantic Shores would be even more visible under similarly favorable, but not exceptional conditions. The study attributes greater visibility to blade movement, and “[c]ontrary to expectations, lighting conditions, sun angle, and apparent contrast between the turbines and the sky backdrop **did not** substantially affect the likelihood of observing blade motion.” *Id.* at 12 (emphasis added); see also *Visual Impacts of Offshore Wind Energy Developments*, supra at 19 (noting studies showing “that blade motion was a significant visibility of wind farms”).

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<sup>6</sup> Last year, BOEM issued a procurement proposal seeking updated research on this frequently cited study because “the height of wind turbines proposed in recently submitted studies . . . [are] two to three times the height of the original study.” The proposal notes that, “[a]s the U.S. begins large-scale deployment of offshore wind energy facilities, accurately representing potential visual effects is critical to facilitating proper public understanding of the size and scale of offshore renewable energy development and produce defensible assessments of visual impacts.” <https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/AT-23-06.pdf> Without such relevant data, BOEM essentially navigates uncharted waters in terms of visibility thresholds for large scale offshore wind proposals like this Project.



Finally, that the photo simulations reflect visibility under clear-day conditions is of no moment, because as BOEM explained in its recently published draft Environmental Impact Statement (Draft EIS), “[m]any viewers, particularly recreational users, are more likely to be present on beaches on clearer days, when viewing conditions are better than on rainy, hazy, or foggy days.” Draft EIS at 3.6.9-28.

Thus, Atlantic Shores’ blanket reliance on variability of atmospheric conditions to cast doubt on the extent of demonstrated adverse visual impacts as a result of the presence of the structures should be viewed with caution. Atlantic Shores’ self-interested assessment still acknowledges that turbines will be visible from 10-mile distances (certain points in LBI are not much further than that, and other shore points closer) during 41% of daylight hours. COP, Volume II at 5-19.

In any event, the federal government’s independent assessment of the Project’s impact on scenic and visual resources, which included its review of Atlantic Shores’ COP and accompanying VIA of the wind turbine area, confirms the degree of impact in the character of the scenic resources along New Jersey’s coast, including the studied observation points in LBI. Importantly, in the Draft EIS, BOEM indicated that the Project provides “no beneficial impacts on scenic and visual resources” and determined there to be only adverse impacts to varying degrees. 3.6.9-28 to -29. This flatly contradicts the VIA’s incorrect conclusion that those reviewing the proposal should “avoid the assumption that project visibility automatically equates to an adverse visual impact.” COP, Appendix II-M1, at 132.

Indeed, BOEM concluded that highly valued open ocean vistas, like those for which LBI has gained statewide recognition,<sup>7</sup> “would reach the maximum level of change to its features and characters from a formerly undeveloped ocean to **dominant wind farm character** by approximately 2030 and result in **major** impacts.”<sup>8</sup> Draft EIS, at 3.6.9-49 (emphasis added). BOEM attributes such major impact on otherwise undeveloped ocean views to the distance of the turbines, “[e]xtensive” field of views (FOVs), large scale of change, strong contrasts between the

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<sup>7</sup> <https://www.nj.com/entertainment/2022/06/all-44-nj-beaches-ranked-worst-to-best-for-summer-2022.html>

<sup>8</sup> BOEM also studied the Project’s cumulative impact on scenic and visual resources, finding it would also be “major” due to “the presence of structures, lighting and vessel traffic.” 3.6.9-50. For example, siting these structures so close to shore will **more than double** the amount of turbines visible from the Beach Haven KOP than just with the recently-approved Ocean Wind 1 project, which is further south. See Draft EIS, at 3.6.9-47 (Table 3.6.9-17).

vertical turbine structures in the horizontal open environment where they are unexpected to the observer, as well as the level of prominence of the facilities in view. *Id.* at 3.6.9-40 and 3.6.9-49.

BOEM rated the prominence of wind turbine facilities located less than 14.4 miles from observation points, which includes Forsythe NWR in Holgate, Beach Haven's Historic District, Centre Street and Holyoke Avenue beaches, as a "5 or 6." *Id.* at 3.6.9-42-43. A "5" in terms of visual prominence means the Project at that distance "[s]trongly attracts viewers' attention to the wind farm"; a rating of "6" means it "[d]ominates" the view, with "strong contrasts in form, line, color, texture, luminance or motion fill[ing] **most** of the horizontal or vertical FOV." *Id.* at 3.6.9-42, n.1 (emphasis added).

The Project, in BOEM's determination, will still have "moderate" visual impact when viewed from other KOPs located up to 32 miles from the turbines, including at mid to northern points on LBI, such as Ship Bottom Beach and the Barnegat Lighthouse. BOEM assigned those views a rating of 3 to 4 in prominence – that is, "visible after brief glance in general direction of the wind farm, unlikely to be missed by casual observer" to "plainly visible, could not be missed by casual observer," even if it does not strongly attract visual attention or dominate view. *Id.* at 3.6.9-42-3.6.9-43, n.1; and see Table 3.6.9-16.

The sole instance in which BOEM classified the Project as having "minor" visual impact with respect to LBI is the view from Beach Haven's Historic District at nighttime and only if Atlantic Shores implements an aircraft detection lighting system (ADLS), which reduces the time that the FAA-required bright red aviation obstruction lighting for structures of this height is activated to when aircrafts are within a certain distance of the area. Atlantic Shores represents that it is "considering" use of this system, but only "if practicable and permitted." COP, Volume II, at 5-21 to 5-22. Without an ADLS system, use of which is not by any means guaranteed at this point, the visual impact from the turbines from certain LBI observation points remains "major" even at night and, in any event, does not ameliorate the significant adverse daytime impact from the presence of the structures.

