



**BOEM** Bureau of  
Ocean Energy Management

# Offshore Wind Data Collection Activities: Analysis for Whales and other Protected Species

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Bangor, Maine  
May 10-11, 2023

Gulf of Maine Intergovernmental Renewable Energy Task Force

# Presentation Overview

- **Stranding update**
- **Marine Mammal Protection Act permits**
- **BOEM current requirements for data collection surveys**
- **Biological Assessment and NOAA Fisheries Consultation under the Endangered Species Act**
- **BOEM best practices for data collection surveys**
- **Next steps for consultation the Gulf of Maine**



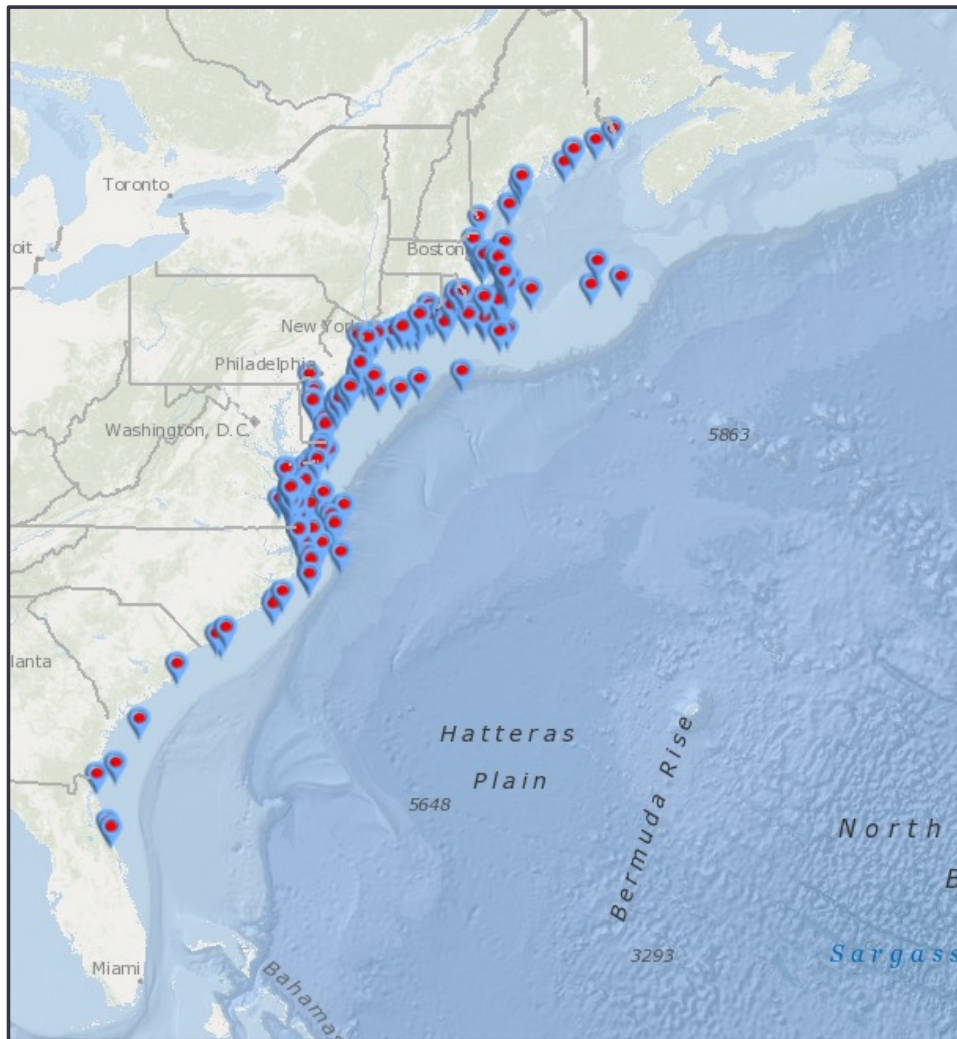
# Background – Unusual Mortality Event (UME)

- The humpback whale UME was declared in 2017 due to an increase in the number of strandings.
- The UME investigation is ongoing and the causes not fully reported yet, but ship strike is evident in many of the whales.
- Whales have also had evidence of entanglement in lines
- Causes of other UMEs have included biotoxins, infectious disease, and environmental factors.



