

February 14, 2023

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**Re: Comments on Sunrise Wind DEIS; Docket No. BOEM-2022-0071**

**General:** BOEM's release of the Sunrise Wind DEIS on December 12, 2022, right before the Christmas holidays, and simultaneously with the Empire Wind DEIS comment period,<sup>1</sup> New England Wind DEIS comment period,<sup>2</sup> Coastal Virginia Offshore Wind DEIS comment period,<sup>3</sup> the state's RFI for a Regional Administrator for fisheries compensation comment period, two 3- 5 day Mid Atlantic Fishery Management Council meetings,<sup>4</sup> and a 3 day New England Fishery Management Council meeting<sup>5</sup> seems to be designed to prevent meaningful participation of the commercial fishing industry in the BOEM process for all of these projects, including Sunrise Wind. The commercial fishing industry does not have an army of staff, as does BOEM, to exclusively focus on each DEIS. Additionally, commenting on offshore wind is not our sole job description. BOEM is fully aware of the dates of the Fishery Management Council meetings, as it attends many of them, including those which occurred during the Sunrise Wind comment period. Meeting fatigue, combined with the fact that there are only so many hours in a day to attempt to read through the thousands of pages of BOEM DEISs and associated documents makes full comments on each DEIS impossible. Therefore, these comments will be significantly abbreviated compared to comments that would be prepared if BOEM allowed more time for comment and/or more spacing between DEIS releases. **As the public stakeholders with the most to lose from offshore wind, we request that BOEM extend the public comment period for Sunrise Wind and well as all the other proposed Project DEISs to allow for true public participation in the BOEM process.**

The Sunrise Wind DEIS is one of the least detailed of several DEISs that we have reviewed thus far, and lacks a standalone and/or detailed cumulative impacts analysis. Impacts are generalized, very rarely quantified, and those that are quantified are quantified in a general and not specific manner. This makes detailed and specific comment, or weighing of alternatives, impossible. BOEM does not provide enough detailed information to differentiate between alternatives and associated impact producing factors, leading essentially to conclusions that all impacts are the generally the same. Reality dictates that this is not the case. For example, Table ES-2, "Summary and Comparison of Impacts among Alternatives with No Mitigation Measures" concludes that No Action will have the same impacts to Water Quality as all of the Action Alternatives, despite the proposed Project containing an open cooling water intake system for its offshore converter station (OCS-DC) that would release 8.1 million gallons of 90 degree F effluent on a daily basis. In another example, Table ES-2 "Summary and Comparison of Impacts among Alternatives with No Mitigation Measures" concludes that No Action will have the same impacts to Benthic Resources as all Action Alternatives. Pile driving up to 94 turbines into the ocean floor and laying 285 miles of cables creates impacts to benthic resources that would not exist if a

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<sup>1</sup> See <https://www.boem.gov/renewable-energy/state-activities/empire-wind>.

<sup>2</sup> See <https://www.boem.gov/renewable-energy/state-activities/new-england-wind-formerly-vineyard-wind-south>.

<sup>3</sup> See <https://www.boem.gov/renewable-energy/state-activities/CVOW-C>.

<sup>4</sup> See <https://www.mafmc.org/briefing/december-2022> and <https://www.mafmc.org/briefing/february-2023>.

<sup>5</sup> See <https://www.nefmc.org/calendar/january-2023-council-meeting>.

developer was *not* pile driving 94 turbines into the ocean floor and laying 285 miles of cables.<sup>6</sup> BOEM's conclusions make no sense, and result from lack of detailed analysis. Lack of detailed and quantitative analysis makes weighing of Alternatives impossible and all of BOEM's conclusions flawed. **We request that BOEM release a supplemental DEIS that contains more finely detailed information and appropriate specific, not generalized, analysis that differentiates between alternatives.**

BOEM continues to conflate the No Action Alternative with a Cumulative Impacts Analysis. This makes comparison of No Action with the Cumulative Impacts Analysis impossible as a practical matter, and the document does not contain any charts, tables, or methodology by which a Cumulative Impacts Analysis was conducted. The No Action Alternative contains "impacts from ongoing activities" as the "baseline against which the direct and indirect impacts of all action alternatives are evaluated", and states that "other reasonably foreseeable future impact-producing offshore wind and non-offshore wind activities would be implemented, which would cause changes to the existing baseline conditions even in the absence of the Proposed Action".<sup>7</sup> This is not a No Action Alternative. This is a Cumulative Impacts Alternative. **BOEM cannot create a "baseline" of cumulative impacts. Cumulative impacts are future foreseeable impacts, not current baselines.**

The document even states this: "The continuation of all other existing and reasonably foreseeable future activities described in Appendix E (Planned Activities Scenario) without the Proposed Action serves as the baseline for the evaluation of cumulative impacts of all alternatives." A true No Action Alternative would contain only existing permitted projects- Vineyard Wind 1 and South Fork Wind Farm- in its analysis. A Cumulative Impacts Alternative would detail all the planned and future foreseeable BOEM actions such as those potential future projects detailed in Appendix E. By equating the two, BOEM serves to downgrade the impacts produced by the proposed Project of Sunrise Wind. **This is a corruption of NEPA and must be rewritten and all alternatives re-analyzed, with standalone No Action and Cumulative Impacts Alternatives.**

**As we have commented over the years many times on many of the same issues raised in this DEIS and the BOEM process, all of which have gone unaddressed, we hereby incorporate all our previous comments to BOEM here by reference.**

**Purpose and Need/Goals:** BOEM's Purpose and Need for the proposed Project is convoluted and restrains meaningful NEPA review, as well as OCSLA compliance. BOEM's purpose and need section focuses exclusively on Sunrise Wind's goal to install a 1,034 MW facility, satisfying Sunrise Wind's "obligation" to NYSERDA for providing 924 MW of offshore wind energy, the Administration's goal to deploy 30 GW of offshore wind by 2030, and consideration of the goals of the applicant (which of course will be to build the full potential of the entire lease area).<sup>8</sup> First of all, Sunrise Wind's "obligation" to NYSERDA was a speculative contract entered into prior to any federal review of the proposed Project and cannot bind BOEM's analysis. BOEM cannot subjugate its NEPA and OSCLA duties to a speculative contract signed by the developer. It is BOEM's duty to analyze various Alternatives and comply with OSCLA standards, not to comply with the developer's and NYSERDA's speculative contracts or "obligation". Otherwise, and as is detailed in the analysis of the DEIS regarding Alternatives considered but rejected and the limits of its analysis, BOEM itself has become party to that contract, which is wholly

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<sup>6</sup> See cables lengths on DEIS p. ES-v, ES-vi.

