

DEPARTMENT OF DEFENSE

Department of the Navy

Record of Decision for the Final Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement for Northwest Training and Testing

AGENCY: Department of the Navy, Department of Defense

ACTION: Record of Decision

SUMMARY: The United States (U.S.) Department of the Navy (Navy), after carefully weighing the strategic, operational, and environmental consequences of the Proposed Action, announces its decision to conduct training and testing (also referred to as military readiness activities) as identified in Alternative 1, the Navy's Preferred Alternative, in the Northwest Training and Testing (NWTT) Final Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement (SEIS/OEIS). Implementation of this alternative will enable the Navy to meet its mission under Title 10 United States Code (U.S.C.) Section 8062 to maintain, train, and equip combat-ready military forces capable of winning wars, deterring aggression, and maintaining freedom of the seas. The Navy will implement the full range of mitigation measures detailed in Chapter five (5) (Mitigation) of the NWTT Final SEIS/OEIS to avoid or reduce potential environmental impacts during training and testing activities.

The NWTT Final SEIS/OEIS supports the issuance of new authorizations of marine mammal incidental take permits under the Marine Mammal Protection Act (MMPA) and incidental takes of threatened and endangered marine species under the Endangered Species Act (ESA).

The Navy's action proponents for this proposal are Commander, United States Pacific Fleet; Naval Sea Systems Command; and Naval Air Systems Command.

FOR FURTHER INFORMATION CONTACT: Naval Facilities Engineering Command Pacific, NWTT SEIS/OEIS Project Manager, 3730 North Charles Porter Ave. Building 385, Oak Harbor, WA 98278-3500, (360) 257-3852, Website: www.NWTTSEIS.com.

A. SUPPLEMENTARY INFORMATION: Pursuant to section 102(2)(C) of the National Environmental Policy Act (NEPA) of 1969, sections 4321 et seq. of Title 42 U.S.C., Council on Environmental Quality regulations (Parts 1500–1508 of Title 40 Code of Federal Regulations [CFR]), Department of Navy regulations (32 CFR Part 775), and Executive Order 12114, *Environmental Effects Abroad of Major Federal Actions*, the Navy announces its decision to implement the Navy's Final SEIS/OEIS Preferred Alternative, Alternative 1, including the full range of mitigation measures, as described in the NWTT Final SEIS/OEIS and this Record of Decision (ROD). This decision will enable the Navy to support and conduct current, emerging, and future training and testing activities in the Study Area, which is made up of air and sea space in the eastern north Pacific Ocean region, located adjacent to the northwest coast of the United States, to include the Strait of Juan de Fuca, Puget Sound (including Hood Canal), and the Western Behm Canal in southeastern Alaska. A detailed description of the selected alternative, Alternative 1, is provided in Chapter two (2) (Description of Proposed Action and Alternatives) of the NWTT Final SEIS/OEIS. This decision will enable the Navy to meet changing military requirements to achieve the levels of operational readiness required under Title 10 U.S.C. Section 8062.

B. BACKGROUND AND ISSUES: The Navy is currently in the third phase of implementing a comprehensive approach to analyze training and testing activities in the NWTT Study Area. As was done in Phase I and Phase II, the Navy used this Phase III analysis to support regulatory consultations and a request for a letter of authorization under the MMPA and incidental take statements under the ESA.

The Navy has conducted military readiness activities in the NWTT Study Area for decades. The tempo and types of training and testing activities have fluctuated because of the introduction of new technologies, the evolving nature of international events, advances in warfighting doctrine and procedures, and changes in force structure (organization of ships, submarines, aircraft, weapons, and personnel). Such developments influence the frequency, duration, intensity, and location of required training and testing activities from year to year. The NWTT Final SEIS/OEIS reflects the most up-to-date compilation of the types and numbers of training and testing activities deemed necessary to meet military readiness requirements into the reasonably foreseeable future.

Despite evolving events, the geographic area in which the Navy has conducted training and testing activities has not appreciably changed in several decades. The vast majority of Navy training and testing activities occur in areas designated by the Navy as “range complexes.” A range complex comprises a set of adjacent areas of sea space, undersea space, land ranges, and overlying airspace delineated for military training and testing activities. Range complexes provide controlled and safe environments where military ship, submarine, and aircraft crews can conduct training and testing in realistic conditions.

Purpose and Need

The purpose of the Navy’s Proposed Action is to conduct training and testing activities to ensure that the Navy meets its statutory mission, which is to maintain, train, and equip combat-ready naval forces capable of winning wars, deterring aggression, and maintaining freedom of the seas. Section 1.4 (Purpose and Need) of the NWTT Final SEIS/OEIS discusses the need for the Proposed Action in detail, but in general, training and testing is needed to ensure military forces are prepared to protect U.S. national security interests and defend the nation.

The National Marine Fisheries Service (NMFS) is a cooperating agency on the NWTT Final SEIS/OEIS, and has its own distinct Purpose and Need, as described fully in Section 1.4 in the NWTT Final SEIS/OEIS. Briefly, NMFS’s purpose is to evaluate the Navy’s Proposed Action pursuant to their authority under the MMPA, and to make a determination whether to issue incidental take regulations and Letters of Authorization (LOAs) for the action, including any conditions needed to meet the statutory mandates of the MMPA. The need for NMFS’s action is to consider the impacts of the Navy’s activities on marine mammals and meet their obligations under the MMPA. NMFS has issued its own ROD documenting its decision of whether to issue authorizations for the Navy’s Proposed Action. The U.S. Coast Guard is also a cooperating agency because of the support provided by U.S. Coast Guard personnel in the Study Area during Transit Protection Program training, as described under the Maritime Security Operations activity.

Public Involvement

The Navy published a Notice of Intent for the preparation of the NWTT SEIS/OEIS (which is a supplement to the 2015 NWTT Final Environmental Impact Statement/OEIS) in the *Federal Register* (FR) (82 FR 39779) on August 22, 2017. At the request of the public and elected officials, the Navy extended the public scoping period from September 21, 2017 to October 6, 2017, and a Notice of Extension of Scoping Period was published in the *Federal Register* on September 20, 2017 (82 FR 43950). The Navy also published notices in 17 local and regional newspapers (Alaska: *The Juneau Empire* and *Ketchikan Daily News*; California: *Eureka Times-Standard* and *Fort Bragg Advocate-News*; Oregon: *The Daily Astorian*, *Newport News-Times*, and *The Oregonian*; Washington: *The Daily Herald*, *The Daily World*, *Forks Forum*, *Journal of the San Juan Islands*, *The Kitsap Sun*, *Peninsula Daily News*, *Port Townsend and Jefferson County Leader*, *The Seattle Times*, *Sequim Gazette*, and *Whidbey News-Times*) beginning August 22, 2017, and distributed tribal notification letters to 55 tribal chairpersons and presidents of

American Indian and Alaska Native Tribes across the Study Area, and notification letters to 614 federal and local elected officials and government agencies at the beginning of the scoping period. The Navy mailed postcards to 1,655 recipients on the project mailing list, including individuals, community groups, tribal staff, and nongovernmental organizations. The Notice of Intent and public notices provided information about the Proposed Action, methods for public commenting, and the project website address. In accordance with Council on Environmental Quality regulations for implementing the requirements of NEPA, scoping is not required for a supplement to a draft or final Environmental Impact Statement (EIS) (40 CFR section 1502.9(c)(4)); however, in an effort to maximize public participation and ensure the public's input was considered, the Navy chose to conduct scoping for the SEIS/OEIS.

During the development of the NWTT Draft SEIS/OEIS, the Navy initiated a mutual exchange of information through early and open communication and provided briefings to interested stakeholders. The Navy established a public involvement website for the project, which provided various project-related informational materials, including fact sheets and videos. Scoping comments could be submitted via the project website or by mail. A total of 786 scoping comments were received, all of which were considered during preparation of the Draft SEIS/OEIS. Scoping comments included: requests for additional information about the Proposed Action and concern about military expansion; consideration of using other locations for training and testing; request to evaluate impacts of aircraft noise and the use of sonar and live explosives on humans, animals, and marine life; concern over aircraft training and increased use of the training areas over the Olympic National Park; request to assess cumulative impacts of naval activities on marine biota; request to quantify the contribution of carbon emission from projected military activities; request to develop on-the-ground noise data instead of a model; concerns about disruption to the marine environment and marine species, especially from the use of active sonar and explosives; request for best available science to include Tribal Traditional Knowledge; concerns about inefficiencies and inadequacies of human lookouts; and requests to analyze the effectiveness of visual monitoring.

The Navy released the Draft SEIS/OEIS for public review and comment with a Notice of Availability (NOA) (84 FR 11972) and Notice of Public Meetings published in the *Federal Register* (84 FR 11936) on March 29, 2019. The Navy extended the 60-day public comment period by 15 days to June 12, 2019, and notices announcing the extension of the public review and comment period were published in the *Federal Register* April 18, 2019 (84 FR 16250), and April 26, 2019 (84 FR 17826). The Navy made significant efforts to notify the public and facilitate public participation during the Draft SEIS/OEIS public review and comment period, including the following:

- Briefed elected officials and agency representatives on the Proposed Action and environmental impact analyses.

- Sent tribal notification letters to a total of 55 tribal chairpersons and presidents of American Indian and Alaska Native Tribes across the Study Area.

- Sent notification letters to 607 federal, state, and local government agencies and elected officials. Mailed postcards to 2,205 recipients on the updated project mailing list, including: individuals; tribal staff; community and business groups; private companies; media, researchers, and universities; fishing, recreational, and marina groups; and nongovernmental organizations.

- Placed newspaper advertisements to announce the availability of the Draft SEIS/OEIS and public meetings in 17 local and regional newspapers (Alaska: *The Juneau Empire* and *Ketchikan Daily News*; California: *Eureka Times-Standard* and *Fort Bragg Advocate-News*; Oregon: *The Daily Astorian*, *Newport News-Times*, and *The Oregonian*; Washington: *The Daily Herald*, *The Daily World*, *Forks Forum*, *Journal of the San Juan Islands*, *The Kitsap Sun*, *Peninsula Daily News*, *Port Townsend and*

Jefferson County Leader, The Seattle Times, Sequim Gazette, and Whidbey News-Times). Distributed news releases to announce the availability of the Draft SEIS/OEIS and dates/locations of public meetings.

Posted project-related information, including fact sheets, posters, and videos, on the project website.

Provided electronic and printed copies of the Draft SEIS/OEIS to 24 information repositories in the vicinity of the Study Area (13 libraries in Washington, five (5) in Oregon, three (3) libraries and one (1) senior center in California, and two (2) libraries in Alaska).

The Navy provided the public with several options for submitting comments on the Draft SEIS/OEIS. Eight (8) public meetings were held on April 24, 2019 (Everett, Washington); April 25, 2019 (Silverdale, Washington); April 26, 2019 (Port Angeles, WA); April 29, 2019 (Astoria, Oregon); April 30, 2019 (Newport, Oregon); May 2, 2019 (Eureka, California); May 3, 2019 (Fort Bragg, California); and May 8, 2019 (Ketchikan, Alaska). At these meetings, Navy representatives were available to provide information and answer questions posed by members of the public one-on-one. Attendees could provide comments using paper comment forms or via an onsite digital voice recorder. Additionally, the public could provide comments electronically via the project website or by mailing letters to the address provided in correspondence and outreach materials. Throughout the public review and comment period on the Draft SEIS/OEIS, the Navy received a total of 2,062 public comments. Form letters (with 31,949 signatures) were also received from various nongovernmental organizations. The Navy's responses to public comments made on the Draft SEIS/OEIS are included in the Final SEIS/OEIS.

In response to comments received on the Draft SEIS/OEIS through the public comment process and consultations with regulators and American Indian Tribes, the Navy made adjustments to the analysis to add, clarify, or correct information. These changes are reflected in the Final SEIS/OEIS. Additionally, the Navy worked with NMFS and the U.S. Fish and Wildlife Service (USFWS) to develop new procedural mitigation measures and enhance existing procedural mitigation measures for protection of marine mammals, sea turtles, seabirds, and fishes during activities involving the use of explosives or sonar. The Final SEIS/OEIS also included updates to geographic mitigation measures developed as a result of consultations under the MMPA and ESA and with American Indian Tribes.

The Navy published the NOA of the Final SEIS/OEIS in the *Federal Register* on September 18, 2020 (85 FR 58358). Federal and local government measures put in place to prevent the widespread outbreak of the novel coronavirus disease (COVID-19) resulted in the temporary closure of government offices and public facilities such as libraries. Therefore, the Navy took additional steps to broaden public notification of the availability of the Final SEIS/OEIS, including publication of the NOA in the same 17 newspapers in which the Notice of Intent and Draft SEIS/OEIS NOA were published. The Navy also mailed 662 notification letters to federal, state, and local elected officials and government agencies, and federally recognized Tribes, and 3,506 postcards to individuals, organizations, and tribal staff. These notifications provided a description of the Proposed Action, project website address, and other project information, and included an email address and phone number to contact if assistance obtaining a copy of the Final SEIS/OEIS was required. The Navy disseminated a news release to local and regional media. The Navy posted information about the availability of the document on its existing social media platforms, and sent an email to individuals who subscribed on the project website to receive project announcements. The Navy also made the Final SEIS/OEIS available on the project website, hardcopy and CD-ROM copies of the full document were placed at seven (7) publically accessible locations, which included city halls and public libraries, and copies of the Executive Summary were placed at three (3) publically accessible locations, which included city hall, county, and post office locations, that agreed to make the copies available for the public.