# Humpback Whale Strandings By State

State	2016	2017	2018	2019	2020	2021	2022	2023	Total
Maine	2	0	2	0	1	0	2	0	7
New Hampshire	1	0	0	0	0	0	0	0	1
Massachusetts	3	7	4	4	10	4	3	0	35
Rhode Island	2	3	0	1	0	0	3	0	9
New York	4	5	8	5	9	1	2	2	36
New Jersey	3	3	2	5	4	0	4	7	28
Maryland	1	1	0	0	0	1	0	1	4
Delaware	3	2	1	1	1	0	0	0	8
Virginia	2	7	4	6	4	1	1	6	31
North Carolina	4	6	2	4	3	3	4	0	26
South Carolina	1	0	0	0	0	0	0	0	1
Georgia	0	0	1	1	0	0	0	0	2
Florida	0	0	2	0	1	0	0	0	3
<b>TOTAL</b>	26	34	26	27	33	10	19	16	191



<https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2023-humpback-whale-unusual-mortality-event-along-atlantic-coast>



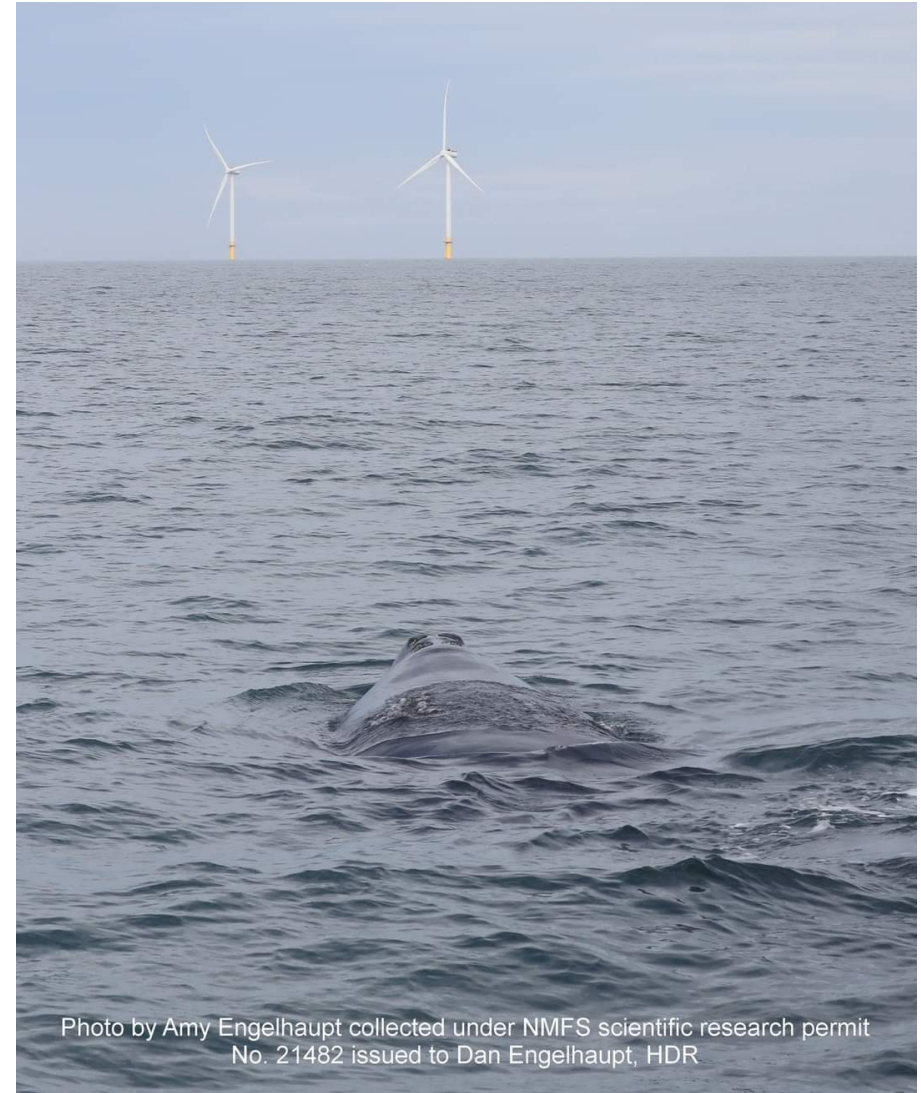
# Stranding Update – All Whales Since December 1, 2022