<sup>7</sup> DEIS, p. ES-v.

<sup>8</sup> DEIS, p. ES-ii, ES-iii.

inappropriate and illegal. BOEM's responsibilities as a government agency do not change regardless of private speculation.

If a homeowner in a town signed a contract with a carpenter to build a 12x12 foot shed in their backyard prior to applying for a town permit for the shed, and if upon reviewing the application the town ruled that according to its permitting rules that the homeowner could only be authorized to build a 10x10 foot shed, the speculative contract of the homeowner and the carpenter would have to be adjusted to fit the town's permitting requirements, not the other way around. Otherwise the town would be abandoning its permitting rules and procedures in order to fulfill a private contract. A private contract that was created outside the realm of any town rules and regulations and based on pure speculation. It is no different here.

Additionally, rather than comply with its OSCLA duties which state that the Secretary "shall ensure", among other things, "prevention of interference with reasonable uses" when conducting all manner of offshore wind leasing, BOEM has instead substituted "promoting ocean co-use" as its own requirement. This is not the same. "Promoting ocean co-use" is not the same as "shall ensure prevention of interference with reasonable uses." BOEM has taken a simple construct of the English language and changed it to something entirely different. BOEM does not get to dictate its own scope of authority or change the parameters of its own authority; only Congress can do that. **As such, BOEM's assumptions in the Purpose and Need section of the DEIS is faulty at its core, and therefore all resulting analysis is faulty.**

BOEM states that it will make its determination on the proposed Project "after weighing the factors in subsection 8(p)(4) of OSCLA that are applicable to plan decisions and in consideration of the above goals". OSCLA says nothing about weighing. It says "shall ensure" the factors listed, not in consideration of the developers or state's goals or contractual "obligations", but in the absolute. BOEM shall ensure prevention of interference with reasonable uses. BOEM shall ensure safety. All these obligations that BOEM "shall ensure" are applicable to the plan decisions. That is the point. BOEM does not get to decide which ones are and which ones aren't. The law is supposed to constrain and set parameters on BOEM decision making, giving it limited and not unlimited authority. This is the entire idea of the law. BOEM has the authority to lease for offshore wind, subject to constraints. These legal constraints override Executive Order policy statements, developer contract "obligations" and full buildout goals, and state energy goals.

However, it is clear from the Alternatives Considered but Not Analyzed that BOEM constrained its NEPA review and OSCLA compliance based on developer goals of full buildout of 1,034 MW, as well as the actual contract that the developer signed with NYSEDA, rather than fulfilling its OSCLA duties that the law mandates it "shall ensure." It places erosion of developer profits above OSCLA duties. This is a problem and should be investigated as a form of regulatory capture. We discuss this below.

**Alternatives Considered but Not Analyzed:** The rejection of 4 nm wide transit lanes discussed on page 2-38 of the DEIS focuses on the fact that, "Adding transit corridors could erode Project economics and logistics and potentially lead the lessee to retract from the [Northeast leaseholders 1x1 nm turbine spacing] agreement, to which it committed to assuming that no additional transit lanes would be required". First of all, the developer was part of multiple public transit lane workshops held by RODA prior to secretly releasing their "Northeast leaseholder agreement" in contradiction of the work accomplished at those workshops, which included multiple transit lanes that would have minimally

disrupted the Sunrise Wind project.<sup>9</sup> The BOEM rationale for rejecting consideration of this transit lane Alternative, of which radar interference concerns were a driving force, additionally rests on the conclusions of the USCG MARIPARS, which did *not* evaluate radar interference but erroneously alluded that it did not occur. Since the completion of that document, the National Academies of Science released a report, sponsored by BOEM, that confirms the very real presence of radar interference as a result of offshore wind turbines, with no immediate solutions.<sup>10</sup> That report quotes part of our comments on the MARIPARS, which were ignored and which we have attached along with this comment.<sup>11</sup> These comments also detail the reasoning for the request of transit lanes as specifically being concerns over radar interference. As a major issue that has gone unaddressed by both the USCG and BOEM, particularly as it pertains to BOEM's requirement that any and all offshore wind leasing activity "shall ensure....safety", BOEM cannot continue to brush this issue aside or use the MARIPARS as a full evaluation of safety in navigation through the lease area. We discuss this further later in our comments.

Another Alternative Considered but Not Analyzed is the Alternative to consider a closed loop cooling system for the OCS-DC. As evidenced in our comments below, we have significant concerns surrounding the OCS-DC open cooling water intake system. BOEM's stated reasons for rejecting any analysis for this option, which would significantly reduce the adverse environmental impacts associated with the proposed Project, is that a closed loop system would be "less energy efficient", cause "significant increases in capital expenditures (CAPEX) and operational expenditures (OPEX)."<sup>12</sup> This is not our problem. This is not BOEM's problem. Analyzing a reasonable range of Alternatives per NEPA is BOEM's problem, not attempting to make the cheapest possible options available to the developer at the expense of the environment. Sunrise Wind is the only project and only developer so far to even propose such an impactful and harmful system. This means that it is unnecessary and is simply a desired design feature on the part of the developer.