Alternatives Considered

The identification, consideration, and analysis of alternatives are critical components of the NEPA process and contribute to the goal of informed decision-making. The Navy developed the alternatives considered in the Final SEIS/OEIS after careful assessment by subject matter experts, including military commands that utilize the ranges, military range management professionals, and Navy environmental managers and scientists, and (with respect to the mitigation measures that are incorporated into each action alternative) in consultation with NMFS and USFWS. The Navy also considered public input and used Department of Defense (DoD) and Navy policy and historical data in developing alternatives.

The military's anticipated level of training and testing activity has evolved over time. Through the collection of several years' worth of classified data on the number of hull-mounted mid-frequency active sonar hours used to meet anti-submarine warfare training and testing requirements, the Navy has an increased understanding of the usage of sonar, the competing training and testing requirements, and changes in competing nations' capabilities that may cause sonar usage to fluctuate. In light of this information, the Navy was able to better formulate a range of reasonable alternatives that meet the Navy's training and testing requirements.

In the Final SEIS/OEIS, the range of alternatives analyzed includes a No Action Alternative and two (2) action alternatives to meet the Purpose and Need. Direct, indirect, cumulative, short-term, long-term, irreversible, and irretrievable impacts were identified. For the purposes of analysis and presentation within the Final SEIS/OEIS, data were organized and evaluated in one (1)-year and seven (7)-year increments to account for the anticipated seven (7)-year term of the requested MMPA authorization, but the Proposed Action is framed as continuing into the reasonably foreseeable future. Based on current knowledge of the proposed training and testing, continuation of the Proposed Action into the reasonably foreseeable future (beyond 2027) would not change the Navy's impact conclusions.

As noted previously, the Navy analyzed three (3) alternatives in the Final SEIS/OEIS. The Navy's entire range of mitigation measures, including procedural and mitigation areas, are incorporated into both action alternatives.

- **No Action Alternative.** Under the No Action Alternative, the Navy would not conduct the proposed training and testing activities in the Study Area. Other military activities not associated with this Proposed Action would continue to occur. For NMFS, denial of an application for an incidental take authorization constitutes the NMFS No Action Alternative, which is consistent with NMFS's statutory obligation under the MMPA to grant or deny requests for take incidental to specified activities. If NMFS were to deny the Navy's application, the Navy would not be authorized to incidentally take marine mammals in the Study Area and, under the No Action Alternative, the Navy would not conduct the proposed training and testing activities in the Study Area. The No Action Alternative is the environmentally preferred alternative. The No Action Alternative fails to meet the Navy's Purpose and Need for the Proposed Action.
- **Alternative 1.** Alternative 1 (Final EIS/OEIS Preferred Alternative) reflects a representative year of training and testing to account for the natural fluctuation of training cycles, testing programs, and deployment schedules that generally limit the maximum level of training and testing from occurring for the reasonably foreseeable future. This alternative considers fluctuations in training cycles and deployment schedules that do not follow a traditional annual calendar, but instead are influenced by regional demands and other external factors.

Alternative 1 proposes to conduct military readiness activities into the reasonably foreseeable future, as necessary to meet current and future readiness requirements. These military

readiness activities include new activities as well as activities subject to previous analysis that are currently ongoing and have historically occurred in the Study Area. These activities account for force structure changes and include training and testing with new aircraft, vessels, unmanned/autonomous systems, and weapon systems that will be introduced to the Fleets over the next few years. Using a representative level of activity reduced the amount of hull-mounted mid-frequency active sonar estimated to be necessary to meet training requirements.

Alternative 1 assumes that some unit-level training would be conducted using synthetic means (e.g., simulators). Additionally, this alternative assumes that some unit-level active sonar training will be completed through other training exercises outside of the Study Area. By using a representative level of training activity rather than a maximum level of training activity in every year, this alternative accepts a degree of risk that, if global events necessitated a rapid expansion of military training, the Navy would not have sufficient capacity in its MMPA and ESA authorizations to carry out those additional training requirements.

Further, Alternative 1 proposes an annual level of testing that reflects the fluctuations in testing programs by recognizing that the maximum level of testing will not be conducted each year. The majority of testing activities that would be conducted under this alternative are the same as or similar to those conducted currently or in the past. This alternative includes the testing of some new systems using new technologies and takes into account inherent uncertainties in this type of testing. Alternative 1 is the environmentally preferred action alternative.

- **Alternative 2.** Alternative 2 reflects the maximum number of training activities that could occur within a given year and assumes that the maximum level of activity would occur every year for the reasonably foreseeable future. As under Alternative 1, this alternative includes new and ongoing activities. Under Alternative 2, training activities are based on requirements established by the Optimized Fleet Response Plan. This alternative allows for the greatest flexibility for the Navy to maintain readiness when considering potential changes in the national security environment, fluctuations in training and deployment schedules, and anticipated regional demands.

Alternative 2 assumes that the maximum annual testing efforts predicted for each individual system or program could occur concurrently in any given year. Like Alternative 1, Alternative 2 entails a level of testing activities to be conducted into the reasonably foreseeable future and includes the testing of new platforms, systems, and related equipment that will be introduced over the next few years. The majority of testing activities that would be conducted under this alternative are the same as or similar to those conducted currently or in the past.

Alternative 2 would include the testing of some new systems using new technologies, taking into account the potential for delayed or accelerated testing schedules, variations in funding availability, and innovations in technology development. To account for these inherent uncertainties in testing, this alternative assumes a higher annual level of testing than Alternative 1. This alternative also includes the contingency to augment some weapon systems tests in response to potential increased world conflicts and changing Navy leadership priorities as the result of a direct challenge from a naval opponent that possesses near-peer capabilities. Therefore, this alternative includes the provision for higher levels of vessel evaluations, annual testing of certain anti-submarine warfare systems and unmanned systems to support expedited delivery of these systems to the Fleet, and increases in other testing activities.

The Navy thoroughly considered and then eliminated from further consideration several alternatives that did not meet the Navy's Purpose and Need for the Proposed Action. See Section 2.4.1 of the Final

SEIS/OEIS for a detailed description of alternatives considered but not carried forward for detailed analysis.

Environmental Impacts

The Navy's analysis in the Final SEIS/OEIS addressed the potential environmental impacts of implementing the selected alternative, Alternative 1, and found that, with the implementation of standard operating procedures, there will be negligible impacts on the following resources: sediments and water quality, air quality, marine habitats, cultural resources, socioeconomic resources and environmental justice, and public health and safety. Table 1 below summarizes the remaining resources and their associated environmental impacts as a result of implementing the selected alternative. Where appropriate, the Navy consulted with designated resource agencies in accordance with applicable statutes. The results of those consultations are included in Agency Consultation and Coordination later in this ROD.

Table 1: Summary of Environmental Impacts

Physical Resource	Impact
Marine Mammals	<ul style="list-style-type: none"> • Impacts from sonar and other transducers; explosive stressors; and the potential for physical disturbance or strike from vessels, may impact individual marine mammals, but no population level effects are expected. • Less than significant impacts from acoustic stressors including vessel, aircraft and weapon noise; energy stressors; physical disturbance from in-water devices, military expended materials, or seafloor devices; entanglement stressors; ingestion stressors; and secondary impacts, including those from impacts to prey are anticipated. • The Navy determined that the Proposed Action will have the following impacts on ESA-listed marine mammals: <ul style="list-style-type: none"> ○ <i>may affect and is likely to adversely affect</i> nine (9) ESA-listed marine mammals including blue whale, fin whale, sei whale, humpback whale-Mexico Distinct Population Segment (DPS), Central America DPS, Western North Pacific gray whale, Southern Resident killer whale, sperm whale, and Guadalupe fur seal; and ○ <i>may affect, but is not likely to adversely affect</i> two (2) ESA-listed marine mammals including: North Pacific right whale, and Western DPS Steller sea lion. • The Navy determined that the Proposed Action <i>may affect, but is not likely to adversely affect proposed or designated</i> critical habitat for the humpback whale and Southern Resident killer whale.
Sea Turtles	<ul style="list-style-type: none"> • Impacts from explosives may have impacts on individual leatherback sea turtles, but no population level effects are expected. • Less than significant impacts from sonar and other acoustic stressors; energy stressors; physical strike and disturbance; entanglement stressors; and/or ingestion stressors are anticipated. • The Navy determined the Proposed Action <i>may affect and is likely to adversely affect</i> the ESA-listed leatherback sea turtle. • The Navy determined that the Proposed Action <i>may affect, but is not likely to adversely affect</i> critical habitat for ESA-listed leatherback sea turtle.

Birds	<ul style="list-style-type: none"> • Impacts from explosives and large-caliber non-explosive projectiles may impact marine bird species, but no population level effects are expected. • Less than significant impacts associated with sonar and other acoustic stressors; energy stressors; physical disturbance and strike; entanglement stressors; and/or ingestion stressors are anticipated. • The Navy determined that the Proposed Action <i>may affect and is likely to adversely affect</i> the marbled murrelet and short-tailed albatross. • The Navy determined that the Proposed Action will have <i>no effect</i> on designated critical habitat for ESA-listed birds.
Fishes	<ul style="list-style-type: none"> • Impacts from explosive stressors have the potential to impact individual fish, but no population level effects are expected. • Less than significant impacts from sonar and other acoustic stressors; energy stressors; physical disturbance and strike; entanglement stressors; and ingestion stressors are anticipated. • The Navy determined that the Proposed Action <i>may affect and is likely to adversely affect</i> 33 ESA-listed fishes. • The Navy determined that the Proposed Action <i>may affect, but is not likely to adversely affect</i> critical habitat for six (6) ESA-listed fishes.

Recent Scientific Information

The scientific community continues to conduct research and generate new data in an effort to expand and improve the understanding of the marine environment. The Navy is a strong advocate for and sponsor of marine research and is vigilant in its review of new information that may inform the analyses or affect the conclusions. The library database of scientific information considered in the Final SEIS/OEIS currently (as of July 2021) includes over 12,500 references.

Since September 2020 and the issuance of the Final SEIS/OEIS, there have been over 200 new references identified and considered by the Navy. After careful consideration, the Navy determined these new references do not change the conclusions presented in the Final SEIS/OEIS as summarized above. A list of the studies referenced in this ROD are available on the project website.

In addition to the new references identified and considered as described above, numerous studies and data sources were identified from comments received on the Final SEIS/OEIS for the Navy to consider. The Navy is aware of these studies and data sources and, after careful consideration, determined that they would not change the Navy's conclusions presented in the Final SEIS/OEIS.

Marine Mammals. Out of approximately 170 new references that pertain to marine mammals, there have been five (5) new publications regarding the abundance and distribution of multiple marine mammal species along the U.S. West Coast with demonstrated or potential occurrence in the Study Area. Habitat-based density models integrating new data (Becker et al., 2020a), additional mark-recapture analyses (Calambokidis and Barlow, 2020), and the most recent NMFS surveys of marine mammal populations found off the U.S. West coast (Henry et al., 2020; Lowry et al., 2020; Stewart and Weller, 2021) report updated information species abundances. The information in these references does not change the conclusions as presented in the Final SEIS/OEIS.

The public previously expressed concerns over the impacts of marine debris and microplastics on marine mammals and other species. Several new references (Carretta, 2021; Carretta et al., 2020a; Delean et al., 2020; Harlacher et al., 2021; Miller et al., 2020c; NMFS, 2021a; Ramp et al., 2021; Young et al., 2020)

are consistent with the conclusions presented in the Final SEIS/OEIS that the overwhelming majority of marine debris and microplastics in the ocean come from land-based sources and derelict fishing gear.

The public also previously expressed concerns over Navy vessel noise and vessel strikes. There have been multiple new references investigating the impacts of vessel traffic, noise, and commercial vessel strikes that provide additional evidence illustrating that Navy vessels, when present, do not add significantly to ambient noise levels or to the risk of vessel strike to marine mammals in comparison to the volume of non-Navy vessel traffic in the Study Area. Examples of such publications include: Carretta et al. (2020a); Cominelli et al. (2020); Delean et al. (2020); Holt et al. (2021a); NMFS (2021a, 2021c); Parsons and Meekan (2020); Shajahan et al. (2020); Silber et al. (2021); Thomson and Barclay (2020). None of these new references nor the data they present, change the conclusions related to potential Navy vessel use effects as presented in the Final SEIS/OEIS.

There have been two (2) new publications regarding the abundance and recovery of the endangered blue whale population present within the Study Area. Of note is that although blue whales are still listed as endangered under the ESA, as noted in the NMFS (2020c) recovery plan for the species, the most current information suggests there has been an increase in the population of blue whales in the North Pacific (Calambokidis and Barlow, 2020), which includes individuals in the Study Area. This latest information provides further indications that the population may have recovered consistent with the earlier findings as cited in the Final SEIS/OEIS (International Whaling Commission, 2016; Monnahan, 2013; Monnahan et al., 2015) and therefore do not change the conclusions found within the final SEIS/OEIS.

