

30 June 2026

TO: Erin Wilson, Federal Consistency Coordinator
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REFERENCE: Federal Consistency Determination for Smart Acoustics from Shelf to Shore in the Gulf of Maine, Research Theme 3 – Coastal Processes

This document serves as a Federal Consistency Determination for the referenced action, submitted by the Office of Naval Research's Code 32 (Ocean Battlespace Sensing) (hereafter, "ONR") to the Maine Coastal Program for review.

Under Section 307 of the Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1451 *et seq.*), federal agency activities that have reasonably foreseeable effects on a state's coastal uses or resources must be consistent to the maximum extent practicable with the enforceable policies of that state's approved coastal management program.

This research project, funded and supported by ONR, qualifies as a "Federal Agency Activity" under 15 Code of Federal Regulations (CFR) Part 930, Subpart C. Therefore, ONR submits this Federal Consistency Determination as required by federal regulation (15 CFR § 930.34).

As established in the federal regulations and detailed in the *Maine Guide to Federal Consistency Review*, the State of Maine has 60 days from the receipt of this complete determination to conduct its review. Additionally, the federal agency must wait at least 90 days from the submittal date before beginning project activities, unless an early concurrence is received from the state. We recognize that this submission is being provided within the standard 90-day waiting period prior to our targeted August deployment. While we fully respect the Maine Coastal Program's 60-day review period, we respectfully request an expedited review and early concurrence, if your workload permits, to allow the university to meet its time-sensitive summer research schedule.

The following sections provide a detailed description of the proposed project, an analysis of its consistency with Maine's applicable State Core Laws, and a set of Best Management Practices that will be employed to ensure the protection of coastal resources.

1.0 Description of the Proposed Project

The proposed work will take place over a two-year data collection period beginning by August 2026 and ending by October 2028. The work is led by co-Principal Investigator Dr. Ian T. Jones and Dr. Gabriel Venegas at the University of New Hampshire (UNH) under one of three Research Themes (*Theme 3: Coastal Processes*) within the research grant titled “*Smart Acoustics from Shelf to Shore in the Gulf of Maine*”. The overarching research grant is led by Principal Investigator Dr. Jennifer L. Miksis-Olds and funded by the Office of Naval Research (ONR). The overall goal of the proposed work under this Research Theme is to characterize temporal and spatial complexities of the ambient sound field in coastal habitats to enhance understanding of limitations on passive sensing capabilities for sound localization and port protection applications. Two specific objectives fall under this goal:

1. *Coastal Soundscape Signatures*: Determine how ambient noise characteristics (soundscapes) are influenced by eelgrass presence and coastal oceanographic processes, including temperature, wind, tides, and dissolved oxygen.
2. *Shallow Water Propagation*: Determine if Ambient Sound Correlation Processing can be used to track influences of hydrodynamic and biological complexities on acoustic propagation in coastal environments.

The proposed project will deploy equipment at two approximate locations in Maine state waters near the mouth of the Piscataqua River, southwest of Gerrish Island (Kittery, ME) as illustrated in Figure 1:

- *Site 2*: 43°3’58.68” N; 70°41’53.16” W; and,
- *Site 3*: 43°3’41.40” N; 70°41’36.24” W.

To ensure zero impact to sensitive benthic habitats, the exact coordinates of the non-penetrating acoustic platforms will be finalized immediately upon deployment. Divers will conduct pre-deployment visual surveys to verify suitable sandy/gravelly substrate and ensure all equipment is placed with a minimum 2-meter (m) buffer from any existing eelgrass (*Zostera marina*) cover.

Passive acoustic and hydrological data will be collected from three identical fabricated platforms deployed on substrate, each consisting of an orthogonal four-channel hydrophone array, acoustic data logger, CTD (Conductivity (*i.e.*, salinity) Temperature and Depth) sensor, dissolved oxygen sensor, light sensor, and camera. Two platforms will be stationed in Maine state waters (whereas the third will be in New Hampshire state waters but is not discussed herein) at the mouth of the Piscataqua River, near Kittery, Maine (Figure 1). Each platform will have a 1 m x 1 m horizontal footprint, will be deployed and recovered via SCUBA, and will be anchored to sand screws deployed by SCUBA on the seafloor (Figure 2). The researchers will utilize high-profile surface

buoys (labeled with “UNH Research” and the Principal Investigators’ contact information) and will inform local mariners of the location for all sites to minimize risk of entanglement of research mooring lines with fishing equipment. The platform will have a 1 m x 1 m horizontal footprint, will be deployed and recovered via SCUBA, and will be anchored to sand screws deployed by SCUBA on the seafloor (Figure 2). SCUBA divers will verify that the platforms are placed in sandy areas without seagrass, no closer than 2 m horizontally from seagrass. All components (including sand screw anchors) will be removed upon final recovery (October 2028) including sand screws.