However, BOEM's conclusion is that "For these reasons, consideration of a closed loop cooling system is not technically and economically feasible or practical."<sup>13</sup> Yet BOEM offers no rationale for this statement. If other developers do not need such systems, why would Sunrise Wind? Why would using the same types of systems as other approved projects make Sunrise Wind's proposed Project technically and economically feasible and practical? Where is any analysis to this effect? Who decides what is feasible? Does BOEM conduct any independent consideration of "feasible"? Or does BOEM simply take a developer's statement that it is feasible or unfeasible as its Alternatives analysis? **We request that BOEM define its process for determining "feasible" and "practical" for any part of a project, any independent analysis conducted to determine feasibility and/or practicability and how BOEM weighs any such analysis vs potential environmental impacts, including any thresholds utilized, in making "feasibility" or "practicality" determinations.**

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<sup>9</sup> See <https://rodafisheries.org/portfolio/northeast-wind-energy-area-transit-lane-development/> and details here: <https://rodafisheries.org/wp-content/uploads/2019/08/NETransitWkshopMtgSummary10312018-Final.pdf>.

<sup>10</sup> National Academies of Sciences, Engineering, and Medicine. 2022. Wind Turbine Generator Impacts to Marine Vessel Radar. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26430>. National Academies of Sciences, Engineering, and Medicine. 2022. Wind Turbine Generator Impacts to Marine Vessel Radar. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26430>, at <https://nap.nationalacademies.org/read/26430/chapter/1>.

<sup>11</sup> See the full comments, complete with support documents and radar screenshots here: <https://www.regulations.gov/comment/USCG-2019-0131-0026> and here: <https://www.regulations.gov/comment/USCG-2019-0131-0067>.

<sup>12</sup> DEIS, p. 2-39.

<sup>13</sup> Ibid.

However, the very disturbing trend in BOEM's analysis is the reliance on economics of the developer. BOEM says that considering any Alternative analysis of a 4 nm wide transit lane, which would be in compliance with a mandatory OSLA legal requirement to provide for safety, "could erode Project economics" and therefore discontinues the discussion. BOEM states that any alternative to the proposed Project's open cooling water intake system would be "not..economically feasible or practical". The Sunrise Wind project is *already* unfeasible economically. *Orsted has already calculated a 2.5 billion DKK impairment loss on the Sunrise Wind project and before it is even built is discussing future divestment.*<sup>14</sup>

BOEM can't base its decision on swings in economics; it has to base its decisions on fulfilling its legal requirements. Many projects are already defaulting on power purchase agreements- another reason that BOEM cannot continue using these PPAs as rationale for not disapproving projects or parts of projects or refusing to consider various Alternatives. Commonwealth Wind has already appealed for a renegotiation of its power purchase agreement with the state of Massachusetts because the proposed project is now uneconomical and unfinanceable.<sup>15</sup> Ocean Wind off the coast of New Jersey, planned by the same developer as Sunrise Wind, has now become so economically unfeasible that PSEG has pulled out of its 25% stake in the project after only 2 years of its initial investment, as its CEO states, "what you have been seeing with others, we are seeing with our projects".<sup>16</sup> Currently, offshore wind projects are failing economically before even being built or reviewed by BOEM. **BOEM cannot therefore rely on "economic feasibility" as a decision point for rejection of Alternatives unless it is also prepared to reject the entire proposed Project for the same reasons.** Basing decisions on contracts/agreements/developer goals even if they were feasible is inappropriate, since if BOEM binds itself to those contracts it essentially gives the developers and PPA companies the exclusive right to dictate BOEM NEPA review. This is precisely what has happened with the Sunrise Wind DEIS. **We request that BOEM conduct full NEPA analysis of the various "Alternatives Considered for Analysis in this DEIS but not Analyzed" that were rejected due to purported lack of economic feasibility, and/or consider a full disapproval and rejection of the proposed Project due to economic infeasibility to be consistent with the current rationale for rejecting the Alternatives not Analyzed.**

**Finfish, Invertebrates and Essential Fish Habitat:** BOEM continues to espouse the illusion that climate change will "reduce reproductive output and increase individual mortality and disease occurrence" contrary to scientific peer reviewed data and utilize this as a "baseline condition" and "regional trend" for all analysis related to the proposed Project.<sup>17</sup> *Again, this is a corruption of NEPA and is not a true baseline. Potential future conditions do not serve as baselines.*

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<sup>14</sup> See "Ørsted deems impairment of Sunrise Wind project a one-off", *EnergyWatch*, January 20, 2023, at <https://energiwatch.dk/Energinyt/Energiselskaber/article14871710.ece>.

<sup>15</sup> See "Commonwealth Wind Appeals DPU Approval of Power Agreements", *Maritime Executive*, January 25, 2023 at <https://maritime-executive.com/article/commonwealth-wind-appeals-dpu-approval-of-power-agreements>.

<sup>16</sup> See "Orsted closes 25% stake sale in 1.1 GW Ocean Wind project to PSEG", *Renewables Now*, April 13, 2021 at <https://renewablesnow.com/news/orsted-closes-25-stake-sale-in-11-gw-ocean-wind-project-to-pseg-737715/> and "PSEG may cut offshore wind investment", *NJ Spotlight News*, November 2, 2022 at <https://www.njspotlightnews.org/2022/11/pseg-reconsiders-offshore-wind-farm-investment-orsted-economic-headwinds/> and "PSEG sells stake in Ocean Wind 1 project", *NJBIZ*, January 18, 2023 at <https://njbiz.com/pseg-sells-stake-in-ocean-wind-1-project/>.

<sup>17</sup> DEIS, p. 3-203.