There have been three (3) publications considered since the Final SEIS/OEIS regarding the endangered fin whale present in the North Pacific (Archer et al., 2019; Helble et al., 2020; Schorr et al., 2020). None of these new references nor the data they present, change the conclusions related to potential Navy vessel use effects as presented in the Final SEIS/OEIS.

There have been five (5) new publications regarding the gray whale populations present within the Study Area, which includes the ESA-listed Western North Pacific DPS of gray whales as well as the more abundant Eastern North Pacific stock (Christiansen et al., 2021; National Oceanic and Atmospheric Administration Fisheries, 2021; Silber et al., 2021; Stewart and Weller, 2021; Urbán R et al., 2021). Updates to the species abundance and circumstances related to the ongoing Unusual Mortality Event have not changed the conclusions presented in the Final SEIS/OEIS.

There have been six (6) new publications relevant to the Study Area regarding humpback whales within the North Pacific, which include the ESA-listed Mexico DPS and the Central America DPS whales (Calambokidis and Barlow, 2020; Darling et al., 2021; Industrial Economics Incorporation, 2020; Kügler et al., 2020; Palacios et al., 2020; Sato and Wiles, 2021). Of particular note is that although recent estimates of abundance have shown variable trends in the number of humpback whales along the U.S. West Coast, the overall trend is consistent with a growth rate of between 7.5 and 8.2 percent for the California, Oregon, and Washington stock (Calambokidis and Barlow, 2020), which includes the listed DPSs. This population trend is consistent with the highest-yet abundance estimates of humpback whales based on the 2014 (Barlow, 2016) and the 2018 (Becker et al., 2020a; Henry et al., 2020) NMFS surveys, and other corresponding investigations (Calambokidis et al., 2017; Carretta et al., 2019; Smultea, 2014). The current best overall estimate of abundance of humpback whales along the U.S. West Coast ($n = 4,973$; $CV = 0.05$) (Calambokidis and Barlow, 2020), is higher than the abundance ($n = 2,900$) in the 2019 and 2020 Pacific Stock Assessment Reports (Carretta et al., 2021; Carretta et al., 2020b). This new information does not change the conclusions for humpback whales as presented in the Final SEIS/OEIS.

There have been two (2) new publications regarding Cuvier's beaked whales, a species present within the Study Area (Curtis et al., 2020; Schorr et al., 2020). This latest research is consistent with findings that within the Southern California Range Complex where the Navy has been intensively training and testing for decades, there is documented long-term residency by individual Cuvier's beaked whales and a population with higher densities than expected based on other nearby regions. In short, the latest data does not change the conclusions within the final SEIS/OEIS that there is no evidence of any significant impact to Cuvier's beaked whale populations even where intensive Navy training and testing activities occur.

There have been six (6) new publications regarding harbor porpoise, which are a species present within the Study Area (Forney et al., 2020; Kastelein et al., 2020a; Kastelein et al., 2020b; Kastelein et al., 2020c; Kastelein et al., 2020d; National Marine Fisheries Service, 2021b). Indications from one (1) small and resident population whose range is centered at Morro Bay, California are that the population has greatly rebounded following the end of coastal gill net fishing. The range for the Morro Bay population overlaps with the Point Mugu Sea Range where Navy activities have occurred for many decades. Many of those same activities also occur in the Study Area and the data from the Morro Bay population provide no indications that Navy activities have impacted the species.

Several studies provide new information about prey metrics and development of population consequences models. Benoit-Bird et al. (2020) demonstrated that differences in squid distribution could be a substantial factor for beaked whales' habitat preference. The researchers suggest that this be considered when comparing beaked whale habitat use both on and off Navy ranges. By integrating different sources of data (e.g., controlled exposure data, activity monitoring, telemetry tracking, and prey sampling) into a theoretical model to predict effects from sonar on a blue whale's daily energy intake, Pirota et al. (2021) found that tagged blue whales' activity budgets, lunging rates and ranging patterns caused variability in their predicted cost of disturbance. Dunlop et al. (2021) modeled migrating humpback whale mother-calf pairs in response to seismic surveys using both a forwards and backward approach. While a typical forwards approach can determine if a stressor would have population-level consequences, authors demonstrated that working backwards through a population consequences model can be used to assess the "worst case" scenario for an interaction of a target species and stressor. Harbor porpoise movement and foraging were modeled for baseline periods and then for periods with seismic surveys; the models demonstrated that the seasonality of the seismic activity was an important predictor of impact (Gallagher et al., 2021). Seismic activity in May had a much smaller impact on harbor porpoise health and reproduction, due to the porpoises having greater energy stores that time of year since females had already weaned their calves. In contrast, seismic surveys in September had a much greater impact due to lower energy reserves at that time due to females lactating and possibly pregnant as well. Two (2) bottlenose dolphin populations in Australia were also modeled over five (5) years against a number of disturbances (Reed et al., 2020), and results indicated that habitat/noise disturbance had little overall impact on population abundances in either location, even in the most extreme impact scenarios modeled. Energetic costs associated with behavioral response to mid-frequency active sonar were also modeled using datasets from eleven cetaceans' feeding rates, prey characteristics, avoidance behavior, and metabolic rates (Czapanskiy et al., 2021). Authors found that the short-term energetic cost was influenced more by lost foraging opportunities than increased locomotor effort during avoidance. Additionally, the model found that mysticetes incurred more energetic cost than odontocetes, even during mild behavioral responses to sonar. These studies contribute to further understanding of impacts of disturbance on marine mammal populations, but do not change the conclusions in the Final SEIS/OEIS.

Several publications described temporary threshold shift (TTS) in cetaceans (harbor porpoises) and pinnipeds (seals and sea lions) due to both non-impulsive and impulsive sound exposures. For harbor porpoises, Kastelein et al. (2020d), Kastelein et al. (2020b), and Kastelein et al. (2021a) measured TTS due to one-sixth (1/6)-octave band noise; and Kastelein et al. (2020e) measured underwater, behavioral hearing thresholds in one (1) harbor porpoise before and after exposure to air gun impulses (“shots”) and no TTS greater than six (6) decibels (dB) was observed. For harbor seals, Kastelein et al. (2019a), Kastelein et al. (2019b), and Kastelein et al. (2020c) measured TTS due to one-sixth (1/6)-octave band noise. Sills et al. (2020) measured 9.4 dB of TTS in a bearded seal exposed to a 4-shot air gun impulse. For California sea lions, Kastelein et al. (2021b) measured TTS in two individuals before and after exposure to band-limited noise centered at 2 and 4 kHz, and found a maximum TTS of 24.1 dB, which recovered after 240 minutes. The results for sea lions suggest that the onset of TTS for otariids in water may be approximately 20 dB lower than Phase III TTS exposure functions. The Navy’s Phase III TTS & PTS criteria is based upon the NMFS 2016 criteria (revised in 2018). Development of new criteria is an iterative process which validates and incorporates new data along with results of previous investigations and studies. The Navy is currently reviewing these studies and has initiated communications with NMFS to cooperatively assess this new science. The Navy is working with NMFS to assess how these new studies, as well as other ongoing and future studies, should be used to update appropriate auditory criteria and thresholds applied to future analyses.

Two (2) publications described auditory masking in cetaceans. Branstetter (2021) described auditory masking in killer whales and found critical ratio measurements were similar to other odontocete species despite differences in hearing ability and head size. Additionally, von Benda-Beckmann et al. (2021) modeled the effect of pulsed and continuous 1-2 kilohertz (kHz) active sonar, used in prior marine mammal behavioral response studies in the 3S program, on masking of sperm whale echolocation. They found that the presence of upper harmonics in the sonar signal increased the potential for masking of higher source level clicks produced in the search phase of foraging compared to the potential for masking of lower source level buzz clicks produced during prey capture. Different levels of sonar caused intermittent to continuous masking (120 to 160 dB re 1 μPa^2 (reference 1 micro Pascal squared), respectively), but varied based on click level, whale orientation, and prey target strength. Continuous active sonar resulted in a greater percentage of time that echolocation clicks were masked compared to pulsed active sonar. This new research affirms Navy’s current understanding of masking in marine mammals and would not change the conclusions in the Final SEIS/OEIS.

One (1) publication compared the effects of pulsed active sonar (1-2 kHz, 5% duty cycle) with continuous active sonar (1-2 kHz, 95% duty cycle) during a controlled exposure experiment on sperm whales in Norway (Cure et al., 2021). The whales exhibited greater responses to sonar conditions compared to control conditions, but there was no significant difference between the proportions of responses produced during the two (2) types of sonar. However, moderately severe responses (four to six (4-6)), which included any avoidance of the sound source and cessation of feeding/ resting, occurred at a lower range of levels for continuous active sonar (137-177 dB re 1 $\mu\text{Pa}^2\text{s}$ (reference 1 micro Pascal squared per second)) compared to pulsed active sonar (143-181 dB re 1 $\mu\text{Pa}^2\text{s}$). Whales also changed their vocal behavior and dive profile more frequently during continuous active sonar exposures. Additionally, whales that were exposed to predatory or competing species (e.g., orcas, long-finned pilot whales) up to 15 hours beforehand had a higher probability of response. This controlled exposure experiment was previously analyzed in Isojunno et al. (2020), which was considered in the Final SEIS/OEIS. This further investigation does not change the conclusions in the Final EIS/OEIS.

Two (2) publications studied physiological responses in marine mammals. Yang et al. (2021) measured cortisol concentrations in two (2) dolphins and found significantly higher concentrations after exposure

to 140 dB re 1 μ Pa impulsive noise playbacks. By examining heart rate and startle response, Elmegaard et al. (2021) found that captive harbor porpoises habituated to sonar exposures, but exhibited startle responses to impulses that directly correlated to receive level with no observed change in heart rate. The authors suggest that these observations may be explained by cardiovascular adaptations related to diving breath-hold. These studies contribute to the further understanding of physiological impacts due to acoustic exposures to marine mammals, but do not change the conclusions in the Final SEIS/OEIS.

Six (6) publications discussed marine mammal avoidance responses to anthropogenic noise. Heide-Jorgensen et al. (2021) documented the effect of airgun pulses on narwhals in the Arctic for the first time (a species not present in this Study Area). Eleven tagged narwhals were exposed to seismic vessels with or without airgun noise at various distances (airgun source levels = 231 and 241 dB re 1 μ Pa at 1m). Even though small and large airgun sources reached ambient noise levels around 3 and 10 km, respectively, narwhals still changed their swimming direction away from the source and towards shore when seismic vessels were in line of sight over 11 km away. Swimming speed was context-dependent; whales usually increased speed in the presence of vessels but would reduce speed (“freeze”) in response to closely approaching airgun pulses. Other behaviors, like feeding, also ceased when the ship and airgun noise was less than 10 km away, although received SELs were below 130 dB re 1 μ Pa² s for either airgun at this distance. Due to study research methods and criteria, even these long-distance reactions of narwhals may be conservatively estimating narwhals’ range to behavioral response. Hastie et al. (2021) studied how the number and severity of avoidance events may be an outcome of marine mammal cognition and risk assessment. Five (5) captive grey seals were given the option to forage in a high or low density prey patch while continuously exposed to silence, pile driving or tidal turbine playbacks (source levels = 148 dB re 1 μ Pa at 1 m) for one (1) hour. One (1) prey patch was closer to the speaker, so had a higher received level in experimental exposures. Overall, seals avoided both anthropogenic noise playback conditions with higher received levels when the prey density was limited, but would forage successfully and for as long as control conditions when the prey density was higher, demonstrating a classic cognitive approach utilized with predation risk and profit balancing. Boisseau et al. (2021) exposed foraging minke whales to an acoustic deterrent device, which emits signals designed to deter pinnipeds from fisheries. The authors found that some response metrics, such as path predictability (e.g., directness of response path) were related to the received level, whereas other response metrics, such as speed and dive duration, were more influenced by the presence of the deterrent signal than the received level. Another recent publication studied acoustic tracks from minke whales detected on the Pacific Missile Range Facility (PMRF) in Hawaii for three years before, during, and after a major Navy training activity with surface ship hull-mounted mid-frequency active sonar transmissions (Durbach et al., 2021). Results demonstrated that minke whales moved faster and movements were more directed during periods of active sonar. Minke whales also avoided the area of the range where the training activity typically occurred and were more likely to cease calling during sonar. Longitudinal data of bottlenose dolphin presence during seismic surveys and wind farm pile installation found that dolphins temporarily increased their vocalization rates but did not abandon this habitat (Fernandez-Betelu et al., 2021). Frankel and Stein (2020) exposed migrating gray whales (*Eschrichtius robustus*) to Integrated Marine Mammal Monitoring and Protection System (IMAPS) sonar transmissions in the 21 to 25 kHz frequency band. The results showed that, compared to controls, gray whales changed their path and moved closer to the shore when the moored vessel source range was one (1) to two (2) km during sonar transmissions. Estimated received levels were approximately 148 dB re 1 μ Pa². The authors conclude that gray whales can hear up to 21 kHz. This evidence supports the Southall et al. (2019) and U.S. Department of the Navy (2017) estimated mysticete hearing range extending up to 30 kHz. These studies contribute to the further understanding of avoidance responses

caused by acoustic and impulsive exposures to marine mammals, but does not change the conclusions in the Final SEIS/OEIS.

