

Final

**Supplemental Environmental Impact Statement/
Overseas Environmental Impact Statement
Atlantic Fleet Training and Testing**

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3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.0 INTRODUCTION

This chapter describes existing environmental conditions in the Atlantic Fleet Training and Testing (AFTT) Study Area as well as the analysis of resources potentially impacted by the Proposed Action described in Chapter 2 (Description of Proposed Action and Alternatives). The Study Area is described in Section 2.1 (Description of the Atlantic Fleet Training and Testing Study Area) and depicted in Figure 2.1-1 (Atlantic Fleet Training and Testing Study Area).

3.0.1 NAVY COMPILED AND GENERATED DATA

While preparing this document, the best available data, science, and information accepted by the relevant and appropriate regulatory and scientific communities was used to establish a baseline and perform environmental analyses for all resources in accordance with the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] section 431 et seq.), the Administrative Procedure Act (5 U.S.C. section 551 et seq.), and Executive Order 12114, *Environmental Effects Abroad of Major Federal Actions*.

In support of the environmental baseline and environmental consequences sections for this and other environmental documents, the Navy has sponsored and supported both internal and independent research and monitoring efforts. The Navy's research and monitoring programs, as described below, are largely focused on filling data gaps and obtaining the best available science.

<u>Resources Analyzed</u>
Physical Resources:
• Air Quality • Sediment and Water Quality • Habitats
Biological Resources:
• Vegetation • Invertebrates • Fishes • Marine Mammals • Reptiles • Birds and Bats

3.0.1.1 Marine Species Monitoring and Research Programs

The Action Proponents have sponsored research and monitoring for more than 30 years. The Navy has invested nearly \$55 million in compliance-monitoring activities in the Study Area since 2009 (U.S. Department of the Navy, 2022). The Navy, Coast Guard, United States (U.S.) Army Corps of Engineers, and National Marine Fisheries Service (NMFS) collaboratively sponsor aerial surveys off the southeastern coast from December 1 through March 31 to observe North Atlantic right whales as part of the Early Warning System, which is described in Section 5.7.13 (Jacksonville Operating Area North Atlantic Right Whale Mitigation Area) and Section 5.7.14 (Southeast North Atlantic Right Whale Mitigation Area). Additional programs are described in Table 3.0-1.

Table 3.0-1: Marine Species Monitoring and Research Programs

Program	Description
U.S. Navy Marine Species Monitoring Program	The U.S. Navy Marine Species Monitoring Program was established to meet regulatory compliance requirements under the Marine Mammal Protection Act and Endangered Species Act. This program focuses on improving the broader scientific understanding of protected marine species across Study Areas, including species occurrences, responses to stressor exposure, and consequences of stressor exposure on individuals and populations. The monitoring program coordinates its investments across all regions where the Navy conducts military readiness activities, and allocates resources based on a set of standardized objectives through what is known as the Integrated Comprehensive Monitoring Program. Resource allocation is guided by a set of intermediate scientific objectives, species of concern, and regional priorities. Program goals and objectives were developed in coordination with NMFS and in consultation with a Science Advisory Group and other regional experts. The monitoring program is designed to be flexible, scalable, and adjustable to periodically assess progress and reevaluate objectives. Detailed and specific studies that support the Action Proponents' and NMFS' top-level monitoring goals will continue to be developed through what is known as the Strategic Planning Process. Monitoring data are available to the public on the Ocean Biogeographic Information System Spatial Ecological Analysis of Megavertebrate Populations webpage (http://seamap.env.duke.edu/), Animal Telemetry Network (https://ioos.noaa.gov/project/atn/), and through collaborations such as the National Oceanic and Atmospheric Administration's Passive Acoustic Cetacean Map (https://apps-nefsc.fisheries.noaa.gov/pacm/#/) and WhaleMap (https://whalemap.org/WhaleMap/). Additional information about the monitoring program, including annual reports, technical reports, publications, and project summaries are provided on the U.S. Navy Marine Species Monitoring webpage (http://www.navy-marine-species-monitoring.us/).
Living Marine Resources Program	The Living Marine Resources program's fundamental mission is to support the Navy's ability to conduct uninterrupted training and testing by broadening the use of or improving the technology and methods available to the U.S. Navy Marine Species Monitoring Program, and improving best available science on potential impacts of military readiness activities on marine species. Sponsored research covers four main investment areas: (1) data to support risk threshold criteria, (2) data analysis and processing tools, (3) technology demonstrations, and (4) standards and metrics. Research on data to support risk threshold criteria is used to support the acoustic effects analyses as discussed in the <i>Marine Mammal Auditory Weighting Functions and Exposure Functions for U.S. Navy Phase IV Acoustic Effects Analyses Technical Report</i> and <i>Sea Turtle Auditory Criteria and Thresholds for U.S. Navy Phase IV Acoustic Effects Analyses Technical Report</i> . For publications, program reports, and details about current and completed projects, see the Living Marine Resources program webpage (https://exwc.navfac.navy.mil/LMR).
Office of Naval Research	The Office of Naval Research Marine Mammals and Biology program supports basic and applied research and technology development related to understanding the effects of sound on marine mammals. The program focuses on characterizing and understanding behavioral, ecological, physiological, and population-level impacts on marine mammals, primarily from exposure to sonar. Sponsored research across five main concentration areas (monitoring and detection, integrated ecosystem research, sensing and tag development, effects of sound on marine life, models and databases) focuses on improving marine mammal monitoring capabilities by developing technology such as passive acoustics, infrared, tags and sensors, and detection and signal processing software. An example of a recent success is the adaptation of autonomous ocean gliders for timely, reliable, accurate, and actionable marine mammal monitoring. A key goal is to make technologies available to the broader research and Navy communities. For additional information, see the program's webpage (https://www.nre.navy.mil/organization/departments/code-32/division-322/marine-mammals-and-biology).