**b. The visibility of the wind turbines will have a negative economic impact on the LBI Municipalities.**

The clear visual impacts outlined above will have readily foreseeable negative impact to local economies in the affected areas of coastal New Jersey. As off-shore wind-energy projects around the world have increased, several studies have shown a negative economic impact on these typically seaside, tourist regions. Invariably, these studies show that the closer to shore the turbines are located, the greater tourist reluctance is to visit that shore area. These studies

show that up to 43% of beachgoers would switch beaches to avoid the visual and experiential blight of a close-to-shore turbine array. In seasonal economies, like those of the LBI Municipalities, applying those percentages result in staggering losses when applied against annual LBI tourist revenues of \$1.8 billion, including \$100 million in state tax revenue and \$140 million in local tax revenue.<sup>9</sup> Other studies looking at the economic impact of these projects show that proximity to wind turbines depresses property values. The studies show plainly that these negative economic impacts decrease markedly as turbines are located further offshore. Indeed, in connection with the DEP's recent response to comments in connection with the issuance of permits and a federal consistency certification for the Ocean Wind 1 offshore wind project, DEP specifically recognized the net negative impact to local tourism for a turbine array that is within 15 miles of the shore.

A recent study undertaken by a team of environmental and natural resource economists at the University of Delaware examined consumer decision-making in relation to wind farm location and concluded that consumers are more likely to switch shore destinations where those destinations are proximate to an offshore windfarm. In other words, beachgoers will avoid a beach if the wind farm is visible from the shore, and choose a different destination, an economic factor denominated by the study team as "trip loss." *George R. Parsons, Jeremy Firestone, Lingxiao Yan and Jenna Toussaint. "The Effect of Offshore Wind Power Projects on Recreational Beach Use: A Contingent-Behavior Study on the East Coast of the United States" Energy Policy Vol. 144 (2020)<sup>10</sup> (the "Delaware Study")* at 4. In the Delaware Study, the wind farms that were 15 miles or closer to shore caused 25-29% of survey respondents to choose a different beach to visit. Delaware Study at 5.

While 25-29% of lost tourism is disturbingly high, those numbers would be presumptively and significantly higher based on the specific scope and turbine dimensions of the Atlantic Shores Project when compared with those presented in the Delaware Study. The methodology of the Delaware Study utilized variables, including those that repelled visitors, that were substantially less than the variables in the Atlantic Shores Project. In the Delaware Study:

respondents were asked to imagine that a wind power project was present offshore and that they were aware of its presence before making the trip. Respondents were then shown the panning photomontages that included

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<sup>9</sup> See <https://nj1015.com/files/2012/10/SOCC-2011-Econ-Impact-Final-10-2012.pdf>; [https://visitnj.org/sites/default/files/Economic\\_Impact\\_of\\_Tourism\\_in\\_New\\_Jersey\\_2021\\_Final.pdf?tag=itinerary](https://visitnj.org/sites/default/files/Economic_Impact_of_Tourism_in_New_Jersey_2021_Final.pdf?tag=itinerary); with data adjusted for inflation.

<sup>10</sup> Available at [https://works.bepress.com/george\\_parsons/60/](https://works.bepress.com/george_parsons/60/).

views in clear weather, hazy weather, and at nighttime. A visual with no wind power project was also shown as a point of comparison. The hypothetical project depicted in all photomontages included 100 turbines: each turbine was 6 MW and was 175 m high (blade at apex) with a rotor diameter of 150 m. They were spaced eight rotor diameters from one another, or 1.2 km apart, in a 10 by 10 grid format.

Delaware Study at 2. [Emphasis added]. The variables in the Delaware Study are dwarfed—in every aspect—by the actual variables in the Atlantic Shores array (e.g., 200 turbines, 1064 feet high). Interestingly, in the Delaware Study, the percent of respondents who would choose a different beach for an array that was 2.5 miles offshore was 43%. Delaware Study at 4. But that assumes a far more modest windfarm. The proposed Atlantic Shores Project contains double the number of turbines, and the turbines themselves are nearly twice as tall. Because of its vastly increased visibility, the trip loss from the Atlantic Shores Project at 9 miles may fairly be understood as closer to the 43% trip loss demonstrated by the Delaware Study under its parameters.<sup>11</sup>

Other studies evaluating lost tourism due to overtly visible offshore wind farms are consistent with the Delaware Study. A 2017 North Carolina study (“NC Study”) based primarily on 144 turbines located at distances 5-18 miles offshore found “a substantial portion of the survey population that would change their vacation destination if wind farms were placed within visual range of the beach.” *Lutzeyer, S., Phaneuf, D. J., and L. O. Taylor (2017). The Amenity Costs of Offshore Windfarms: Evidence from a Choice Experiment. (CEnREP Working Paper No. 17-017). Raleigh, NC: Center for Environmental and Resource Economic Policy at 1.*<sup>12</sup> The NC Study found further that, with respect to the beach vacation rental market, “55 percent of existing customers would not re-rent their most recent vacation property if wind turbines were placed offshore.” *Id.* at 6. The negative economic impacts, what the NC Study refers to as “disutility,” decreases based upon the number of turbines and, markedly, when they are placed at least 12 miles offshore.

The adverse economic consequences of offshore windfarms are not limited to attitudes in the East Coast of the United States. A 2017 European study focusing on Catalan beaches off the

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<sup>11</sup> Such extrapolation is obvious and appropriate, and as a North Carolina study found, “[v]isualizations used in public engagement forums in NC studies by BOEM used 7 MW turbines placed 10 miles from shore; our 5MW turbines at 5 miles from shore are visually indistinguishable from the larger turbines at greater distance.” *Lutzeyer, S., Phaneuf, D. J., and L. O. Taylor (2017). The Amenity Costs of Offshore Windfarms: Evidence from a Choice Experiment. (CEnREP Working Paper No. 17-017). Raleigh, NC: Center for Environmental and Resource Economic Policy at 9.*

<sup>12</sup> Available at <https://cenrep.ncsu.edu/cenrep/wp-content/uploads/2016/03/WP-2017-017.pdf>.

