

DEPARTMENT OF DEFENSE
Department of the Navy

Record of Decision for the Final Supplemental Environmental Impact Statement/Supplemental Overseas Environmental Impact Statement for Surveillance Towed Array Sensor System Low Frequency Active Sonar

AGENCY: Department of the Navy, Department of Defense

ACTION: Record of Decision.

SUMMARY: The Department of the Navy (Navy), after carefully weighing the operational, scientific, technical, and environmental implications of the alternatives considered, announces its decision to implement Alternative 2, the Navy's preferred alternative, to continue utilizing Surveillance Towed Array Sensor System (SURTASS) Low Frequency Active (LFA) and Compact LFA sonar (CLFA) systems (LFA hereafter inclusive of both systems) onboard United States (U.S.) Navy surveillance ships for training and testing activities conducted under the authority of the Secretary of the Navy in the western and central North Pacific and eastern Indian oceans, including certain geographical restrictions and other mitigation measures designed to reduce potential adverse effects on the marine environment.

The Navy determined that the purposes of the National Environmental Policy Act (NEPA) and Executive Order (EO) 12114 (*Environmental Effects Abroad of Major Federal Actions*) would be furthered by the preparation of an additional supplemental analysis related to the employment of SURTASS LFA sonar systems. The types of ways SURTASS LFA sonar will be used and that were assessed in the Final Supplemental Environmental Impact Statement/Supplemental Overseas Environmental Impact Statement (SEIS/SOEIS) dated June 2019 as well as the geographic extent differ in part from the Navy's previous documents for SURTASS LFA sonar under NEPA and EO 12114. The previous NEPA and EO 12114 documents included certain military operations among the scope of actions analyzed. Specifically, while the previous documentation excluded operational use of SURTASS LFA sonar in armed conflict or direct combat support operations, or during periods of heightened national threat conditions, as determined by the National Command Authority (the President and the Secretary of Defense), the previous documents did include analysis of military operations that involved surveillance for and tracking of unknown or adversary underwater contacts. The current SEIS/SOEIS does not include analysis of the potential environmental impacts of any military operations using SURTASS LFA sonar. The geographic scope analyzed in this document also differs from the previous SURTASS LFA sonar documentation under NEPA and EO 12114. The previous geographic scope included non-polar areas of the Atlantic, Pacific, and Indian Oceans and the Mediterranean Sea. The geographic scope of this SEIS/SOEIS is the western and central North Pacific and eastern Indian Oceans. The Navy scoped the geographic extent of this SEIS/SOEIS to better reflect the areas where the Navy anticipates conducting SURTASS LFA sonar training and testing activities now and into the reasonably foreseeable future.

In accordance with the Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA), the Navy submitted applications to the National Marine Fisheries Service (NMFS) requesting authorization for the taking of marine mammals and protected marine fishes and sea turtles incidental to training and

testing activities described in this SEIS/SOEIS. The Navy sought rulemaking and a letter of authorization (LOA) under the MMPA and a Biological Opinion and Incidental Take Statement under the ESA.

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SUPPLEMENTARY INFORMATION: Pursuant to Section 102(2)(c) of NEPA of 1969, 42 U.S.C. Sections 4321 et seq., Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations (CFR) Parts 1500-1508), DoN Regulations (32 CFR Part 775), and EO 12114, the Navy announces its decision to implement the preferred alternative, Alternative 2, as described in the 2019 Final SEIS/SOEIS for SURTASS LFA sonar. The Navy proposes to continue the employment of up to four SURTASS LFA sonar systems onboard its current four surveillance ships that utilize SURTASS LFA sonar systems: U.S. Naval Ship (USNS) VICTORIOUS (Tactical-Auxiliary General Ocean Surveillance [T-AGOS] 19); USNS ABLE (T-AGOS 20); USNS EFFECTIVE (T-AGOS 21); and USNS IMPECCABLE (T-AGOS 23). The Navy may develop and field additional SURTASS LFA sonar equipped vessels, either to replace or complement the Navy current SURTASS LFA sonar equipped fleet.

The Navy is currently approved to transmit 255 hours of LFA sonar transmissions per vessel per year or a total of 1,020 transmit hours per year. Under Alternative 2, the Navy's Preferred Alternative, the Navy will transmit 496 total hours of LFA sonar transmissions per year across all SURTASS LFA sonar equipped vessels in the first four years and will increase usage to 592 total hours of LFA sonar transmissions in year five into the foreseeable future, regardless of the number of vessels equipped with SURTASS LFA sonar.

The decision will enable the Navy to meet our statutory mission to train and equip naval forces that are combat-ready and capable of accomplishing America's strategic objectives, deterring maritime aggression, and maintaining freedom of navigation in ocean areas. This mission includes performing training and testing activities that ensure the Navy remains proficient in the use of SURTASS LFA sonar and maintain those systems and crews capable of detecting at long ranges the increasingly technologically advanced foreign submarine presence that threatens our national security.

BACKGROUND AND ISSUES: The Navy's statutory mission is to train and equip naval forces that are combat-ready and capable of accomplishing America's strategic objectives, deterring maritime aggression, and maintaining freedom of navigation in ocean areas. By law, the Secretary of the Navy is responsible for functions such as training, supplying, equipping, and maintaining naval forces that are ready to achieve national security objectives as directed by the National Command Authority. Preparing and maintaining forces skilled in anti-submarine warfare (ASW) is a critical part of the Navy's mission. With advancements and use of quieting technologies in diesel-electric and nuclear submarines, undersea submarine threats have become increasingly difficult to locate solely using passive acoustic technologies. At the same time, the distance at which submarine threats can be detected has been decreasing due to these quieting technologies, and improvements in torpedo and missile design have extended the effective range of these weapons. To meet the requirement for improved capability to

detect quieter and harder-to-find foreign submarines at greater distances, the Navy developed and uses SURTASS LFA sonar.

The continued proliferation of adversary submarines poses threats not only to national security but also to regional geopolitical stability and global commerce. More than 530 submarines are operated by approximately 40 countries worldwide. As a result, detection of and defense against threat submarines is a top Navy priority. ASW training and testing activities prepare and equip sailors for countering such threats.

As stated in the 2001 Final EIS/OEIS, 2007 Final SEIS, 2012 Final SEIS/SOEIS, 2015 Final SEIS/SOEIS, and 2017 Final SEIS/SOEIS, and reiterated in the 2019 Final SEIS/SOEIS, LFA sonar is an augmentation, or adjunct, to the passive (SURTASS) detection system and is used to detect and track underwater targets of interest. Passive acoustic systems alone cannot detect quiet, harder-to-find submarines during all conditions, particularly at long ranges. LFA sonar complements SURTASS passive activities by actively acquiring and tracking submarines when they are in quiet operating modes, measuring accurate target range, and re-acquiring lost contacts.