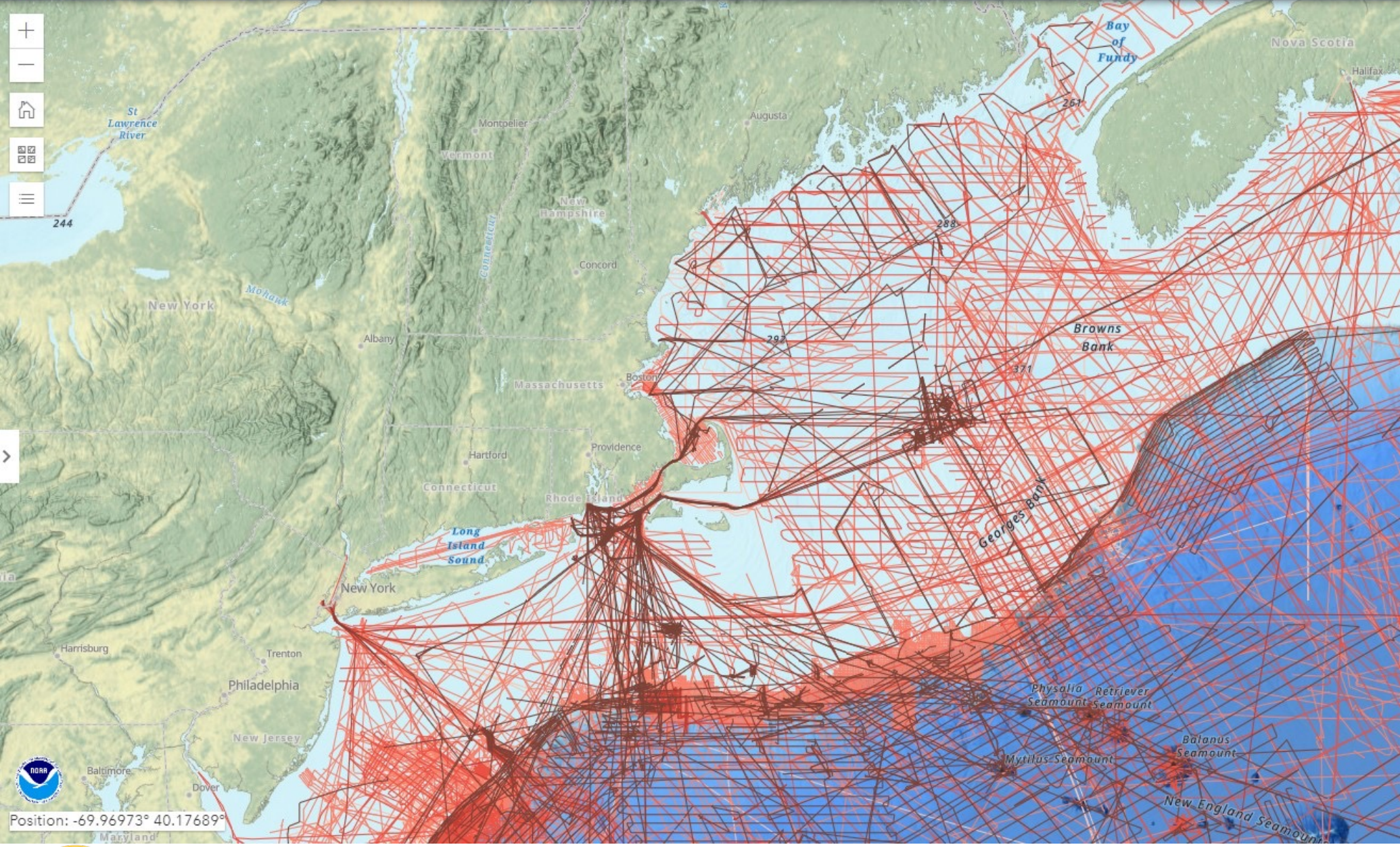
- Since December 1, 2022, there have been 37 reported strandings of six whale species.
  - 22 humpback whales (3 NY, 9 NJ, 1 MD, 6 VA, 3 NC)
  - 3 sperm whales (2 NY, 1 FL)
  - 8 minke whales (1 ME, 5 MA, 2 NY)
  - 2 right whales (1 VA, 1 NC)
  - 1 sei whale (NC)
  - 1 fin whale (VA).
- 19 necropsies, 6 other animals had data collected. Other whales were floating offshore or not found until they are already decomposed, which only photos were taken.
- From 16 necropsies, vessel strike was likely the cause of death in at least 10 cases
- 1 additional animals had several large propeller cuts.