coast of Spain found what it termed a “welfare loss” of up \$220 million per season. *Voltaire, L., Loreiro, M., Knudsen, C., Nunes, P., 2017. The impact of offshore wind farms on beach recreation demand: policy intake from an economic study on the Catalan coast. Mar. Pol. 81, 116–123.* The study notes that “the installation of a wind farm mainly will cause a shift in trips to Catalan beaches without wind farms, which implies that the estimated negative economic impacts will occur mostly in areas where wind farms are located.” This study cites to other studies in Europe and the United States that reached similar conclusions. In all instances, the negative economic impacts are diminished by distance, density, and height of the turbines.<sup>13</sup>

Indeed, BOEM itself has acknowledged that an offshore wind project will have a negative impact on tourism. *See Parsons, G. Firestone, J. “Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism.” Sterling (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM (2018).*<sup>14</sup> This study discussed survey data, including data specific to New Jersey, which found there would be a 9-12% trip loss of an offshore wind project at the distance from shore of the Atlantic Shores Project. *Id.* at 17, Table 5. This study used a theoretical project of 100 turbines, each 574 feet high, and thus the much larger Atlantic Shores Project would likely have an even larger negative impact on trips. *Id.* at 1.

Significantly, in connection with the separately-pending Ocean Winds project a few miles to the south, in pushing back against public concerns over the impact to local tourism, DEP embraced earlier iterations of the Delaware Study and the NC Study to conclude that the types of concerns being raised could be ameliorated by placing the turbines at least 15 miles off shore. *New Jersey Department of Environmental Protection, Division of Land Resource Protection, Ocean Wind 1 State Permit Applications & Federal Consistency Certification, dated April 27, 2023 at 12.* Specifically, DEP, citing the Draft Environmental Impact Statement prepared in connection with the Ocean Winds project, stated:

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<sup>13</sup> Some studies have noted the theoretical potential of wind farm tourism, an activity where customers are ferried by boat to view the turbines in action. The LBI Municipalities submit that any honest and long-term assessment of wind farm tourism will recognize the implausibility of such a theory. Whatever *de minimus* consumer demand might be created for such an undertaking, no data or commonsense support exists to indicate that any single consumer would visit a wind farm more than once—at best, it is a one-time, novelty trip. In the wake of this ephemeral demand is the perpetual blight of these turbines on the horizon for the millions of repeat visitors who come to enjoy the beauty of Long Beach Island.

<sup>14</sup> Available at <https://espis.boem.gov/final%20reports/5662.pdf>.

a University of Delaware study evaluating the impacts of visible offshore WTGs on beach use found that WTGs visible more than 15 miles from the viewer would have negligible impacts on businesses dependent on recreation and tourism activity (Parsons and Firestone 2018).

And again, the Delaware study analyzed the impact of turbines half the size; the impact here would in all likelihood be significantly greater.

With regard to nighttime views of lighted turbines, DEP stated:

The study found that nighttime views of aviation hazard lighting (without ADLS) for WTGs close to shore (5 to 8 miles [8 to 13 kilometers]) would adversely affect the rental price of properties with ocean views (Lutzeyer et al. 2017). It did not specifically address the relationship between lighting, nighttime views, and tourism for WTGs 15 or more miles (24.1 or more kilometers) from shore. More than 95 percent of the WTG positions likely to be present based on anticipated offshore wind lease area build-out in the geographic analysis area would be more than 15 miles (24.1 kilometers) from coastal locations with views of the WTGs.

*Id.*

Thus, DEP must conclude, based on studies it has already acknowledged as legitimate, that the Atlantic Shores Project will be visible and will have negative economic impacts on the businesses in the LBI municipalities that rely upon recreation and tourism.

**c. The visual impact of the Atlantic Shores Project is inconsistent with DEP's coastal zone management rules.**

These impacts of the Atlantic Shores Project discussed above violate several of DEP's coastal zone management rules designed to preserve scenic resources and related recreational uses along New Jersey's coast, and thus these visual and resulting economic impacts are within the scope of DEP's review of the project, and mandate that DEP cannot find it consistent with its enforceable coastal policies.

**i. N.J.A.C. 7:7-16.10 (Scenic resources and design)**

N.J.A.C. 7:7-16.10(c) limits “[n]ew coastal development that is not visually compatible with existing scenic resource in terms of large-scale elements of building and site design.”<sup>15</sup> According to the expressed regulatory rationale, “[a] project which is of a scale and location that has significant effect on the scenic resources of a region is considered to have a regional impact and to be of State concern.” N.J.A.C. 7:7-16.10(g).

Such development is “discouraged” – meaning it is “likely to be rejected or denied” by DEP. N.J.A.C. 7:7-1.5. As cannot be disputed in this instance, the rule is especially applicable with respect to “developments which by their singular or collective size, location and design could have a significant adverse effect on the scenic resources of the coastal zone.” N.J.A.C. 7:7-16.10(g). The DEP needs to look no further than the applicant’s own submissions for substantially credible evidence of the significant adverse visual effects of the project, which are detailed at length above and have been confirmed by BOEM in its Draft EIS. The turbines are comparably sized to skyscrapers and in that regard, similarly urbanize/industrialize an otherwise serene, natural undeveloped view of the ocean environment. See COP, Attachment G to Attachment A (Visual Impact Assessment Study Plan – Offshore) to Appendix II-M1 (reflecting comments from panel members on visual impact rating forms). They are extremely close in proximity to LBI’s shoreline and the observation points on the island received some of the most negative visibility scores of those studied. The visual impact – in Atlantic Shore’s own words – will be **significant**. Hence, as provided by regulation, this discouraged development should be rejected in its proposed form.

