

1.0 INTRODUCTION

The National Oceanic and Atmospheric Administration (NOAA) National Ocean Service (NOS) has prepared this Final Programmatic Environmental Impact Statement (PEIS) to analyze the potential environmental impacts associated with NOS's recurring projects throughout United States (U.S.) coastal and marine waters to characterize underwater features (e.g., habitat, bathymetry, marine debris). Data obtained from these projects are used to produce many products, including charts and maps that are relied upon by mariners, scientists, shipping and fishing industries, and countless other users in the U.S. and beyond.

The Proposed Action evaluated in this Final PEIS is to continue NOS data collection projects in the U.S. territorial sea, the contiguous zone, the U.S. Exclusive Economic Zone (U.S. EEZ), U.S. rivers, and states' offshore waters, and some supporting activities in coastal and riparian lands such as the installation of tide gauges. These areas are referred to as the "action area" in this document. These projects would include surveys performed from crewed vessels and remotely operated or autonomous vehicles. Field crews would include NOS personnel, other NOAA personnel on behalf of NOS, contractors, grantees, or permit/authorization holders. These crews and vehicles may use echo sounders and other active acoustic equipment and employ other equipment, including bottom samplers and conductivity, temperature, and depth instruments to collect the needed data. A project could also involve supporting activities, such as the use of divers and the installation of tide buoys.

This Final PEIS was prepared in accordance with the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] § 4321, et seq.); Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR §§ 1500–1508 (1978)); NOAA Administrative Order 216-6A¹; and other relevant federal and state laws and regulations. While the CEQ regulations implementing NEPA were revised as of September 14, 2020 (85 FR 43304, July 16, 2020) and further revised as of May 20, 2022 (87 FR 23453, April 20, 2022), NOS prepared this Final PEIS using the 1978 CEQ regulations because this environmental review began on December 19, 2016, when NOS published a Notice of Intent (NOI) to conduct scoping. This Final PEIS discloses the direct, indirect, and cumulative environmental impacts that would result from the Proposed Action to ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.

1.1 REVISIONS SINCE THE DRAFT PEIS

NOS is committed to incorporating the best available information into the Final PEIS. NOS revised the PEIS since the June 2021 draft version to reflect feedback received through interagency coordination and consultation, stakeholder input, and public comments. A description of stakeholder input and public comments can be found in Section 1.5, Public Involvement. NOS has included responses to all public comments in Appendix C.

1.1.1 Incorporation of Mitigation Measures

The Draft PEIS has been updated to include additional mitigation measures to be implemented on each project as appropriate to minimize the impacts of surveying and mapping activities. NOS developed a suite of robust mitigation measures in coordination with subject matter experts, field crews, and in

¹ NOAA Administrative Order (NAO) 216-6A establishes NOAA's policy and procedures for compliance with NEPA; the CEQ regulations; Executive Order (EO) 12114, Environmental Effects Abroad of Major Federal Actions; EO 11988 and 13690, Floodplain Management; and EO 11990 Protection of Wetlands.

consultation with the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), and the Office of National Marine Sanctuaries (ONMS). Following publication of the Draft PEIS, NOS initiated interagency coordination and consultation under the Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), Magnuson-Stevens Fishery Conservation and Management Act (MSA) for Essential Fish Habitat (EFH), and the National Marine Sanctuaries Act (NMSA). Through these processes, NOS and regulators identified additional mitigation measures that further minimize the impacts of project activities on protected species. These mitigation measures have been incorporated into the effects analysis in the appropriate resource sections in Chapter 3 of the Final PEIS. The full list of mitigation measures is included in Appendix D.

The incorporation of mitigation measures in the Final PEIS as a result of interagency coordination and consultation does not represent a significant change to the Proposed Action or new information relevant to environmental concerns and therefore, per 40 Code of Federal Regulations (CFR) 1502.9(d)(4), NOS is not required to publish a supplemental to the Draft PEIS. Additional mitigation measures incorporated into the Final PEIS generally result in a reduction of any adverse environmental impacts previously analyzed.