# Continued Monitoring

- According to the MMC, humpback whale numbers continue to increase, and young animals are overwintering along the Atlantic coast where they are vulnerable to being struck by ships.
- Whales are feeding in nearshore waters where both whale densities and ship densities are higher.
- NOAA continue to investigate these strandings. There is no evidence linking geophysical surveys for offshore wind with whale strandings.
- BOEM and its State and Federal partners will continue to monitor for possible effects to marine mammals during surveys and study how human activities may impact whales.





# MMPA Permits for HRG Surveys

- Permits are issued to companies by NOAA Fisheries.
  - No injury or lethal impacts are expected.
  - Behavioral responses to surveys would be short-term.
  - Only Level B harassment has been allowed in NOAA permits.
- **Level B harassment** refers to acts that have the potential to disturb (but not injure) a marine mammal or marine mammal stock in the wild by disrupting behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.





# Distances for Level B Harassment NMFS IHAs

HRG Equipment	Source Level dB re 1 μPa m	Beam Width (degrees)	Level B	Level A
			Response Distance to 160 dB (meters)	PTS Distance LF Group (meters)
Innomar SES2000	241	2	1.05	<1
Dual Geo-Spark 2000	203	180	141	<1

Source: [https://media.fisheries.noaa.gov/2022-06/AttentiveEnergyNYBight\\_2022IHA\\_App\\_OPR1.pdf.pdf](https://media.fisheries.noaa.gov/2022-06/AttentiveEnergyNYBight_2022IHA_App_OPR1.pdf.pdf)

ET 216 2000DSS	195	180	56	<1
ET 424 3200-XS	180	71	10	<1
ET 512i	179	80	9	<1
Pangeo SBI	190	120	32	<1
AA, Dura-spark 240	203	180	141	<1
GeoMarine Geo-Source	195	180	56	<1
ET 216	179	17, 20, or 24	9	<1

Source: [https://media.fisheries.noaa.gov/2022-06/AtlanticShoresBightHRG\\_2022PropIHA\\_App\\_OPR1.pdf](https://media.fisheries.noaa.gov/2022-06/AtlanticShoresBightHRG_2022PropIHA_App_OPR1.pdf)