Further, contrary to BOEM's above conclusion, the fact is that "climate change" is projected to be a *positive directional effect* for some species, including longfin squid, illex squid, butterfish, black sea bass, and bluefish, among others.<sup>18</sup> According to the DEIS, the Project area has been identified as essential Fish Habitat (EFH) *for all of these exact species*. Therefore, BOEM cannot insert its own conclusion that the baseline of these stocks is declining or projected to decline due to climate change, which serves to downplay Project effects to the species, i.e. "the stocks were declining anyway, and the project would not have impacted that one way or the other". This assumption is in direct contradiction to peer reviewed scientific literature and climate vulnerability assessments on these stocks. BOEM should instead project that these stocks should be increasing over time if it projects climate change effects to increase over time. Therefore, projected climate change would serve to reduce these increases and cost the fishing community opportunity and revenue. **We request that BOEM correct and re-analyze its assumptions, baseline impacts and Alternative impacts relative to this peer- reviewed scientific information.**

The DEIS states that "BOEM has prepared an EFH assessment for the Project" and relies on this "EFH assessment" for the DEIS.<sup>19</sup> This is problematic, as NMFS is by law the agency designated with the authority to conduct EFH consultations/approvals. It is particularly problematic given the fact that BOEM's draft EFH assessment provided to NMFS was incomplete and, according to correspondence between the agencies dated October 7, 2022, had NMFS been provided with the updated and correct EFH assessment information consistent with the timeline under FAST 41, it would initiate its EFH consultation no later than February 16, 2023, two days *after* the public comment period ends for the DEIS.<sup>20</sup>

In that correspondence, NMFS states, "The draft EFH assessment is incomplete and requires substantial revisions before consultation can be initiated, as it does not include information necessary for our review. Although we have tried to provide a comprehensive review of the draft EFH assessment, our review was hampered by the significant deficiencies in the document and the lack of an independent analysis of impacts to EFH... The provided draft EFH assessment does not include the mandatory elements required for such assessments pursuant to 50 CFR 600.920(e)... Consequently, substantial revisions to the assessment are required before EFH consultation can be initiated. Given the extent of revisions, and supporting analyses, necessary for us to deem the assessment complete, we recommend that you coordinate with us as soon as feasible on the revisions to the assessment."<sup>21</sup> **If BOEM is relying on this incomplete and regulatorily non-conforming EFH document in the DEIS, then all such analysis and conclusions regarding EFH in the DEIS are incorrect and insufficient for the purposes of NEPA. We therefore request that BOEM correct its deficiencies, create a regulatorily conforming EFH document, undergo EFH consultation on marine resources with NMFS, adjust its DEIS EFH section based on that new EFH document, and release a supplemental EIS for public comment to allow for public comment on an accurate under NEPA.**

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<sup>18</sup> See Hare JA, Morrison WE, Nelson MW, Stachura MM, Teeters EJ, Griffis RB, et al. (2016) A Vulnerability Assessment of Fish and Invertebrates to Climate Change on the Northeast U.S. Continental Shelf. PLoS ONE 11(2): e0146756. doi:10.1371/ journal.pone.0146756, <https://psl.noaa.gov/people/michael.alexander/hare.etal.plos-one.02-16.pdf>, p. 17.

<sup>19</sup> DEIS, p. 3-201.

<sup>20</sup> See Correspondence tab for the November 18, 2022 Habitat Joint Advisory Panel and Committee Webinar, first document, "RE: Essential Fish Habitat Assessment, Sunrise Wind Lease Area OCS-A-0487, Rhode Wind/Massachusetts Energy Area" letter NMFS to BOEM, dated October 7, 2022, available at [10.-221118-HAB-CTE-Correspondence.pdf \(d23h0vhsm26o6d.cloudfront.net\)](https://www.cloudfront.net/d23h0vhsm26o6d), also attached.

<sup>21</sup> Ibid.

One of the issues not discussed in BOEM’s current EFH document quoted in the DEIS, according to the above, is “site specific analysis (e.g., impingement and entrainment assessment for Atlantic cod eggs and larvae).”<sup>22</sup> We discuss these impacts and our concerns with such impacts in our comments below on “Water Quality/Fisheries Impacts.” We have significant concerns about how the proposed open cooling water intake system for the Project’s offshore converter station (OCS-DC) would affect the recruitment and stock levels of species that our vessels commercially harvest, as three – Atlantic herring, Atlantic mackerel, and Atlantic butterfish- have been identified by the developer as some of the most affected species by the proposed OCS-DC.

We also agree with all NMFS’ other concerns regarding lack of BOEM EFH analysis/regulatory compliance detailed in their October 7, 2022 letter, and incorporate them here by reference. We particularly note this regarding UXO detonation/deflagration concerns. Recently, an unplanned UXO detonation occurred in the UK, while a UXO disposal expert attempted to slow burn/deflagrate a UXO.<sup>23</sup> Therefore, all analysis must include, and even expect, worst case scenarios regarding UXO removal analysis, as even the best attempts at slow burn deflagration can result in major unplanned detonations. These impacts would also apply to the Marine Mammal section, particularly regarding the critically endangered North Atlantic Right Whale.

We also incorporate by reference here all NMFS concerns regarding EFH that were submitted to BOEM regarding South Fork Wind Farm, which we have attached with this comment letter, as the South Fork project is adjacent to the proposed Sunrise Wind Project and would create similar adverse effects. Adequate UXO analysis seems to be absent both project documents, as they were from the Revolution and Vineyard Wind documents, as we discussed in our comments on the Revolution Wind DEIS which we also incorporate here by reference.

**Water Quality/Fisheries Impacts:** BOEM’s analysis, or lack thereof, pertaining to the proposed open cooling water intake system for the Project’s offshore converter station (OCS-DC) as an “impact producing factor” affecting water quality is truly remarkable. Page 3-37 of the DEIS states that “Table G-4 in Appendix G identifies potential IPFs, issues, and indicators to assess impacts to water quality”. However, upon visiting Appendix G, Section 1.1.2 Water Quality, the reader is led to a simple Table G-4 “Potential Impact Producing Factors on Water Quality”, the contributing IPFs include accidental releases, anchoring, cable emplacement and maintenance, discharges, land disturbance, port utilization, presence of structures.”<sup>24</sup> There is no analysis contained in the Appendix. Neither is there any real analysis contained in the DEIS.