1.1.2 Change to Temporal Scope

Due to the timing of the consultations and publication of the Final PEIS, the temporal scope of the Proposed Action has been reduced from six years (2022-2027) to five years (2023-2027). For 2022 projects, NOS used existing procedures for project-specific NEPA and environmental compliance. NOS has completed environmental reviews for all 2022 projects either planned or underway. The annual numbers for project activities and project miles are expected to remain consistent with those estimated in the Draft PEIS; however, since the Final PEIS covers one less year than the Draft PEIS, the total estimated survey effort has decreased. This change has been reflected throughout the Final PEIS.

The change to the temporal scope would result in an overall reduction to the effects for all resources analyzed in the Final PEIS. NOS has determined that the environmental effects are generally not additive over time. Therefore, the reduction in the temporal scope does not represent a significant change to the effects analysis for the Proposed Action or new information relevant to environmental concerns. Per 40 CFR 1502.9(d)(4), NOS is not required to publish a supplemental to the Draft PEIS.

1.1.3 Updated Acoustic Exposure Estimates

NOS, in coordination with NMFS, has updated the inputs to the acoustic model used to estimate marine mammal exposures to NOS underwater sound sources for the Final PEIS by using more current marine mammal abundance and density data. The acoustic model was also revised to account for the change in temporal scope and to correct a technical error. The updated exposure estimates are discussed in Section 3.5.2.

1.2 THE MISSION, PRIORITIES, AND ORGANIZATION OF THE NATIONAL OCEAN SERVICE

NOS is the nation's leading authority on hydrography, shoreline mapping, and nautical charts; water levels, tides, and currents; and geodetic positioning. The NOS mission is "to provide science-based solutions through collaborative partnerships to address evolving economic, environmental, and social pressures on our ocean and coasts" (NOS, No Date-a).

The NOS priorities are:

- Safe and efficient transportation and commerce;

- Preparedness and risk reduction; and
- Stewardship, recreation, and tourism.

To advance these priorities, NOS performs, funds, and authorizes a wide variety of work including research, education, technical assistance, data collection, software development, oversight, disaster response, and resource stewardship.

NOS provides data, tools, and services that support coastal economies and their contribution to the national economy. Approximately 40 percent of the U.S. population lives and works in coastal areas. Many U.S. coastal areas are undergoing substantial changes and face a variety of challenges, including port congestion and navigation hazards, recurrent flooding and beach erosion, pollution and algal blooms, habitat loss, and risk of catastrophic impacts from coastal storms and tsunamis. NOS works across all levels of government and with academic and private-sector partners to prepare America's coastal communities to address these challenges, reduce risks, and ensure thriving coastal communities and economies now and in the future (NOS, 2017a).

NOS is organized into eight program offices. These are:

- [Office of Coast Survey](#) (Coast Survey): carries out NOAA's surveying and charting responsibility in over 3 million square nautical miles (nm²) of U.S. waters. The program collects hydrographic data and creates and maintains nautical charts and other products to support safe navigation for commercial shipping, fishing, recreational boaters, and state and local governments.
- [Center for Operational Oceanographic Products and Services](#) (CO-OPS): provides accurate, reliable, and timely water level, current, and other oceanographic measurements that support safe and efficient maritime commerce, sound coastal management, and recreation.
- [National Centers for Coastal Ocean Science](#) (NCCOS): conducts and funds research in support of NOS core priorities of coastal change vulnerability, mitigation, and restoration; marine spatial ecology; stressor impacts and mitigation; and social science.
- [Office for Coastal Management](#) (OCM): implements the Coastal Zone Management Act (CZMA), the nation's guiding legislation for keeping the natural environment, built environment, quality of life, and economic prosperity of our coastal areas in balance.
- [Office of National Marine Sanctuaries](#) (ONMS): oversees the National Marine Sanctuary System, comprising 14 national marine sanctuaries and two marine national monuments. Together, these protected areas encompass more than 600,000 square miles of marine, riverine, and Great Lakes waters.
- [Office of Response and Restoration](#) (ORR): provides expertise in preparing for, evaluating, and responding to threats to coastal environments, including oil and chemical spills, hazardous waste releases, and marine debris.
- [Integrated Ocean Observing System](#) (IOOS): a national-regional partnership that provides observational coastal data, forecasts, and new tools to improve safety, enhance the economy, and protect the environment. IOOS provides integrated ocean information in near real time, as well as retrospectively, which improves NOAA's ability to understand and predict coastal storms, wave heights, and sea level change.