SURTASS LFA sonar is a long-range sonar system that operates in the low frequency (LF) band between 100 and 500 Hertz (Hz). The system consists of both active and passive acoustic components. The active component, LFA sonar, is a vertical source array of 18 LF sound-producing elements called projectors that are suspended by cable from underneath a Navy ocean surveillance vessel. Compact LFA (CLFA) consists of smaller, lighter-weight source elements than the LFA sonar system, but the transmission characteristics are comparable to the larger LFA sonar system and the potential impacts are similar to, but not greater than, the LFA sonar system. Therefore, LFA sonar is the term used to reference both sonar systems. The source level of an individual projector is approximately 215 decibels referenced to 1 micro Pascal (Pa) at 1 meter (dB re 1 μ Pa @ 1 m) root mean squared (rms) sound pressure level (SPL). Since the projectors work together in an array, the measured sound field generated by the LFA sonar array will never be higher than the source level (SL) of an individual projector. These projectors produce the active sonar signal or "ping". A "ping" or transmitted sonar signal can last between 6 and 100 seconds (sec) but the average is 60 seconds. The time between pings (i.e., no sonar transmissions) is typically 6 to 15 minutes. The maximum duty cycle (ratio of sound "on" time to total time) is 20 percent, although the typical duty cycle, based on historical LFA employment parameters (2003 to 2017), is nominally 7.5 to 10 percent.

The passive, or listening, component of the system is SURTASS, which detects returning echoes from submerged objects, such as threat submarines, through the use of hydrophones. SURTASS consists of a twin-line, "Y"-shaped horizontal line array, which is approximately 1,000 feet (ft) (305 m) long. The SURTASS LFA sonar vessels maintain a minimum speed of 5.6 kilometers per hour (kph) (3 knots) when towing the LFA sonar and SURTASS arrays.

Purpose and Need

The purpose of the Navy's Proposed Action as detailed in the Final SEIS/SOEIS is to perform training and testing activities that ensure the Navy remains proficient in the use of SURTASS LFA sonar in support of the Navy's mission. The need for the Proposed Action is to maintain a system and crews capable of detecting at long ranges the increasingly technologically advanced foreign submarine presence that threatens our national security.

The National Marine Fisheries Service (NMFS) is a cooperating agency on this SEIS/SOEIS, and has its own distinct purpose and need, as described fully in the Final SEIS/SOEIS. 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 LOAs, 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 will issue its own ROD documenting its decision of whether to issue authorizations for the Navy's Proposed Action.

Public Involvement

On June 5, 2015, the Navy published a Notice of Intent (NOI) in the *Federal Register* (80 FR 32097) to prepare an SEIS/SOEIS for the continued employment of SURTASS LFA sonar and to support consultations associated with expiring MMPA rule and LOAs and ESA Biological Opinion and Incidental Take Statement (ITS) in 2017. No comments were received in response to the NOI.

The Draft SEIS/SOEIS was made available to the public for review on September 7, 2018, when a Notice of Availability (NOA) was published in the *Federal Register* by the U.S. Environmental Protection Agency (EPA) (EIS No. 20180203) (83 FR 45442). The publication of the NOA in the *Federal Register* began the 45-day public comment period that ended on October 22, 2018. In conjunction with filing the Draft SEIS/SOEIS with the EPA, correspondence was sent notifying appropriate federal and state government agencies and organizations as well as other interested parties and public libraries of the availability of the Draft SEIS/SOEIS on the SURTASS LFA sonar website (<<http://surtass-lfa-eis.com/>>). The Navy received comment letters from two federal and two state government organizations and one comment letter from a group of environmental non-governmental organizations.

The NOA for the Final SEIS/SOEIS was published in the *Federal Register* on July 5, 2019 (EIS No. 20190151) (84 FR 32168) initiating the 30-day public wait period, which ended on August 5, 2019. Notices announcing the availability of the Final SEIS/SOEIS on the website for SURTASS LFA sonar were mailed to federal and state government agencies and organizations as well as other interested parties and public libraries. No comments were received during the 30-day public wait period.

Alternatives Considered

NEPA's implementing regulations provide guidance on the consideration of alternatives to a federal proposed action and require rigorous exploration and objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable and that meet the purpose and need of the proposed action require analysis.

The Navy developed screening factors to aid in assessing the feasibility of proposed alternatives and defining the range of reasonable alternatives. After consideration of the screening factors, the Navy identified two action alternatives that would meet the purpose and need for the proposed action, in addition to a no action alternative. Even though the No Action Alternative would not meet the purpose and need for training and testing activities using SURTASS LFA sonar, it was carried forward to provide a baseline for measuring the potential environmental consequences of the two action alternatives.

- **No Action Alternative:** Under the No Action Alternative, no training or testing activities using SURTASS LFA sonar systems would 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. Under the No Action Alternative, the Navy would not conduct the proposed training and testing activities in the Study Area. While the No Action Alternative is the environmentally preferable alternative (CEQ 1505.2(b)), it fails to meet the Navy's Purpose and Need for the Proposed Action.

- **Alternative 1:** Under this Alternative, 360 hours of LFA sonar transmissions are planned per year of training and testing activities, pooled across all SURTASS LFA sonar equipped vessels. This alternative represents a substantial reduction in the annual hours of LFA sonar transmissions for all vessels compared to the current approved sonar transmission hours. The Navy conducted an analysis to determine the minimum number of LFA sonar transmission hours per year required to meet its purpose and need. Based on that analysis, the Navy concluded the minimum number of LFA sonar transmission hours for training and testing activities outlined in the SEIS/SOEIS would be 360 hours pooled across SURTASS LFA sonar equipped vessels. The 360 hours per year pooled across all SURTASS LFA sonar equipped vessels for training and testing activities represent a distribution across five types of activities:
 - Contractor crew proficiency training (80 hours per year)
 - Military crew (MILCREW) proficiency training (64 hours per year)
 - Participation or support of naval exercises (72 hours per year)
 - Vessel and equipment maintenance (48 hours per year)
 - Acoustic research testing (96 hours per year)

- Each of these activities utilizes the SURTASS LFA sonar system within the operating profile described above, therefore, the number of hours estimated for each activity is merely for planning purposes.

- **Alternative 2 (Preferred Alternative):** The annual LFA sonar transmission hours for Alternative 2 are increased from that of Alternative 1 to 496 hours total per year across all SURTASS LFA sonar equipped vessels in the first four years, with the number of transmission hours increasing to 592 hours across all vessels during year 5 and continuing into the foreseeable future, regardless of the number of SURTASS LFA sonar equipped vessels. While Alternative 1 represented the minimum number of LFA sonar transmission hours required to meet the Navy's purpose and need, Alternative 2 includes the consideration of 1) increased proficiency training of Navy personnel; 2) increased participation of SURTASS LFA sonar equipped vessels in naval exercises; 3) the age of the T-AGOS vessels and the increasing need for maintenance system checks; and 4) additional support of acoustic research testing.