Passive acoustic data will be collected via a four-channel passive acoustic recorder (SoundTrap ST6400, Ocean Instruments, NZ). The four hydrophones (underwater microphones) attached to this recorder are arranged as a compact array, with 12 centimeter (cm) spacing to allow directional passive acoustic sensing up to 3 kilohertz (kHz). Due to internal clock drift (approximately 1 second (sec) per day) of SoundTraps that precludes sound propagation measurements, UNH Center for Acoustics Research and Education has developed a custom synchronization buoy to time-align recordings. This consists of a surface expression with an in-air radio frequency antenna and housed electronics on top of a high-visibility, 1 m tall surface buoy, connected to a cabled, underwater, low sound-intensity pinger running vertically along the mooring line then tied to the hydrophone platform. A second sand anchor is needed to secure the mooring line of the sync buoy, thus each site will consist of two sand anchors, spaced 1–2 m apart, to secure the multi-sensor passive acoustic platform and the sync buoy mooring line. The time-sync pingers emit a 750 millisecond (ms) duration tone at 2 kHz, once every 15 minutes (min), with an acoustic source level of 96 decibels referenced to 1 micropascal at 1 m (96 dB re 1 μ Pa at 1 m). This source level intensity is chosen such that the tone will be audible to the co-located platform a given pinger is attached too but not detectable by hydrophones at adjacent platforms approximately 1 kilometer (km) away. Together with the hydrophones and sync buoy, the system will allow directional acoustic sensing and measurement of acoustic propagation across sites.

The platforms will be maintained over five individual deployments starting in August 2026, first with a one-month test deployment August to September 2026, followed by four six-month long deployments. In between each deployment, the platforms (including hydrophones and acoustic data logger, CTD, dissolved, oxygen, light sensor, and camera) will be removed by SCUBA divers for data offload and battery changes, with redeployment taking place approximately one week after each recovery. Synchronization buoys (on the surface, with mooring line extending to sand screws) will remain deployed for the two-year project period except in potential cases of hardware failure where in-lab repairs are needed. From June to September in 2027 and 2028, additional monthly maintenance via SCUBA will take place for the underwater acoustic platforms to remove biofouling (these months are when the greatest extent of biofouling is expected). Sand screws, cables, and sensors will be checked on each dive to ensure no

components are worn or have come loose (including hose clamps and cable ties), with tightening and replacement performed as needed.