There have been a number of new publications on killer whales, including the endangered Eastern North Pacific Southern Resident population present within the Study Area. Seventeen (17) are listed here with several highlighted below (Bubac et al., 2021; Drackett et al., 2021; Emmons et al., 2021; Hanson et al., 2021a, 2021b; Harlacher et al., 2021; Holt et al., 2021a, 2021b; McInnes et al., 2020; McInnes et al., 2021; McWhinnie et al., 2021; Murray et al., 2021; NMFS, 2020b; NMFS 2021c, 2021d; Raverty et al., 2020; Wright et al., 2021). Data from Wright et al. (2021) demonstrated that killer whales rely on echolocation but likely also use visual cues and memory for locating, capturing, and sharing salmon prey. Recent data on acoustically tagged Southern Resident killer whales found that sex and distance from vessel were significant factors in predicting behavioral disturbance, such that all whales but particularly females were more likely to stop foraging and start traveling when vessels were within 400 meters (m) (Holt, Tennessen et al. 2021). Holt, Tennessen et al. (2021) investigated the relationship between probability of prey capture, vessel, and sound variables. The predicted probability of prey capture was lower when vessels increased their speed, but was not significantly affected by received noise level. The rate of descent during dives was slower when echosounders were on. The observed effects of echosounders suggest that whales prolonged their foraging efforts to successfully hunt, which could be caused by acoustic masking or increased attention to vessels. The rate of descent increased with increasing broadband noise levels and decreasing vessel distance. Decreased prey abundance also decreased the probability of predicted prey capture. However, Navy vessels do not intentionally approach or follow marine mammals, unlike ecotour vessels (Hanson et al. 2021a and Emmons et al. 2021). Additionally, a study which modeled the cumulative impacts of Northern and Southern resident killer whales found that both populations were most influenced by prey abundance (Murray et al., 2021). While the interaction of low prey availability with vessel strike, vessel noise, and polychlorinated biphenyls contaminants also impacted the two (2) populations, more research is needed to validate the mechanisms of the other threats. McWhinnie et al. (2021) reported on the impacts of considering vessel traffic on conservation, management, and planning efforts for southern residents by analyzing regional commercial satellite-based vessel traffic data. In another study associated with the impacts of vessels, Holt et al. (2021b) found that the presence of and noise from vessels decreased the probability that southern residents would successfully capture prey during foraging dives. The information presented in these new references is consistent with the conclusions presented in the Final SEIS/OEIS with regard to the species in general and the Southern Resident killer whale population in particular. Nothing in these studies changes the conclusions in the Final SEIS/OEIS.

There has been one (1) new publication regarding the ongoing Unusual Mortality Event involving the endangered Guadalupe fur seal population (NMFS 2020a); weaned pups are the primary lifestage group with potential presence in the Study Area. Information presented in NMFS (2020a) is consistent with the conclusions presented in the Final SEIS/OEIS.

Two (2) new papers have been published on the density and abundance of harbor seals in the Inland Waters portion of the Study Area. Ampela et al. (2021) estimated a density and abundance of harbor seals in Hood Canal, Washington, and Jefferson et al. (2021) estimated the in-water abundance of three harbor seal stocks (Hood Canal, Southern Puget Sound, and Washington Northern Inland Waters) using aerial line-transect survey data. Both studies also estimated haul-out correction factors using dive and surface time data from tagged seals. The results of these studies, both of which were sponsored by the Navy, are consistent with the data used to analyze effects to harbor seals in Hood Canal, Puget Sound, and adjacent waters, and do not change the conclusions in the Final SEIS/OEIS.

There has been one (1) new survey of the pinniped populations present in breeding in Channel Islands and Point Conception, California (Lowry et al., 2020). This survey derived a count and population growth trend for northern elephant seal, and counts for California sea lions, Steller sea lions, and northern fur seals; these are all pinnipeds that may be seasonally present in the Study Area. Although the population of elephant seals has maintained a positive trend in population growth, this increase is slowing. Population growth trends for the other species were not provided given the survey covered only a portion of their ranges. The findings from this latest pinniped survey does not change the conclusions as presented in the Final SEIS/OEIS.

There have been six (6) new publications regarding sea otters, a species present within the Study Area (Becker et al., 2020b; Grimes et al., 2020; Miller et al., 2020a; Miller et al., 2020b; Tinker. et al., 2021; Yee et al., 2020). These references are for the Southern sea otter and the findings associated with the species' presence in and around San Nicolas Island, California, where Navy training and testing activities have been occurring for decades. These references do provide information on potential effects resulting from Navy activities and does not change the conclusions as presented in the Final SEIS/OEIS.

Marine Birds. Six (6) new publications addressed various aspects of marine birds within the Study Area.

Two (2) publications examined threats to sub Antarctic albatross species that are similar to threats to albatross in the Study Area (i.e., fisheries, climate change, and invasive species) (Bentley et al., 2021; Cleeland et al., 2021). In 2020, the USFWS also issued the 5-year review summary and evaluation for the short-tailed albatross (USFWS, 2020). However, these publication do not present substantial new information regarding the status and threats to the albatross species within the Study Area.

Lance and Pearson (2021) provided the summary of the 2020 population monitoring of marbled murrelets within the inland waters of Washington State. The information within this reference is consistent with the data used to analyze effects to marble murrelets within Puget Sound and does not change the conclusions as presented in the Final SEIS/OEIS.

A fifth publication described in-air hearing of the Atlantic puffin (*Fratercula arctica*), and found that hearing was most sensitive at and below 2.5 kHz (range of 0.5 – 6 kHz) using auditory evoked potential methods (Mooney et al., 2020). Although the Atlantic puffin is not found within the Study Area, it is in the family Alcidae as are a number of marine birds in the Study Area (e.g., tufted puffin [*Fratercula cirrhata*], marbled murrelet, etc.). Alcids have similar ecological, physiological, and anatomical attributes, and it is expected that hearing may be similar across species in the same bird family.

In addition to Hansen et al. (2020), discussed in Section 3.6.2.1.1.5 Behavioral Reactions, the sixth new study demonstrated behavioral reactions to underwater sound in gentoo penguins (*Pygoscelis papua*), a pursuit-diving seabird (Sorensen et al., 2020). This new information would not change the Navy's current understanding of hearing and behavioral reactions in marine birds.

Fish. In an effort to characterize spatiotemporal use of habitat within the Study Area by Chinook and coho salmon, steelhead, and bull trout, the Navy funded an acoustic tagging study in 2019. A grid of stationary receivers was placed along the continental shelf covering much of the area from the mouth of Willapa Bay south to the northern jetty of the Columbia River (Smith and Huff 2021). In combination with other seasonal and permanent acoustic receivers in the region, this array allowed detection of Chinook salmon tagged in Alaska as they returned to coastal rivers and the Columbia River drainage to spawn, as well as detecting steelhead kelts tagged in Willapa Bay as they foraged and recovered in the nearshore environment. Preliminary results confirm that both Chinook and steelhead rely heavily on nearshore habitats for migration and feeding, respectively, and that offshore-directed Navy activities are likely to have minimal effect on these species (Smith and Huff 2021; Joe Smith, pers comm). Genetic material was collected from tagged specimens, but stock identification is not available at this time.

Results of stock-specific seasonal use of habitats within the Study Area will inform Phase IV deliberations pertinent to fish impacts and are expected to align with the major conclusion of Shelton et al.'s (2019) recent modeling effort, which found that ocean distribution depends on river/region of origin and prevailing oceanic condition regime.

On March 16, 2021, the National Marine Fisheries Service announced a 90-day finding on a petition to list Southern Oregon and Northern California Coastal spring-run Chinook salmon as a threatened or endangered evolutionarily significant unit under the ESA (86 FR 14407). The conclusion reached was that listing may be warranted, and a full status evaluation is now under way. Until this evaluation is complete, the status of this stock will not change, nor will the regulatory burden upon the Navy to address potential impacts to the stock, but the potential listing highlights the positive impacts that existing mitigation measures may have on at-risk species other than those already listed.

A research group in the Netherlands conducted two (2) studies in different test environments to investigate the potential effects of air gun noise on Atlantic cod (*Gadus morhua*) behavior. Cod exposed in a sea pen showed very little change in behavior or overall use of space within the sea pen (Hubert et al., 2020). In contrast, cod exposed to an actual seismic survey were more likely to be inactive during sound exposures, and immediately following the surveys, differing from baseline diurnal movement patterns and overall behavioral time budgets (van der Knaap et al., 2020). Although air guns are not used in the Study Area, the general findings add to, and agree with, the Navy's current understanding of potential reactions to similar impulsive sources.

Short et al. (2020) studied the effect of a pulsed, acoustically random noise exposure (60-2,000 Hz) on the swimming behavior of a captive shoaling species (Eurasian minnows). In response to the noise exposure, group responses were more consistent in their escape behavior (i.e., startled, consistent speed, less erratic path, stronger group cohesion, more synchronized orientation) compared to fish tested individually. Similar to the antipredator defense strategies, individual shoaling fish benefit from being in a group.

Soudijn et al. (2020) attempted to design a theoretical population consequences model without quantitative data on sound exposure levels. Authors analyzed Atlantic cod energy expenditure, food intake, mortality rate, and reproductive output in order to assess cod's potential impacts from sound exposure. The model predicted decreased food intake, increased energy expenditure, and decreased population growth rate as a result of increased continuous noise. The results of these studies provide information on the effects of noise exposure on fish, but do not impact the conclusions made in the Final SEIS/OEIS.

Sapozhnikova et al. (2020) exposed freshwater fish (peled, *Coregonus peled*) to tonal, 300 Hz sound at 176 – 186 dB re 1 μ Pa SPL (peak to peak), for up to 18 days. The exposure was intended to simulate conditions of common aquaculture systems. After exposure, cellular changes to hearing structures and molecular markers of stress were assessed. Hair cell bundles of the saccule were significantly less dense in sound-exposed fish compared to untreated controls, and changes were only observed for fish exposed longer than five (5) days. Changes to otolith crystal structure and fusion of stereocilia ('hair-like' structures of the hair cells) similar to that observed after ototoxic antibiotic exposure were also observed after sound exposure, but no direct measurements of hearing loss were taken. Systemic red blood cells were larger in control fish after one day of sound exposure, suggesting an acute metabolic stress response in exposed fish. No sound-induced changes to telomere length, which is a molecular marker for stress, were observed. The results suggest that hatchery-reared peled might be negatively affected by the acoustic conditions during rearing, which could impact survival after release. Although results from this study demonstrate physiological impacts not previously measured from extremely long

duration exposures, the overall duration and context of the sound exposure is not comparable noise produced by Navy activities.

Acoustic Effects. A recent study on aircraft noise measured in-air and underwater noise specific to Boeing EA-18G Growler take-offs and landings near the Naval Air Station Whidbey Island (Kuehne et al., 2020). The Navy carefully reviewed the information presented in the draft study prior to arriving at acoustic effect conclusions in the Final SEIS/OEIS. While Kuehne et al. (2020) adds to the body of information the agencies can use when evaluating the effects of aircraft noise, the study does not reveal information or effects that have not been previously considered. In summary, the location of the measured EA-18G Growler noise specific to low-altitude flight in the immediate vicinity of Naval Air Station Whidbey Island is of minimal relevance specifically because any flights by Growlers as part of the NWTT proposed action are generally at higher altitudes. Further, Kuehne et al. (2020) study contains several problems in its methodology that limit its applicability, particularly concerning its use of non-standard methods to measure aircraft sounds and inappropriate comparisons of noise sources as they relate to potential effects on wildlife. Although the Kuehne study did not introduce new information about the impacts of aircraft noise not already considered, the study was taken into account during the ESA consultation with USFWS which was completed in June 2021.

Another recent study measured aircraft noise over the Olympic Peninsula for 40 days across four (4) seasons and 2,813 total hours (Kuehne and Olden, 2020). The study does not establish significant new information relevant to environmental concerns and bearing on the proposed action because the relevant information, including an earlier draft version of the study, was already provided during the comment period for the Draft SEIS/OEIS and was considered in the analysis and conclusions. The information contained in the published 2020 study did not vary significantly from the 2019 draft. The study does not meaningfully alter the understanding of the existing science related to species impacts from aircraft noise; that is, the reported sound level monitoring in that study is consistent with the Navy's modeling and analysis of airspace noise addressed in the Final SEIS/OEIS. Of note, Ms. Kuehne provided the Navy with her final published study after publication of the Final SEIS/OEIS; therefore the proper citation is: Kuehne, L.M., and J. D. Olden 2020. *Military Flights Threaten the Wilderness Soundscapes of the Olympic Peninsula*, Washington. Northwest Science Vol 94, No. 2, 2020.

Burnham et al. (2021) deployed six (6) hydrophones near the sea floor in the Salish Sea to monitor background noise levels over time (Feb 2018 to Mar 2020), and to examine increases in noise levels from anthropogenic (e.g., small and large vessels) and natural (e.g., wind, waves, and rain) sources. Across the six (6) recording sites, wind and wave noise had the highest contribution to background noise levels in the winter, small vessel noise had the highest contribution to background noise levels in the summer, and large vessel noise was pronounced at some sites and had little seasonal variation. Rainfall was two-to-three (2-3) times greater in the winter than the summer and although rain correlated well to the noise level in the 19500-20500 Hz band, that band does not characterize the entire frequency range for rain noise which varies due to droplet size and intensity. As a result, extrapolation of rain noise in the sound field was not possible. The results of this study do not impact the conclusions made in the Final SEIS/OEIS.