In year 5 and beyond, the Navy is considering and is in the beginning planning stages to add new vessels to its ocean surveillance fleet. As new vessels are developed, the onboard LFA and the high

frequency marine mammal monitoring (HF/M3) sonar systems will also need to be updated, modified, or even re-designed. As the new vessels and sonar system components are developed and constructed, at-sea testing will eventually be necessary. The Navy anticipates that new vessels or new or updated sonar system components will be ready for at-sea testing beginning in the fifth year of the time period covered by the 2019 SEIS/SOEIS. Thus, in addition to the activities described in Alternative 1, sonar hours associated with future testing of new or updated LFA sonar system components and new ocean surveillance vessels were added to the annual sonar transmission hours beginning in year 5. Though higher than the hours proposed in Alternative 1, this action alternative still represents a decrease from the currently authorized transmission hours of 1,020 per year.

- The SURTASS LFA sonar transmission hours under Action Alternative 2 (496 hours per year pooled across all SURTASS LFA sonar equipped vessels in years 1 to 4 and 592 hours across all vessels in year 5 and beyond) represent a distribution across the following six training and testing activities:
 - Contractor crew proficiency training (80 hours per year)
 - Military crew (MILCREW) proficiency training (96 hours per year)
 - Participation or support of naval exercises (96 hours per year)
 - Vessel and equipment maintenance (64 hours per year)
 - Acoustic research testing (160 hours per year)
 - New SURTASS LFA sonar system testing (96 hours per year)
- Each of these activities utilizes the SURTASS LFA sonar system within the operating profile described above (i.e., frequency range, duty cycle, ping duration, etc.), therefore, the number of hours estimated for each activity is merely for planning purposes.
- The Navy has selected Alternative 2, as it meets the purpose and need of the proposed action; fulfills the Navy's stated ASW priority for long-range underwater threat detection by providing additional training and testing capacity for vessels to participate in at-sea exercises to conduct acoustic research testing, and to conduct new system testing; and preserves and protects the physical and biological marine environment by significantly reducing the amount of LFA sonar transmission hours from the currently approved 1,020 annual hours.

Summary of Environmental Impacts

CEQ regulations, NEPA, and Navy instructions for implementing NEPA and Executive Order 12114 specify that a SEIS/SOEIS should address those resource areas potentially subject to impacts. In addition, the level of analysis should be commensurate with the anticipated level of environmental impact.

The following resource areas were addressed in the June 2019 Final SEIS/SOEIS: air quality, marine environment, biological, and economic resources. Some resource areas will not be affected by the Navy's training and testing activities using SURTASS LFA sonar, so the following resource areas were not assessed in the June 2019 Final SEIS/SOEIS: water resources (seafloor sediments), airspace, geological,

cultural, land use, infrastructure, transportation, public health and safety, hazardous materials and wastes, sociologic, and environmental justice.

Air Quality Resources: Air quality could be affected by SURTASS LFA sonar training and testing activities due to the air emissions released from the SURTASS LFA sonar vessels, which all use diesel-fueled engines that generate air pollutants and greenhouse gases as a result of diesel fuel combustion. However, the air emissions generated by the SURTASS LFA sonar vessels are subject to the provisions of the Clean Air Act only when the ships operate in U.S. state or territory waters (i.e., Hawaii, Guam, or CNMI). Since the SURTASS LFA sonar vessels do not go into port in Hawaii, Guam, nor the CNMI due to Title 10 requirements, only the air emissions generated as a result of SURTASS LFA sonar training and testing activities that occur outside of U.S. state and territorial waters (i.e., beyond 3 nmi [5.6 km] from shore) and in the global commons were assessed. The Navy estimated that 95 percent of the vessel operations will take place in the global commons with 5 percent in the territorial waters of Hawaii, Guam, and CNMI. Although the action alternatives relate principally to the number of LFA sonar transmission hours per year, the air quality analysis focused on the annual movements of the LFA sonar vessels as they conducted their sonar activities per Alternatives 1 and 2. The analysis of air emissions generated by SURTASS LFA sonar vessels during Alternative 1 training and testing activities was based on 900 movement hours for each of the four SURTASS LFA sonar vessels annually, while under Alternative 2, 1,240 and 1,480 movement hours were estimated for Years 1 to 4 and Years 5 to 7, respectively.

The maximum estimated air emissions of any of the six criteria air pollutants generated by the existing four SURTASS LFA sonar vessels under Alternatives 1 or 2 training and testing activities in both the global commons and U.S. territorial waters was nitrogen oxides. Nitrogen oxide concentrations were more than an order of magnitude greater than all other air pollutant concentrations estimated under both action alternatives. Estimates of the greenhouse gas emissions under Alternative 1 and Alternative 2 were estimated relative to the greenhouse gas, carbon dioxide (CO₂), and are expressed as CO₂ equivalency. The total estimated CO₂ equivalencies estimated for Alternatives 1 and 2 ranged from 5,329 to 8,764 metric tons per year CO₂ equivalency. To put these emission values into a more understandable perspective, the annual average CO₂ equivalency emissions from international shipping for the period 2007 to 2012 was 846,000,000 metric tons.

Based on the small quantities of expected air emissions resulting from activities under Alternatives 1 or 2, the meteorology of the study area, and the frequency and isolation of the proposed training and testing activities, the incremental contribution of air emissions resulting from the execution of the Navy's training and testing activities will not result in measurable additional impacts on air quality in the study area or beyond. Thus, the execution of the Navy's Proposed Action will not result in significant impacts to Air Quality.

Marine Environment Resources: The only potential impact on marine environmental resources associated with training and testing activities using SURTASS LFA sonar is the addition of underwater sound during transmission of both the SURTASS LFA sonar and the associated high frequency/marine mammal monitoring (HF/M3) sonar system. The parameters at which the HF/M3 sonar operates and the high transmission loss of its HF signals reduce the possibility for HF/M3 sonar to contribute to the ambient noise environment or affect marine animals.

When deployed and transmitting, sound generated by SURTASS LFA sonar will temporarily add to the ambient noise level in the frequency band (100 to 500 Hz) in which SURTASS LFA sonar operates, but the impact on the overall noise level in the ocean will be minimal. SURTASS LFA sonar produces a coherent LF signal with a duty cycle of less than 20 percent and an average pulse length of 60 seconds (sec). In most oceans, the LF (10 to 500 Hz) portion of the ambient noise level is dominated by anthropogenic noise sources, particularly shipping and seismic airguns. The total energy output of individual sources was considered in calculating an annual noise energy budget. The Navy considered the percent increase in LFA sonar transmissions could add to the total anthropogenic acoustic energy budget of the oceans when considering existing inputs from commercial supertankers, seismic airguns, and mid-frequency active sonar. The percentage of the total anthropogenic acoustic energy budget added by LFA sonar transmissions is estimated to be 0.21 percent under Alternative 1, and 0.29 and 0.34 percent, respectively for years 1 to 4 and year 5 and beyond, under Alternative 2. Implementation of either action alternative will not result in significant impacts to resources of the marine environment.