Notes: NMFS = National Marine Fisheries Service; U.S. = United States

3.0.1.2 Quantitative Analysis to Determine Impacts to Fish, Marine Mammals, and Sea Turtles

The Action Proponents conducted a quantitative analysis of the potential impacts to fish, marine mammals, and sea turtles through modeling when an activity introduces sound or explosive energy into the marine environment. The density of animals for each species and stock, along with criteria and thresholds that define the levels of sound and energy that may cause certain types of impacts, are used to conduct the analysis. The inputs and process are described below. A detailed explanation of this analysis is provided in the technical report, *Quantifying Acoustic Impacts on Marine Mammals and Sea Turtles: Methods and Analytical Approach for Phase IV Training and Testing* (U.S. Department of the Navy, 2024b).

3.0.1.2.1 Marine Species Density Database

A quantitative analysis of impacts on a species requires data on their abundance and distribution in the potentially impacted area. The most appropriate metric for this type of analysis is density, which is the number of animals present per unit area. Estimating marine species density requires substantial surveys and effort to collect and analyze data to produce a usable estimate. NMFS is the primary agency responsible for estimating marine mammal and sea turtle density within the U.S. Exclusive Economic Zone. Other agencies and independent researchers often publish density data for species in specific areas of interest, including areas outside the U.S. Exclusive Economic Zone. In areas where surveys have not produced adequate data to allow robust density estimates, methods such as model extrapolation from surveyed areas, Relative Environmental Suitability models, or expert opinion are used to estimate occurrence. These density estimation methods rely on information such as animal sightings, amount of survey effort, and the associated environmental variables (e.g., depth, sea surface temperature).

There is no single source of density data for every area of the world, species, and season because of fiscal, resource, and practical limitations, as well as the level of effort required to provide survey coverage to sufficiently estimate density. Therefore, to characterize marine species density for large areas, such as the Study Area, the Navy compiled data from multiple sources and developed a protocol to select the best available density estimates based on species, area, and time (i.e., season).

The resulting Geographic Information System database includes density values, defined seasonally where possible, for every marine mammal and sea turtle species present within the Study Area. This database is described in the technical report, *U.S. Navy Marine Species Density Database Phase IV for the Atlantic Fleet Training and Testing Study Area* (hereafter referred to as the Navy Marine Species Density Database) (U.S. Department of the Navy, 2024c). These data are used as an input into the Navy Acoustic Effects Model.

