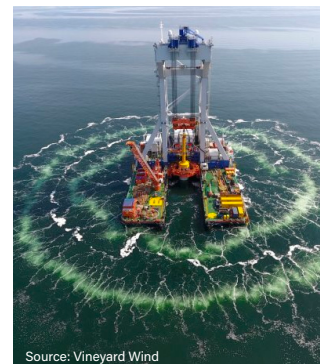


Safeguarding Marine Mammals During Development through Operations

Read how offshore wind energy is committed to protecting marine life throughout project development and operations.

Key Takeaways

- 1 **Offshore wind is one of the most regulated maritime industries in the U.S.** when it comes to marine mammals and other wildlife – multiple federal and state agencies review every proposed activity and only approve projects subject to a suite of strict protection and mitigation measures.
- 2 **When issuing “incidental take” authorizations, government agencies do not authorize offshore wind developers to cause serious injury or mortality to marine mammals – intentionally or incidentally.**
- 3 **There is no scientific evidence linking whale strandings to offshore wind activities.** All government agencies responsible for protecting marine mammals have determined that recent strandings are not the result of offshore wind development.¹



Background

To protect marine life, all stages of offshore wind development are subject to rigorous regulation and monitoring requirements, using measures such as mandatory vessel speed restrictions, vessel strike avoidance measures, constant visual and acoustic monitoring, seasonal restrictions, sound reduction technology and other mitigation. There is no scientific evidence linking whale strandings to offshore wind development, according to leading marine mammal experts and government agencies. NOAA Fisheries does not anticipate and has not authorized any mortality or serious injury of whales for any offshore wind energy development.²

Offshore Wind Development Process & Marine Life Protection

Offshore wind development involves several phases, each with its own corresponding monitoring and mitigation measures to protect whales and other marine life:

Site Characterization

Choosing a site for development involves geophysical and geotechnical surveys to understand the seabed conditions. High-resolution geophysical (HRG) surveys may produce sound that could alter the behavior of marine mammals in close proximity to survey vessels. These zones are typically less than 200 meters (650 ft) from the vessel. If this alteration were to occur, it would be minor in nature and likely result in the marine mammal moving away from the sound source. HRG surveys are used for a variety of critical purposes beyond offshore wind, including finding sand resources to use for beach restoration.

Offshore wind developers typically obtain Incidental Harassment Authorizations (IHAs) from NOAA Fisheries. Under the terms of an IHA, developers must utilize precautionary mitigation measures to minimize harm to marine mammals including monitoring exclusion zones, vessel strike avoidance measures, employing independent

third-party protected species observers, alternate monitoring protocols under low visibility conditions, utilizing ramp up measures, and implementing equipment shutdown if encroachment occurs.³ The permitting agencies involved in the review of site characterization plans and applications agree that takes associated with injury or mortality are not likely to occur due to site characterization activities, but that a limited amount of behavioral harassment is anticipated as is reflected by issuance of Level B takes.

Separately, reviews by NOAA Fisheries on impacts to endangered marine mammals are conducted as a requirement of the Endangered Species Act. This review provides specific measures that must be taken to avoid and minimize impacts to endangered marine mammals. NOAA Fisheries has determined HRG surveys do not have the potential to result in “take” of any ESA listed species.

¹ [Update-on-Strandings-of-Large-Whales-along-the-East-Coast-2.21.2023.pdf \(mmc.gov\)](https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-life-distress/frequent-questions-offshore-wind-and-whales) and <https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-life-distress/frequent-questions-offshore-wind-and-whales>

² <https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-life-distress/frequent-questions-offshore-wind-and-whales#does-noaa-fisheries-authorize-the-death-of-whales-as-it-relates-to-offshore-wind-development?>

³ <https://www.federalregister.gov/documents/2022/04/11/2022-07715/takes-of-marine-mammals-incident-to-specified-activities-taking-marine-mammals-incident-to>



Construction

The majority of underwater sound associated with offshore wind construction is from pile driving and vessel sound. To reduce the amount of underwater sound and protect marine life during wind farm construction, offshore wind developers implement the following mitigation measures:

- **Use of Noise Mitigation Systems (NMS):** These systems, such as bubble curtains or hydro sound dampers, significantly reduce sound levels during pile driving of wind turbine foundations into the seabed.
- **Protected Species Observers (PSOs):** Independent, third-party protected species observers with expertise in marine mammal identification are present during pile driving—and during other activities that may cause acoustic disturbance—to monitor for the presence of protected species, ie. marine mammals.
- **Clearance and Exclusion Zones:** Pre-determined areas specific to a project are monitored before, during and after piling. If a protected species is detected within a certain radius before piling commences (clearance zone) and during piling (exclusion zones), pile driving may be delayed and/or halted until the animal has left the area.
- **Time of Year Restrictions:** Pile driving (turbine foundation installation) will occur exclusively during certain months when historical data show that whales and other marine mammals are most likely to be absent.
- **Soft-start Procedures:** Pile driving begins with a lower energy level and gradually increases to full power. This gives marine mammals the opportunity to leave the area before the pile driving reaches full power.
- **Whale Monitoring Technology:** Developers are working with scientists and engineers to develop new and innovative technologies that will enhance our ability to detect the presence of whales, predict presence of whales and implement sound reduction measures in a more efficient and effective manner.
- **Vessel Speed Restrictions and Strike Avoidance Measures:** Vessels may be required to travel no faster than 10 knots (11.5 mph) when engaged in activities related to offshore wind activities in certain areas and during certain times of the year. Vessels must have dedicated lookouts on board at all times to minimize the risk of collision with marine mammals and advise on strike avoidance maneuvers if necessary.

The offshore wind industry continues to look at innovative ways to reduce underwater sound by using alternative foundation types or different means of installing monopile foundations.

Operations

The operation of offshore wind farms creates very little sound, and thus is not expected to have any effect on marine mammals. Underwater noise recorded 50 meters from a Block Island Wind Farm turbine during operations was near background levels and was often not measurable due to other natural and anthropogenic noise (waves or boat sounds).⁴ Sound produced from offshore wind farms during operation is low frequency and low magnitude. If a marine mammals species can detect these sounds, it is only detectable over a short range and at a level that does not cause injury.⁵

Vessels engaged in inspection and maintenance of operational wind farms may be required to abide by speed restrictions and carry dedicated lookouts on board.

Debunking Myths: Understanding Incidental Take Authorizations

The term 'incidental take' has a specific regulatory meaning that is often misunderstood and misapplied in discussions about offshore wind development, primarily because its regulatory definition differs from its general usage. Here are the facts:

- **A 'take' is defined under the Marine Mammal Protection Act (MMPA) as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal." An 'incidental take' is an unintentional, but not unexpected, taking of a protected species.⁶ No "takes" issued for offshore wind activities include marine mammal mortality or serious injury.**
- **Incidental take authorizations (ITAs) are granted by NOAA Fisheries for any human activities conducted that may incidentally disturb marine mammals. ITAs are most commonly issued to construction projects, scientific research, oil and gas development, and military exercises.⁷**
- **No offshore wind ITA applications includes marine mammal mortality or serious injury, and no mortality or serious injury takes have been authorized to date by NOAA Fisheries during any phase of offshore wind project development. ITAs issued for offshore wind activity are generally related to potential sound exposure.**
- **NOAA authorizes a conservative number of takes determined by animal population levels and best available information. Further, the number of animals ultimately impacted is expected to be significantly lower than estimated, due to fewer animals present than predicted, along with utilization of mitigation measures that will further reduce actual take.**

The Bottom Line: Offshore wind projects are not—and have never been—authorized to kill or seriously injure marine mammals during operations. ITAs are issued conservatively and to many different types of offshore activity, not just wind development.

Additional Resources

BOEM: [Protecting North Atlantic Right Whales During Offshore Wind Energy Development](#)

BOEM & NOAA Fisheries: [North Atlantic Right Whale and Offshore Wind Strategy \(Draft\)](#)

NOAA Fisheries: [Frequent Questions—Offshore Wind and Whales](#)

NOAA Fisheries: [List of Fisheries Summary Tables](#)

NOAA Fisheries: [Incidental Take Authorization: SouthCoast Wind Energy, LLC's Marine Site Characterization Surveys off Massachusetts and Rhode Island](#)

ACP: [Offshore Wind is Protecting Whales](#)

NOAA Fisheries: [Incidental Take Authorization: Atlantic Shores Offshore Wind, LLC's Site Characterization Surveys off New Jersey and New York \(2023\)](#)

NOAA Fisheries: [Incidental Take Authorization: TerraSond Limited Marine Site Characterization Surveys in the New York Bight and Central Atlantic Call Area](#)

HearIt: [Permanent threshold shift – See the causes & treatments](#)

⁴ <https://www.boem.gov/environment/field-observations-during-wind-turbine-operations-block-island-wind-farm-rhode-island>

⁵ <https://dosits.org/animals/effects-of-sound/anthropogenic-sources/wind-turbine/>

⁶ <https://www.fisheries.noaa.gov/national/laws-and-policies/glossary-permits-protected-resources>

⁷ <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>