The section of the DEIS that discusses the operation of the OCS-DC states that the daily design intake flow of the OCS-DC would be 8.1 million gallons per day, with maximum daily discharge of 90 degrees F. It briefly discusses thermal plume size, location, modeling, and mixing estimates, but every assertion is referenced to “TRC 2021”. Upon examination of the DEIS Appendix K: References Cited, this reference correlates to “TRC Companies, Inc. (TRC). 2021. NPDES permit application. Sunrise Wind

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<sup>22</sup> Ibid.

<sup>23</sup> See article and video here: <https://www.foxnews.com/world/world-war-ii-bomb-explodes-england-unplanned-detonation>.

<sup>24</sup> See [https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20G\\_Impact-Producing%20Factor%20Tables\\_508%20-%20Copy.pdf](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20G_Impact-Producing%20Factor%20Tables_508%20-%20Copy.pdf), Appendix G, p. G-5.

offshore converter station. December 2021".<sup>25</sup> Therefore, BOEM relies completely on a document prepared by the developer themselves. This is inappropriate; independent analysis is necessary. In order to review the application document cited, we also consulted Appendix A: Required Environmental Permits and Consultations", which merely mentions that the project would require a NPDES permit from the EPA but contains no permit documentation pertaining to this permit/permit application.<sup>26</sup> In Appendix N2 of the COP, we can find a 2022 document prepared by the developer entitled "Ichthyoplankton Entrainment Assessment",<sup>27</sup> but as that document is dated 2022 not 2021, it is difficult to tell if this is the document referenced by the DEIS in the Water Quality section.

Therefore, it is impossible to comment on the sole document and rationale that BOEM has provided for a very major impact to the environment. BOEM conducts no analysis itself, other than to regurgitate a developer document. It references no other studies pertaining to impacts of open cooling water intake systems, which are now banned in New York State waters due to the devastating environmental impacts produced by such systems. It is difficult to see how New York State would approve a project that would violate their own regulations if placed in state waters. And it is difficult to see how BOEM can estimate the impacts from this type of system- banned in the very state requesting the project- when it refers to no documentation or environmental studies other than the developer themselves. There are environmental reasons that these systems are now outlawed in many other locations. But none of these have made it into BOEM's analysis. Therefore, BOEM conducted no analysis. **We request that BOEM explore scientific and environmental analyses that pertain to open cooling water intake systems on the marine environment and publish this analysis/literature review in a supplemental EIS.**

This is particularly important regarding water quality as it affects fishery resources. For example, in Southern California alone, open cooling water intake systems have been estimated to cost the fishing industry over \$9 million a year (in 2005 dollars), which is an underrepresentation of true impacts as only 20 of 258 species affected were important to the fishing industry.<sup>28</sup> **If the California Energy Commission can provide such an analysis, then a major federal agency such as BOEM could also conduct such an analysis to estimate the biological and fishery impacts of the Proposed Project. We request that BOEM do so and provide that analysis in a supplemental EIS for further public comment.**

According to a presentation given by the developer at a 2021 NYSERDA FTWG meeting, the developer's analysis found that "forage" species such as Atlantic herring and Atlantic mackerel would be most susceptible to entrainment of eggs and larvae in the OCS-DC.<sup>29</sup> **As both of these commercially important species are currently under rebuilding plans pursuant to the Magnuson Stevens Fishery Conservation and Management Act specifically due to low recruitment/fecundity and not due to**

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<sup>25</sup> See [https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20K\\_References%20Cited\\_DEIS\\_508.pdf](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20K_References%20Cited_DEIS_508.pdf), Appendix K, p. K-8.

<sup>26</sup> See [https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20A\\_Required%20Environmental%20Permits%20and%20Consultations%20-%200508%20-%20Copy.pdf](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20A_Required%20Environmental%20Permits%20and%20Consultations%20-%200508%20-%20Copy.pdf), p. A-7.

<sup>27</sup> See [https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/SRW01\\_COP\\_AppN2\\_IchthyoplanktonEntrainmentAssessment\\_2022-08-19\\_508.pdf](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/SRW01_COP_AppN2_IchthyoplanktonEntrainmentAssessment_2022-08-19_508.pdf).

<sup>28</sup> See McFarlane, Jamie "The Ecological Dangers of Once-Through Cooling Systems", March 14, 2018 at <http://large.stanford.edu/courses/2018/ph241/macfarlane1/> and R. York. "Issues and Environmental Impacts Associated with Once-through Cooling at California's Coastal Power Plants," California Energy Commission, [CEC-700-2005-013](https://www.energy.ca.gov/publications/700-2005-013), June 2005.

<sup>29</sup> See presentation, attached.



**overfishing, we request that a detailed analysis on impacts to each species and their projected recovery rate, including resulting fishery impacts, be conducted and published in a supplemental EIS.**

The developer's 2021 NYSERDA FTWG presentation also mentions cod, and that the entrainment rates are estimated to be highest in May through December, we also express concerns with the impacts to the cod stock, as this timing overlaps with cod spawning activity. Cod spawning activity begins in November through December, and according to NMFS' previous correspondence with BOEM regarding adjacent projects which would be applicable to this proposed Project, "impacts to spawning success could have long-term population impacts for the species"<sup>30</sup> particularly considering "unlike other spawning components, cod in Southern New England have increased in abundance during the last 20 years."<sup>31</sup> Not all projects, and not all impacts, are created equal. Impacts to the one cod stock component that may be keeping the species going would be far more devastating to the stock than impacts on a less productive or less numerous stock component. **We request that BOEM provide estimates of cod spawning and larvae mortality, and resulting species impacts, expected to result from the project and associated entrainment/temperature change due to the OCS-DC and detail its findings in a supplemental EIS made available for public comment.**