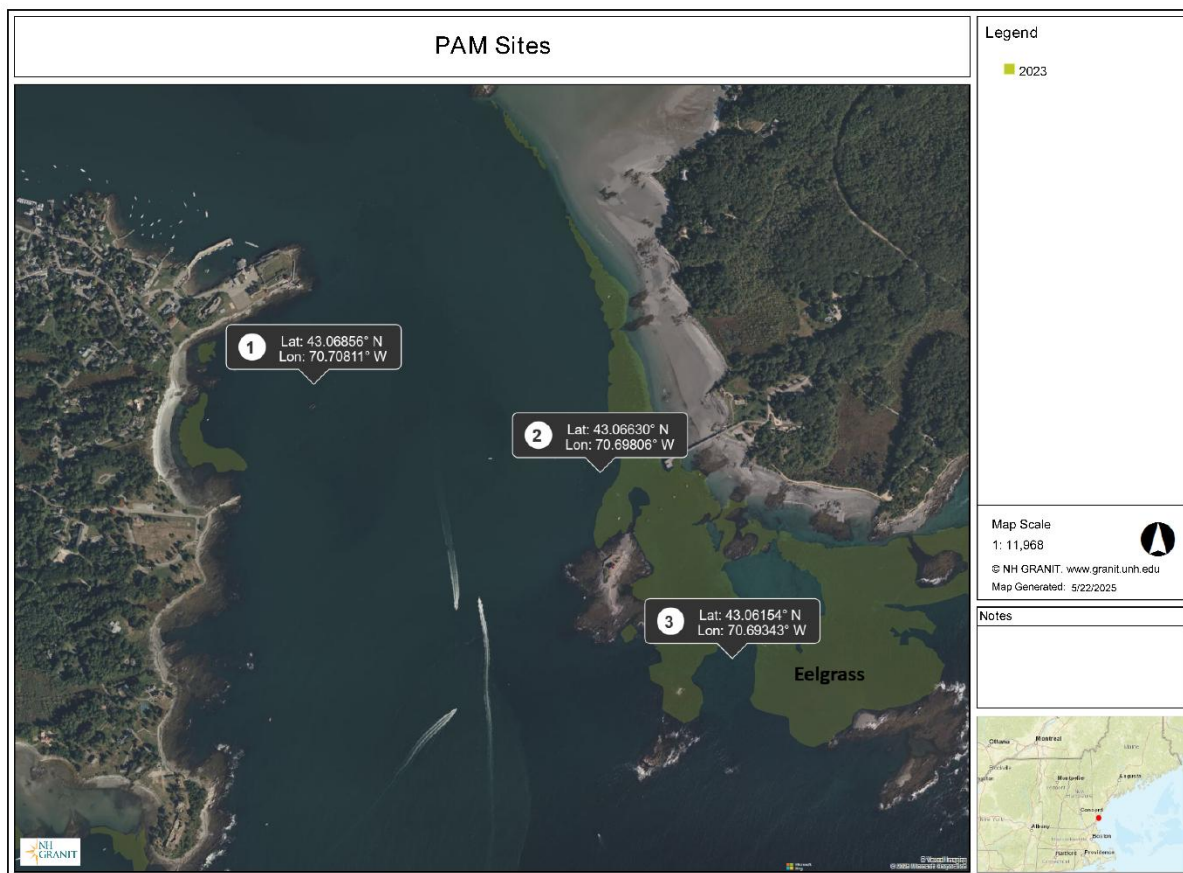


Figure 1. Tentative locations for the three sensing nodes, each consisting of a compact, four-channel orthogonal hydrophone array platform with CTD, dissolved oxygen sensor, light sensor, camera and surface synchronization buoy (see Figure 2). Location 01 is in New Hampshire waters whereas Locations 02 and 03 are in Maine waters. Location 01 is in a wide sandy area with eelgrass beds located in shallower coves to the East, Location 02 will rest on sandy substrate near the edge of eelgrass to the East, and Location 03 will be a sandy area surrounded by eelgrass to the East and West. Exact locations proximate to those shown will be determined via SCUBA to verify that platforms are anchored at least 2 m horizontal distance from eelgrass.

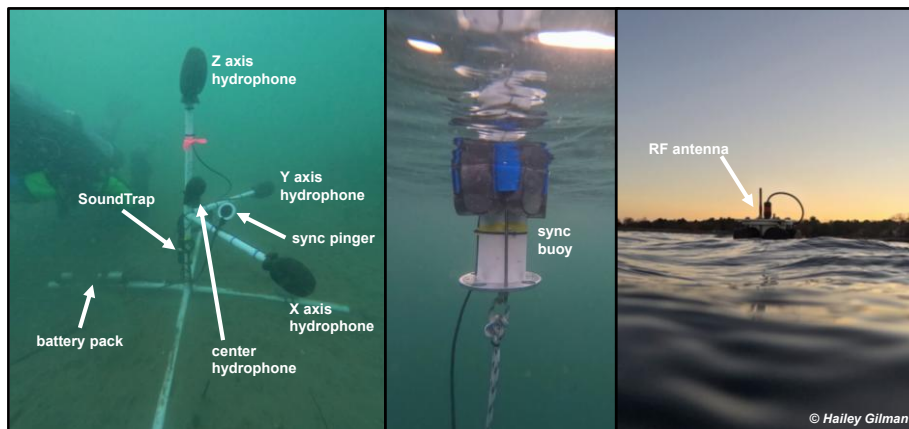


Figure 2. Acoustic platform with data logger (SoundTrap) and compact 3D hydrophone array attached to a custom frame, and custom surface synchronization buoy. The deployment frame for the 2026 to 2028 proposed work is planned to be a sturdier metal frame (rather than PVC frame shown here) and include, in addition to the SoundTrap (passive acoustic recorder) and hydrophones shown here, a mounted camera, CTD, dissolved oxygen sensor, and light sensor. Images are from a one-month pilot deployment in November 2024 near New Castle beach (funding by New Hampshire Sea Grant, environmental approval by NOAA).

