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Save Long Beach Island, Inc
November 30,2025

NOAA Northeast Fisheries Science Center

RE: Comments on NOAA Draft Regional Standards for Offshore Wind Project-Level Monitoring (Due December 1, 2025)

To Director Jon Hare, Ph.D.,

On behalf of **Save Long Beach Island, Inc.**, we submit the following comments regarding NOAA's *Draft Regional Standards for Offshore Wind Project-Level Monitoring*. After review, we conclude that the draft document does **not establish enforceable or scientifically adequate monitoring standards** and does not meet the requirements necessary to support compliance under the Marine Mammal Protection Act (MMPA), the Endangered Species Act (ESA), the National Environmental Policy Act (NEPA), or BOEM's regulatory framework for offshore wind development.

Major Omissions in the Draft Monitoring Standard- Questions to be Resolved Through Monitoring.

The monitoring standard as drafted relegates almost complete discretion to the developer to decide the content of the monitoring plan, even including the questions to be resolved. This is an inappropriate abrogation of NOAA responsibilities under the MMPA, the ESA, and of the BOEM-managed responsibilities under the Outer Continental Shelf Lands Act.

The standards should address the issues that NOAA and BOEM need to resolve through monitoring. Those questions and at a minimum, how the standards should address them are provided below:

1. **What are the existing monitoring regulatory requirements?**. The standards should assemble and require all the regulatory requirements pertaining to monitoring plans, including , but not limited to, those in 50 CFR section 216 105(a) ,50 CFR section 216.104 (a) 12 and 13, and 50 CFR section 216.106.

2. **What measurements are already required?** It should include and require the Sound Field Verification Measurements that were included in and common to lease awards, Biological Opinion, COP, IHA and ITA approvals.

3. **Were the noise source levels assumed in the noise exposure modeling reports accurate?** The standard should require verification of noise source levels for vessel surveys, pile driving and for a single operational turbine at various power levels. For pile driving, the standard should require noise measurements close to the source, with and without bubble curtain and similar systems operating, to determine whether the 10 dB noise source attenuation assumption in the ITA approvals was valid.

4. **Were the high noise transmission loss factors used in the noise exposure modeling reports justified?** It should require verification of the noise level versus distance numbers (noise transmission dissipation factors) that were modeled and used to approve IHAs, ITAs, and Biological Opinions.

5, **Will marine mammals incur temporary or permanent threshold hearing loss?** Based on that measured noise level versus distance data, and the observed times for marine mammals to pass by a pile driving activity and an operating wind complex, the standard should require an estimate of the cumulative noise energy received by the animal, and compare it to the energy-based criteria for temporary and permanent threshold hearing loss.

6. **Were the elevated noise ranges used in the ITA approval noise exposure modeling reports to estimate animal Takes accurate?** Based on the measured noise level versus distance data, the standard should require an estimate of the ensonified (elevated noise area) area for impulsive pile driving and compare those to the areas predicted in the noise exposure modeling that was used to estimate animal Takes in the IHAs, ITAs, Biological Opinions, and Environmental Impact Statements.

Regarding pile driving, the standard should include all the monitoring requirements in the BOEM "Recommendation Document for Offshore Wind Pile Driving Sound Exposure Modeling and Sound Field Measurement", on pages 13 through 19, or have a company explain why any of those recommendations are not relevant to its project.

7. **What Measurements and Monitoring of the Operating wind turbine Complex should be required?** Operational noise, noise levels and elevated range were not assessed numerically in the ITA's and Biological Opinions for these projects. Therefore, it falls to the monitoring effort to determine whether or not marine mammals in the vicinity of an operating wind complex will be harmed by that operation and whether fish will be affected. The standards should:

- Specify the noise measurements to be taken within the wind complex to determine whether the marine mammal 120 dB disturbance level will be exceeded, effectively blocking any migration through the complex, and whether the fish disturbance level of 140 dB will be exceeded, effectively removing hundreds of thousands of acres as fishing grounds.

- Specify noise measurements to be made at some distance from the project perimeter, and couple that with observances of the time it takes for whales to pass by the wind complex, to estimate the cumulative noise energy being received by the animal in order to determine whether migrating or foraging animals are at risk of incurring temporary or permanent threshold hearing loss.

- Use that noise level /distance data to find the range required for the SPL to fall below the continuous noise 120 dB disturbance criteria and compare that distance to the width of the whale's nearby historic migration corridor, or the extent of its foraging areas to determine the disturbance impact.

8. **Were the noise source level and transmission loss assumptions used for vessel survey IHA approvals accurate.?** The standards should include requirements for sound field verification measurements from the vessel, as was required in leases, but apparently never done, or if done, not reported.