- [Office of National Geodetic Survey](#) (NGS): provides the nation with geodetic and geographic positioning services through a common reference framework, the National Spatial Reference System, for establishing the coordinate positions of all geographic and geospatial data.

Of the eight programs listed above, all but one (NGS) perform activities that are addressed in this Final PEIS. Appendix A, Summary of NOS Program Offices and Their Use of Active Acoustic Data Collection Technology, contains more information on each office's mission and history.

1.3 PURPOSE AND NEED

The purpose of the Proposed Action is to gather accurate and timely data on the marine and U.S. coastal environment.

The need for the Proposed Action is to provide the public and private sectors with nautical charts, benthic habitat condition maps, current and tide charts, and other products necessary for safe navigation, economic security, and environmental sustainability. The public and decision-makers need these products to ensure safety at sea, economic well-being, and the efficient stewardship of public trust resources. **Figure 1.3-1** presents the geographic areas of U.S. surveying and mapping data needs.

1.3.1 Safe Navigation

The Coast and Geodetic Survey Act (33 U.S.C. §§ 883a et seq.) and the Hydrographic Services Improvement Act as amended (33 U.S.C. § 892) make surveying and charting a principal responsibility of NOAA. This includes rivers, states' offshore waters, the U.S. territorial sea, contiguous zone and the U.S. EEZ. NOS uses survey data to create products that support safe navigation for commercial shipping, the fishing industry, recreational boaters, and military and government functions such as law enforcement. Many coastal areas are highly dynamic, with shifting shoals and wrecks, and eroding or accreting shorelines, all of which require routine measurement to ensure safe navigation.

1.3.2 Economic Security

The nation's economic security requires timely and accurate data on the natural environment. Shipping on America's network of coastal waterways, navigable channels, ports, and marine terminals is a primary mode of moving goods around the country. This waterborne highway system also connects U.S. producers to the global marketplace. Water transportation jobs and establishments contributed \$33 billion and 467,000 jobs to the U.S. economy in 2016 (OCM, 2016a). By value, vessels carry 46 and 35 percent of U.S. imports and exports, respectively (USCB, 2018). To accommodate the tonnage of goods such as petroleum, iron, coal, and grain being transported by ship, cargo vessels have become larger and have deeper drafts. Port authorities, mariners, and coastal communities depend on accurate navigational information provided by NOS to make informed decisions. Alaskan and U.S. Arctic waters, more of which are becoming navigable given the changing sea ice conditions, are especially important survey targets (NOAA, 2018a). Alaska's approximately 55,000 kilometers (km) (34,000 miles [mi]) of coastline contain oil, natural gas, minerals, fish, and other resources that will play an important future role in the U.S. economy, all of which must transit Alaska's waterways to reach domestic and international markets.

1.3.3 Environmental Sustainability

NOS coastal and marine data support ecosystem stewardship. Bathymetric base layers provide valuable information about essential habitat for fish and marine mammals. Survey data provide the extent of coral reef tracts, which helps federal, state, and local governments make informed decisions about anchorages, fishing areas, and other natural resource management issues. For example, coastal and marine resource

managers rely on survey data to conserve, preserve, and restore ecological resources, including critical habitat for endangered seabirds, coral, seagrass, fish, sea turtle, and marine mammal species. National marine sanctuaries also rely on surveys to identify and monitor underwater cultural and historical resources such as shipwrecks. NOS ORR collects data to track and map oil plumes and to characterize fish and plankton presence. Finally, NOS coastal and marine data provide baseline resource information against which coastal managers can measure changes to the environment over time.