3.0.1.2.2 Developing Acoustic and Explosive Criteria and Thresholds

Quantitative information about sound and energy levels that are likely to result in physiological and behavioral reactions is needed to analyze potential impacts on marine species. The best available data from scientific journals, technical reports, and monitoring reports published since the previous analysis in *Criteria and Thresholds for U.S. Navy Acoustic and Explosive Effects Analysis (Phase III)* (U.S. Department of the Navy, 2017) were used to develop criteria and thresholds for estimating impacts on marine species.

A series of behavioral studies on how some species of marine mammals react to military sonar has led to new behavioral response functions for marine mammals. Additional information on auditory sensitivity and hearing loss contributed to the development of updated auditory weighting functions for marine mammals and sea turtles. A detailed description of the acoustic and explosive criteria and threshold development is included in the supporting technical report *Criteria and Thresholds for U.S. Navy Acoustic and Explosive Impact to Marine Mammals and Sea Turtles* (U.S. Department of the Navy, 2024a).

The Navy also uses criteria for estimating ranges to effects for fishes. A working group of experts generated a technical report that provides numerical criteria and relative likelihood of effects to fishes within different hearing groups (Popper et al., 2014). Where applicable, thresholds and relative risk factors presented in the technical report were used to assist in the analysis of effects to fishes from Navy activities.

3.0.1.2.3 The Navy Acoustic Effects Model

The Navy Acoustic Effects Model calculates sound energy propagation from sonar and other transducers and explosives during naval activities and the energy or sound received by animat dosimeters. Animat dosimeters are virtual representations of marine mammals or sea turtles distributed in the area around the modeled naval activity; each animat records its individual sound “dose.” The model bases the distribution of animats over the Study Area on the density values in the Navy Marine Species Density Database and distributes animats in the water column proportional to the known time that species spend at varying depths.

The model accounts for environmental variability of sound propagation in both distance and depth when computing the received sound level on the animats. The model conducts a statistical analysis based on multiple model runs to compute the estimated effects on animals. The number of animats that exceed the received threshold for an effect is tallied to provide an estimate of the number of marine mammals or sea turtles that could be affected.

Assumptions in the Navy model intentionally err on the side of overestimation to provide a conservative analysis and be protective of the species when there are unknowns:

- Training and testing activities are modeled as though they would occur regardless of proximity to marine mammals or sea turtles (i.e., mitigation and implementation of standard operating procedures that employ protective measures are not modeled) and without any avoidance of the activity by the animal. The final step of the quantitative analysis of acoustic effects is to consider the implementation of mitigation. For sonar and other transducers, the possibility that marine mammals or sea turtles would avoid continued or repeated sound exposures is also considered.
- Many explosions from munitions such as bombs and missiles actually occur upon impact with above-water targets and at the water’s surface. However, for this analysis, sources such as these were modeled as exploding underwater. This modeling overestimates the amount of explosive and acoustic energy entering the water.

The model estimates the impacts caused by individual training and testing activities. During any individual modeled event, impacts on individual animats are considered over 24-hour periods. The animats do not represent actual animals, but rather allow for a statistical analysis of the number of instances that marine mammals or sea turtles may be exposed to sound levels resulting in an effect. Therefore, the model estimates the number of instances in which an effect threshold was exceeded over the course of a year, but it does not estimate the number of individual marine mammals or sea turtles that may be impacted over a year (i.e., some marine mammals or sea turtles could be impacted several times, while others would not experience any impact). A detailed explanation of the Navy Acoustic Effects Model is provided in the technical report *Quantifying Acoustic Impacts on Marine Mammals and Sea Turtles: Methods and Analytical Approach for Phase IV Training and Testing*.