9. **What should be the requirements for passive acoustic monitoring systems?** The noise monitoring standard should require all the measures in the BOEM/NOAA document titled "Minimum Requirements for the use of Passive Acoustic Listening Systems in Offshore Wind Energy Development Monitoring and Mitigation Programs" of October 27, 2021, unless a company can explain why any of those requirements are not applicable to its particular project.

For any projects within approximately 12 miles (the approximate distance from the perimeter of an operating wind complex for the SPL to fall below the 120 dB disturbance level) of the primary historical migration corridor of the North Atlantic right whale, the standard should require the near real-time PAM systems that were recommended in the New York Bight programmatic EIS to alert mariners to the whale's presence.

Additional comments on the proposed monitoring standard are provided below.

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1. The Draft Does Not Establish Standards, Only Developer-Defined Plans

While NOAA states that the purpose of the document is to create standards for regional consistency and minimum expectations, the draft merely requires that developers **submit monitoring plans**. A plan requirement is not equivalent to a standard.

This approach is inconsistent with:

- **NMFS IHA monitoring provisions** (50 CFR §216.104) requiring specific monitoring parameters,
- **ESA Section 7 jeopardy and take assessment requirements**, which depend on measurable monitoring feedback,
- **NEPA implementing regulations** (40 CFR §1502.22) requiring reliable and high-quality data,

- **BOEM lease and COP review requirements** (30 CFR §585.801–816), which depend on comparable environmental monitoring information.

Without the required methods, thresholds, metrics, spatial coverage, or reporting formats, NOAA cannot assure compliance, evaluate impacts, or defend authorization decisions to approve projects.

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2. Lack of Defined Noise Monitoring Requirements

The draft provides **no minimum requirements** for underwater noise monitoring, including:

- Required metrics (SPLrms, SELss, SELcum, peak),
- Specified distances from source,
- Deployment intervals and duration,
- Sea state and operational condition requirements,
- Reference and control locations.

This omission contradicts:

- **NMFS Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (2018)**, which requires defined acoustic metrics,
- **IHA/ITA modeling standards**, which rely on comparable data,
- **NEPA significance evaluation standards**, which require measurable criteria.

Without defined parameters, monitoring cannot determine whether real-world exposure aligns with predicted impact zones used to authorize takes.

Monitoring plans must measure and report, at minimum: broadband RMS sound pressure level (dB re 1 µPa, time window defined), single-event SEL and cumulative SEL (dB re 1 $\mu Pa^2 \cdot s$), peak/peak-to-peak levels, and frequency spectra (third-octave and PSD). All metrics must be reported with clear definitions of time windows, frequency ranges, units, and processing algorithms.

Monitoring for pile driving construction must include receivers placed within the predicted near-field and at the boundaries of modeled take zones, plus at least one far-field receiver to capture attenuation. Pre-construction baseline monitoring must cover a minimum of one year with sampling across seasons. Construction monitoring must include continuous passive acoustic recordings during noisy activities, with event tagging and SEL computation for each event.

All hydrophones and acquisition systems used for compliance monitoring must be specified (manufacturer, model, serial number), calibrated traceable to a recognized standard, with documented pre- and post-deployment calibration checks and calibration certificates appended to each monitoring report.

3. No Linkage to Noise Exposure Modeling Used to Approve IHAs and ITAs

A core regulatory requirement is that monitoring **verify model accuracy** used to justify authorized take levels. The draft contains **no requirement** that monitoring:

- measure sound fields at modeled isopleths,
- compare measured sound level versus distance from the source verses modeled values that supported IHAs and ITAs.
- compare observed exposure zones against predicted zones,
- assess whether take estimates were accurate, and
- **define specific requirements for measuring operational noise fields since these were not modeled for project approval (see item 4 below).**

This is inconsistent with:

- **MMPA least practicable adverse impact standard**, which depends on adaptive verification,
- **ESA biological opinion incidental take statements**, which require monitoring sufficient to determine if take limits are exceeded,
- **NEPA mitigation monitoring requirements** (40 CFR §1505.3).

Failure to require model-validation monitoring undermines the scientific foundation of federal authorization decisions.

The Regional Standards must require that every project-level monitoring plan include an explicit crosswalk table showing how each monitoring metric, receiver location, sampling duration, and analysis method directly maps to the noise exposure metrics and biological thresholds used in that project's Incidental Take Authorization and/or Incidental Harassment Authorization. This crosswalk must be included in the project's monitoring plan submittal and in each annual monitoring report.

The noise versus distance modeling data in the BOEM Guidance document on construction applications should be replicated by measurement to verify the noise exposure modeling that was used to approve projects.