In Appendix N2 of the COP, the 2022 document prepared by the developer entitled "Ichthyoplankton Entrainment Assessment" conducts some basic analysis of the issues discussed above, but does not fully quantify these impacts.<sup>32</sup> It is a very basic document of only 25 pages that does not translate the findings into any substantial analysis or potential stock impacts. However, the document implies that the species "expected to be the most susceptible to entrainment impacts associated with the OCS-DC include Atlantic herring (*Clupea harengus*), red hake (*Urophycis chuss*), Atlantic mackerel (*Scomber scombrus*), and silver hake (*Merluccius bilinearis*)" are not commercially important species by immediately following with "the commercially important species whose larvae could be most susceptible to operation of the OCS-DC include yellowtail flounder (*Limanda ferruginea*), summer flounder (*Paralichthys dentatus*), and Atlantic butterfish (*Peprilus triacanthus*)".<sup>33</sup> This is an entirely faulty assumption, as Atlantic herring, Atlantic mackerel, and silver and red hake all support important commercial fisheries managed by the New England and Mid Atlantic Fishery Management Councils.<sup>34</sup> Seafreeze vessels in particular engage in two of the fisheries- Atlantic herring and Atlantic mackerel- that the developer documents suppose to be non-commercial.

If the document is faulty on that very simple subject, we do not have confidence that it is correct on any more complicated aspects of analysis. Furthermore, it does not include "l[]arger marine invertebrates, such as the Atlantic sea scallop" in the scope of its "analysis" despite the fact that BOEM's DEIS identifies Atlantic sea scallops as producing \$3.2 million of revenue in the lease area.<sup>35</sup> However, we particularly voice our concerns with the significant number of butterfish larvae projected to be entrained by the OCS-DC according to that document. A table from that document, reproduced below,

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<sup>30</sup> See attached letter, NMFS to BOEM " RE: BOEM's Response to NOAA EFH Conservation Recommendations for the South Fork Project" dated October 25, 2021.

<sup>31</sup> See attached letter, NMFS to BOEM, " Re: South Fork Offshore Wind Energy Project, Lease Area OCS-A-517, offshore Rhode Island", dated June 7, 2021.

<sup>32</sup> See [https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/SRW01\\_COP\\_AppN2\\_IchthyoplanktonEntrainmentAssessment\\_2022-08-19\\_508.pdf](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/SRW01_COP_AppN2_IchthyoplanktonEntrainmentAssessment_2022-08-19_508.pdf).

<sup>33</sup> See [https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/SRW01\\_COP\\_AppN2\\_IchthyoplanktonEntrainmentAssessment\\_2022-08-19\\_508.pdf](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/SRW01_COP_AppN2_IchthyoplanktonEntrainmentAssessment_2022-08-19_508.pdf), p. 11.

<sup>34</sup> See <https://www.nefmc.org/management-plans>.

<sup>35</sup> DEIS, p. 383.

shows butterfish larval death alone (incorrectly written as “bufferfish”) as driving the entire “Atlantic” species mortality for a good part of the year. As a company whose vessels rely heavily on the butterfish fishery and which are responsible for the majority of all US landings for that stock, we are very concerned. The butterfish stock has recently undergone a research track assessment by the Northeast Fisheries Science Center, and butterfish recruitment (i.e. eggs/larval/young of the year production) was a major focus of that assessment. Any Project induced impacts to that recruitment could have impacts on future stock status and stock assessments. **We therefore request that BOEM conduct the necessary analysis to demonstrate quantified impacts to the butterfish stock as a result of the Proposed Action and include such analysis in a supplemental EIS.**

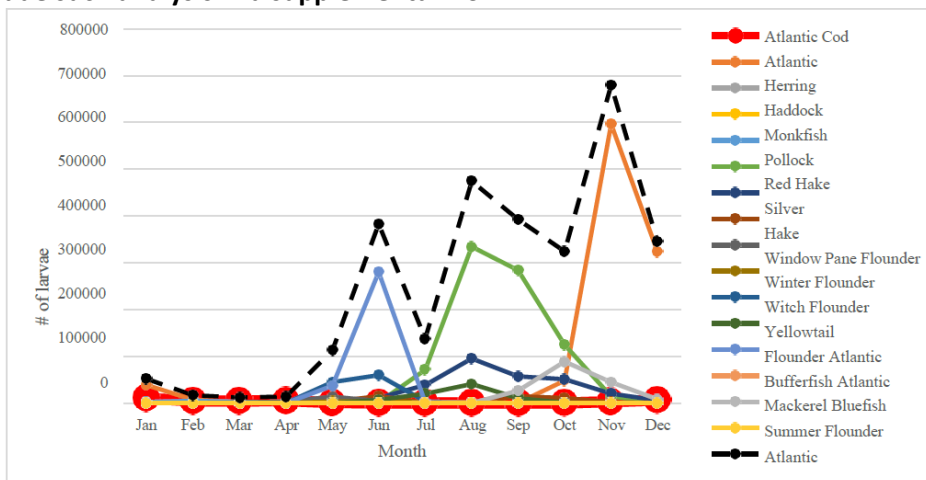


Figure 2. Number of Fish Larvae Entrained per Month

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The lack of any species specific or substantial analysis in the DEIS regarding the OCS-DC is deafening, even in basic terms without detailed fisheries/stock analysis. BOEM’s section 3.4.2.5.5 Conclusions on Impacts from the Proposed Action state that impacts on water quality would be negligible or minor based on “sediment suspension, deposition and increased turbidity” during “during anchoring, cable emplacement and maintenance, and seafloor/land disturbance” but that sediment plumes would be “localized and short term.”<sup>37</sup> The conclusion also states that should an accidental release of oil/lubricant/debris, etc. to occur, the impacts would be “minor to moderate” but also only “short term”.<sup>38</sup> **The Conclusions section on Water Quality completely omits any conclusion or impact analysis from the OCS-DC of 8.1 million gallons per day of 90 degree F effluent.**