This consistency determination addresses field data collection that will occur in the Maine coastal zones. The UNH School of Marine Science and Engineering small boat program will provide the vessels used for this research. These small boats are outboard-powered vessels from 12–22 feet (ft) in length. All vessels will be operated by a certified boat operator and proof of certification will be carried on the vessel. These small boats will be used to facilitate platform deployment, retrieval, and maintenance via SCUBA (including turnaround after the first month, to take place September 2026, then approximately every 6 months thereafter until October 2028 to take instruments back to the lab to offload data from recorders, change batteries, and redeploy approximately one week later).

2.0 Consistency Determination for the Enforceable Policies of the Core Laws of Maine Coastal Program

The Maine Coastal Program does not have a separate, standalone set of coastal rules. Instead, its enforceable policies are derived from a specific list of existing State Core Laws. A proposed federal agency activity must demonstrate that it is consistent to the maximum extent practicable with these applicable laws.

The proposed Smart Acoustics project is consistent with the enforceable policies of the Maine Coastal Program. A detailed consistency analysis for each applicable Core Law is provided below.

1. Natural Resources Protection Act (38 M.R.S. §§480-A to 480-S; and 480-U to 480-HH)

Consistency Determination: Consistent. This project is designed to avoid impacts to natural resources protected under the Natural Resources Protection Act (NRPA). The acoustic platforms will be secured by SCUBA divers using sand screws inserted into bare sandy/gravelly substrate. To ensure no unreasonable harm to significant wildlife habitat, divers will conduct pre-deployment visual surveys to enforce a mandatory minimum 2-m horizontal buffer from any submerged aquatic vegetation (*Zostera marina*) and will verify the platforms are not placed on other living substrate like oyster beds. The low underwater profile of the acoustic platforms (approximately 1 m height above the substrate) ensures there will be no unreasonable interference with navigation, commercial fishing, or lobstering. The temporary nature of the project will not cause unreasonable soil erosion, and all components, including anchors, will be completely removed at the end of the project. All data collection will occur offshore on submerged lands, posing no threat to terrestrial resources such as beaches, sand dunes, or rocky shores.

Furthermore, these procedures ensure compliance with the Navy’s own Protective Measures Assessment Protocol (PMAP) database for this area, which requires that non-explosive seafloor devices be positioned to avoid direct contact with sensitive seafloor resources such as submerged aquatic vegetation. The diver-verified 2-m buffer from eelgrass beds explicitly meets this mitigation requirement.

2. Protection and Improvement of Air Law (38 M.R.S. §§581 to 610-A, -B)13)

Consistency Determination: Consistent. The small research vessels used for deployment and retrieval will comply with the federal Clean Air Act and the Maine State Clean Air Act Implementation Plan. The acoustic and scientific equipment itself does not discharge air pollutants.

3. Protection and Improvement of Waters Act (38 M.R.S. §§361 to 367; 371-A to 372; 410-N; 411 to 424; 451 to 455; and 464 to 470)

Consistency Determination: Consistent. The research vessels are operated in accordance with the Clean Water Act and the Act to Prevent Pollution from Ships (33 U.S.C. § 1905 *et seq.*). To protect water quality, all deployed scientific equipment, including sound recorders, cameras, salinity-temperature-depth (CTD) sensors, light sensors, and dissolved oxygen sensors, are sealed and do not produce discharges or leach foreign materials into the water. No physical collection of organisms will occur, and no regulated or hazardous materials are involved in the research activities.