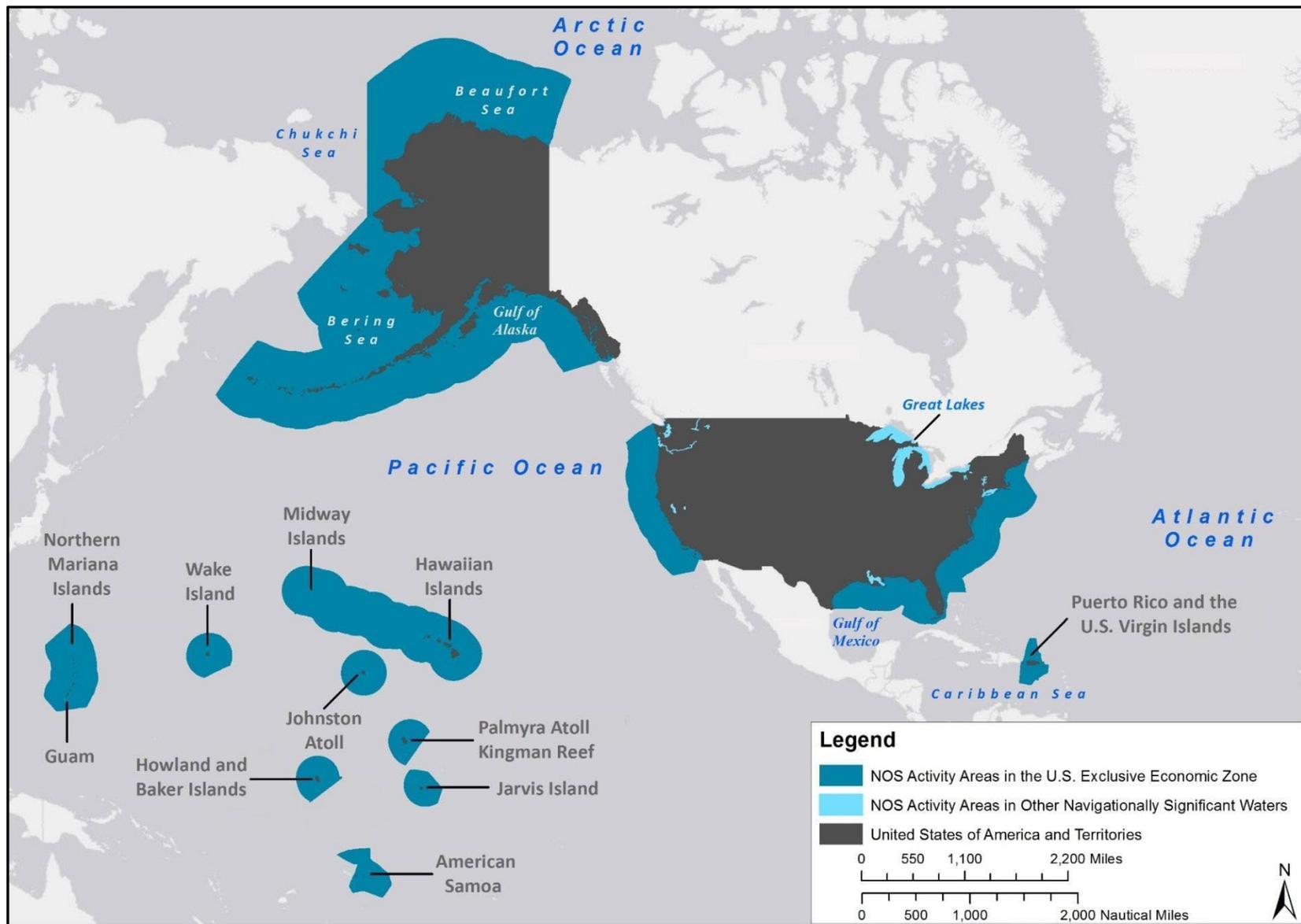


Figure 1.3-1. Action Area for Surveying and Mapping Activities Conducted by the National Ocean Service