Agency Consultation and Coordination

NMFS has served as a cooperating agency throughout the SEIS/OEIS process pursuant to 40 CFR section 1501.6 because of its expertise and regulatory authority over certain marine resources. Additionally, NMFS has used the Navy's SEIS/OEIS as its NEPA documentation in support of its rule-making process under the MMPA. The Navy also consulted and coordinated with other federal and local agencies, including State Historic Preservation Officers and Coastal Zone Management Act administrators within

the Study Area in conjunction with actions addressed in the SEIS/OEIS. A summary of the results from each consultation and coordination process is included below:

- **Marine Mammal Protection Act.** The Navy submitted an application for incidental take authorizations to NMFS on March 11, 2019, for stressors associated with certain training and testing activities (the use of sonar, other transducers, and explosives), as described under the Preferred Alternative (Alternative 1). On June 6, 2019, the Navy submitted a revised request to NMFS that included corrections to update take numbers by stock. On June 21, 2019, a second revised request was submitted to NMFS that updated the ship strike analysis. The Navy incorporated newly developed offshore densities for the Southern Resident killer whale and submitted a third revised request on October 4, 2019, to reflect the changed analysis based on those densities. A final revised request was submitted to NMFS on December 19, 2019, to update take estimates resulting from revised testing activities. The Final Rule became effective November 9, 2020. NMFS concluded that the Navy's training and testing activities will have a negligible impact on the marine mammal species and stocks present in the Study Area and, when considering implementation of the mitigation measures described in the Final SEIS/OEIS, the Navy will affect the least practicable adverse impact on marine mammal species or stocks and their habitat. In the published Final Rule, NMFS issued two (2) LOAs; one (1) for Navy training, and one (1) for Navy testing activities. The LOAs authorize the taking of marine mammals incidental to Navy training and testing activities conducted in the Study Area pursuant to Section 101 (a)(5)(A) of the MMPA. The LOAs specify the type and amount of incidental take that is authorized, by species, as well as the Navy's mitigation, monitoring, and reporting requirements. NMFS coordinated the issuance of the LOAs with the Incidental Take Statements (ITs) the Navy received for endangered marine mammals pursuant to Section 7 of the ESA.
- **Endangered Species Act.** The Navy requested initiation of formal consultation with NMFS (Headquarters, Office of Protected Resources) on ESA-listed species in a letter on October 21, 2019. Species addressed were the North Pacific right whale; blue whale; fin whale; sei whale; humpback whale from the Central America DPS and the Mexico DPS; Western North Pacific gray whale; Southern Resident killer whale; sperm whale; Western DPS of Steller sea lion; Guadalupe fur seal; leatherback sea turtle; nine (9) Chinook salmon ESUs; four (4) coho salmon ESUs; two (2) chum salmon ESUs; two (2) sockeye salmon ESUs; eleven (11) steelhead DPSs; two (2) rockfish DPSs; Pacific eulachon; and green sturgeon. The Navy also submitted a conference package to NMFS on July 6, 2020, in which the Navy determined that its activities are *not likely to adversely affect* proposed critical habitat for the Southern Resident killer whale and the Mexico and the Central America DPSs of humpback whale. NMFS concurred with the Navy's determination that the proposed action may affect, but is *not likely to adversely affect* the designated critical habitat of leatherback sea turtle, Puget Sound Chinook salmon, Hood Canal summer-run chum salmon, bocaccio or yelloweye rockfish, or green sturgeon. NMFS concurred with the Navy's determination regarding proposed critical habitat. As NMFS concurred with the Navy's *not likely to adversely affect* determinations, a revised Biological Opinion is not necessary and the conference concluded via informal consultation. The critical habitat for the Central America DPSs of humpback whale was made effective in the Federal Register on April 21, 2021 (Vol. 86, No. 75), and the revised and expanded critical habitat for the DPS of southern resident killer whale was finalized on August 2, 2021 (86 FR 41668). The additional critical habitat areas took effect on September 1, 2021.

NMFS issued their Biological Opinion on October 19, 2020, and has concluded that any adverse effects to ESA-listed species, as described above, are not likely to jeopardize the continued

existence of threatened or endangered species under their jurisdiction. The Biological Opinion also addressed NMFS Permit Division's issuance of a LOA for the incidental take of marine mammals under the MMPA. The Biological Opinion's ITS for marine mammals became effective November 9, 2020 when NMFS Permit Division issued the Final Rule (85 FR 72312). The ITS will exempt Navy actions as described in the NWTT Final SEIS/OEIS from the prohibitions set forth in Section 9 of the ESA. Section 9 of the ESA makes it unlawful for any person (including private and public entities) to "take" individuals of an endangered species and, by regulation, a threatened species (16 U.S.C. section 1538).

The Navy requested initiation of formal consultation with USFWS on ESA-listed species in a letter on October 24, 2019, specifically for the Coastal Puget Sound distinct population segment of bull trout and the marbled murrelet. The Navy concluded that the proposed action would not adversely affect the short-tailed albatross. Through subsequent discussions between the Navy and USFWS, the Navy revised its determinations for short-tailed albatross to *likely to adversely affect* and updated its request for consultation for this species to formal consultation as of March 11, 2020. On April 3, 2020, the Service notified the Navy, via letter, that they had received the Navy's revised determinations, and had received sufficient information as of March 11, 2020 to reinstate formal consultation on the NWTT action.

USFWS issued their Biological Opinion on June 30, 2021, and concluded that any adverse effects to ESA-listed species, as described above, are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat. The Biological Opinion's ITS will exempt Navy actions as described in the Final SEIS/OEIS from the prohibitions set forth in Section 9 of the ESA. Section 9 of the ESA makes it unlawful for any person (including private and public entities) to "take" individuals of an endangered species and, by regulation, a threatened species (16 U.S.C. section 1538).

The Navy received a letter dated 9 February 2021 which provided a notice of intent to sue on behalf of the Citizens of Ebey's Reserve (COER) alleging the Navy is required to reinstate consultation under the ESA with NMFS and the USFWS due to new scientific information regarding Navy activities analyzed in two (2) separate ESA Section 7 consultations and EISs (the EA-18G "Growler" Airfield Operations and Naval Air Station Whidbey Island Complex, WA dated September 2018 and the NWTT SEIS/OEIS dated September 2020). In a response letter dated 8 April 2021, the Navy noted that after coordinating with both NMFS and the USFWS, the Navy determined that reinstating consultation is not required for either the Growler EIS or NWTT SEIS/OEIS (see Recent Scientific Information, Acoustic Effects, above). NMFS and the USFWS responded separately also declining to reinstate consultation.

Since the publication of the Final SEIS/OEIS, revisions to the northern spotted owl Critical Habitat were published January 15, 2021 and resulted in exclusions within particular counties of Washington, Oregon, and California. As none of the counties overlap within or under the Study Area, the conclusions in both the 2016 USFWS Biological Opinion and Final SEIS/OEIS remain valid.

- **National Marine Sanctuaries Act.** The Olympic Coast National Marine Sanctuary (OCNMS) lies within the NWTT Study Area. The Navy consulted on its activities when the Sanctuary was designated in 1993, and OCNMS considered Navy activities in the Sanctuary Management Plan in 2011. The Navy has been in an ongoing dialogue with the Sanctuary since that designation and has a representative serving on the OCNMS Advisory Council and participating in management plan updates and revisions. Activities conducted by the Navy have been and

continue to be compatible with the OCNMS Management Plan. In 2015, the Navy, in coordination with NMFS consulted with the Office of National Marine Sanctuaries in compliance with the National Marine Sanctuaries Act Section 304(d), on a subset of its activities that it determined had the potential to injure sanctuary resources. The activities proposed in this SEIS/OEIS are similar to those activities that were previously consulted on. The Navy reviewed all existing activities to determine if any changes in the tempo and/or the location of the activity within the vicinity of the Sanctuary triggered the need for additional consultation. Additionally, the Navy assessed if any new activities would overlap the Sanctuary and could result in stressors with the potential to injure Sanctuary resources. The Navy, in coordination with NMFS, determined that supplemental consultation with NMFS was required under the NMSA, and submitted a joint Sanctuary Resource Statement on April 29, 2020. The Sanctuary Resource Statement included a description of the Navy's proposed training and testing activities with potential to injure sanctuary resources. The Navy and NMFS concluded that acoustic impacts from sonar and other active acoustic sources from both within and outside the Sanctuary, and energy impacts from explosive use occurring outside the Sanctuary had the potential to injure Sanctuary resources. On August 28, 2020, the OCNMS provided the Navy and NMFS with recommended alternatives that would "further protect sanctuary resources and eliminate, minimize or mitigate injury to sanctuary resources associated with the proposed Navy NWTT activities and NMFS' seven (7)-year authorization of take associated with these activities." The Navy and NMFS independently responded on October 19, 2020 to the recommended alternatives provided by OCNMS, completing consultation with the sanctuary. This consultation was completed after publication of the Final SEIS/OEIS; therefore the letters referenced are posted on the project website. As detailed in the response letter provided to OCNMS on October 19, 2020, the Navy commits to the following:

- The Navy is committed to having further discussions with the original classifying authorities to determine if more information summarizing Navy activities and use relative to the OCNMS can be provided in an unclassified format.
- The Navy maintains ongoing government-to-government communications with several Tribes on an annual or quarterly basis and will continue to provide updates on the Salmon Ocean Behavior and Distribution project to the Tribes as part of these communications.
- The Navy is committed to continuing to study how to integrate sighting network tools, such as the WhaleReport Alert System (WRAS), in the future.
- The Navy will issue messages annually to alert Navy ships and aircraft to the possible presence of seasonal concentrations of Southern Resident killer whales, gray whales, and humpback whales. For safe navigation and to avoid interactions with large whales, the Navy will instruct vessels to remain vigilant to the presence of these large whale species. Platforms will use the information from the awareness notification messages to assist their visual observation in applicable mitigation zones during training and testing activities and to aid in the implementation of procedural mitigation.
- **Magnuson-Stevens Fishery Conservation and Management Act.** On February 11, 2020, the Navy submitted an Essential Fish Habitat package to NMFS Oregon-Washington Coastal Area Office to initiate Essential Fish Habitat consultation. The NMFS Oregon-Washington Coastal Area Office acknowledged receipt of the Navy request for consultation on February 25, 2020. NMFS responded on October 7, 2020, and has concluded that the Navy and NMFS have negotiated the

number, timing and location of mine countermeasure and neutralization tests throughout this consultation to arrive at a proposed action that meets the Navy's requirements and minimizes the effect of tests on ESA-listed species in the action area. Further, since the effects to Essential Fish Habitat are relatively small, temporary, and infrequent, additional conservation recommendations specifically for Magnuson-Stevens Fishery Conservation and Management Act species are not needed.

- **Migratory Bird Treaty Act.** Marine birds in the Study Area include those listed under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703–712; Ch. 128; 13 July 1918; 40 Stat. 755 as amended) (U.S. Department of Defense and U.S. Fish and Wildlife Service, 2006). These species were not analyzed individually, but rather are grouped based on taxonomic or behavioral similarities based on the stressor being analyzed. Through the National Defense Authorization Act, Congress determined that allowing incidental take of migratory birds as a result of military readiness activities is consistent with the MBTA. The Final Rule was published in the Federal Register on February 28, 2007 (Federal Register Volume 72, No. 29, February 28, 2007), and may be found at 50 CFR Part 21.15. The measure directs the Armed Forces to assess the effects of military readiness activities on migratory birds, in accordance with NEPA. It also requires the Armed Forces to develop and implement appropriate conservation measures if a proposed action may have a significant adverse effect on a migratory bird population. Specifically, 50 CFR Part 21.15 specifies a requirement to confer with the USFWS when the military readiness activities in question will have a significant adverse effect on a population of migratory bird species. Since the stressors introduced during training and testing activities would not result in a significant adverse effect on any population of a migratory bird species, consultation with USFWS on marine birds protected under the MBTA was not warranted.
- **Coastal Zone Management Act.** The Navy completed the Coastal Zone Management Act federal consistency process for proposed training and testing activities offshore of Washington, Oregon, and California. Alaska currently does not have an approved Coastal Management Program.

For Washington, based on an evaluation of the effects of the Proposed Action and the enforceable policies of Washington's Coastal Zone Management Program, and pursuant to 15 CFR section 930.35, the Navy submitted a consistency determination to the Washington State Department of Ecology on May 28, 2020. The Navy received a conditional concurrence from Ecology on August 28, 2020 requesting the Navy meet seven (7) conditions which Ecology determined were "necessary to protect Washington's endangered Southern Resident Killer Whales ... (and) include measures to ensure that Washington's coastal zone waters remain free of pollutants from the Navy's use of explosives, simulants, and other testing media."