4. Maine Endangered Species Act (12 MRSA §§12801-12810 [inland species]; 12 M.R.S. §6971-6977 [marine species]; and 12 M.R.S. §10001, sub-§§19 and 62 [definitions])

Consistency Determination: Consistent. The project activities are not expected to impact state or federally listed threatened or endangered species. The acoustic pinger has an exceptionally low source level of 96 dB re 1 μ Pa at 1 m. In plain terms, this means the sound pressure level generated by the device is measured at 96 dB using the standard underwater reference pressure of 1 micropascal, at a standardized distance of 1 m from the pinger. Because underwater sound pressure is measured on a different reference scale than sound in the air, a level of 96 decibels underwater is extremely quiet, equivalent to roughly 34 dB in the air, which is quieter than a soft whisper in a library. This source level is lower than the average natural ambient background noise of the Gulf of Maine (which typically ranges from 90 to 110 dB due to wind, waves, and vessel traffic), meaning the signal will be virtually imperceptible to marine mammals and fish beyond a distance of a few meters. The use of passive acoustic monitoring means the ambient soundscape will primarily be recorded, with the low-intensity synchronization sounds having a limited and localized range of audibility. The source level of the acoustic pinger is highly localized and unlikely to cause behavioral changes in marine mammals or fish.

Vessels will adhere to all approach restrictions for marine mammals and sea turtles as outlined in the project’s Best Management Practices (see Appendix B). Specifically, all research vessels will adhere, to the maximum extent possible, to the Navy’s mandatory protective measures for this area, including maintaining a minimum distance of 500 yards (yd) from whales and 200 yd from all other marine mammals (*i.e.*, seals, dolphins, porpoises), except for bow-riding delphinids. However, recognizing the academic nature of the operations and the high-traffic conditions at the mouth of the Piscataqua River, the vessel will, at a minimum and to the maximum extent practicable, maintain a minimum standoff distance of 100 yd from any observed marine mammals.

5. Marine Resources Law (12 M.R.S. §§6171 to 6192; and 6432-A)

Consistency Determination: Consistent. The proposed deployment coordinates (Site 2 and Site 3) have been cross-referenced with the Maine Department of Marine Resources (DMR) Aquaculture Map Viewer (<https://www.maine.gov/dmr/aquaculture/maine-aquaculture-leases-and-lpas/aquaculture-web-map>) using the “Marine DMR Aquaculture Leases” layer. There are no active aquaculture leases or pending lease applications overlapping with the project footprint, ensuring no interference with existing marine resource rights granted under state aquaculture laws (Aquaculture Leasing Laws (12 M.R.S. §6071-A (definitions); 12 M.R.S. §6072 (research and aquaculture leases); 12 M.R.S. §6072-A (limited-purpose lease for commercial or scientific research); 12 M.R.S. §6073 (exclusivity; prohibition or interference))).

6. Coastal Management Policies Act (38 M.R.S. §§1801 to 1802)

The project is consistent with the applicable policies of this Act, as detailed below:

- *Policy 1 (Coastal Waters): Consistent.* As detailed under the Natural Resources Protection Act, the project avoids sensitive habitats. To protect water quality, all deployed scientific equipment (including sound recorders, cameras, CTD sensors, light sensors, and dissolved oxygen sensors) are sealed and do not produce discharges or leach foreign materials. All equipment will be completely removed by October 2028
- *Policy 2 (Fish & Wildlife): Consistent.* The project minimizes potential impacts to marine organisms and habitats through its low-impact design. Sound pressure levels from the acoustic pingers are extremely low and highly localized, posing no threat of physiological or behavioral disruption to fish or marine mammals. Physical benthic impacts are negligible because all equipment will be hand-installed by SCUBA divers on bare sand/gravel substrate, maintaining a mandatory 2-m buffer from sensitive eelgrass beds. Furthermore, as detailed under the Maine Endangered Species Act and NRPA analyses, the project's low-impact design avoids harm to fish, wildlife, and their habitats. While the project's primary aim is not restoration, the results may contribute to future conservation efforts by improving the accuracy of acoustic sensing techniques and improving understanding of relationships between the presence of organisms (including eelgrass itself) and acoustic measurements.
- *Policy 3 (Oil Spills): Consistent.* All research vessels will be operated and maintained in strict accordance with all applicable regulations for the use of oil and other regulated materials. The research equipment itself does not present an oil spill risk as its operation relies on sealed batteries and does not require fuels or oils.
- *Policy 4 (Endangered Species): Consistent.* The project's design and operational protocols are protective of threatened and endangered species. The research will investigate the habitat use of various species by using co-located monitoring instruments to identify environmental characteristics associated with underwater soundscapes, contributing to long-term habitat monitoring data in the Gulf of Maine. No take of threatened or endangered species is anticipated. Noise levels from the acoustic pingers