Biological Resources: Biological resources that may be impacted by the proposed action are marine habitats and marine species, including marine and anadromous fishes, sea turtles, and marine mammals. The marine species that were evaluated in the June 2019 Final SEIS/SOEIS must: 1) occur within the same ocean region as SURTASS LFA sonar use, and 2) possess some sensory mechanism that allows them to perceive low-frequency (LF) sound, and/or 3) possess tissue with sufficient acoustic impedance mismatch to be affected by LF sounds. Fishes are able to detect sound, although there is remarkable variation in hearing capabilities amongst species. While it is not easy to generalize about hearing capabilities due to this diversity, most fishes known to detect sound can at least hear frequencies from below 50 Hz up to 800 Hz, while a large subset of fishes can detect sounds to approximately 4,000 Hz and another, very small subset can detect sounds up to about 110 kilohertz. Thus, many species of fishes can potentially hear SURTASS LFA sonar transmissions and were considered for potential impacts. It is also likely that all potentially occurring species of sea turtles hear LF sound, at least as adults, and so were considered for potential impacts. Marine mammals are highly adapted marine animals, able to detect underwater sound. Marine mammal species that may occur in areas in which SURTASS LFA sonar might operate were included in the impact analysis. Three types of marine habitat areas; critical habitat, essential fish habitat, and marine protected areas, which are all protected under U.S. legislation or Executive Orders, were also considered in the impact analysis.

Of the potential biological stressors associated with SURTASS LFA sonar training and testing activities, the only stressor that is likely to affect marine species or marine critical habitat is the transmission of LFA sonar signals. The potential for acoustic impacts to marine animals is assessed in the context of how impacts on individual animals affect the fitness or survivorship of the population or stock comprised by those individuals. Individual marine animals may experience behavioral responses that are not likely to result in fitness consequences for individuals or adverse population level impacts that exceed the least practicable adverse impact standard. Potential impacts on marine animals from exposure to SURTASS LFA sonar transmissions include:

- Auditory impacts: temporary threshold shift (TTS), in which an animal's hearing sensitivity over the frequency band of exposure is impaired for a period of time (minutes to days);
- Behavioral change: for military readiness activities such as the use of SURTASS LFA sonar. Level B incidental "harassment" under the MMPA is defined as any act that disturbs or is likely to disturb a

marine mammal by causing disruption of natural behavioral patterns to a point where the patterns are abandoned or significantly altered;

- Masking: when sounds in the environment interfere with an animal's ability to hear sounds of interest; and
- Physiological stress: a response in a physiological mediator (e.g., glucocorticoids, cytokines, or thyroid hormones).

Marine and Anadromous Fishes: Given the studies of sound exposure to fishes, the potential for impacts is restricted to within close proximity of the SURTASS LFA sonar array while it is transmitting sound. Based on the best available data on the potential for LF military sonar to affect fishes, the probability of any impact is low to moderate and will require fishes to be within close proximity (<0.54 nautical miles [nmi] [<1 kilometer (km)]) of the SURTASS LFA sonar while it is transmitting sound. The potential is minimal to negligible for an individual fish to experience non-auditory impacts, auditory impacts, or a stress response. A low potential for minor, temporary behavioral responses or masking of an individual fish may occur when SURTASS LFA sonar is transmitting sound, but there is no potential for fitness level consequences. Since a minimal to negligible portion of any fish stock would be in sufficient proximity during SURTASS LFA sonar transmissions to experience such impacts, the potential is minimal for SURTASS LFA sonar to affect fish stocks.

Sea Turtles: The paucity of data on underwater hearing sensitivities of sea turtles, whether sea turtles use underwater sound, or the responses of sea turtles to sound exposures make a quantitative analysis of the potential impacts from SURTASS LFA sonar signals difficult to conduct, but available information suggests that there is a low to moderate potential for impacts to occur. The Navy, in coordination with NMFS, developed an auditory weighting function and an exposure function to estimate onset TTS and permanent threshold shift (PTS) for sea turtles. Given the frequency at which SURTASS LFA sonar transmits sound, the most protective threshold for onset TTS would be 200 dB re 1 $\mu\text{Pa}^2\text{-sec}$ and onset PTS would be 220 dB re 1 $\mu\text{Pa}^2\text{-sec}$, with weighting by 0 dB. Given the 60-sec duration of the typical SURTASS LFA transmission, the sound pressure level (SPL) thresholds for onset TTS and onset PTS are 182 dB re 1 μPa and 202 dB re 1 μPa , respectively. Based on simple spherical spreading (i.e., transmission loss based on $20 \times \log_{10}[\text{range}\{\text{m}\}]$), sea turtles would need to remain within 143 ft (44 m) or 14 ft (4 m), respectively, for the duration of an entire 60-sec LFA sonar transmission to experience onset of TTS or PTS. This would require them to swim at approximately 3 knots (5.6 kilometers per hour) for the entirety of a 60-sec sonar signal, which is faster than their average swim speeds, without being detected by the HF/M3 active sonar mitigation measure. The best estimate of a threshold for behavioral response in sea turtles is 175 dB re 1 μPa SPL (rms); this received level could occur at a distance of approximately 1 nmi (2 km) from the transmitting SURTASS LFA sonar array. Based on these thresholds for sea turtles, the probability of TTS occurring to an exposed sea turtle is low while the probability of PTS resulting from LFA sonar exposure is extremely low. No evidence exists that sea turtles use sound to communicate or capture prey, so if any hearing loss were to occur, the potential for impact on important biological functions is likely limited. It is possible for sea turtles to be exposed to received levels (RLs) from SURTASS LFA sonar transmissions that could result in some minor or temporary behavioral responses (e.g., increased swim speed, diving response, startle behavior); masking could also occur but it is not possible to determine if physiological stress may occur, based on the limited data available. Given that any behavioral responses or masking are expected to be minor, temporary

exposure to LFA sonar transmissions will not result in a measurable threat to individual sea turtles or in fitness or population level consequences to any of the potentially occurring sea turtle species.

Given the lack of data on the distribution and abundance of sea turtles in the open ocean, it is not feasible to estimate the percentage of a sea turtle population that could be located in a SURTASS LFA sonar model area. However, given that the majority of sea turtles encountered in oceanic areas in which SURTASS LFA sonar is proposed to operate will likely be transiting through the area and not lingering, the possibility of significant behavior changes, especially from displacement, are unlikely. No potential fitness level consequences are anticipated. The geographical restrictions imposed on SURTASS LFA sonar use will greatly limit the potential for exposure to occur in nearshore areas such as nesting beaches where sea turtles would be aggregated, potentially in large numbers. While it is possible that a sea turtle could hear LFA sonar transmissions if the animal were in close proximity to the transmitting SURTASS LFA sonar source, when this is combined with the low probability of sea turtles potentially being near the LFA sound source while it is transmitting, the potential for impacts from exposure to SURTASS LFA sonar is considered negligible.