Because Ecology presented no scientific justification that the Navy's activities will have long term significant adverse impacts under the state's enforceable policy within the Ocean Resources Management Act to warrant certain conditions or that Navy's activities are inconsistent with the State's Pollution control laws, the Navy responded that all the conditions could not be met and therefore considers the conditional concurrence an objection. However, the Navy has expressed that new mitigations that have been developed since the Navy submitted its consistency determination meet the intent of some of Ecology's conditions to protect marine species. At this time the Navy intends to proceed over the objection of the State of Washington. As detailed in the response letter provided to Ecology on October 16, 2020, the Navy commits to the following:

- The Navy is committed to integrate evolving information monitoring techniques such as WRAS into our monitoring protocols. As WRAS continues to expand into U.S. waters, the Navy will continue to study how we can participate in development and adoption of this sightings network tool. The Navy will also continue to assess the practicality of other available monitoring techniques as technologies advance (as part of Condition two (2)).
- The Navy is unable to provide information on ranges to impact (ranges of temporary and permanent threshold shifts) for acoustic source bins that are classified, including Anti-Submarine Warfare bin two (2) (ASW2). However, the Navy has developed additional mitigations specific to avoid or reduce potential impacts on Southern Resident killer whales (as part of Condition three (3)).
- The Navy commits to continue monitoring the occurrence of marine species, and the exposure to, response by, and consequences to marine species from Navy activities, and to further research the effectiveness of implemented mitigation measures. Related technical reports and publications are made available to the public on the Navy's marine species monitoring website (<https://www.navy.marinespeciesmonitoring.us>) (as part of Condition five (5)).

For Oregon, based on an evaluation of the effects of the Proposed Action and the enforceable policies of Oregon's Coastal Management Program, and pursuant to 15 CFR section 930.39, the Navy submitted a Negative Determination for its proposed activities on May 14, 2020. On June 24, 2020, the Department of Land Conservation and Development concurred that the Proposed Action "will have no reasonably foreseeable effect to Oregon's coastal uses or resources."

For California, based on an evaluation of the effects of the Proposed Action and the enforceable policies of California's Coastal Act, and pursuant to 15 CFR section 930.35, the Navy submitted a Negative Determination for its proposed activities to the California Coastal Commission on May 13, 2020. On July 10, 2020, the California Coastal Commission agreed that the Proposed Action would not affect California coastal zone resources.

- **National Historic Preservation Act.** The Navy considered effects on historic properties and impacts to cultural resources per applicable authorities, specifically Sections 106, 110, and 402 of the National Historic Preservation Act (NHPA). The Navy initiated consultation on February 16, 2018, pursuant to Section 106 of the NHPA. The undertaking includes areas of Puget Sound and the Strait of Juan de Fuca, areas off the coast of Washington State, and designated airspace over the Olympic Peninsula.

The Navy consulted with the Washington State Historic Preservation Office (WA SHPO) in June 2019 to define the Area of Potential Effect (APE) in accordance with 36 CFR § 800.4(a)(1). In determining the APE, the Navy considered the scale and nature of the undertaking, as well as all proposed activities and the geographic areas within which these activities may directly or indirectly cause alterations to historic properties, including physical damage from anchors, disturbance from the placement and use of seafloor devices, shockwaves and vibration from explosives, auditory effects from aircraft, and settling of military expended materials (MEM), among others. With regard to aircraft noise, the highest modeled noise exposure for NWTT activities would be less than 37 dB Day-Night Average Sound Level (DNL), with no potential to affect historic properties. As a result of this analysis, the Navy defined the APE as specific geographic areas associated with four (4) types of activities with the potential to affect historic properties.

The Navy identified no pre-Contact archaeological sites but 370 possible historic sunken craft sites were identified in the APE. The Navy assumed all wrecks and obstructions located within the APE are historic properties. To identify historic properties to which they ascribe traditional religious and cultural significance, and consistent with 36 CFR § 800.4(a)(4), the Navy requested input from 26 federally recognized Tribes with cultural ties to the APE, leading to continued consultations with the Hoh Tribe, the Lummi Nation, the Makah Indian Tribe, the Port Gamble S'Klallam Tribe, the Quinault Tribe, the Squaxin Tribe, and the Suquamish Tribe to provide additional information or address specific requests. Information received identified broad views about traditional activities associated with the Pacific Coast region, and the Salish Sea (including Hood Canal), including their cultural affinity with marine life and associated habitats, the interrelationship of natural and cultural resources, protected treaty rights, and broad environmental considerations. While the Navy recognizes and respects the Tribes' views, some requests were outside the scope of implementing regulations of NHPA or that adequate assessment of National Register eligibility of the Salish Sea, the northern Hood Canal, and the Pacific Coast region would require study and consultation that significantly exceeds the reasonable and good faith identification efforts commensurate with the magnitude and nature of the proposed undertaking. Accordingly, no properties listed or eligible for listing in the National Register for their traditional cultural values were identified in APE. Pursuant to 36 CFR § 800.4(b)(1), the Navy took into account past planning, research, and studies, the magnitude and nature of the undertaking and the degree of Federal involvement, the nature and extent of potential effects on historic properties, and the likely nature and location of historic properties within the APE. As a result, and in consideration of information received during consultation, the Navy found the proposed NWTT undertaking will affect no historic properties, consistent with 36 CFR § 800.4(d)(1) and submitted a letter to WA SHPO in July 2020 to that effect.

The WA SHPO disagreed with the Navy's APE and finding of effects. WA SHPO believed the APE should "include all historic districts and cultural landscapes in the Puget Sound Basin, Salish Sea, and Strait of Juan de Fuca that will be affected by jet and ocean training noise including the flight patterns and transit routes that will be used by the planes to reach the training and testing areas." On August 28, 2020, in accordance with the provisions of 36 CFR § 800.4(d)(1)(ii), the Navy requested the Advisory Council on Historic Preservation (ACHP) review the Navy's finding that the undertaking will result in No Historic Properties Affected. ACHP responded to Navy on September 18, 2020, recommending the Navy support discussion between all concerned parties on the eligibility of the Salish Sea for listing in the National Register and improve consistency and find efficiencies across all Navy training and testing consultations. The Navy is one user of the Salish Sea among many other federal agencies engaged in undertakings within the area, therefore, any dialogue about considering the Salish Sea for eligibility in the NRHP would require coordination among federal agencies and other parties. The Navy will explore participating in discussions with concerned parties (Tribes, state government and other federal agencies) on the topic. ACHP did not find a basis to object to the adequacy of the Navy's effort to comply with Section 106 of the NHPA and its regulations. The Navy provided a response, received by the ACHP on October 7, 2020, completing the Section 106 consultation.

The undertaking also includes an area in Alaska; however, the Navy notified the Alaska State Historic Preservation Officer (AK SHPO) the present undertaking and APE in Alaska are unchanged from the consensus determination of No Adverse Effect reached in 2015. AK SHPO acknowledged the undertaking did not require re-initiation of Section 106 consultation on February 26, 2019 (File No. 3130-1R / 2018-00375).

Government-to-Government Consultation

On February 7, 2018, the Navy invited 55 federally recognized Tribes to consider initiating consultation for the Proposed Action (see Appendix I, Agency Correspondence). Tribes and their concerns regarding the Navy's training and testing activities as they relate to tribal resources are summarized below.

Some Tribes in the Puget Sound region have expressed concerns regarding the potential of Navy training and testing activities to impede access to adjudicated treaty usual and accustomed fishing grounds and stations as well as concerns regarding the potential for Maritime Security Operations to damage tribal fishing gear. The Navy continues to communicate with the Jamestown S'Klallam Tribe, Lower Elwha Tribal Community, Port Gamble S'Klallam Tribe, Skokomish Indian Tribe, Upper Skagit, and Suquamish Indian Tribe of the Port Madison Reservation regarding these concerns and improving on-water vessel coordination in order to eliminate or minimize potential impacts to tribal fishing in these co-use marine waterways. Also, the Navy continues to coordinate with potentially affected Tribes for activities conducted in Crescent Harbor.

Since 2015, the Navy has engaged in consultation with the Intertribal Sinkyone Wilderness Council, representing the Cahto Tribe of Laytonville Rancheria; Coyote Valley Band of Pomo Indians; Hopland Band of Pomo Indians; Pinoleville Pomo Nation; Potter Valley Tribe; Redwood Valley Little River Band of Pomo Indians; Round Valley Indian Tribes; Scotts Valley Band of Pomo Indians; and Sherwood Valley Rancheria of Pomo Indians regarding potential impacts to traditional resources in the marine environment to address the Tribes' concerns regarding Navy training and testing activities within the Study Area. The Navy also received and considered comments from the Lummi Nation; Makah Tribe; the Port Gamble S'Klallam Tribe; Quinault Indian Nation; Squaxin Island Tribe; Suquamish Indian Tribe of the Port Madison Reservation; and Yurok Tribe regarding the training and testing exercises proposed by the Navy. The Navy values its relationships with the Tribes and will continue government-to-government consultations indefinitely to ensure their concerns related to training and testing activities in the Northwest are considered and addressed where possible.

Olympic National Park

Several commenters on the Draft SEIS/OEIS indicated that Navy training and testing activities could adversely impact use or enjoyment of Olympic National Park, particularly through the noise of jet aircraft above the Park, either during training or in transit to or from the Olympic Military Operations Area (MOA). In the Final SEIS/OEIS, the Navy expanded its analysis of impacts of aircraft overflights to include transits to and from the Olympic MOA. While a portion of Olympic National Park lies beneath the Olympic MOA (which was established in 1977 for military training flights), the modeled sounds of flights are estimated to remain far below the significance threshold of 65 dB DNL (Appendix J, Airspace Noise Analysis for the Olympic Military Operations Area). The Federal Aviation Administration (FAA) continues to recommend and utilize DNL and A-weighting for aircraft noise studies, and the DoD methodology used in the NWTT SEIS/OEIS is consistent with that standard. In general, all land uses are considered compatible with noise levels below 65 dB DNL. As described in Appendix J, aircraft flying above the Olympic Peninsula would generate low DNL sound levels (37 dBA) primarily because more than 95 percent of flight time would occur more than 10,000 feet above mean sea level (MSL). Most of the terrain beneath the Olympic MOA (more than 77 percent) is at an elevation of 1,000 feet or less, thereby creating a buffer of at least 5,000 feet between an individual on the ground and an aircraft at the lowest permissible altitude (6,000 feet MSL). Additionally, the highest terrain areas on the Olympic peninsula are extremely remote, where few people are likely to be present. For more than 77 percent of the area, the maximum noise level anticipated at any one location for a very brief period of time would be 84.4 dBA. Aircraft flying at higher altitudes or not directly over an individual on the ground would

generate less intense sound at ground level (i.e., the distance between the aircraft and the individual would be greater allowing for greater dissipation or spreading of sound). In the most extreme scenario, if an individual were located at an elevation of 4,000–4,500 feet (approximately 0.09 percent of the land area under the Olympic MOA) and an EA-18G flew directly over that individual at the absolute minimum altitude allowed (6,000 feet MSL), the analysis shows that the maximum noise level would be 100.6 dBA, and noise at this level would only last for an average of 0.12 seconds per flight.

The Navy acknowledges that special consideration should be given to the significance of aircraft noise impacts on noise sensitive areas such as the Olympic National Park where ambient noise levels are very low and a quiet setting is desired by users of the Park. It is important to note that the Navy has been flying in the same areas over the Park with a similar operational tempo and flight procedures for decades. While noise levels can be measured and noise sources can be compared to each other using well-established metrics, the perception of noise by individuals and their reaction may vary widely. Some visitors to a natural setting like the Olympic National Park may be disturbed by an aircraft overflight, while others may not register the event or, if they do notice it, may not consider it to be significant.

Higher elevations in the Olympic National Park could receive higher noise levels. However, the areas with the highest elevations are not located under the Olympic MOA; the MOA only overlays 27 percent of the western portion of the Park. Based on the data and analysis presented in a National Park Service (NPS) noise study (2010), military aircraft overflight noise is only a small portion of the sounds detectable in the Olympic National Park. An individual visitor may still be disturbed by an aircraft overflight; however, for the vast majority of the time, visitors are exposed to naturally occurring sounds, and to a lesser extent, noise from other human sources not associated with the Proposed Action, including noise from commercial and general aviation aircraft. The Navy is confident that training and testing activities will not adversely impact the socioeconomics of the Park and the recreational economy that it supports.

In a separate operational decision, in 2020 the Navy requested that the FAA alter the transit routes that military aircraft use when transiting between Naval Air Station Whidbey Island and the Olympic MOA, in order to improve aircrew and air traffic control efficiencies. These new transit routes are located outside the boundaries of the Olympic National Park. On October 8, 2020, the FAA approved these new transit routes. On November 5, 2020, the Navy implemented the new routes. While these transit routes are not a part of the NWTT action, this represents a change from the routes described in the Final SEIS/OEIS. This change should reduce the level of military aircraft noise above the Olympic National Park.

Mitigation Measures

Chapter five (5) (Mitigation) of the Final SEIS/OEIS includes mitigation measures the Navy will implement to avoid or reduce potential impacts from training and testing activities. The Navy will also implement standard operating procedures as described in Section 2.3.3 (Standard Operating Procedures).

The Navy's mitigation measures are organized into two (2) categories: procedural mitigation measures and mitigation areas.