- are extremely low, and vessels will abide by all marine mammal observation and avoidance protocols.
- *Policy 5 (Rare Plants/Geology): Does not apply.* No rare plants or geological features are within the project scope or geographic area. This section does not apply to the proposed research effort.
 - *Policy 6 (Recreation & Access): Consistent.* The proposed data collection techniques do not deny access to or significantly limit the public’s use of the Maine coastal zone for recreational activities, nor is it expected to impede public access. The hydrophone system platform has a small footprint and will not be located in high-traffic recreational areas. The collection of physical oceanographic data will not interfere with any recreational activities. To mitigate safety risks, heavy-duty, marine-grade mooring lines appropriate for all seasons will be used to prevent breakage. High-profile surface buoys, clearly labeled with “UNH Research” and Principal Investigator contact information (as discussed above), will be deployed at each site to inform local mariners and minimize risk of entanglement. To ensure no interference with navigation, the project team will file a Local Notice to Mariners (LNM) with the U.S. Coast Guard First District prior to deployment
 - *Policy 7 (Air Quality): Consistent.* Vessels will adhere to all local, state, and federal air quality standards.
 - *Policy 8 (Water Quality): Consistent.* Any discharges to coastal waters are strictly prohibited.
 - *Policy 9 (Historic Resources): Consistent.* ONR has reviewed the proposed action under 36 C.F.R. § 800.3(a)(1) and determined that the temporary placement of small, non-penetrating platforms on sandy substrate has no potential to cause effects on historic properties. To support this, coordinates were cross-referenced with NOAA’s Wrecks and Obstructions Database (<https://www.nauticalcharts.noaa.gov/data/wrecks-and-obstructions.html>) [which has been discontinued by NOAA’s Office of Coast and instead routed the user to the “ENC Direct to GIS portal” (<https://encdirect.noaa.gov/>)], NOAA’s Environmental Sensitivity Index (<https://response.restoration.noaa.gov/esi>), and the Navy’s PMAP Database. No known historical shipwrecks or submerged archaeological structures are found within the footprint. Furthermore, the in-water deployment of the research equipment will not adversely affect the public view of any historic structure, site, or district because the equipment is mostly submerged, with only a 1-m tall surface buoy visible. Therefore, ONR has no further obligations under Section 106 of the NHPA, and the project is fully consistent with Maine’s Historic and Cultural Resources policy.
 - *Policy 10 (Research & Education): Consistent.* The proposed research will directly contribute to coastal resource management by exploring methods for habitat monitoring and providing information that can potentially be applied to improve the performance of soundscape sensing techniques. The project directly supports coastal research to better understand acoustic propagation and marine environments.

Core Laws That Do Not Apply:

The following Core Laws of the Maine Coastal Program are not applicable to the proposed research and are not addressed further:

Heavy Industry & Energy Laws:

- Maine Metallic Mineral Mining Act (38 M.R.S. §§ 490-LL to 490-TT);
- Wind Energy Act & Expedited Wind Energy Development (35-A M.R.S. §§ 3451-3459);
- Solar Energy Development Decommissioning Law (35-A M.R.S. Ch. 34-D); and,
- Nuclear Facility Decommissioning Laws (PL 1999 c. 739 & c. 741).

Reasoning for Non-Applicability: The proposed project involves only temporary, non-penetrating scientific research equipment and does not involve metallic mining, wind or solar energy generation, grid-scale development, or nuclear facility operations.

Land-Based Development & Infrastructure Laws:

- Site Location of Development Law (38 M.R.S. §§481 to 485-A; 486-A, -B; 487-A to 490-FF);
- Land Use Regulation Law (12 M.R.S. §§ 681 to 689);
- Mandatory Shoreland Zoning Law (38 M.R.S. §§ 435 to 449);
- Subdivision Law (30-A M.R.S. §§ 4401 to 4408);
- MaineDOT Traffic Movement Permit Law (23 M.R.S. § 704-A) and,
- Coastal Barrier Resources System Act (38 M.R.S. §§ 1901 to 1905).