DEP’s sole exception for permitting a discouraged development is not satisfied here, when “the proposed use to be in the public interest despite its discouraged status . . . provided that mitigating or compensating measures can be taken so that there is a net gain in quality and quantity of the coastal resource of concern.” N.J.A.C. 7:7-1.5. BOEM considered an alternative that proposed to adjust the layout and maximum number of turbines to reduce visual impacts, but ultimately rejected that alternative as insufficient “to change the level of impacts as compared with the Proposed Action.” Given that the significant adverse visual impact is mainly “associated with the presence of offshore structures in previously undeveloped ocean and substantially increased vessel traffic,” Draft EIS, at 3.6.9-52, there is simply no meaningful mitigation, absent moving to another lease areas, that can be implemented to ameliorate the significant adverse visual impacts necessary to find the Project consistent with DEP requirements for approving discouraged developments.

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<sup>15</sup> This regulation provides several technical setback requirements for coastal development “adjacent to a bay or ocean or bayfront or oceanfront, beach, dune or boardwalk,” which are inapplicable given that the proposed development is not “adjacent to” but *on* the ocean. N.J.A.C. 7:7-16.10(d)-(f).

ii. **N.J.A.C. 7:7-15.3 (Resort/recreational).**

Development pertaining to resort and recreational uses in New Jersey's coastal zone are also among uses regulated by DEP. N.J.A.C. 7:7-15.3(a) ("Resort/recreation uses include the wide range of small and large developments attracted to and often dependent upon locations along the coast."). Indeed, the visual impacts set forth above are not affecting remote locations; they are pervasive in prime oceanfront destinations where recreation is paramount among residents and tourists alike. See VIA, at 13 (recognizing that recreational users in or around the ocean shoreline "will often have continuous views of landscape features over relatively long periods of time, and scenic quality generally enhances the quality of any outdoor recreational activity even though these individuals may not be specifically involved in sight-seeing"). LBI is certainly no exception.

DEP has set standards relevant to recreation priority, pursuant to which "[r]esort/recreation uses and commercial fisheries uses shall have priority over all other uses in Monmouth, Ocean, Atlantic, and Cape May counties with highest priority reserved for those uses that serve a greater rather than a lesser number of people, and those uses that provide facilities for people of all ages and for people with physical handicaps." N.J.A.C. 7:7-15.3(b)(2). According to the rule, deeming areas of recreation a priority setting reflects its station as an integral part of the coastal environment and economy, and as "essential for the quality of life." N.J.A.C. 7:7-15.3(f). The rule notes the "the importance of maintaining the visual quality of the oceanfront."

Recreational uses typical along LBI's oceanfront such as sunbathing, swimming, boating, fishing, walking, and running (to name a few), thus take highest priority under this regulation. LBI's ocean-centric recreation serves a greater number of people on the island as its beaches are largely undeveloped or residential, lacking for example a boardwalk. Enjoyment of the beaches and oceanfront is available to people of all ages and physical abilities.

The Project's dominating visual impact on the ocean landscape along LBI detracts from full enjoyment of, and engagement in recreational activities along the beach. BOEM specifically states in its Draft EIS that:

WTGs visible from some shoreline locations in the geographic analysis area would have adverse impacts on visual resources when discernable due to the introduction of industrial elements in previously undeveloped views. **Based on the relationship between visual impacts and impacts on recreational experience, the impact**



**of visible WTGs on recreation would be long term, continuous, and adverse.**

Draft EIS, at 3.6.8-18.

As discussed above, the LBI Municipalities are likely to see a reduction in recreational and tourism activities at their beaches, which is inconsistent with highly prioritized recreational uses along the coast.

**iii. N.J.A.C. 7:7-16.9 (Public access) and N.J.A.C. 7:7-9.22 (Beaches)**

DEP's preservation of the scenic quality of tidal waterways, shores and related recreational uses coincides with the Agency's charge under the Public Trust Doctrine to ensure the public has meaningful access to and full utilization of natural resources such as tidal waterways and their shores. N.J.A.C. 7:7-16.9(f); *see also* N.J.A.C. 7:7-9.22 (c) and (d) (subjecting beaches to the public access and trust rules based on the rationale that "[u]restricted access for recreational purposes is desirable so that the beaches can be enjoyed by all residents and visitors of the State"). New Jersey jurisprudence has expanded the doctrine to assure access to "public recreational uses such as swimming, sunbathing, fishing, surfing, sport diving, bird watching, walking and boating along the various tidal shores." N.J.A.C. 7:7-16.9(f). As noted throughout this submission, visual disruption of the ocean landscape to the degree proposed by Atlantic Shores interferes directly with public recreational uses guaranteed by the public trust and access rules.

**II. The Atlantic Shores Project will negatively impact commercial fishing and fisheries in violation of DEP Regulations.**

DEP's regulations recognize the importance of commercial fishing and protecting shellfish (N.J.A.C. 7:7-9.2), surf clam (N.J.A.C. 7:7-9.3), prime fishing areas (N.J.A.C. 7:7-9:4), finfish migratory pathways (N.J.A.C. 7:7-9.5), and marine fish and fisheries (N.J.A.C. 7:7-15.4). As DEP's rule rationale recognizes:

Finfish (freshwater, estuarine, and marine) and shellfish resources, and the habitats that support these resources provide significant recreation experiences for residents of New Jersey and interstate visitors. These resources also help the State's economy, by leading to expenditures of approximately \$ 1.4 billion per year (U.S. Department of Commerce, National Marine Fisheries Service, 2008). The Department also estimates that 1.2 million people participated in marine/estuarine recreational fishing in 2010 in New Jersey. (U.S. Department of Commerce, National Marine Fisheries Service, 2011) The

value of and participation in recreational saltwater fishing is underestimated here as these figures only include finfish data and do not include recreational crabbing and clamming, which are important activities in New Jersey. Commercial landings for all finfish and shellfish in New Jersey during 2010 were 161,831,909 pounds, valued at \$ 177 million dockside, according to U.S. Department of Commerce statistics (2011). The total ripple effect on the State economy is estimated at \$ 2.6 billion, with recreational fishing yielding \$ 1.6 billion and commercial fishing yielding \$ 1.06 billion. (U.S. Department of Commerce, National Marine Fisheries Service, 2008 and 2011).