This is truly astonishing for the most major water quality impact producing factor of the proposed Project. This is clearly not an accidental omission by the agency, as such an obvious and significant omission could only be made intentionally. Open cooling water intake systems have been the subject of much litigation from environmental groups over the years,<sup>39</sup> as well as the subject of environmental group discourse on power plant modernization, due to the tremendous environmental

<sup>36</sup> See [file:///C:/Users/mlapp/OneDrive%20-%20Seafreeze%20LTD/Documents/Bay%20State%20and%20Vineyard%20Wind/Sunrise%20Wind/SRW01\\_COP\\_Ap pN2\\_IchthyoplanktonEntrainmentAssessment\\_2022-08-19\\_508.pdf](file:///C:/Users/mlapp/OneDrive%20-%20Seafreeze%20LTD/Documents/Bay%20State%20and%20Vineyard%20Wind/Sunrise%20Wind/SRW01_COP_Ap pN2_IchthyoplanktonEntrainmentAssessment_2022-08-19_508.pdf), p. 13.

<sup>37</sup> DEIS, p. 3-55.

<sup>38</sup> DEIS, p. 3-54.

<sup>39</sup> See, for example, <https://www.riverkeeper.org/news-events/news/stop-polluters/power-plant-cases/environmental-groups-sue-epa-on-deficient-cooling-water-intake-rule/>.

impact that such systems have on the aquatic environment and aquatic species.<sup>40</sup> Data for similar impacts exist and should be utilized in an independent analysis by the agency.

In fact, BOEM's Table ES-2 entitled "Summary and Comparison of Impacts among Alternatives with No Mitigation Measures" lists the **same impacts to water quality for the No Action Alternative as for the Proposed Action Alternative**. This is completely preposterous and fails even the most basic red-face test. Not having an open cooling water intake system cannot have the same impacts to water quality as having an open cooling water intake system that releases 8.1 million gallons of 90 degree F effluent per day. We note again that no other projects proposed thus far via the DEIS process have applied for or evoked the need for an open cooling water intake system offshore converter station. Therefore, this type of impact would not even exist, not even in a cumulative impacts analysis, except for the proposed Project.

**Commercial Fishing Impacts:** BOEM's stated "facts" and associated "conclusions" do not match up. BOEM on one hand states that "Sunrise Wind proposed to bury all cables to a target depth of 3 to 7 ft".<sup>41</sup> But then in conclusion states that "burial to the target depth would reduce the risk of exposure and potential damage to fishing gear and a burial depth of less than six feet would increase the probability of gear interactions".<sup>42</sup> How can a target burial depth of less than 6 feet (the target depth is 3-7 ft) reduce the risk of gear interactions if the risk of gear interactions is supposedly any burial depth of less than 6 feet? BOEM is stating that the target burial depth *is* less than 6 feet. It is completely illogical, then, for BOEM to state that the target burial depth reduces the chances of gear interaction. It does not. **The conclusions must be changed.**

BOEM must also include biological impacts in the commercial fishing impacts section and translate these to commercial fishing impacts. Commercial fishing relies exclusively on the natural environment for its product. If the natural environment is affected, commercial fishing will be affected. The commercial impacts section contains no analysis- not even qualitative analysis- of impacts to fisheries resources as a result of the proposed Project's open water cooling intake system for its OCS-DC. This is unacceptable. The full impacts to commercial fishing and commercial species as a result of the proposed Project must be conducted and quantified. BOEM cannot simply say after the fact that "fish stocks died off due to climate change" when the very Project that it is proposing *creates* aquatic thermal climate change in an intense and unnatural way. **It is well known that open water cooling intake systems kill fish eggs and larvae through entrainment, as well as change the thermal environment that such eggs and larvae rely upon for survival. Other such studies with quantitative analysis have been conducted, and we request that BOEM do so here.**

BOEM's analysis of navigational impacts for commercial fisheries and associated conclusions are insulting and incomplete. The DEIS states that "BOEM expects the industry to adopt both technological and non-technology-based measures to reduce impacts on marine radar, including greater use of AIS and electronic charting systems, new technologies like LIDAR, employing more watchstanders,

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<sup>40</sup> See, for example, "Power Plant Cooling and Associated Impacts: The Need to Modernize U.S. Power Plants and Protect Our Water Resources and Aquatic Ecosystems", Natural Resources Defense Council, April 2014 at <https://www.nrdc.org/sites/default/files/power-plant-cooling-IB.pdf>.

<sup>41</sup> DEIS, p. 3-428.

<sup>42</sup> DEIS, p. 3-428.

and simply avoiding wind farms altogether (National Academies of Science, Technology, and Engineering 2021)."<sup>43</sup> BOEM then footnotes the term "watchstanders" as if we would not know what that is, meanwhile using technical terms everywhere else in the document. Simply employing more watchstanders will not solve a radar interference problem. Additionally, the costs of employing additional watchstanders simply to account for the navigational dangers caused by the proposed Project's marine radar interference would be "economically unfeasible" for our vessels, to quote rationale from other sections of the document as regards economic infeasibility of various Alternatives. Even should BOEM require the developer to pay for such costs as part of mitigation, it would still not solve the issue.