Reason for Non-Applicability: These laws govern municipal land subdivisions, onshore zoning, roadway traffic alterations, and major terrestrial developments. The proposed scientific deployment is entirely marine-based, temporary, and situated in submerged lands outside of terrestrial and municipal land-use development jurisdictions.

Waste, Toxics, & Chemical Management Laws:

- Nutrient Management Act (7 M.R.S. §§ 4201-4214);
- Maine Hazardous Waste, Septage and Solid Waste Management Act (38 M.R.S. §§1301 to 1310-BB; 1316 to 1316-L; and 1317 to 1319-W);
- Uncontrolled Hazardous Substance Sites Law (38 M.R.S. §§ 1362 and 1367);
- Asbestos Law (38 M.R.S. §§ 1273 and 1281);
- Lead Abatement Law (38 M.R.S. §§ 1296 and 1298(3));
- Sale of Consumer Products Affecting the Environmental Law (38 M.R.S. §§ 1608 to 1610);

- Mercury-Added Products and Services Law (38 M.R.S. §§ 1661 to 1672);
- Solid Waste Management and Recycling Law (38 M.R.S. §§ 2101 to 2165); and,
- Priority Toxic Chemical Use Reduction Law (38 M.R.S. §§ 2321-2330).

Reason for Non-Applicability: The project utilizes standard, sealed scientific oceanographic sensors and does not generate solid waste, sewage, hazardous waste, agricultural runoff, asbestos, lead, or priority toxic chemicals. No consumer products or mercury-added components will be introduced to the environment.

Water Resources & Watershed Protection Laws:

- Storm Water Management Law (38 M.R.S. §420-D);
- Erosion Control and Sedimentation Law (38 M.R.S. § 420-C);
- Wellhead Protection Law (38 M.R.S. §§ 1391-1399);
- Maine Rivers Act (12 M.R.S. §§ 403 and 407); and,
- Maine Waterway Development and Conservation Act (38 M.R.S. §§630 to 636-A; and 640).

Reason for Non-Applicability: These laws regulate upland soil erosion into freshwater bodies, inland drinking water wellheads, riverine projects, and river/hydropower dams. The proposed project is located in open ocean waters (submerged coastal lands) and does not involve inland riverways, dams, or drinking water resources.

Oil & Marine Organism Importation Laws:

- Oil Discharge Prevention & Pollution Control Law (38 M.R.S. §§ 541 to 560);
- Oil Storage Facilities and Ground Water Protection Law (38 M.R.S. §§561; 562-A; 563, sub-§1(A) and 2; 563-A-B; 564;565-A; 566-A; 568; 568-A-B; 569-A, -C; 570; and 570-A-G, I-M);
- Importing of Certain Marine Organisms (12 M.R.S. § 6071); and,
- General licensing and enforcement authorities; fees (38 M.R.S. §§341-D; 344 to 349; and 352-353, and 353-A, -B[fees])¹⁵.

Reason for Non-Applicability: The project does not involve the transfer, storage, or refining of bulk oil, petroleum, or hazardous liquids, nor does it involve the importation, introduction, or release of live non-indigenous marine organisms or shellfish into state waters.

3.0 Conclusion

Based on the evaluation herein, the Office of Naval Research's Code 32 Department has determined that the Smart Acoustics from Shelf to Shore project is consistent to the maximum extent practicable with the enforceable policies of the approved Maine Coastal Program. Please feel free to contact us with any comments or questions at *Kelsey.M.Potlock.ctr@us.navy.mil* or by telephone at 948-215-2942.

We thank you in advance for the coordination and support of this academic research. If you or your staff have any questions or require additional technical details, please do not hesitate to contact us.

Sincerely,

HEADRICK.ROBERT.H
UGH.JR.1124548370

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Dr. Robert Headrick

Program Officer

Office of Naval Research (ONR)

Code 32 (Ocean Battlespace Sensing)

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Appendix A:

Example of the Notification of Field Work form

**NOAA/UNH Joint Hydrographic Center/ Center for Coastal and Ocean Mapping
Notification of Field Work**

Please email completed form to Matt Rowell at captainmatt@ccom.unh.edu in order to reserve vessel.