Marine Mammals: When exposed to SURTASS LFA sonar, marine mammals have the potential to experience auditory impacts (i.e., PTS and TTS), behavioral change, acoustic masking, or physiological stress. However, SURTASS LFA sonar transmissions are not expected to cause non-auditory impacts, such as gas bubble formation or strandings, particularly in beaked whales. One potential impact from exposure to high-intensity sound in marine mammals is auditory impacts, specifically TTS. Several studies by a number of investigators have been conducted, focusing on the relationships among the amount of TTS and the level, duration, and frequency of the stimulus. None of these studies on marine mammals have resulted in measured data for baleen whales (mysticetes), which are believed to be most sensitive to SURTASS LFA sonar. In preceding SURTASS LFA sonar NEPA documentation, the potential for PTS and TTS was evaluated as MMPA Level A harassment for all marine mammals at received levels greater than or equal to 180 dB re 1 μ Pa (rms) (SPL) even though NMFS stated that TTS is not a physical injury in prior MMPA rulemakings for SURTASS LFA sonar. Since the 2012 SEIS/SOEIS was released, NMFS published acoustic guidance that incorporates new data and summarizes the best available information. The NMFS acoustic guidance defines hearing groups, develops auditory weighting functions, and identifies acoustic threshold levels at which PTS and TTS occur. The Navy followed the NMFS guidance for estimating the potential for PTS and TTS for SURTASS LFA sonar in the 2019 SEIS/SOEIS.

The primary potential impact on marine mammals from exposure to SURTASS LFA sonar transmissions is change in a biologically significant behavior. The Low Frequency Sound Scientific Research Program (LFS SRP) in 1997 to 1998 provided important results on, and insights into, the types of responses by baleen whales (mysticetes) to SURTASS LFA sonar signals and how those responses scaled relative to received level and context. These experiments still represent the most relevant predictions of the potential for behavioral changes from exposure to SURTASS LFA sonar. The results of the LFS SRP confirmed that some portion of the total number of baleen whales exposed to SURTASS LFA sonar responded behaviorally by changing their vocal activity, moving away from the source vessel, or both; the responses, however, were short-lived and animals returned to their normal activities within tens of minutes after initial exposure. These LFS SRP results were used to derive the SURTASS LFA sonar risk continuum function, from which the potential for biologically significant behavioral response was calculated. The SRP-based data on baleen whale responses to LFA sonar are realistic contextually and

remain the best available data for the purpose of predicting potential impacts on LF-sensitive marine mammals from exposure to SURTASS LFA sonar.

The potential for masking and physiological stress to marine mammals was assessed using the best available data. The potential for masking from SURTASS LFA sonar signals is limited because no single frequency is transmitted for longer than 10 seconds, and signals that consist of many frequencies do not span more than 30 Hz (i.e., they have limited bandwidths). Furthermore, when SURTASS LFA sonar is transmitting, the source is active only 7.5 to 10 percent of the time, with a maximum 20 percent duty cycle, which means that for 80 to 92.5 percent of the time, no potential for masking is possible. More research is needed to understand the potential for physiological stress in marine mammals during noise exposure scenarios. The existing data suggest a variable response that depends on the characteristics of the received signal and prior experience with the received signal.

A quantitative impact analysis for marine mammals was conducted to assess their potential for PTS, TTS, and behavioral change. Fifteen representative modeling areas in the western and central North Pacific and eastern Indian oceans that represent the acoustic regimes and marine mammal species that may be encountered during LFA sonar activities were analyzed. To predict acoustic exposure, the SURTASS LFA sonar ship was simulated traveling in a triangular pattern at a speed of 4 knots (kt) (7.4 km per hour [kph]) for a 24-hr period, with a signal duration of 60 sec and a duty cycle of 10 percent (i.e., the source transmitted for 60 sec every 10 min for 24 hr). The acoustic field around the LFA sonar source was predicted with the Navy standard parabolic equation propagation model using the defined LFA sonar operating parameters.

Each marine mammal species potentially occurring in a model area in each of the four seasons was simulated by creating animats (model simulated animals) programmed with behavioral values describing their dive and movement patterns, including dive depth, dive duration, surfacing time, swimming speed, and direction change. The Acoustic Integration Model[®] (AIM) integrated the acoustic field created from the underwater transmissions of SURTASS LFA sonar with the three-dimensional movement of marine mammals to estimate their potential sonar exposure at each 30-sec timestep within the 24-hour (hr) modeling period. The sound energy received by each individual animat over the 24-hr modeled period was calculated as sound exposure level (SEL), and the potential for PTS (including the application of mitigation) and TTS was considered using the NMFS (2018) guidance. The sound energy received by each individual animat over the 24-hr modeled period was also calculated as dB single ping equivalent (SPE) and used as input to the LFA risk continuum function to assess the potential risk of a behavioral reaction.

The results of these 24-hr sonar use simulations were scaled to calculate the potential annual impacts per activity, which were then summed across the stocks for a total potential impact for all activities. The scaling included determining the number of LFA sonar transmission hours that might occur in each model area, for each activity, and multiplying by the maximum 24-hr impact level for each stock that might occur in that model area. The end result was the number of individuals and the percentage of the stock or population that may experience TTS or behavioral changes from SURTASS LFA sonar exposures on an annual basis. When mitigation is applied in the modeling-analysis environment, estimations of PTS effects were 0 for all species. Therefore, no PTS (MMPA Level A incidental harassment) is expected with the implementation of mitigation measures. As the result, no MMPA Level A incidental harassment takes were requested nor authorized by NMFS.

Thus, the anticipated impact associated with use of SURTASS LFA sonar during training and testing activities is MMPA Level B harassment of marine mammals. For most stocks of the potentially occurring marine mammal species, the maximum annual percent of the stock or population that may experience Level B incidental harassment is less than 15 percent. This means that across an entire year, less than 15 percent of a stock or population may react to SURTASS LFA sonar within a single 24-hr period by changing behavior, moving a small distance, or experiencing temporary impacts to their hearing sensitivity. Of the 139 stocks within the SURTASS LFA sonar study area, eight stocks under Alternative 1 and eleven stocks in years 1 to 4 and fifteen stocks in years 5 and beyond under Alternative 2 have the potential for MMPA Level B incidental harassment greater than 15 percent. The highest percentage of a population that may experience Level B harassment is the Western North Pacific (WNP) stock and distinct population segment (DPS) of humpback whales at 157.68 percent under Alternative 1 and 233.84 percent and 321.49 percent in years 1 to 4 and years 5 and beyond, respectively, under Alternative 2. Thus, each individual in the WNP population of humpbacks may react behaviorally or experience TTS one to three times during one year. The percentage of the WNP stock and DPS of humpback whales that may experience Level B harassment is influenced by the size of the population, which is small (1,328 individuals). The next highest stock is the WNP stock of killer whales, with 53.41 percent potentially experiencing Level B harassment under Alternative 1 and 85.37 percent and 117.31 percent in years 1 to 4 and years 5 and beyond, respectively, under Alternative 2.