1.4 PROGRAMMATIC SCOPE

The CEQ indicates that programmatic NEPA analysis can “address the general environmental issues relating to broad decisions, such as those establishing policies, plans, programs, or suite of projects, and can effectively frame the scope of subsequent site- and project-specific Federal actions” (CEQ, 2014). CEQ guidance also provides that “[a]gencies may prepare a single NEPA document to support both programmatic and project-specific proposals.” *Ibid.*

NOS determined that a programmatic approach was appropriate for the Proposed Action because NOS conducts, authorizes, permits, and funds a suite of similar, ongoing data collection activities associated with recurring projects across a wide geographic area to characterize underwater features (e.g., habitat, bathymetry, marine debris). This Final PEIS analyzes the environmental impacts of a suite of surveying and mapping data collection activities. The analysis will be used to inform NOS leadership and the public on the environmental impacts of these activities before a decision is made on how to execute each project.

1.4.1 Subsequent Project-Specific Consideration of Environmental Impacts

This Final PEIS is a comprehensive document that provides detailed analyses of the environmental effects for the suite of surveying and mapping data collection activities based on regional conditions, habitat types, species, and other factors. However, the Final PEIS does not identify the specific time or place for individual projects or activities over the next five years. The analysis in the Final PEIS demonstrates that NOS has sufficient information to analyze the potential effects of projects regardless of their timing and location. NOS anticipates that the majority of future projects encompassed in the Proposed Action would not require additional, site- or project-specific effects analysis; however, NOS will initiate project-specific consultations under Section 106 of the National Historic Preservation Act (NHPA) before commencing any activity with the potential to affect cultural or historic resources.

The analysis in the Final PEIS will be used to inform NOS and the public on the environmental impacts of the surveying and mapping program before a decision is made on how to execute each project. All projects will require a project-specific review and approval before proceeding. NOS will consider the applicability of the Final PEIS to all individual proposed projects through the preparation of a “Record of Environmental Consideration” (REC). RECs are signed statements submitted with project documentation to explain that the project has received an environmental compliance review. Within NOS, a REC is typically prepared for any action covered by existing programmatic analysis under NEPA. NOS will complete a REC prior to the start of a project to document whether the project falls within the scope of the activities and effects detailed in the Final PEIS. NOS will also review the project to ensure that all applicable mitigation measures are incorporated into project plans and instructions. Prior to project approval, NOS will review compliance requirements for all other applicable environmental laws such as ESA, MMPA, NHPA, Coastal Zone Management Act (CZMA), NMSA, and MSA for EFH. NOS will ensure its responsibilities for government-to-government consultation with federally recognized tribes are met (EO 13175). Any additional compliance requirements will be fulfilled prior to project approval, as needed.

If NOS determines that all applicable environmental requirements for the proposed project have been satisfied, then the REC will be signed by the appropriate NOS authority. NOS will proceed with the proposed project only after the REC has been signed and it has been determined that no additional review or analysis is required. If NOS determines that any of the project activities are outside of the scope of the Final PEIS, an additional project or site-specific NEPA effects analysis and environmental compliance review will be conducted to satisfy NEPA requirements prior to commencing any activity.

1.5 PUBLIC INVOLVEMENT

NOS published a “Notice of Availability of a Draft Programmatic Environmental Impact Statement for Surveying and Mapping Projects in U.S. Waters for Coastal and Marine Data Acquisition” in the *Federal Register* on June 25, 2021 to announce the availability of the Draft PEIS for public review. Following the publication of the Draft PEIS, the NOS Environmental Compliance Coordinator presented a brief overview of the Draft PEIS to the Alaska Eskimo Whaling Commission (AEWC), including information about NOS, the Proposed Action, expected impacts to marine mammals and subsistence hunting and fishing, and compliance with the MMPA. In response to preliminary feedback received from AEWC members and other Alaska Native community members, NOS extended the original 60-day public comment period deadline by 90 days from August 24, 2021 to November 22, 2021 to accommodate the Alaskan subsistence hunting and fishing season. The extension of the public comment period was published in the *Federal Register* on August 24, 2021.