Procedural Mitigation. The Navy will implement procedural mitigation measures whenever and wherever training or testing activities involving applicable acoustic, explosive, and physical disturbance and strike stressors take place within the Study Area. Procedural mitigation generally involves (1) the use of one (1) or more trained lookouts to observe for specific biological resources within a mitigation zone, (2) requirements for lookouts to immediately communicate sightings of specific biological resources to the appropriate watch station for information dissemination, and (3) requirements for the watch station to implement mitigation measures until a pre-activity commencement or during-activity

recommencement condition has been met. After completion of explosive activities, when practical the Navy will also observe the vicinity of where detonations occurred and will follow established incident reporting procedures if any injured or dead marine mammals or ESA-listed species are observed.

Mitigation Areas. The Navy will implement geographic mitigation within the Study Area to (1) avoid or reduce potential impacts on biological resources located on the seafloor or submerged cultural resources; (2) in combination with procedural mitigation, effect the least practicable adverse impact on marine mammal species or stocks and their habitat; or (3) in combination with procedural mitigation, to ensure the Proposed Action does not jeopardize the continued existence of endangered or threatened species. The Navy will continue to implement mitigation year-round to avoid or reduce potential impacts on live hard bottom, artificial reefs, and shipwrecks in Seafloor Resource Mitigation Areas throughout the Study Area.

The Navy will also implement geographic mitigation measures to avoid or reduce potential impacts on marine species in the Offshore Area within the Marine Species Coastal Mitigation Area, OCNMS Mitigation Area, Juan de Fuca Eddy Marine Species Mitigation Area, Stonewall and Heceta Bank Humpback Whale Mitigation Area, and Point St. George Humpback Whale Mitigation Area; and in Inland Waters within the Northern Puget Sound Gray Whale Mitigation Area and Puget Sound and Strait of Juan de Fuca Mitigation Area. The Navy will continue to implement the following mitigation area measures:

- Requirements to not conduct explosive activities (except for a new testing activity, Mine Countermeasure and Neutralization Testing) and certain non-explosive training and testing activities within 50 nautical miles (NM) from shore in the Marine Species Coastal Mitigation Area.

- Requirements to restrict certain non-explosive activities within 20 NM and 12 NM from shore in the Marine Species Coastal Mitigation Area.

- Requirements to not conduct explosive activities and non-explosive bombing within the OCNMS Mitigation Area. For this Supplemental EIS/OEIS, the Navy extended this explosive mitigation requirement to Mine Countermeasure and Neutralization Testing activities, a new activity not covered in the 2015 Final EIS/OEIS.

- Annual reporting on the use of surface ship hull-mounted MF1 mid-frequency active sonar within the OCNMS Mitigation Area.

- Requirements for naval units to obtain approval from the appropriate designated Command authority prior to conducting active sonar pierside maintenance or testing with hull-mounted mid-frequency active sonar within the Puget Sound and Juan de Fuca Mitigation Area.

- Requirements for seasonal explosive charge size limitations and distance from shore restrictions for explosive mine neutralization activities involving the use of Navy divers within the Puget Sound and Juan de Fuca Mitigation Area.

- Requirements for Navy event planners to coordinate with Navy biologists and NMFS during the event planning process prior to conducting Civilian Port Defense – Homeland Security Anti-Terrorism/Force Protection Exercises and Small Boat Attack Exercises within the Puget Sound and Juan de Fuca Mitigation Area.

While conducting the Proposed Action under its Phase II permits, the Navy has, in practice, been implementing several environmental protection measures that exceed the mitigation requirements specified in the 2015 Final EIS/OEIS and associated consultation documents. These environmental protection measures helped inform development of certain aspects of the Proposed Action for the 2020

Final SEIS/OEIS; however, the Navy had not formally committed to them as mitigation to allow flexibility for future activities. During the MMPA and ESA consultations for the 2020 Final SEIS/OEIS, the Navy determined it would be practical to codify those practices into formal mitigation area measures in Inland Waters for the Proposed Action. The Navy will implement the following mitigation area measures that are a continuation of current practice, but were not previously included in the 2015 Final EIS/OEIS:

Requirements within the Puget Sound and Juan de Fuca Mitigation Area to not use low-, mid-, or high-frequency active sonar during training or testing unless a required element necessitates the activity be conducted in NWTT Inland Waters during (1) Unmanned Underwater Vehicle Training, (2) Civilian Port Defense – Homeland Security Anti-Terrorism/Force Protection Exercises, (3) activities conducted by Naval Sea Systems Command at designated locations, and (4) pierside sonar maintenance or testing at designated locations.

Requirements within the Puget Sound and Juan de Fuca Mitigation Area to use the lowest active sonar source levels practical to successfully accomplish each event.

Requirements within the Puget Sound and Juan de Fuca Mitigation Area to not use explosives during testing.

Requirements within the Puget Sound and Juan de Fuca Mitigation Area to not use explosives during training except at the Hood Canal Explosive Ordnance Disposal (EOD) Range and Crescent Harbor EOD Training Range during explosive mine neutralization activities involving the use of Navy divers, and for Navy event planners to coordinate with Navy biologists and NMFS, and initiate communication with the appropriate marine mammal detection networks during the event planning process prior to these events.

Requirements within the Puget Sound and Juan de Fuca Mitigation Area to not conduct non-explosive live fire events (except firing blank weapons), including gunnery exercises, missile exercises, torpedo exercises, bombing exercises, and Kinetic Energy Weapon Testing.

The Navy also identified several opportunities to increase its mitigation measures within the Offshore Area and Inland Waters. The increased mitigation measures were informed by analyses of the best available science, potential mitigation suggested by scoping comments and comments on the 2019 Draft SEIS/OEIS, and potential mitigation suggested during the MMPA and ESA consultation processes. Mitigation added since the 2015 Final EIS/OEIS includes:

Requirements to not use surface ship hull-mounted MF1 mid-frequency active sonar during training or testing, and to not conduct explosive Mine Countermeasure and Neutralization Testing within the Stonewall and Heceta Bank Humpback Whale Mitigation Area from May through November.

Requirements to not use surface ship hull-mounted MF1 mid-frequency active sonar during training or testing, and to not conduct explosive Mine Countermeasure and Neutralization Testing within the Point St. George Humpback Whale Mitigation Area from July through November.

Seasonal awareness notification mitigation within 50 NM from shore to alert ships and aircraft operating within the Marine Species Coastal Mitigation Area to the possible seasonal presence of concentrations of humpback whales, gray whales, and Southern Resident killer whales.

Requirements to conduct explosive Mine Countermeasure and Neutralization Testing from July 1 to September 30 to the maximum extent practical when operating within 20 NM from shore.

Requirements from October 1 through June 30 to conduct a maximum of one explosive Mine Countermeasure and Neutralization Testing event, not to exceed the use of 20 explosives from bin E4 and 3 explosives from bin E7 annually, and not to exceed the use of 60 explosives from bin E4 and

9 explosives from bin E7 over 7 years within 20 NM from shore in the Marine Species Coastal Mitigation Area.

Requirements to not conduct explosive Mine Countermeasure and Neutralization Testing event within a new mitigation area known as the Juan de Fuca Eddy Marine Species Mitigation Area.

Restrictions on the number of surface ship hull-mounted MF1 mid-frequency active sonar hours that can be used annually during training within the OCNMS Mitigation Area, and during testing in three combined mitigation areas: within 20 NM from shore in the Marine Species Coastal Mitigation Area, the new Juan de Fuca Eddy Marine Species Mitigation Area, and within the OCNMS Mitigation Area. The measure to restrict the number of MF1 hours used annually was erroneously characterized in Appendix K (Geographic Mitigation Assessment) as a continuation from the 2015 Final EIS/OEIS; however, the hours restriction is a new measure developed for this Supplemental EIS/OEIS. The annual reporting requirement is a continuation from the 2015 Final EIS/OEIS, as described above.

Requirements to conduct a maximum of one Unmanned Underwater Vehicle Training event within 12 NM from shore at the Quinault Range Site (QRS), and to cancel or move Unmanned Underwater Vehicle Training events within 12 NM from shore at the QRS if Southern Resident killer whales are detected at the planned training location during the event planning process, or immediately prior to the event, as applicable.

Requirements to not conduct Civilian Port Defense – Homeland Security Anti-Terrorism/Force Protection Exercises within the Northern Puget Sound Gray Whale Mitigation Area from March 1 to May 31.

Requirements within the Puget Sound and Strait of Juan de Fuca Mitigation Area to conduct a maximum of one Unmanned Underwater Vehicle Training activity annually at the NAVY 3 Operating Area (OPAREA), NAVY 7 OPAREA, and Manchester Fuel Depot (i.e., a maximum of one event at each location).

Requirements within the Puget Sound and Strait of Juan de Fuca Mitigation Area for Navy event planners to coordinate with Navy biologists and NMFS during the event planning process prior to conducting Unmanned Underwater Vehicle Training at applicable locations, and to cancel or move events to another training location if the presence of Southern Resident killer whales is reported through available monitoring networks.

Requirements within the Puget Sound and Strait of Juan de Fuca Mitigation Area to initiate communication with the appropriate marine mammal detection networks prior to conducting Civilian Port Defense – Homeland Security Anti-Terrorism/Force Protection Exercises and Small Boat Attack Exercises.

Requirements to issue annual seasonal awareness notification messages to alert ships and aircraft operating within the Puget Sound and Strait of Juan de Fuca Mitigation Area to the possible presence of concentrations of Southern Resident killer whales and gray whales.

Requirements to not use explosives in bin E7 closer than 6 NM from shore at the QRS. This measure was later refined during the ESA consultation process, as summarized below.

The Navy worked collaboratively with the appropriate regulatory agencies through the consultation and permitting processes to develop and finalize the mitigation measures included in the Final SEIS/OEIS and this ROD, and accepted several additional mitigation measures requested by those agencies. The Navy's mitigation measures are also identified in the USFWS Biological Opinion and NMFS Biological Opinion, Final Rule, and LOA (see Agency Consultation and Coordination section of this ROD for further details),

including additional or modified mitigation resulting from the ESA consultation processes after publication of the NWTT Final SEIS/OEIS. This includes a mitigation measure developed during the ESA consultation process with the USFWS, which requires the Navy to not use certain explosives (bin E7) closer than 7.5 NM from shore in the QRS during explosive Mine Countermeasure and Neutralization Testing. Additionally, the Navy agreed to shift the location of half of the explosives in bin E4 further offshore (from 3 NM or greater from shore to 4.6 NM or greater from shore) during Mine Countermeasure and Neutralization Testing.

Monitoring, Research, and Reporting

The Navy is committed to environmental stewardship, complying with federal environmental laws and regulations, and providing required and relevant reports to appropriate regulatory agencies while executing its national security mission.

As a complement to the Navy's commitment to avoiding and reducing impacts of the Proposed Action through mitigation, the Navy will continue to undertake monitoring efforts to better understand the impacts of the Proposed Action.

The Navy developed the Integrated Comprehensive Monitoring Program to serve as the overarching framework for coordinating its marine species monitoring efforts in the Pacific and Atlantic and as a planning tool to focus its monitoring priorities. The purpose of the program is to coordinate monitoring efforts across all regions and to allocate the most appropriate level and type of monitoring effort for each range complex based on a set of standardized objectives, regional expertise, and resource availability.

Data acquired from past surveys were compiled and used to inform the Final SEIS/OEIS, impact analyses, mitigation areas, and consultations under the MMPA and ESA. The Navy will continue to fund marine species monitoring studies. More information, data, and annual reports can be found on the Marine Species Monitoring website at www.navymarinespeciesmonitoring.us/. Taken together, mitigation and monitoring comprise the Navy's integrated approach for reducing environmental impacts from the Proposed Action.

The Navy will continue submitting annual training and testing activity reports as required by the MMPA, and ESA that describe the level of training and testing conducted during the reporting period (e.g., the location and total hours and counts of active sonar hours and in-water explosives used). If they occur, the Navy will report incidents involving biological and cultural resources, such as aircraft or vessel strikes, observed injuries or mortalities to marine mammals or ESA-listed species after the use of explosives, or observed impacts on submerged historic properties. Reports will be provided to appropriate agencies and staff commensurate with their level of security clearance access.

The Navy and NMFS use the information contained within monitoring, research, activity, and incident reports when evaluating the effectiveness and practicality of mitigation measures and determining if adaptive adjustments may be appropriate. These reports also facilitate a better understanding of the biological resources that inhabit the Study Area and the potential impacts of military readiness activities on them.

Additional USFWS Biological Opinion Monitoring Requirements

To implement the Reasonable and Prudent Measures contained within the 2021 USFWS Biological Opinion, the Navy will continue to submit an annual monitoring report summarizing the training and testing activities implemented in the previous calendar year. Further, the Navy will conduct pre-test seabird surveys in those portions of the testing area that are within 4.6 NM of shore during use of bin E4 underwater explosives for mine countermeasure and neutralization testing. Lastly, the Navy will

coordinate with the Washington Fish and Wildlife Office to develop training materials for Navy personnel who will conduct pre-detonation seabird surveys to maximize seabird detection capabilities.