Project			NOAA Funded Y ☐ N ☐
Dates of field work			
Time of day field work will occur			
Type of equipment used (specify if towed or hull mounted)			
Vessel name and type			
Contact info for vessel activity	R/V Gulf Surveyor monitors Marine VHF Radio Channels 13 and 16. Captain Matt Rowell can be reached via cell at (603) 397-7717 and by email at captainmatt@ccom.unh.edu . The Zego Boat and CBASS Jet Ski also carry a marine radio and are managed by Tom Lippmann, cell 603-397-7956 or by email at lippmann@ccom.unh.edu . JHC/CCOM Co Director Larry Mayer can be reached via cell at (603) 502-3035 and by email at larry@ccom.unh.edu .		
Brief description of field work			
Insert a map that includes where the field work will be conducted, including the entire route to the survey area in reference to the shoreline that the vessel intends to take, superimposed on an official NOAA Chart			

Appendix B:

Best Management Practices

PROPOSED BEST MANAGEMENT PRACTICES (BMPS) FOR OCEANOGRAPHIC SURVEYS

The following Best Management Practices, derived from the U.S. Navy's Protective Measures Assessment Protocol (PMAP) for the project area, will be implemented throughout the duration of the research activities.

Marine Species Observation and Avoidance:

- *Observer Training:* Prior to the start of fieldwork, all vessel operators and field personnel will be instructed on how to identify common marine mammals and sea turtles in the Gulf of Maine. Laminated species identification guides will be kept aboard the research vessel for reference.
- *Dedicated Observers:* While underway, at least one member of the research team will be designated as a visual observer to watch for marine protected species.
- *Approach and Standoff Distances:* In alignment with Navy environmental protocols, vessel operators will make every effort to avoid approaching within 500 yards of cetaceans (whales), within 200 yards of all other marine mammals (dolphins [with the exception of bow-riding delphinids], porpoises, and pinnipeds/seals), and within 50 yards of sea turtles. However, recognizing the academic nature of the operations and the high-traffic conditions at the mouth of the Piscataqua River, the vessel will, at a minimum and to the maximum extent practicable, maintain a minimum standoff distance of 100 yards from any observed marine mammals.
- *Marine Mammal Approach:* The vessel will not intentionally approach marine mammals head-on.
- *Sea Turtle Avoidance:* Vessels will maneuver to avoid sea turtles, provided it is safe to do so.
- *Safe Speed:* The vessel will operate at a safe speed, especially in areas of known marine mammal activity and as appropriate for the conditions, to allow for detection and avoidance of animals. This will allow for effective action(s) to be taken to avoid a collision with any marine life.

Seafloor Habitat Protection:

- *Diver Placement:* All seafloor equipment will be placed by SCUBA divers. This allows for precise, low-impact positioning of all components.

- *Habitat Verification:* Divers will conduct pre-deployment visual surveys to ensure all equipment (including sand screw anchors) is positioned on bare sandy or gravelly substrate and maintains a minimum 2-meter buffer from any submerged aquatic vegetation (eelgrass), live hard bottom, or other sensitive habitats.
- *Eelgrass Buffer:* A minimum horizontal distance of 2 meters will be maintained between all project equipment and any visible submerged aquatic vegetation (e.g., eelgrass). No equipment will be placed on live hard bottom or oyster beds.

Vessel and Equipment Procedures:

- *Vessel Maintenance:* All research vessels will be maintained in good working order to prevent fuel or fluid leaks.
- *Local Mariner Notification:* The project team will file a Local Notice to Mariners (LNM) with the U.S. Coast Guard First District prior to deployment to inform the local maritime community of the equipment locations and surface buoy descriptions.
- *Complete Removal:* At the conclusion of the two-year study, all project components, including platforms, anchors, and mooring lines, will be completely removed from the seafloor.

Additionally, in compliance with all other OCS project instructions, the following BMPS would also be implemented:

Vessel Maintenance Requirements

- Meet all EPA Vessel General Permits and Coast Guard requirements
- Use anti-fouling coatings
- Clean hull regularly to remove aquatic nuisance species (avoiding cleaners with nonylphenols)
- Rinse anchor with high-powered hose after retrieval

Anchoring Restrictions for Vessel During Data Collection

- Use designated anchorage area when available
- Use mapping data to anchor in mud or sand.
- Minimize anchor drag

Visual Monitoring Requirements

- Maintain trained observers aboard all vessels; 100% observer coverage
- Have species (cetaceans and sea turtles) identification keys available on all vessels