The commercial fishing industry already uses AIS. AIS will not help when not every turbine will be marked with AIS and the turbines/turbine blades themselves cause false reflections, sidelobes, and other interference. BOEM may not understand how AIS works; we do. AIS is not the panacea for all radar interference problems. Not all vessels- including recreational and commercial vessels- have AIS. Radar interference will make it difficult to impossible to see such vessels. Furthermore, not even every turbine would be equipped with AIS, and per the developer's COP only "select WTGs" will be equipped with AIS, of which BOEM is well aware.<sup>44</sup>

LiDAR is used primarily for high resolution mapping and is not a current replacement for marine vessel radar. In fact, BOEM's own study conducted via the National Academies of Science states regarding LiDAR, "Regarding the feasibility of integrating these technologies into MVR systems, the effective range of these systems is generally much shorter than MVR, especially in adverse weather and in the presence of smoke and other aerosols, and so their use in the marine environment requires careful evaluation and integration with other systems."<sup>45</sup> BOEM has this information, knows that LiDAR is not a currently viable solution but instead an untested hypothesis which may be an ineffective replacement for marine vessel radar particularly in inclement weather when radar is most necessary, but blithely states that "don't worry; the fishing community can use this device which will make navigation just fine". This is gross negligence on the part of BOEM and both the agency's lack of analysis, deliberate ignorance of its own data, and associated DEIS conclusions are damning.

BOEM apparently also does not know how electronic chart systems work, nor that every commercial fishing vessel is already equipped with and utilizes electronic charts for navigation. Again, these will not solve radar interference. In fact, the USCG has discontinued issuance of paper charts and has moved exclusively to electronic charts.<sup>46</sup> Therefore, all navigation will per regulation be conducted according to electronic charts anyway. Perhaps BOEM is unaware of this fact, as it is apparent that the agency has not done any analysis on navigation despite an OSCLA requirement that the agency "shall

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<sup>43</sup> DEIS, p. 3-648.

<sup>44</sup> Sunrise Wind COP, Section 4.8.1.3, p. 816 of 933, at [https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/SRW01\\_COP\\_Rev3\\_2022-08-19\\_508\\_0.pdf](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/SRW01_COP_Rev3_2022-08-19_508_0.pdf).

<sup>45</sup> <sup>45</sup> National Academies of Sciences, Engineering, and Medicine. 2022. Wind Turbine Generator Impacts to Marine Vessel Radar. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26430>. National Academies of Sciences, Engineering, and Medicine. 2022. Wind Turbine Generator Impacts to Marine Vessel Radar. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26430>, at <https://nap.nationalacademies.org/read/26430/chapter/1>, p. 56.

<sup>46</sup> See <https://www.noaa.gov/media-release/noaa-begins-transition-exclusively-to-electronic-navigation-charts#:~:text=As%20part%20of%20the%20sunset%20plan%2C%20released%20in,be%20canceled%20six%20months%20later%20on%20August%2026..>

ensure” safety of navigation when conducting all wind farm related activities, which would especially include DEIS analysis. Regardless, electronic charts do not solve radar interference. That is not how marine navigation works. The fact that BOEM has relegated this discussion to essentially one paragraph of discussion in the DEIS is mind boggling. Clearly, BOEM has no intention of analyzing this very real and present danger to the commercial fishing industry as the result of its ongoing actions, despite information that would dictate otherwise.

**As the National Academies of Science study that BOEM references as suggesting that the solution will be “simply avoiding wind farms altogether”- as was also noted in BOEM’s Vineyard Wind Record of Decision<sup>47</sup>- is the only feasible solution listed, BOEM must then adjust its conclusions. This is the only feasible conclusion that BOEM has presented in its DEIS analysis of navigational impacts on the commercial fishing industry.** Notably, the National Academies study did not present any immediate solutions to marine vessel radar interference, merely confirmed the issue, highlighted various problems, and suggested areas for further study. As such, no solution currently exists. BOEM must integrate this data and these conclusions into its DEIS analysis, particularly as per its requirement that the Secretary “shall ensure” both “safety” and “prevention of interference with reasonable uses” per OSCLA. **Radar interference counts as interference. If navigation is unsafe, and avoidance of wind farms is the only logical solution, then BOEM cannot claim that operations in the proposed Project area will be safe or feasible.**

As the MARIPARS study that BOEM continues to rely on for its navigational impacts analysis did not consider radar interference, and has since in that respect been superseded by the National Academies study, BOEM must completely update all its DEIS analysis regarding navigational impacts. Without such, and without realistic, data-based conclusions, BOEM’s DEIS is negligent, faulty at best. **Therefore we request that BOEM consult with the USCG to initiate an updated MARIPARS that analyzes radar interference as it pertains to the MA/RI and MA WEAs, its impacts on navigational safety, particularly as pertains to operations in inclement weather and USCG vessel capabilities for search and rescue as impaired by radar interference for its own vessels, including a full modeling study similar to that conducted for Cape Wind which utilizes the size and number of turbines planned or expected for the MA/RI and MA WEAs, including all findings of the National Academies of Science study which noted that size and number of turbines is a significant contributing factor to interference analysis.<sup>48</sup> We also request that BOEM address the factual errors discussed above related to additional watchstanders, LiDAR, AIS, and electronic charts, as none will mitigate or fix the radar interference problem. BOEM already knows the deficiencies of LiDAR and AIS as contained in its own documents discussed above. We also request that BOEM update its conclusions on navigational safety and commercial fishing impacts accordingly.**

Thank you for your consideration of these very important issues.

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<sup>47</sup> See Vineyard Wind 1 ROD, “it is likely that the entire 75,614 acre area will be abandoned by commercial fisheries due to difficulties with navigation”, at <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Final-Record-of-Decision-Vineyard-Wind-1.pdf> , p. 39.

<sup>48</sup> See p. 37, 43. “The impact of WTGs on MVR performance is influenced by a number of factors, such as the following:..... Characteristics of the WTG deployment, including the RCS of the WTG’s constituent components; size and separation of the WTGs; extent of the WTG farm; and blade size, composition, orientation, and tip speed.”

Sincerely,  
Meghan Lapp  
Fisheries Liaison  
Seafreeze Shoreside and Seafreeze Ltd.