Adaptive Management

The Navy's adaptive management process and reporting requirements serve as the basis for evaluating performance and compliance, and involve technical review meetings and ongoing discussions between the Navy, NMFS, and the Marine Mammal Commission. The Navy hosts an annual adaptive management review meeting for the Integrated Comprehensive Monitoring Program, where the Navy, NMFS, and the Marine Mammal Commission jointly consider the prior year's monitoring goals, monitoring results, scientific advances, and compliance monitoring structure to determine if modifications are warranted to address program goals more effectively. Potential modifications to the Navy's compliance monitoring structure or in how the Navy implements mitigation measures based on national security concerns, evolving readiness requirements, or other factors (e.g., significant changes in the best available science) are evaluated through adaptive management or the appropriate consultations. The Navy also uses the adaptive management process to provide information to NMFS about certain topics, such as technological developments. For example, the Navy will provide information to NMFS about the status and findings of Navy-funded thermal detection studies and any associated practicality assessments at the annual adaptive management meetings.

Responses to Comments Received on the NWTT Final SEIS/OEIS

The Navy reviewed and considered 11 comments received following the issuance of the Final SEIS/OEIS. The comments received either noted disagreement with the Navy's Proposed Action, insufficient impact analyses, and expressed concern that the Navy did not clearly identify a process or timeline for receiving comments on the NWTT Final SEIS/OEIS. In accordance with 40 CFR 1503.1(b), the Navy is not required to solicit comments during the wait period after the publication of the Final SEIS/OEIS. Substantive comments were received from Earthrise Law Center at Lewis and Clark Law School on behalf of their client, the National Parks Conservation Association (NPCA), on October 17, 2020¹. Although many of the concerns raised were similar to concerns they raised during the Draft SEIS/OEIS comment period, and which Navy responded to in Appendix H of the Final SEIS/OEIS, NPCA expanded upon comments or noted points or statements within the comment letter that they felt went unanswered. Their key concerns are noted below:

Comment: The Draft SEIS/OEIS downplayed the significance of aircraft noise impacts and included a map indicating that overflights were restricted to two transit corridors. However, NPCA relies on a document prepared by the FAA and presented to Representative Kilmer in April 2016. NPCA contends this document contradicts the Navy's noise analysis in the NWTT Final SEIS/OEIS for the aircraft activity within the MOAs and overflights of Olympic National Park. In support of its comments, NPCA provided comments prepared by Les Bloomberg, Noise Pollution Clearing House.

Response: The FAA document presented to Representative Kilmer does not contradict the Navy's noise analysis. Appendix J explains the methodology the Navy used in modeling aircraft activity impacts. The modeling approach allows for predictive analysis rather than a snapshot of sound levels at any given moment in time. The Navy's analysis used flight data over three (3) years (2015-

¹ On July 27, 2021, the Navy received another letter from Earthrise Law Center at Lewis and Clark Law School on behalf of their client, the NPCA, requesting that the Navy "prepare a new draft SEIS/OEIS so the public can evaluate "the significant new circumstances and information." A separate letter was sent in response to this request.

2017) obtained from Navy's systems, which was interpreted through interviews with Navy aircrews to generate the best available and appropriate parameters of flights within the MOAs and overlapping the Olympic National Park. This information was used to input flight parameters into the sound modeling program to generate both cumulative and individual sound level metrics.

Figure J-4 in Appendix J of the NWTT Final SEIS/OEIS shows a single corridor for entering the Olympic MOA and a fan-shaped track typically followed by aircraft as they depart the MOA from throughout the area and are generally funneled toward the fix labeled "YETII." The information found in the FAA document aligns with Figure J-4. There can be confusion regarding airspeeds as the FAA document depicts groundspeed, which is true airspeed (TAS) plus any wind component; while Appendix J information is provided in indicated airspeed (IAS). At the altitudes that aircraft enter and exit the MOA, the difference between IAS and TAS can easily approach 100 knots, and exceed 100 knots with a minimal tailwind.

Comment: The Navy appears to discount the NPS's Acoustic Monitoring Study which revealed that in some areas of the Park outside of the MOAs, Navy jets are heard by visitors more frequently than in portions of the Park which are directly under the MOAs. If the Navy is going to disregard the NPS's study, then the Navy must provide the data it relies upon to rebut this study, and must discuss the impacts of these flights over the Park.

Response: The Navy's analysis considered the NPS's 2010 Acoustic Monitoring Study and discusses impacts of Navy overflights in the Final SEIS/OEIS. Data from this study went into the Navy's analysis once Navy established predicted maximum noise levels through modeling. The NPS data served as baseline of ambient sound within the Olympic National Park to compare the cumulative sound levels from the Navy's noise modeling as explained in Chapter 3.12 when socioeconomic impacts were evaluated. The NPS Monitoring Study does not indicate that Navy jets are heard more frequently outside the MOA than in portions of the Park which are directly under the MOA. The study also makes no distinction between military and commercial aircraft.

Comment: The Draft SEIS Fails to Adequately Consider the Navy's Impact on Environmental Justice Communities.

Response: There will be no disproportionately high impacts or adverse effects on any low-income populations or minority populations. In accordance with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and EO 13045, *Protection of Children From Environmental Health Risks and Safety Risks*, the Council on Environmental Quality has emphasized the importance of incorporating environmental justice review in the analyses conducted by federal agencies under NEPA and of developing protective measures, as appropriate for the action, that reduce or avoid disproportionate environmental effects on minority and low-income populations and the health and safety of children. The socioeconomic analysis in the NWTT SEIS/OEIS evaluated how the following elements of the human environment might be affected by ongoing and proposed activities: (1) commercial transportation and shipping, (2) commercial and recreational fishing, and (3) tourism and recreation.

Impacts on socioeconomic resources are expected to be minor because inaccessibility to areas of co-use would be localized and temporary, the Navy's standard operating procedures would minimize or prevent physical disturbance and strikes of commercial and recreational watercraft, and impacts to commercially important marine species are not expected. The vast majority of flight time occurs at altitudes greater than 10,000 feet above MSL and aircraft activities in the Olympic MOA are expected to have negligible impacts on socioeconomic resources.

The Olympic MOA was established to support military aircraft training. The impacts from aircraft noise would be negligible because the highest noise levels would potentially be experienced only at the highest elevations beneath the MOA, which are in areas that have few visitors; natural sounds are the predominantly occurring sounds; and peak noise levels would last only seconds. Tables J-12 to J-15 and J-18 identify the maximum noise levels for aircraft activities in the MOA and at selected locations in relation to transits to/from the MOA and at-sea W-237A training airspace. These are single-event levels that provide perspective on experience of noise from individual events.

While a small increase in military flights over the Olympic Peninsula would contribute to impacts from airborne noise, the majority of flights over the region are conducted by commercial air carrier aircraft and general aviation aircraft. A proposed 13 percent increase in military flights would not substantially change the proportion of military flights over the Olympic Peninsula or substantially increase the potential for noise impacts on the Olympic Peninsula, including in the Olympic National Park. Since aircraft activities in the Olympic MOA are expected to have negligible impacts on socioeconomic resources, there would be no disproportionately high impacts or adverse effects on any low-income populations or minority populations.

Comment: The Navy's determinations in relation to impacts on wildlife, particularly birds (including the Northern Spotted Owl) only focused on analysis for determinations of impact under the ESA, in substitute for a proper NEPA analysis. As such, the Navy must conform to NEPA guidelines to determine what impacts must be disclosed, such as what impacts are adverse but would not immediately cause jeopardy to the species, as there can still be a finding of significant impact on a species even if its existence is not jeopardized.

Response: The Navy has a complete analysis of impacts to birds in Section 3.6 of the Final SEIS/OEIS. In the document, the Navy dismisses the northern spotted owl from further analysis due to the lack of changes in activities that could result in impacts on the owl that were not already evaluated and considered in the preceding 2015 NWTT Final EIS/OEIS analysis. Since the publication of the 2015 NWTT Final EIS/OEIS, there have been no updates to the regulatory status, life history information, or species-specific threats that would alter the analysis from the 2015 NWTT Final EIS/OEIS (including Hayward, et al. 2011), which is that the effects from aircraft noise would be insignificant for the northern spotted owl. In addition, while the current Proposed Action includes aircraft overflights of spotted owl habitat underlying the Olympic MOA, these aircraft overflights are not expected to adversely affect spotted owls.

Comment: The Navy failed to respond to the impacts of Navy jet noise on park visitors and nearby residents. Studies show that individuals are the most annoyed by noise pollution associated with air travel when compared to road traffic and rail traffic noise (Basner et al., 2011).

Response: The Navy addresses noise disturbance in the Final SEIS/OEIS in Chapter 3.12, Socioeconomic Resources and Environmental Justice. In Section 3.12.3.2 (Airborne Noise), the Navy considers airborne acoustics from military activities on recreational activities such as wildlife viewing, boating, fishing, and scuba diving. In general, airborne acoustics from aircraft overflights only generate an acoustic disturbance at the moment it is heard, and noise from an overflight disturbance would only accumulate for the duration of a specific event. In a worst case scenario based on airspace restrictions with an individual located at an elevation of 4,000–4,500 ft. (approximately 0.09 percent of the land area under the Olympic MOA) and an EA-18G flying directly over that individual at an altitude of 6,000 MSL, the analysis shows that the maximum noise level would be 100.6 dBA, and noise at this level would last for an average of 0.12 second per flight. Experiencing aircraft noise even briefly at this level is unlikely to occur for a number of reasons. Most of the terrain beneath the Olympic MOA (more than 77 percent) is at an elevation of 1,000 ft.

or less, thereby creating a buffer of at least 5,000 ft. between an individual on the ground and an aircraft at the lowest permissible altitude (6,000 ft. MSL). Additionally, the highest terrain areas on the Olympic peninsula are extremely remote, where few people are likely to be present. In the majority of the area, the maximum noise level anticipated would be 84.4 dBA at these locations and that level would be very infrequent and brief.

Comment: The Final SEIS/OEIS is insufficient because it contains no noise contour maps. NPCA refers to many other NEPA projects in support of its proposition that contour maps should have been used for this project.

Response: Noise contour maps provide a useful way to portray noise levels in certain applications, such as airport and airfield arrival and departure routes, where aircraft configuration, flight paths, altitudes, airspeeds, and power settings are generally predictable and repeatable. As stated in the Navy's response to NPCA's comment on the Draft SEIS/OEIS (NPCA-17), noise contour maps are not illustrative to the noise modeling conducted in the Olympic MOA because aircrews operating within the MOA do not use predictable paths, and maneuver their aircraft creatively in response to training stimuli. Any noise contour map produced based on the results of modeling would not reflect the unpredictable nature of the aircraft within the MOA and would not be useful. Likewise, a noise map that accounts for terrain and elevation would also not be useful, because of the unpredictable nature of the origin of the sound; such terrain maps are only useful when the flight paths for aircraft are predictable and repetitive, which is not the case within the Olympic MOA. The noise analysis using MR_NMap was modified to account for the varying terrain elevation levels underneath the Olympic MOA. Thus, the estimated noise levels are directly related to the terrain levels as reported in Tables J-11 and J-16.

The Navy has reviewed the other NEPA projects cited to by NPCA. The majority of those projects are related to aircraft activity at airports and airfields. Additionally, NPCA improperly cites to two (2) prior Navy EISs for training and testing (Gulf of Alaska and Hawaii Southern California Training and Testing EISs). These EISs did not involve airport or airfield activity and, thus, like NWTT, do not contain any noise contour maps.

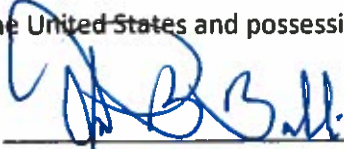
As stated in Appendix H, the Navy considered but did not develop mitigation for aircraft overflights, such as shifting transit routes, relocating aircrew training activities, or modifying flight attitudes. However, as noted previously in this ROD, unrelated to NWTT training and testing activities, in 2020 the Navy requested that the FAA alter the transit routes that military aircraft use when transiting between Naval Air Station Whidbey Island and the Olympic MOA in order to improve aircrew and air traffic control efficiencies. These new transit routes are located outside the boundaries of the Olympic National Park. On October 8, 2020, the FAA approved these new transit routes. On November 5, 2020, the Navy implemented the new routes. While these transit routes are not a part of the NWTT action, this represents a change from the routes described in the Final SEIS/OEIS. This change should reduce the level of military aircraft noise above the Olympic National Park.

C. CONCLUSION: Based on factors analyzed in the NWTT Final SEIS/OEIS, including military training and testing objectives, best available science and modeling data, potential environmental impacts, and input and expertise of federal and local agencies and nongovernmental organizations, as well as from the public, the Navy selects Alternative 1 for implementation. Alternative 1, identified as the Navy's Preferred Alternative in the Final SEIS/OEIS, will fully meet the Navy's current and future training and testing requirements in the Study Area. By implementing the mitigation measures identified in the Final SEIS/OEIS, associated regulatory documents, and in this ROD, and adhering to management plans and monitoring requirements described therein, the Navy has adopted all

practicable means to avoid or minimize environmental harm. In addition, the Navy assessed the effects of Alternative 1 in accordance with EO 12114 and concluded that there will be no significant harm to the environment in areas outside the United States and possessions.

23 SEPTEMBER 2021

Date

 9/23

Mr. James B. Balocki
Acting Principal Deputy Assistant Secretary of the Navy
(Energy, Installations & Environment)