N.J.A.C. 7:7-15.4(d). Any proposed development that would adversely impact marine fish or fisheries (or access thereto) is discouraged. N.J.A.C. 7:7-15.2(d).

The BOEM's Draft EIS leaves no question that the Atlantic Shores project would adversely impact marine fish and fisheries, and thus must be found inconsistent with New Jersey's coastal policies. Draft EIS, 3.6.1 et seq. The Draft EIS acknowledges that the turbines "could have several impacts on commercial and for-hire recreational fisheries, including through gear loss or damage, navigational hazards, habitat conversion and fish aggregation, migration disturbances, and space-use conflicts." Draft EIS 3.6.1-64. Despite BOEM's vague impact classifications of minor, moderate, and major (Draft EIS Table 3.6.1-33), the bottom line is, and the Draft EIS recognizes that

[f]ishing vessel operators who are displaced from fishing grounds within offshore wind areas and are unable to find alternative fishing locations would experience long-term revenue losses.

Draft EIS 3.6.1-55.

The amount of revenue at risk increases as proposed offshore wind energy projects are constructed and come online and would continue beyond 2030 during the continued O&M phases of the offshore wind energy projects. The most revenue at risk is during the construction of these projects, which is the focal period of this table, but revenue exposure would occur during the O&M phase as well, which will extend well beyond 2030.

*Id.*

Moreover, and of particular relevance to LBI and its famed Barnegat Light scallops, the Draft EIS acknowledges, as it must, that

[t]he presence of the WTG foundations and associated scour protection, as well as cable protection, would convert existing sand or sand with mobile gravel habitat to hard-bottom, which, in turn, would reduce the habitat for target species that prefer soft-bottom habitat (e.g., surfclams, sea scallops, squid, summer flounder).

Draft EIS 3.6.1-58. To illustrate, projected 2030 revenue from the species whose patterns and habitats are directly affected by the proposed project zone is \$33,597,000, with scallops, alone, comprising \$22,251,000 of that revenue. Table 3.6.1-34. Naturally, it follows that the local communities that support commercial fishing will suffer:

Fishing communities that derive a high percentage of revenue from the Lease Area and have a high reliance on the commercial fishing industry are expected to experience the greatest impacts from reduced demand for shoreside support services.

Draft EIS 3.6.1-67.

The Draft EIS attempts to minimize these impacts by terming them not irreversible because the turbines will be decommissioned in 35 years and might not be replaced. *See* Draft EIS 4.2.3. But the speculative future removal of turbines does not diminish the real and substantial harm over the next several decades, and even BOEM must acknowledge that “[i]rretrievable impacts (lost revenue) could occur due to the loss of use of fishing areas at an individual level.” *Id.*

Drive up and down Long Beach Boulevard or tour Viking Village in Barnegat Light if you wish to put a name and face to these businesses—they are everywhere! It is not surprising that the Draft EIS acknowledges that alternatives to the Proposed Action that include fewer turbines of more modest scale with lower noise emissions reduces the negative economic consequences to Long Beach Island’s fishing industry. It notes:

Relative to the Proposed Action, Alternatives C, D, and E would result in the removal of WTGs from the Lease Area and are expected to provide a reduction in potential adverse impacts on commercial fisheries compared to other alternatives, including the Proposed Action.

Draft EIS 3.6.1-79.

The clear weight of credible authority as discussed above, including DEP's and BOEM's own analyses, militate against the Atlantic Shores Project as currently conceived. DEP should deny Atlantic Shores' request for a consistency certification for the project as proposed, and explore whether alternatives exist, such as the Hudson South lease area, that would have lesser impacts on protected fisheries.

**III. The Atlantic Shores Project will have an adverse impact on the North American Right Whale in violation of DEP's threatened and endangered species rule.**

As Atlantic Shores recognizes in its COP, marine mammals are important species to any marine ecosystem; specifically, whales enhance primary productivity in their feeding areas by concentrating nitrogen at the surface and have even been identified as important for both the storage and transfer of carbon. COP, § 4.7, at p.4-153. Atlantic Shores has identified 37 species of marine mammals present in the Outer Continental Shelf (OCS) where the Project is located. In addition to protection under federal statutes, several of these marine mammals are listed by New Jersey as endangered and threatened wildlife species.

Of those species, five whale species are listed as endangered under the federal ESA and New Jersey's ENSP: North Atlantic Right Whale (NARW), Fin Whale, Sei Whale, Blue Whale, Sperm Whale. COP, Table 4.7-1. Two of those species of endangered whales have been found to be present in the Atlantic Shores project area: the Fin Whale (listed as common) and the NARW (listed as regular), with the NARW on the brink of extinction. The project will have an impact on the entire whale population but given the presence of the NARW on site and its critically endangered status, we focus our commentary specifically on the NARW.

The NARW is considered one of the world's most endangered large whale species. Labeled "critically endangered" by BOEM<sup>16</sup> there are estimated fewer than 350 NARW remaining, of which less than 70 are breeding females.<sup>17</sup> Since 2017, there has been a multi-year decline in the NARW population such that BOEM declared an "Unusual Mortality Event" for the NARW.<sup>18</sup>

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<sup>16</sup> BOEM's Atlantic Shores Offshore Wind: Atlantic Shores South Project Biological Assessment for National Marine Fisheries Service, dated May 2023, available at <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Atlantic%20Shores%20South%20NMFSS%20BA.pdf>, at 3.2.2.2, p. 84

<sup>17</sup> NOAA, North Atlantic Right Whale, <https://www.fisheries.noaa.gov/species/north-atlantic-right-whale>

<sup>18</sup> 2017-2023 North Atlantic Right Whale Unusual Mortality Event, <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2023-north-atlantic-right-whale-unusual-mortality-event>

The documented deaths, injuries and illnesses is nearing 100<sup>19</sup> as compared to only [57 calves born since 2017](#).<sup>20</sup> Studies also indicate that [females are dying at faster rates](#) than males and that their average lifespan is shrinking from around 70 years to around 45 years.<sup>21</sup> With NARW numbers that low and an increased mortality rate, every death brings the species closer to extinction.