NOS prepared a comprehensive public involvement and outreach plan outlining the development and distribution of materials to inform the public and solicit input on the scope of the Proposed Action and related impact analysis. In conjunction with publication of the Draft PEIS, an interested party letter inviting public comment on the draft was distributed via email or U.S. mail to federal agencies; states and territories; Non-Governmental Organizations (NGOs); tribes; regional organizations; Alaska regional and village corporations; Native Hawaiian Organizations (NHOs); and NOS grantees, partners, and permit/authorization recipients with potential interest in the Proposed Action. Potentially interested tribes include those in geographic proximity to the action area (i.e., located in coastal states, Great Lakes states, or along major navigable rivers) as well as tribes with historic, religious, or cultural connections to coastal and marine resources regardless of proximity to the action area. In addition to contacting interested parties directly, the availability of the Draft PEIS was advertised in newspapers in coastal cities throughout the U.S. and posted on NOAA and NOS social media platforms. These announcements directed readers to the project website at <https://oceanservice.noaa.gov/about/environmental-compliance/surveying-mapping.html>. The website provides helpful information detailing key components of the Draft PEIS including an overview of the Proposed Action, fact sheets about the resources analyzed, and instructions on how to comment on the document. In order to reach communities in Alaska without reliable internet access, in addition to newspaper advertisements, NOS developed a Public Service Announcement (PSA) that was broadcasted by public radio stations to reach a broad geographic range along the Alaska coast. NOS sent a physical copy (a CD, USB drive, or hard copy) of the Draft PEIS to individuals or communities upon request, to ensure that the Draft would be made available at community centers, libraries, and other public facilities as needed.

During the public comment period for the Draft PEIS, NOS received 31 comment submissions from 30 commenters via Regulations.gov and email. Commenters included State Historic Preservation Officers (SHPOs), Tribal Historic Preservation Officers (THPOs), state Coastal Management program offices, federally recognized tribes, Alaska Native corporations, Alaska Native Organizations (ANOs), NGOs, and members of the public. The comments addressed a range of issues including the following:

- Protection of cultural and historic resources;
- Federal consistency under CZMA;
- Incorporation of mitigation measures;
- Environmental justice concerns pertaining to subsistence hunting and fishing in Alaska communities;

- Future coordination between NOS and other key stakeholders, such as AEWG, North Slope Borough Department of Wildlife Management, Calista Corporation in Alaska, Donlin Gold, Natural Resources Defense Council, Cultural Heritage Partners representing the Upper Mattaponi Indian Tribe, the Chickahominy Indian Tribe, and the Seneca Nation of New York;
- The NEPA process, scope of the PEIS, selection of a programmatic NEPA approach, alternatives to the Proposed Action, cumulative effects analysis, references and data cited in the effects analysis;
- Impacts to marine mammals, fish, habitats, birds, and sea turtles;
- Methodology and data consideration for the acoustic modeling;
- Impacts to socioeconomic resources such as fisheries; and
- Access to surveying and mapping data collected during NOS projects through data sharing.

NOS has thoroughly considered all of the input received and has responded to comments in Appendix C. Revisions to the Final PEIS have been made in response to comments where appropriate.

The Final PEIS is available for review on the project website <https://oceanservice.noaa.gov/about/environmental-compliance/surveying-mapping.html>. NOS will publish a Record of Decision no sooner than 30 days after publication of the U.S. Environmental Protection Agency's (EPA) Notice of Availability for the Final PEIS in the Federal Register.