Marine Habitats: The potential for impacts to marine habitats, including critical habitat, essential fish habitat, marine protected areas, and national marine sanctuaries, was considered within the context of the addition of sound energy to the marine environment while SURTASS LFA sonar is transmitting. SURTASS LFA sonar transmissions represent a vanishingly small percentage of the overall annual underwater acoustic energy budget, and the proposed LFA sonar transmissions will only intermittently add sound to the ambient noise environment and only to a limited ocean area. As such, SURTASS LFA sonar activities will not significantly affect the ambient noise environment of marine habitats.

Mitigation Measures

The objective of mitigation for SURTASS LFA sonar training and testing activities is the reduction, minimization, or avoidance of potential effects to marine animals and marine habitat. This objective is met by ensuring that the training and testing activities using SURTASS LFA sonar employ the following mitigation measures:

- **Employment Parameters:** The sound signals transmitted by the SURTASS LFA sonar arrays will be maintained between 100 and 500 Hz with a source level for each of the 18 projectors of no more than 215 dB re 1 μ Pa @ 1 m (rms) and a maximum duty cycle of 20 percent. Per the Preferred Alternative, the Navy will transmit 496 hours per year across all SURTASS LFA sonar equipped vessels in the first four years of the effective period, with an increase in transmission hours to 592 hours per year in year five, continuing into the foreseeable future, regardless of the number of vessels employing SURTASS LFA sonar.
- **Mitigation/Buffer Zone:** A fixed mitigation/buffer zone around the transmitting LFA sonar array of 2,000 yards (yd) (0.99 nmi) (1,829 m/1.83 km) will be established in which monitoring for marine mammals and sea turtles will be conducted whenever LFA sonar is transmitting. This mitigation/buffer zone represents a departure from previous mitigation for SURTASS LFA sonar that used the 180 dB re 1 μ Pa isopleth as the extent of the mitigation zone, to which NMFS added a 0.54

nmi (1 km) buffer. The 2,000 yd (1.83 km) single fixed mitigation/buffer zone will cover virtually the same areal extent of the previous combined mitigation/buffer zone. Establishing a single, fixed, combined mitigation/buffer zone for SURTASS LFA sonar training and testing activities standardizes and thus simplifies implementation of this mitigation monitoring requirement, uses standard Navy metrics (i.e., yards not meters), while continuing to ensure protection to marine mammals in all acoustic environments. With the combined mitigation/buffer zone of 2,000 yd (1.83 km), there is no potential for marine animals to be exposed to received levels greater than 180 dB rms.

- **Ramp-up of the HF/M3 Sonar:** Prior to full-power transmissions, the power level of the HF/M3 sonar system will be ramped up over a period of no less than 5 minutes from a source level of 180 dB re 1 μ Pa @ 1 m (rms) (SPL) in 10 dB increments until full power (if required) is attained. This ramp up procedure will commence at least 30 minutes prior to any SURTASS LFA sonar transmissions, prior to any sonar calibrations or testing that are not part of the regularly planned transmissions, and any time after the HF/M3 sonar has been powered down for more than two minutes. The HF/M3 active sonar system's sound pressure level may not increase once a marine mammal is detected. The ramp up may resume once marine mammals are no longer detected.
- **LFA Sonar Suspension/Delay:** During training and testing activities when SURTASS LFA sonar is transmitting, if a marine mammal or sea turtle entering or already located within the LFA mitigation/buffer zone is detected, LFA sonar transmissions will be delayed or suspended. During the delay/suspension, active acoustic, visual, and passive acoustic monitoring for marine mammals and sea turtles will continue. LFA sonar transmissions will commence/resume no sooner than 15 minutes after all marine mammals/sea turtles are no longer detected within the SURTASS LFA sonar mitigation/buffer zone and no further detections of marine animals by visual, passive acoustic, and active acoustic monitoring have occurred within the mitigation/buffer zone.
- **Geographic Sound Field Constraints:** The Navy intends to apply the following geographic restrictions to training and testing activities using SURTASS LFA sonar:
 - SURTASS LFA sonar-generated sound field will be below received levels (RLs) of 180 dB re 1 μ Pa (rms) (SPL) within 12 nmi (22 km) of any emergent land (including islands);
 - SURTASS LFA sonar-generated sound field will be below RLs of 180 dB re 1 μ Pa (rms) (SPL) 0.54 nmi (1 km) from the outer boundary of offshore biologically important areas (OBIA) during the period when biologically important behavior occurs;
 - No more than 25 percent of the authorized amount of SURTASS LFA sonar will be used for training and testing activities within 10 nmi (18.5 km) of any single OBIA during any year unless the following condition is met: should national security present a requirement to conduct more than 25 percent of the authorized hours of SURTASS LFA sonar within 10 nmi (18.5 km) of any single OBIA during any year, naval units will obtain permission from the appropriate designated Command authority prior to commencement of the activity. The Navy will provide NMFS with notification as soon as is practicable and include the information (e.g., sonar hours) in its annual activity reports submitted to NMFS;
 - No training and testing activities using the SURTASS LFA sonar system will occur within the territorial seas of foreign nations;
- SURTASS LFA sonar-generated sound field will be equal to RLs of 145 dB re 1 μ Pa (rms) (SPL) at known recreational or commercial dive sites unless the following conditions are met: should national security present a requirement to transmit SURTASS LFA sonar during training or testing activities such that exposure at known recreational or commercial dive may exceed RLs =145 dB re 1 μ Pa (rms) (SPL), naval units will obtain permission from the appropriate designated

Command authority prior to commencement of the activity. Prior to conducting the training or testing activity, the designated Command authority shall conduct a risk assessment, taking into account the potential for exposure of SURTASS LFA sonar to divers; and

- SURTASS LFA sonar will not be used in the waters over Penguin Bank, Hawaii, to a water depth of 600 ft (183 m) and will be operated such that the sound fields will not exceed RLs of 145 dB re 1 μ Pa (rms) (SPL) in Hawaii State waters.

OBIAs: Given the unique transmission characteristics of SURTASS LFA sonar and recognizing that certain areas of biological importance lie outside of the coastal standoff range (i.e., 12 nmi [22 km] from any emergent land) for SURTASS LFA sonar, Navy and NMFS developed the concept of marine mammal OBIA's for SURTASS LFA sonar. OBIA's for SURTASS LFA sonar are not intended to apply to any other Navy activities and were established solely as a mitigation measure to reduce incidental takings of marine mammals associated with the use of SURTASS LFA sonar. OBIA's only pertain to marine mammals since the potential for impacts to other protected marine species (such as sea turtles or marine fishes) from exposure to SURTASS LFA sonar transmissions would be low to moderate, necessitating no additional mitigation measures for these taxa beyond those already established for SURTASS LFA sonar. Associated with each OBIA is an effective period during which the marine mammal(s) for which the OBIA was designated carry out biologically significant activities such as breeding, calving, foraging, or migration.