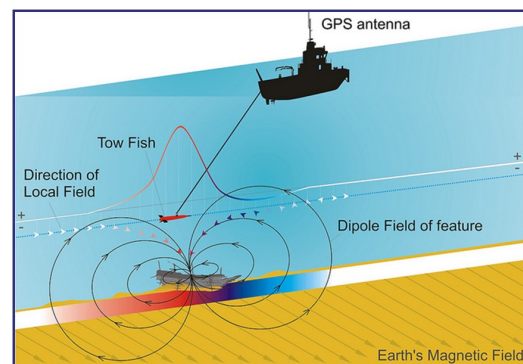
GeoPulse 5430A	196	55	21	<1
ET 216	195	24	12	<1
ET 512i	179	80	9	<1
Teledyne Benthos Chirp III	197	100	48	1.5
AA, Dura-spark UHD Sparker	203	Omni	141	<1
GeoPark 200	203	Omni	141	<1
AA, triple plate S-Boom	205	80	34	<1

Source: [https://media.fisheries.noaa.gov/2022-05/NEETMA\\_2022IHA\\_App\\_OPR1.pdf](https://media.fisheries.noaa.gov/2022-05/NEETMA_2022IHA_App_OPR1.pdf)

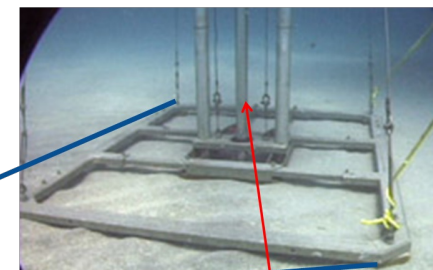
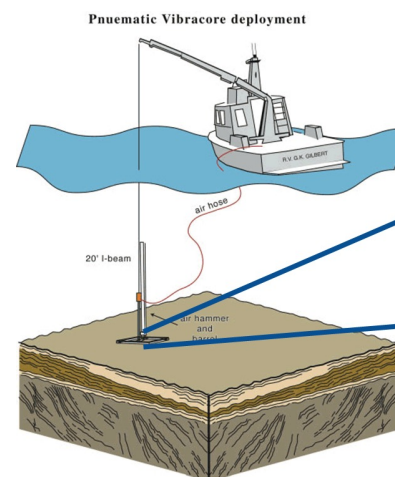


# Biological Assessment for Surveys

- 2018 Biological Assessment covering Atlantic renewable energy data collection & site survey activities for
  - Covers all Atlantic WEAs out to 100 m
  - Metocean buoy installation and decommissioning
  - Geotechnical surveys
  - Magnetometer surveys
  - Benthic surveys
  - HRG surveys (sound sources)
  - ★ Airgun arrays are not used



BOEM's biological assessment can be accessed at:  
<https://www.boem.gov/sites/default/files/documents/renewable-energy/OREP-Data-Collection-BA-Final.pdf>



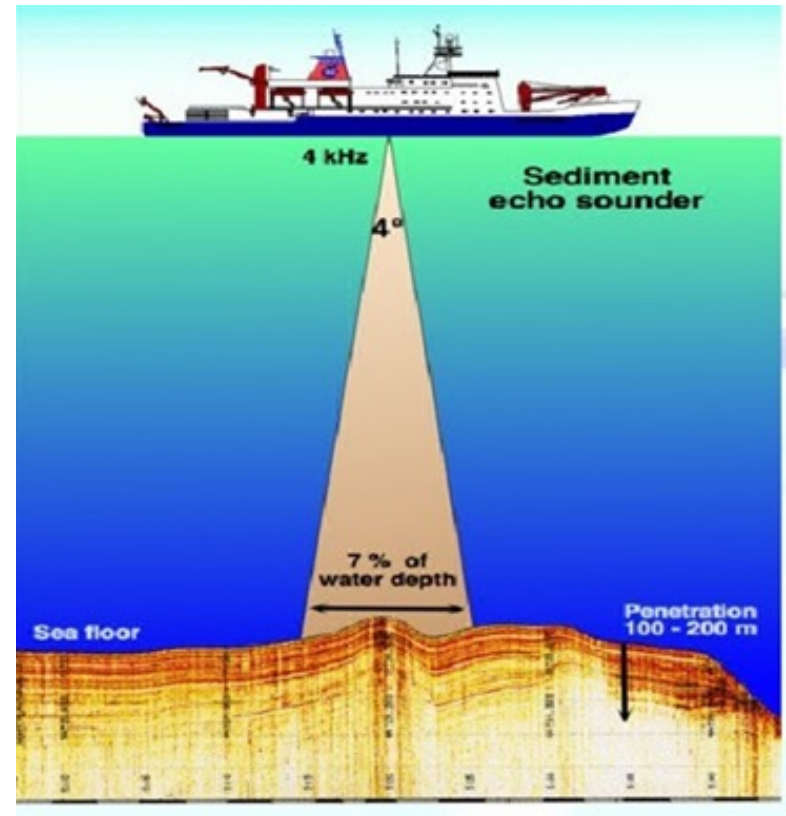
6 x 5 ft Frame  
3-inch diameter barrel (pipe)