1.5.1 Tribal Government-to-Government Consultation

On June 28, 2021, NOS sent letters to tribes notifying them of the availability of the Draft PEIS and inviting them to seek government-to-government consultation under EO 13175, Consultation and Coordination with Indian Tribal Governments. Federally recognized tribes are American Indian or Alaska Native tribal entities recognized as having a government-to-government relationship with the U.S., with the responsibilities, powers, limitations, and obligations attached to that designation, and are eligible for funding and services from the Bureau of Indian Affairs. See 86 FR 7554, updated by 87 FR 4636, for the full list of 574 federally recognized tribes. NOS recognizes its unique relationship with tribes and trust responsibility with tribal governments as set forth in the U.S. Constitution, treaties, statutes, executive orders, and court decisions. It is the policy of NOAA to consult on a government-to-government basis with federally recognized tribal governments when the federal actions and decisions have tribal implications.

NOS did not receive any requests from federally recognized tribes to initiate government-to-government consultation on the Draft PEIS. Additionally, no requests were received to initiate government-to-corporation consultation from any Alaska Native Corporation. NOS intends to notify individual federally recognized tribes consistent with EO 13175 before conducting any project that may have tribal implications. Federally recognized tribes are welcome to request government-to-government consultation at any time for a project that may have tribal implications. The consultation and coordination process would be conducted in accordance with NOAA's Procedures for Government-to-Government Consultation with Federally Recognized Indian Tribes and Alaska Native corporations (NOAA 13175 policy, November 12, 2013).

1.6 COORDINATION AND CONSULTATION WITH OTHER FEDERAL AGENCIES

NOS coordinated with NMFS and USFWS during preparation of this Final PEIS. NMFS has legal jurisdiction over most marine mammal species (through the MMPA), most threatened or endangered marine plant and animal species (through the ESA), and Essential Fish Habitat (through the MSA). USFWS has legal

jurisdiction over certain marine mammal species including manatees, walruses, polar bears, and sea otters (through the MMPA), most threatened or endangered terrestrial plant and animal species (through the ESA), and over 1,000 species of birds (through the Migratory Bird Treaty Act [MBTA]).

Both agencies provided a comprehensive Technical Assistance Review prior to publication of the Draft PEIS. In coordinating with NOS, NMFS and USFWS participated in multiple meetings and reviews during the development of the Draft PEIS.

NOS initiated consultation with USFWS under the ESA on August 21, 2021. On December 8, 2021, USFWS sent NOS a letter requesting additional information for completing consultation under Section 7 of the ESA for the Proposed Action. NOS provided the requested additional information and proposed revisions to the Draft PEIS on June 1, 2022. These revisions have been incorporated into the Final PEIS where appropriate.

NOS also initiated consultation with NMFS under the MMPA, ESA, and MSA and with USFWS under the MMPA. Additionally, in compliance with the NMSA, NOS prepared and submitted a Sanctuary Resource Statement (SRS) to ONMS to address the required analyses necessary to initiate a consultation under Section 304(d) of the Act. Section 3.3 discusses the full list of applicable environmental review requirements that NOS is integrating with the NEPA analysis included in this PEIS.

Table 1.6-1 summarizes the status of NOS coordination and consultation as of the date of this Final PEIS.

Table 1.6-1. Consultation with Other Federal Agencies

| Federal Agency | Statute | Documentation | Consultation Initiated/ Completed |
|--|--|-------------------------------------|---|
| Completed Consultations | | | |
| National Marine Fisheries Service Office of Habitat Conservation | Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat | Essential Fish Habitat Assessment | June 2, 2022 Final Response received from NMFS OHC on November 1, 2022 |
| Ongoing Consultations | | | |
| National Marine Fisheries Service Office of Protected Resources | Endangered Species Act | Biological Assessment (Draft PEIS) | August 26, 2021 Ongoing |
| Office of National Marine Sanctuaries | National Marine Sanctuaries Act | Sanctuary Resource Statement | June 1, 2022 Ongoing |
| National Marine Fisheries Service Office of Protected Resources | Marine Mammal Protection Act | Letter of Authorization Application | June 3, 2022 Ongoing |
| U.S. Fish and Wildlife Service | Endangered Species Act | Biological Assessment (Draft PEIS) | August 21, 2021 Ongoing |
| U.S. Fish and Wildlife Service | Marine Mammal Protection Act | Incidental Take Regulation Request | September 12, 2022 Ongoing |