As part of the analysis conducted for the June 2019 Final SEIS/SOEIS, the Navy and NMFS conducted a comprehensive assessment of marine areas for consideration as OBIA's for SURTASS LFA sonar pursuant to the OBIA selection criteria, including review of all available scientific literature, data, and information on the areas that are located in the study area for SURTASS LFA sonar (i.e., the central and western North Pacific and eastern Indian oceans). If an area met the geographic, biological, and hearing OBIA selection criteria, the marine area is considered a candidate OBIA on which the Navy conducts a practicability assessment, including consideration of personnel safety, practicality of implementation, and impacts on the effectiveness of SURTASS LFA active sonar testing and training activities. Navy and NMFS's comprehensive assessment of marine areas as potential OBIA's included review of the OBIA Watchlist for areas located within the study area as well as a thorough review of the Important Marine Mammal Areas (IMMAs), Ecologically or Biologically Significant Marine Areas (EBSAs), IUCN Green List of Protected and Conserved Areas, as well as marine areas recommended in public comments on the Draft SEIS/SOEIS and on the MMPA Proposed Rule (84 FR 7186) for SURTASS LFA sonar. In public comments received by the Navy and NMFS, an additional 93 marine areas were recommended for consideration as OBIA's. As a result of the comprehensive OBIA assessment process, the Navy and NMFS have designated 14 marine mammal OBIA's for SURTASS LFA sonar, which include expansions of all four OBIA's that had already been designated in the study area. The Navy Fleet assessed the practicability of implementing these 14 OBIA's and has concurred that neither the national security mission nor personnel safety would be significantly impacted by implementing the OBIA's.

The Navy's implementation of this extensive suite of mitigation measures demonstrates that all practicable means of avoiding or minimizing harm to the marine environment have been adopted (CEQ 1505.2(c)). Any measures not adopted are discussed and the reasoning outlined in Chapter 5.5 (Other Mitigation and Monitoring Measures Considered) and Appendix C (Marine Mammal Offshore Biologically Important Areas) of the FSEIS/SOEIS.

Monitoring

The Navy will continue to cooperate with NMFS and other federal agencies to monitor impacts on marine mammals and to designate qualified on-site personnel to conduct mitigation monitoring and reporting activities in support of SURTASS LFA sonar. The Navy will also continue to conduct the following monitoring measures whenever SURTASS LFA sonar is transmitting during training and testing activities:

- Visual monitoring for marine mammals and sea turtles from the SURTASS LFA sonar vessels during daylight hours by personnel trained to detect and identify sea turtles and marine mammals at sea;
- Passive acoustic monitoring using the passive SURTASS towed array to listen for sounds generated by marine mammals as an indicator of their presence; and
- Active acoustic monitoring using the HF/M3 sonar, which is a Navy-developed, enhanced HF commercial sonar, to detect, locate, and track marine mammals and, to some extent, sea turtles, that may pass close enough to the SURTASS LFA sonar's transmit array to enter the LFA mitigation/buffer zone.

These combined monitoring measures provide a nearly 100 percent effective means of detecting any marine mammals or sea turtles that potentially would occur in the mitigation/buffer zone around the transmitting LFA sonar array.

Reporting

The Navy will continue to report annually on SURTASS LFA sonar activities, including the locations in which LFA sonar transmissions occurred, the duration of LFA sonar transmissions, and the results of the mitigation monitoring using visual, passive acoustics, and active acoustic monitoring and shutdown/delays of LFA sonar transmissions. The Navy will also continue to track and report the cumulative number of SURTASS LFA sonar transmission hours associated with training and testing activities throughout each annual period to ensure that the maximum approved level of sonar transmission hours is not exceeded. Each annual report will build on the previous annual report to provide a cumulative overview of the level of training and testing transmission hours per year. At the end of the seven-year effective period of the MMPA LOA, the final annual report will be a cumulative, comprehensive report of SURTASS LFA sonar activities conducted during the MMPA regulation period.

During and after training and testing activities using LFA sonar, the crews of the SURTASS LFA sonar vessels will systematically observe the sea surface for the presence of injured or disabled marine mammals or sea turtles. If they occur, the Navy will report incidents involving marine mammal vessel strikes, observed injuries, or mortalities to marine mammals during training or testing activities to NMFS. The Navy will also implement a Notification and Reporting Plan for dead, live stranded, or marine mammals struck by a vessel. The Navy will also routinely monitor the principal marine mammal stranding networks and other media to correlate analysis of any whale mass strandings that could potentially be associated with SURTASS LFA sonar activities. The Navy will report to NMFS any marine mammal strandings that were correlated in time and space with the training or testing activities of any SURTASS LFA sonar vessels.

Agency Consultation and Coordination

NOAA's NMFS has a statutory responsibility to protect, conserve, and recover marine mammals and threatened and endangered species. This responsibility includes the authority to authorize incidental

take of marine mammals under the MMPA, engage in consultations with other federal agencies, which may allow for takes of threatened and endangered listed species under the ESA, and enforce unauthorized taking of protected marine species. As a result of this expertise and regulatory authority and because the scope of the Navy's proposed actions and the alternatives involve activities with the potential to impact protected marine resources, NMFS Office of Protected Resources served as a cooperating agency per 40 CFR 1501.6 during the development of the 2017 and 2019 SEIS/SOEISs for SURTASS LFA sonar.

Marine Mammal Protection Act (MMPA): In July 2018, pursuant to requirements of the MMPA, the Navy initiated consultation for incidental taking of marine mammals that may be associated with training and testing activities using SURTASS LFA sonar in the western and central North Pacific and eastern Indian oceans. The Navy requested rulemaking and a LOA under the MMPA for the 7-year period from 2019 through 2026, beginning in August 2019.

NMFS has signed its Final Rule, which is scheduled to publish in the Federal Register no later than August 12, 2019. NMFS is expected to issue an LOA after that publication. NMFS has concluded that SURTASS LFA sonar activities will have a negligible impact on marine mammal species and stocks. The LOA will authorize the taking of marine mammals by Level B harassment incidental to SURTASS LFA sonar training and testing activities in the western and central North Pacific and eastern Indian oceans pursuant to Section 101(a)(5)(A) of the MMPA; no Level A takes were requested by the Navy nor will be authorized by NMFS. NMFS also consulted internally under the ESA on the issuance of the MMPA regulations and LOA under section 101(a)(5)(A) of the MMPA for SURTASS LFA sonar training and testing activities.

Endangered Species Act (ESA): In December 2018, Navy submitted a Biological Evaluation of SURTASS LFA sonar training and testing activities in the central and western North Pacific and eastern Indian Ocean from 2019 to 2026. In April 2019, the Navy initiated Section 7 consultation with NMFS under the ESA pursuant to potential effects to marine species listed as threatened or endangered under the ESA or their designated critical habitat. Twenty-five marine species listed as endangered or threatened have confirmed or possible occurrence in the study area for SURTASS LFA sonar. These species include 11 species of marine mammals, five sea turtles, and nine marine or anadromous fishes as well as two areas of ESA-designated critical habitat.