Save LBI has calculated that the noise energy a right whale accumulates during the time it takes to swim past an active pile driver (even using the company's unduly optimistic noise level vs. distance numbers) will *exceed the 183 dB cumulative energy threshold for permanent hearing loss within 5 miles of the pile driver*, and exceed the 168 dB threshold for temporary hearing loss within 9.6 miles; which, combined with behavior disturbance that occurs within a similar distances will significantly impair the whale's migration.

Therefore, the monitoring standards should specify the noise measurements to be taken at some distance from the pile driver, couple that with observances of the time it takes for whales to pass

by the pile driving activity and calculate the cumulative noise energy being received to determine whether or not migrating or foraging animals are at risk of incurring temporary or permanent threshold hearing loss.

4. Operational Noise.

Operational noise levels and extent were not assessed numerically in the Incidental Take Authorizations for these projects despite the fact that the elevated noise exposure ranges are comparable, i.e., the difference from a full wind complex operational source number to the 120 dB continuous harassment criteria is comparable to the noise difference from a single pile driving source to the 160 dB impulsive disturbance criteria.

Therefore, it falls to the monitoring effort to determine whether or not marine mammals in the vicinity of an operating complex will be harmed by that operation.

Save LBI's independent calculations indicate that a North Atlantic right whale moving past a wind complex will receive sufficient cumulative noise energy to suffer permanent threshold hearing loss within a few miles of the complex perimeter. In addition, it would suffer temporary threshold hearing loss and behavior disturbance within 12 miles of the perimeter.

Therefore, the monitoring system for operational noise must determine whether or not this is the case. The standards should specify the noise measurements to be taken within the complex and at some distance from it, couple that with observances of the time it takes for whales to pass by the wind complex and calculate the cumulative noise energy being received to determine whether or not migrating or foraging animals are at risk of incurring temporary or permanent threshold hearing loss.

To assess the impact of behavioral disturbance from wind complex operation, the monitoring standards need to require noise measurements to be taken out to the point where the SPL drops below the continuous noise 120 dB disturbance criteria, and compare that distance to the width of migration corridors and the extent of foraging areas.

For any projects within approximately 12 miles (the approximate distance from the perimeter of an operating wind complex for the SPL to fall below the 120 dB disturbance level) of the primary historical migration corridor of the North Atlantic right whale, the standard should require the near real-time PAM systems that were recommended in the New York Bight programmatic EIS to alert mariners to the whale's presence.
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5. Passive Acoustic Monitoring (PAM) Requirements Are Undefined

The draft fails to establish minimum standards for:

- Recorder sensitivity and bandwidth,

- Detection range capabilities,
- Number and spacing of PAM units to assure adequate area coverage,
- Deployment geometry relative to project footprint,
- Real-time monitoring requirements during pile-driving, HRG surveys, and turbine operation.
- Operator qualifications or certification,
- Data QA/QC,
- Data access, retention, and transparency.

These omissions conflict with:

- **NMFS PAM Standards and Guidelines used in North Atlantic Right Whale mitigation frameworks**,
- **ESA and MMPA monitoring plan requirements requiring competent observers and validated detection methods**,
- **BOEM Environmental Study Program standards** requiring data usability for regional cumulative analysis.

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6. Absence of Airborne Noise Monitoring Requirements

There are no standards for airborne noise monitoring, despite relevance to:

- pinniped haul-outs,
- ESA-listed seabirds,
- Potential violations of coastal communities' noise standards.
- Impact on fishermen and boaters
- helicopter logistics,
- BOEM onshore support infrastructure review under NEPA.

BOEM's COP guidance requires evaluation of airborne noise impacts—yet NOAA's draft contains no corresponding monitoring requirements.

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7. Lack of Biological Monitoring Standards

The draft includes **no minimum standards** for:

- marine mammal visual monitoring effort,
- sea turtle detection,
- ESA-listed fish monitoring (e.g., Atlantic sturgeon),
- seabird displacement or mortality monitoring,
- baseline ecological characterization,
- sampling design power sufficient to detect change.

This conflicts with:

- **ESA Section 9 take prohibitions requiring detection capacity**,
- **NEPA cumulative and indirect effects analysis requirements**,
- **BOEM biological monitoring precedents in other offshore permitting contexts**.

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8. No Framework for Cumulative Effects Monitoring

Because each developer may choose different monitoring designs, there can be:

- no regional synthesis,
- no comparable datasets,
- no cumulative effects evaluation.

This contradicts:

- **NEPA cumulative impacts analysis requirements**,
- **MMPA population-level impact assessment needs**,
- **ESA recovery plan implementation data needs**.