# Endangered Species Act Consultation for Surveys

## OUTCOME AND CONCLUSIONS OF 2018 BA

- NOAA concurred that these surveys may affect, but are not likely to adversely affect ESA-listed species.
- Chance of Hearing impacts is discountable.
- Minor behavioral responses possible, but very short-term
- BOEM refined the Best Management Practices (BMPs) with NOAA. These are required.



NMFS ESA concurrence and BMPs can be accessed at:

<https://www.boem.gov/sites/default/files/documents/renewable-energy/OSW-surveys-NLAA-programmatic.pdf>



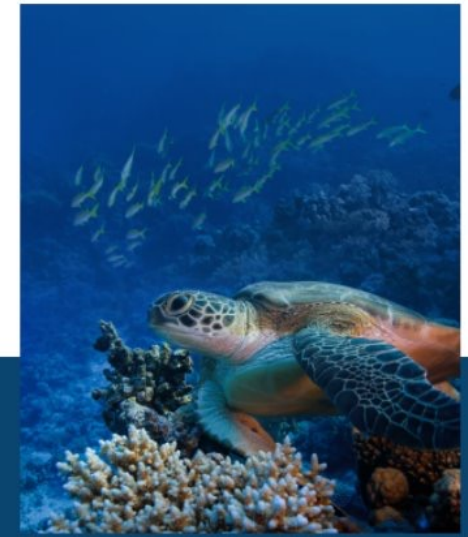
# Current BOEM Requirements (BMPs) for Surveys

1. Avoid live bottom features
2. Avoid spawning habitat of sturgeon
3. Marine debris elimination and awareness
4. Minimize interactions during geophysical surveys
5. Minimize vessel interactions
6. Buoy best practices
7. PSO requirements
8. Reporting and Data Standards



## Site Characterization & Site Assessment on OCS Leases

### PROJECT DESIGN CRITERIA AND BEST MANAGEMENT PRACTICES FOR PROTECTED SPECIES



#### What are Project Design Criteria (PDCs) and Best Management Practices (BMPs)?

PDCs are the general mitigation, monitoring, and reporting requirements that apply to geological and geophysical surveys, and other data collection activities on Outer Continental Shelf (OCS) leases. These PDCs are intended to avoid, minimize, and monitor effects to protected species of marine mammals, sea turtles, fish, and their habitats. BMPs are the more detailed conditions explaining how to carry out each PDC.



# Commitment to Responsible Offshore Wind Development

- **Continued Monitoring:** BOEM will continue to require BMPs and PSOs to monitor and report on surveys.
- **Continued Research:** BOEM will continue to engage in research to better understand the impacts of offshore wind.
- **New Assessment:** BOEM is preparing a new Biological Assessment for the Gulf of Maine, will review the current BMPs, and we will request a new consultation with NOAA Fisheries.
- **Adaptive Management:** BMP requirements can be updated and future actions taken if new evidence shows impacts are occurring.
- **North Atlantic Right Whale Strategy:** To be published later this year.



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