3.0.1.3 Marine Habitat Database

The AFTT Marine Habitat Database (formerly aquatic habitat database) was developed to refine the regional scale and overlapping habitat data used in the quantitative analysis of military expended materials and explosives placed on or near the sea floor. The database includes numerous data sources

and geometries (i.e., points, lines, polygons) ranging from regional-to-local scale. The polygon data sources are subsequently combined to create a non-overlapping mosaic of habitat information that presents the highest quality data for a given location. The database includes mapping of both abiotic (i.e., physical/non-living) and biotic habitat types as well as designated artificial reef areas that serve both the analysis in Chapter 3 and the consultation documents for the Magnuson-Stevens Fishery Conservation and Management Act. A detailed description of the database is included as a supporting technical document with associated Geographic Information System and database deliverables (Appendix O, Geographic Information System Data Sources).

3.0.2 ECOLOGICAL CHARACTERIZATION OF THE STUDY AREA

The Study Area includes the intertidal and subtidal marine waters within the boundaries shown in Figure 2.1-1 (Atlantic Fleet Training and Testing Study Area) but does not extend above the mean high tide line. The Proposed Action would predominately occur within established operating areas, range complexes, testing ranges, ports, pierside locations, and inshore waters. These locations are determined by Action Proponent requirements, with locations set so as not to interfere with existing civilian and commercial maritime and airspace boundaries. These boundaries are not consistent with ecological boundaries, such as ecosystems, that may be more appropriate when assessing potential impacts on marine resources. Therefore, for the purposes of this document, marine resources were analyzed in an ecological context to the extent possible to more comprehensively assess the potential impacts.

The ecological characterization of the Study Area has not changed since the 2018 [Final Atlantic Fleet Training and Testing Environmental Impact Statement/Overseas Environmental Impact Statement](#) (EIS/OEIS) (hereinafter referred to as the 2018 Final EIS/OEIS) for AFTT activities. Refer to [Section 3.0.2](#) (Ecological Characterization of the Study Area) for detailed descriptions of the bathymetry; currents, circulation patterns, and water masses; and ocean fronts located within the Study Area (U.S. Department of the Navy, 2018). New data on ocean currents that has been published since the completion of the 2018 Final EIS/OEIS is described in Section 3.3 (Habitats).

3.0.3 OVERALL APPROACH TO ANALYSIS

The overall approach to analysis in this Supplemental EIS/OEIS is consistent with the approach used in the 2018 Final EIS/OEIS and included the following general steps:

- Review the existing 2018 Final EIS/OEIS and Record of Decision.
- Determine if information about the affected environment has changed.
- Identify new activities and proposed changes to existing activities.
- New locations were reviewed to determine new species and sensitive resources.
- Identify the stressors associated with the updated list of activities.
- Determine if there is a new method of analysis for those activities.
- Review existing and identify new federal and state regulations and standards relevant to resource-specific management or protection to determine if there has been any change since the 2018 Final EIS/OEIS.
- Review and apply new literature, including science, surveys, and information on how resources could be affected by stressors.
- Review and incorporate any unchanged descriptions and analysis from the 2018 Final EIS/OEIS and Record of Decision.

- Review and consider comments received from members of the public and other stakeholders during scoping.
- Identify past, present, and reasonably foreseeable future actions to analyze the cumulative impacts.
- Consider mitigation measures to reduce identified potential impacts.

Military readiness activities in the Study Area may produce one or more stimuli that cause stress on a resource. Each proposed activity was examined to determine its potential stressors. The term stressor is broadly used in this document to refer to an agent, condition, or other stimulus that causes stress to an organism or alters physical, socioeconomic, or cultural resources. Not all stressors affect every resource, nor do all proposed activities produce all stressors.

The potential direct, indirect, and cumulative impacts of the Proposed Action were analyzed based on these potential stressors being present within range of the resource. Datasets used for analysis were considered across the full spectrum of training and testing for the foreseeable future. For the purposes of analysis and presentation within this Supplemental EIS/OEIS, data was organized and evaluated in 1-year and 7-year increments. Direct impacts are caused by the Proposed Action and occur at the same time and place as the activity. Indirect impacts result when a direct impact on one resource induces an impact on another resource (referred to as a secondary stressor). Indirect impacts would be reasonably foreseeable because of a functional relationship between the directly impacted resource and the secondarily impacted resource. For example, a significant change in water quality could secondarily impact those resources that rely on water quality, such as marine species and public health and safety.