The NARW typically occupy coastal and shelf waters within 56 mi of the shoreline and is a migratory species that travels from high-latitude feeding waters to low-latitude calving and breeding ground.<sup>22</sup> As the COP and Draft EIS recognize, the New Jersey coastal waters are important migratory routes for NARW and the Project area overlaps a biologically important area for NARW migration. COP, at 4-172; Draft EIS 3.5.6-2 To ensure the continued survival of the NARW, females must be able to give birth off the warmer waters of South Carolina and Georgia, and then return North to feed. So, anything that imperils the NARWs' migration must be avoided to ensure the continued survival of the species. Nothing must imperil that migration. The whale 12-mile-wide migration corridor off New Jersey intersects with and is adjacent to the proposed project area.<sup>23</sup>

The Atlantic Shores Project will cause a number of negative impacts on the NARW. One significant such impact is noise exposure from the project. Marine mammals rely heavily on sound for essential biological functions, including communication, mating, foraging, predator avoidance, and navigation. Draft EIS, p. 3.5.6-23 Underwater anthropogenic noise is far from innocuous and can have deleterious effects on marine mammals. It could block migration, bringing marine mammals to shore; bring about whale surfacing to avoid noise levels and pose a higher risk for vessel strikes; separate mothers from calves by masking communications; impede navigational capabilities, feeding, or mating, and impede the ability to detect predators or vessels.

There is compelling evidence that baleen whales (like the NARW) have acute very-low-frequency and infrasonic hearing. COP, 4-171. NARW are specifically well-adapted to and

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<sup>19</sup> Research suggests that only about one-third of NARW whale deaths are documented, so the number can actually be much higher. *See Id.*

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

<sup>21</sup> NOAA Fisheries, North Atlantic Right Whale, <https://www.fisheries.noaa.gov/species/north-atlantic-right-whale#overview>

<sup>22</sup> [https://media.fisheries.noaa.gov/2022-01/AtlanticShoresHRG\\_2022\\_App\\_OPR1.pdf](https://media.fisheries.noaa.gov/2022-01/AtlanticShoresHRG_2022_App_OPR1.pdf)

<sup>23</sup> NJ Offshore Wind Strategic Plan, Natural Resource Technical Appendix, Figure 21. Section 2.6. Indeed, it was noted that the annual abundance of the NARW is highest at depth contours between 30 and 40 meters, whereas that are shallower and much deeper than this range show less relative density.

dependent upon listening to sounds in the low-frequency register for critical life functions such as communicating, navigating, mating, and maintaining social bonds between mothers and calves.<sup>24</sup> Based on extensive research and a number of studies, the National Marine Fisheries Service (NMFS) established a 120 dB noise level at which 50 percent of the marine mammal population would be disturbed,<sup>25</sup> (with the NARW disturbance levels being lower).

There would be unavoidable underwater anthropogenic noise involved in the construction, installation, operation, and decommissioning of the Atlantic Shores Project. Draft EIS 3.5.6-56; Appendix B, § B5. Pile driving and vessel noise are an especially serious concern for the NARW. Pile driving can result in physiological and behavioral effects on marine mammals and the NARWs are expected to have the largest exposure ranges for injury from pile driving. Draft EIS 3.5.6-66. Moreover, the low frequencies produced by vessel noise and the relatively large transmission distances associated with sound at those frequencies put NARW at the greatest risk of impact compared to other marine mammals. Draft EIS, 3.5.6-32.

The noise poses a problem for NARWs because it can increase stress hormone levels and contribute to suppressed immunity, reduced reproductive rates, and fecundity, and, most significantly, cause acoustic masking that interferes with their detection of prey, predators, and communication signals, all of which is critical for the NARW's survival. *Id.* Atlantic Shores plans to use up to 51 vessels during the construction and installation of the project, with as many as 16 vessels expected to operate at one time, causing a significant increase in vessel activity compared to normal condition. Draft EIS, 3.5.6-64. Over the past several decades, there have been an increasing number of whales washing up on shore each year, and the only change from prior years is the large number of wind energy vessel surveys being conducted off the coast. Those vessels use high intensity noise devices to characterize the seabed for future wind turbine

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<sup>24</sup> Written Testimony of Dr. Christopher W. Clark Before the House Natural Resource Committee, Subcommittee on Water, Oceans, and Wildlife Hearing on "Examining the Threats to the North Atlantic Right Whale", March 7, 2019 (internal reference citations omitted). Dr. Clark, a PhD researcher conducted an experiment by listening to the whales every day for eighteen months. He and his team observed that the whales produced "contact calls" - a distinctive class of calls as a means of maintaining contact and coming together into social groups. The research team validated the biological importance of contact calls by conducting experiments in which they used an underwater loudspeaker to play back different types of sounds and in response, distant whales called back, and many swam to the location of our underwater loudspeaker.

<sup>25</sup> "NOAA Fisheries has defined the threshold level for Level B harassment at 120 dBRMS re 1 micro Pascal ( $\mu$ Pa) for continuous noise and 160 BRMS re 1  $\mu$ Pa for impulsive and intermittent noise."