NMFS issued its Biological and Conference Opinion and ITS on July 30, 2019. NMFS concluded that adverse effects to ESA-listed species are not likely to jeopardize the continued existence of threatened or endangered species and are not likely to destroy or adversely modify designated critical habitat. The ITS for SURTASS LFA sonar use has been coordinated by NMFS with the issuance of an LOA for the incidental harassment of marine mammals pursuant to Section 101(a)(5)(A) of the MMPA.

National Marine Sanctuaries Act: The Navy has determined that its planned use of SURTASS LFA sonar pursuant to the training and testing activities described in the 2019 FSEIS/SOEIS does not require consultation under Section 304(d) of the National Marine Sanctuaries Act for the one National Marine Sanctuary, the Hawaiian Islands Humpback Whale National Marine Sanctuary, located within the Navy's study area for SURTASS LFA sonar.

Coastal Zone Management Act: Under the Coastal Zone Management Program Regulations and CFR 930, Federal Consistency with Approved Coastal Management Programs, the Navy has determined that

the employment of the SURTASS LFA sonar would be consistent to the maximum extent practicable with the relevant coastal zone management policies of one state (Hawaii) and two territories (Guam and the Commonwealth of the Northern Mariana Islands (CNMI)) that are located within the current study area for SURTASS LFA sonar. Per agreement with the State of Hawaii, the Navy has agreed to not operate in waters over Penguin Bank, HI to a water depth of 600 feet (183 meters) and operate such that the generated sound fields would not exceed received levels of 145 dB re 1 μ Pa (rms) (SPL) in Hawaii State waters.

Magnuson-Stevens Fisheries Conservation and Management Act: Consultation/coordination under the Magnuson-Stevens Fisheries Conservation and Management Act was conducted as part of the analyses for the Navy's 2001 FOEIS/EIS for SURTASS LFA sonar. The Navy concluded that implementation of its Proposed Action would result in no adverse effects to designated essential fish habitat. Nothing in the current regulatory process changes that conclusion; therefore, additional consultation was not required.

National Historic Preservation Act: Pursuant to the National Historic Preservation Act, SURTASS LFA sonar training and testing activities are considered an "undertaking". However, the nature and level of sonar used are such that there would be no potential to cause effects to historic properties and, therefore, there is no requirement for consultation under Section 106 or Section 402 of the National Historic Preservation Act.

Clean Air Act: Only one U.S. state (Hawaii) and two territories (Guam and CNMI) located within the study area for SURTASS LFA sonar would potentially be subject to the provisions of the Clean Air Act's General Conformity Rule. However, due to Title 10 requirements for the Navy's SURTASS LFA sonar vessels, SURTASS LFA sonar vessels will not go into port in Hawaii, Guam, or CNMI. Accordingly, the Navy determined that all air emissions generated as a result of the training and testing activities of SURTASS LFA sonar would occur outside of U.S. state and territory waters (i.e., beyond 3 nmi [5.6 km] from shore). Thus, the only activities that were analyzed pursuant to the Clean Air Act are training and testing activities of SURTASS LFA sonar vessels conducted in the waters of Hawaii, Guam, and the CNMI from 3 nmi to 12 nmi from land. Since these areas are not subject to the General Conformity rule of the Clean Air Act, the Navy was not required to perform a General Conformity evaluation.

Consultation and Coordination with Indian Tribal Governments and Native Hawaiian Organizations: The proposed training and testing activities do not entail use of SURTASS LFA sonar in U.S. waters except for potentially those of Hawaii, Guam, and the CNMI, where no federally recognized Indian or Native Alaskan tribes or organizations are located. Therefore, no consultation or coordination under EO 13175 is required. Similarly, the Proposed Action would not adversely affect resources of traditional religious or cultural importance to Native Hawaiian organizations; therefore, consultation with those organizations is not required.

Responses to Comments Received on the Final SEIS/SOEIS:

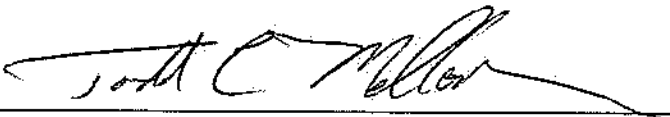
As indicated in the public involvement summary, the Navy received comments during the public review period for the Draft SEIS/SOEIS. As appropriate, comments received in response to the publication of the Draft SEIS/SOEIS were considered and used to inform the analysis in the Final SEIS/SOEIS. A summary of the comments received and Navy's responses to those comments are included in Chapter 7 of the Final SEIS/SOEIS. The Navy received no comments from the public during the 30-day wait period following the issuance of the NOA of the Final SEIS/SOEIS.

CONCLUSION: Based upon the comparative analysis of the potential for environmental effects from the alternatives presented in the June 2019 Final SEIS/SOEIS and public comments received during the NEPA process, the Navy selects Alternative 2, the Preferred Alternative to implement its proposed action, which includes all practicable means to avoid or minimize environmental harm (CEQ 1505.2(c)). Alternative 2 includes current employment of up to four SURTASS LFA sonar systems in the western and central North Pacific and eastern Indian oceans, although the Navy may develop and field additional SURTASS LFA sonar equipped vessels, either to replace or complement the Navy current SURTASS LFA sonar equipped fleet. Use of SURTASS LFA sonar for training and testing activities includes implementation of certain geographic restrictions and monitoring mitigation measures designed to reduce, minimize, or avoid potential adverse effects on the marine environment.

This decision permits the Navy to reasonably fulfill its purpose of providing U.S. forces with reliable, effective, and efficient long-range detection of new-generation, quiet submarines, while the geographic restrictions and monitoring measures constitute the practical means to avoid or minimize environmental impact. Selection of this alternative also provides for 14 OBIA's, as listed in the MMPA Final Rule. In the Final Rule for the period 2019 to 2026, NMFS stipulates that the SURTASS LFA sonar sound field does not exceed 180 dB re 1 micro Pa (rms) SPL at a distance of 12 nmi (22 km) from any emergent land and 0.54 nmi (1 km) seaward of the outer boundary of any OBIA.

SURTASS LFA sonar training and testing activities requiring issuance of a NMFS LOA under the MMPA are being addressed through NMFS rulemaking under 50 CFR Part 218. Similarly, training and testing activities requiring issuance of an ITS are being addressed as part of NMFS' Biological and Conference Opinion for SURTASS LFA Sonar that has been prepared by NMFS in accordance with section 7 of the ESA of 1973, as amended (16 U.S.C. 1531 et seq.).

6 AUG 19
Date


Mr. Todd C. Mellon
Principal Deputy Assistant Secretary of the Navy (Energy,
Installations and Environment)