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9. No Corrective Action Triggers, Enforcement, Accountability, or Consequences

The draft contains no:

- compliance triggers,
- response actions,
- data release timelines,
- corrective measures,
- enforcement mechanisms.

This is inconsistent with:

- **MMPA IHA terms and conditions**,
- **ESA incidental take statements**,
- **NEPA mitigation monitoring enforcement requirements**.

For construction, the standards must include clear, pre-defined action triggers:

- If measured SEL or RMS SPL at any receiver within a modeled take zone exceeds modeled predictions by more than X dB **(3 dB recommended)**,

- If measured ensonified areas (multiplied by appropriates animal densities) result in Take numbers that exceed Y% **(12% recommended to be within the court-determined MMPA "small number" criteria)** of the expected species number in the area over each 30-day period, the project should immediately suspend the activity causing the exceedance, initiate an independent investigation, and implement corrective mitigation as required by NOAA.
- There should also be a trigger for corrective action if the calculation of cumulative noise energy in item 3 above results in an exceedance of the criteria for temporary or permanent threshold hearing loss.

For turbine operation, the standards should specify triggers that would result in corrective action, and what corrective actions would be taken such as shutting down operation or reducing turbine power output levels while marine mammals pass by the wind complex.

- One such trigger should be based on the calculation of cumulative noise energy in item 4 above, when that energy exceeds the criteria for permanent or temporary threshold hearing loss.
- Another trigger should be based on the measured range from the wind complex perimeter at which the SPL falls below the 120 dB disturbance criteria, and whether that range is a significant percentage (12% recommended) of of the whale's historic migration corridor.
- Operational monitoring plans should be submitted frequently, especially during critical migration periods to allow for corrective action to be taken.

10. Necropsies.

The monitoring standards should provide criteria and triggers as to when and what level of necropsies will be performed. Necropsies at the appropriate level to determine hearing damage should be performed whenever the calculation of cumulative energy received to an animal described above as it passes by a pile driving operation or an operating wind complex exceeds the cumulative energy criteria for temporary or permanent threshold, hearing loss. Other level necropsies should be performed whenever there is no other clear cause of death, such as from vessel, strike or fishing gear entanglement, and the animal has been present in the disturbance harassment take zones for a sustained time. Those zones are defined by the 160 dB criteria for the pile driving impulsive noise and 120 dB for the continuous turbine operational noise. Necropsy results should be made available to researchers and the public in the monitoring reports as this is critical information in determining the impacts from wind energy development.

11. Independent Verification and Audit

There are no third-party independent review of monitoring design, deployment, and analyses; randomized audits; or independent replication of key measurements in the draft standards. These are necessary to prevents conflicts of interest given industry funding of the monitoring.

NOAA should require independent third-party verification of at least 10% of monitoring deployments across projects each year (selected randomly) and require that auditors' reports be

made public. Independent verification shall include instrument calibration checks, deployment audits, and re-analysis of a sample of raw acoustic files.

11. Clear roles, responsibilities, and enforcement

The draft standards should define who is responsible for designing, carrying out, analyzing, reporting, and funding monitoring; and what are the enforcement consequences for failing to meet standards (e.g., suspension of operations, fines, revocation of authorization).

Recommendations

To meet federal legal standards, NOAA must revise the draft to address the major omissions described above and include:

A. Defined acoustic monitoring standards

- metrics, distances, frequency, equipment specifications

B. Required Comparison to IHA/ITA modeling outputs

- validation of predicted take zones and noise exposure modeling used to support the IHA/ITA.

C. Operational Noise Measurement Specifications.

- Noise measurements must be taken within the wind complex and at significant distances from its perimeter, whale movement observed , cumulative noise energy received estimated and marine mammal protective action triggers and operational noise mitigation actions specified .

D. Minimum PAM and visual monitoring standards

- numbers, spacing, observer qualifications, real-time detection

E. Airborne noise monitoring requirements

- including aviation, pile-driving, turbine operation and vessel operations

F. Data transparency

- standardized formats, public release timelines, central access

G. Enforcement and triggers

- criteria exceedances and responses for vessel surveys, pile driving and turbine operation to be defined, and take authorizations modified as appropriate to avoid such exceedances.

H. Cumulative impact integration

- regional data compatibility and synthesis requirements

I. Necropsies

- Requirements for when and at what level Necropsies will be performed.

Conclusion

As written, the draft fails to constitute a regulatory standard and does not fulfill NOAA's obligations under the MMPA, ESA, NEPA, or BOEM-coordinated offshore wind oversight. We respectfully request that NOAA revise the document to include useful, enforceable, and scientifically robust monitoring standards, and reissue it for comment.

Please include these comments in the administrative record.

Sincerely,

Bob Stern

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