[https://media.fisheries.noaa.gov/2022-01/AtlanticShoresHRG\\_2022\\_App\\_OPR1.pdf](https://media.fisheries.noaa.gov/2022-01/AtlanticShoresHRG_2022_App_OPR1.pdf), at p. 3.

placement. Indeed, recent whale deaths off Martha's Vineyard – with two dead humpback whales washing ashore just days after piledriving for the Vineyard Wind project commenced, underscore the serious harms that wind projects can cause for whales.<sup>26</sup>

Once operational, the impact of turbine operation on noise levels in the NARW's migration corridor remains a substantial concern. Dr. Robert Stern, the former director of the Office of Environmental Compliance in the U.S. Department of Energy, a recognized expert in environmental impact studies, submitted a letter, on behalf of his organization, Save LBI, to President Joseph Biden, that the LBI Municipalities have reviewed, endorse, and submit herewith for DEP's convenience.<sup>27</sup> That letter is replete with scientific data on the potential deleterious effects of wind turbines on marine life in various phases from installation to operation. Regarding turbine operation, Save LBI commissioned an acoustic company to calculate the operational turbine noise levels at various distances from the full wind complex proposed off LBI and the study confirmed an estimated conservative noise source level of 181 dB for a single turbine, resulting in the 12-mile-wide right whale migration corridor permeated with continuous noise levels from 140 to 145 dB, at least 20 dB above the 120 dB criteria set forth by NMFS at which the whale's behavior will be disturbed. Dr. Stern's analysis shows noise to 140 dB out to 13-34 miles and noise to 160 dB out to 16 miles from sound source.

The increase in vessel activity also poses a threat of vessel strikes to all mysticetes, including the NARW. Animal size and diving depth are the two most important parameters for predicting this risk.<sup>28</sup> The Draft EIS readily admits that NARW are particularly vulnerable to vessel strikes, and vessel strikes are a primary cause of death for this species. Draft EIS, 3.5.6-66. Based on NMFS data, the NARW has been experiencing unusual mortality events since 2017,<sup>29</sup> with the main cause attributed to vessel strikes and entanglement in fisheries gear. Draft EIS, 3.5.6-7. From 2017 to 2022, a total of 34 whales died, and with only a small number of deaths actually detected, the actual number of deaths is likely much higher. Draft EIS, 3.5.6-30. Even excluding

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<sup>26</sup> See <https://www.wbur.org/news/2023/06/08/offshore-wind-farm-marthas-vineyard-turbines> (foundation installation began on June 8, 2023) and <https://www.mvtimes.com/2023/06/13/dead-humpback-found-edgartown/> (dead humpback whales washed ashore mere days later).

<sup>27</sup> See Letter from R. Stern on behalf of Save LBI to President Biden, with numerous internal citations to studies therein. For ease of reference, we include a copy of that letter with this submission.

<sup>28</sup> NJ Offshore Wind Strategic Plan, Natural Resource Technical Appendix, at p. 66, [https://www.nj.gov/bpu/pdf/Draft\\_NJ\\_OWSP\\_Appendix\\_7-10-20.pdf](https://www.nj.gov/bpu/pdf/Draft_NJ_OWSP_Appendix_7-10-20.pdf).

<sup>29</sup> <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2023-north-atlantic-right-whale-unusual-mortality-event>

vessel traffic from the project, the impact of vessel traffic on NARW is major and long term and vessel strikes have had and continue to have population-level effects that compromise the viability of the species. Draft EIS, 3.5.6-32.

A number of additional potential risks are associated with the project. As the Draft EIS acknowledges, the installation of turbines “could result in hydrodynamic changes, entanglement or ingestion of lost fishing gear, habitat conversion and prey aggregation, avoidance or displacement, and behavioral disruption.” Draft EIS, 3.5.6-64. Changing in types of fishing gear that result in an increased number of vertical lines in the water would increase the risk of marine mammal interactions with fishing gear, which poses a specific threat to the NARW, as entanglement in fishing gear is a leading cause of death for this species. Draft EIS, p. 3.5.6-66.

Atlantic Shores has proposed a number of mitigation measures to try to combat the ill effects of the installation and operation of the turbines. Those measures are insufficient. For example, Atlantic Shores proposed to limit the Project to seasonal pile-driving restrictions with no pile driving occurring between January and April (the typical timing of migration) to minimize risks to NARWs. However, the NARW uses the Project area as a migratory corridor and can be present year-round. Ocean Wind Farm Biological Assessment, at p.102. Aerial surveys have documented NARW offshore of New Jersey in all seasons except summer, see Biological assessment, p.85, and NARW has been acoustically detected in waters off New Jersey and New York during all months of the year. *Id.* The BOEM’s biological assessment of the project concludes that “the effects of exposure to noise above behavioral thresholds resulting from impact pile driving for foundation installation **may affect, likely to adversely affect** fin whales and NARWs,” noting that “this migratory corridor “is considered a Biologically Important Area; as such, behavioral disturbance in this area for a critically endangered species may result in affecting critical functions. Therefore, the behavioral disturbance resulting from impact pile driving cannot be discounted.” Biological Assessment, p. 102.

Atlantic Shores has also proposed to follow multi-step vessel strike avoidance procedures to mitigate the potential impacts on the NARW. COP, 4-218 – 4-220. But again, the measures may not be sufficient as any collision risk posed to the NARW could have severe population level effects. A study using a database of 10,000 photo-documented right whale observations and a population matrix model demonstrate that the prevention of even two female mortalities per year would increase the population growth rate to replacement level.<sup>30</sup>

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<sup>30</sup> NJ Offshore Wind Strategic Plan, Natural Resource Technical Appendix, at p.68, [https://www.nj.gov/bpu/pdf/Draft\\_NJ\\_OWSP\\_Appendix\\_7-10-20.pdf](https://www.nj.gov/bpu/pdf/Draft_NJ_OWSP_Appendix_7-10-20.pdf) (citing studies).



Significantly, the “cumulative impact” of the proposed action in the Draft EIS states that the “BOEM anticipates that the cumulative impacts would result in ... **moderate** to **major** impacts on NARW.” It further explains that

the BOEM made this determination because the anticipated impact would be notable and measurable, but most marine mammals are expected to recover completely when IPF stressors are removed and remedial or mitigating actions are taken. However, impacts on individual NARWs could have severe population-level effects (e.g., vessel strikes if they were to occur). The main drivers for these impact ratings are gear utilization, impact pile-driving noise, vessel noise, the presence of structures, and vessel traffic (i.e., vessel strike). The Proposed Action would contribute to the cumulative impact rating primarily through impact pile-driving noise, vessel noise, and the presence of structures.

The DEP’s Coastal Zone Management Rules set forth protections for endangered or threatened wildlife and require an applicant of a proposed project sought to be developed on a site with documented endangered or threatened wildlife to demonstrate that the endangered or threatened wildlife would not be adversely affected. See N.J.A.C. § 7:7-9.36(b) and (c); N.J.A.C. 7:7-11.2(b) and (c); 7:7-11.4(c). Given the potential negative impacts of the Project and the BOEM’s concession that the project poses moderate to major impacts on NARW, the Project does not comply with the CZM’s requirement of showing no adverse effect. DEP should deny Atlantic Shores’ request for a consistency certification for the project as proposed, and explore whether alternatives exist, such as the Hudson South lease area, that would have lesser impacts on protected marine mammals.

#### **IV. The Atlantic Shores Project will negatively impact critical wildlife habitat for birds.**

Finally, the Atlantic Shores Project as proposed is inconsistent with DEP rules protecting avian species, including N.J.A.C. 7:7-9.36 (Endangered or threatened wildlife or plant species habitats) and N.J.A.C. 7:7-9.37 (Critical wildlife habitats).

As BOEM acknowledges in its Draft EIS, “[m]any species and higher taxonomic groups of birds may occur within the project area because of its position along the Atlantic Flyway and the region in which the geographic range of many northern and southern species overlap.” Draft EIS at 3.5.3-1. The project area is known to be used by at least three species of shorebirds listed by New Jersey as endangered, the red knot, piping plover, and roseate tern. Draft EIS at 3.5.3-6.<sup>31</sup>

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<sup>31</sup> BOEM is preparing a biological assessment in connection with endangered bird species. Any DEP determination should await that biological assessment.

BOEM preliminarily found that the Atlantic Shores Project may adversely affect the red knot, and may affect the piping plover and roseate tern, among other species. The LBI Municipalities believe BOEM's preliminary assessment greatly understates the impact on these species, especially given that this project is one of many proposed in a close geographic area.

Specific to the piping plover, the Draft EIS claimed that Atlantic Shores had not detected them during digital aerial surveys. However, other studies have found that migratory routes of piping plovers indeed cross through the project area, among other lease areas designated by BOEM. See Pamela H. Loring, James D. McLaren, Holly F. Goyert and Peter W.C. Paton. "Supportive wind conditions influence offshore movements of Atlantic Coast Piping Plovers during fall migration," *The Condor* 122 (2020).<sup>32</sup> This study tagged 150 adult piping plovers in southern New England, tracked them via radio telemetry, and modeled their migratory flight paths based on this data. *Id.* The study, the first to describe the piping plover's flight altitude during migration, found "that the mean offshore migratory flight altitudes of Piping Plovers crossing the mid-Atlantic Bight were mostly within or above the [Rotor Swept Zone] off offshore wind turbines." *Id.* at 10. The flight paths of several birds crossed the Atlantic Shores lease area. *Id.* at 11, Figure 6.

Additionally, a study on offshore wind projects in the North Sea reflects that offshore wind farms can cause significant mortality for migrating bird species. See Robin Brabant, Nicolas Vanermen, Eric W.M. Stienen and Steven Degraer. "Towards a Cumulative Collision Risk Assessment of Local and Migrating Birds in North Sea Offshore Wind Farms" *Hydrobiologia* (2015). This study found that, when considering a realistic scenario of 10,000 total turbines in the North Sea rather than analyzing on an individual project basis as regulators typically do, there could be thousands of song bird deaths in a single night resulting in significant, population level impacts. *Id.*

In New Jersey alone, Governor Murphy has set a goal of 11,000 MW of offshore wind energy generation by 2040. DEP has already approved the Ocean Wind 1 project directly adjacent to the proposed Atlantic Shores Project area. Other states on the Eastern seaboard plan to develop wind projects as well. Thus, the impact of the Atlantic Shores project must be considered in conjunction with these other proposed projects. Indeed, even with its inadequate analysis, the Draft EIS predicted the Atlantic Shores Project, if constructed, would have a moderate cumulative impact on birds "primarily through the permanent impacts from the presences of the structures."

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<sup>32</sup> Available at <https://academic.oup.com/condor/article/122/3/duaa028/5860737>.

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DEP's rules discourage development "that would directly or through secondary impacts on the relevant site or in the surrounding region adversely affect critical wildlife habitat." N.J.A.C. 7:7-9.37(b). Critical wildlife habitat includes "specific areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding, and migrating." N.J.A.C. 7:7-9.37(a)(1). The Atlantic Shores proposal would adversely affect migratory routes for the endangered piping plover, and BOEM has recognized that it may adversely impact the endangered red knot as well. The proposal is thus not consistent with DEP's coastal zone management rules. DEP should deny Atlantic Shores' request for a consistency certification for the project as proposed, and explore whether alternatives exist, such as the Hudson South lease area, that would have lesser impacts on critical habitat for birds.

## V. Conclusion

Because the project fails to strike an appropriate balance between achieving alternative energy goals in a manner consistent with DEP's coastal zone management rules, DEP should deny Atlantic Shores' request for a federal consistency certification. As proposed, the Project would be the closest offshore wind project of its scale and size in the United States, would be sited just offshore a premier beach location that relies heavily on tourism and fishing to support its economy, and would have negative impacts on both marine mammals and birds.

Again, the LBI Municipalities support developing of clean energy. But they cannot support this project because of these negative impacts, and DEP should likewise decline to support it as it violates DEP's enforceable coastal policies. The LBI Municipalities urge Atlantic Shores to instead pursue development within the Hudson South lease area, which would greatly reduce the visual and other impacts to LBI and other shore locations, and we believe cause fewer impacts to whales and birds as well given its location further offshore. Atlantic Shores' request for a consistency certification in connection with its current proposal should be denied.

Very truly yours,

*/s/ Frank Huttle III*

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