First, a preliminary analysis was conducted to determine the environmental resources potentially impacted and associated stressors. Second, each resource was analyzed for potential impacts of individual stressors, followed by an analysis of the combined impacts of all stressors related to the Proposed Action. A cumulative impact analysis was conducted to evaluate the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions (Chapter 4, Cumulative Impacts).

In this sequential approach, the initial analyses were used to develop each subsequent step, so the analysis focused on relevant issues (defined during scoping) that warranted the most attention. The systematic nature of this approach allowed the Proposed Action, with the associated stressors and potential impacts, to be effectively tracked throughout the process. This approach provides a comprehensive analysis of applicable stressors and potential impacts. Each step is described in more detail below.

3.0.3.1 Resources and Issues Evaluated

Physical resources evaluated include air quality, sediment and water quality, and habitats. Biological resources (including threatened and endangered species) evaluated include vegetation, invertebrates, fishes, marine mammals, reptiles, and birds and bats.

3.0.3.2 Resources and Issues Eliminated from Further Consideration

This Supplemental EIS/OEIS specifically analyzes in-water activities as well as activities occurring over water. Environmental compliance for any land-based impacts from activities associated with the Proposed Action is analyzed separately. Resources and issues considered but not carried forward for further consideration include land use, demographics, cultural resources, socioeconomics, public health and safety, and children's health and safety.

Land Use and Demographics. Land use was not further considered because at-sea activities in the Proposed Action are not connected to land use issues and no new actions are being proposed that

would include relevant land use. Demographics were not further considered because the Proposed Action does not include any activities that would result in a change in the demographics within the Study Area or within the counties of the coastal states that abut the Study Area.

Cultural Resources. Impacts to cultural resources within the Study Area would be the same as described in [Section 3.10](#) (Cultural Resources) of the 2018 Final EIS/OEIS. The Action Proponents' standard operating procedures to avoid shipwrecks and mitigation measures (Chapter 5, Mitigation) for cultural resources would minimize impacts to known cultural and historic resources within the Study Area. No additional resources were identified in the areas where the Study Area expanded from that analyzed in the 2018 Final EIS/OEIS. In the event that the Action Proponents inadvertently impact a submerged prehistoric site or historic resource, consultation would be conducted with the appropriate State Historic Preservation Officer(s). Therefore, cultural resources were not carried forward for detailed analysis in this Supplemental EIS/OEIS. The Action Proponents are consulting with State Historic Preservation Officers under Section 106 of the National Historic Preservation Act.

Socioeconomics. The Action Proponents' military readiness activities have the potential to temporarily change access to the ocean or airspace for a variety of human activities associated with sources of energy generation, mineral extraction, commercial transportation, and shipping, commercial and recreational and fishing, aquaculture, tourism, and other recreational activities in the Study Area. However, potential impacts to these six elements within the Study Area would be similar to those described in [Section 3.11](#) (Socioeconomics) of the 2018 Final EIS/OEIS and are briefly discussed below.

Military readiness activities have occurred throughout the Study Area for decades, resulting in and sustaining increases in jobs, military and civilian infrastructure, and population growth in numerous towns, cities, and regions located along the Atlantic and Gulf Coasts. One additional pierside location in the Gulf of America is considered in this Supplemental EIS/OEIS that was not considered in the 2018 Final EIS/OEIS. The Port of Gulfport is a deep-water international seaport located in the Gulf of America, 16 miles from international shipping lanes and 5 nautical miles from the Gulf Intracoastal Waterway. The Port encompasses 300 acres and handles more than 2 million tons of cargo and over 200,000 twenty-foot equivalent units (Mississippi State Port Authority at Gulfport, 2023).

When military readiness activities are scheduled that require specific areas to be free of non-participating vessels and aircraft due to public safety concerns, the U.S. Coast Guard and Federal Aviation Administration issue Notices to Mariners and Notices to Air Missions, respectively, to warn the public of upcoming Navy activities. Many military readiness activities occur in established restricted areas or danger zones as published on navigational and aeronautical charts. Some frequently used areas have standing Notices to Mariners and Notice to Airmen to allow real-time, immediate use.

The Action Proponents are not proposing to add any new restricted areas and proposes to continue the same type of temporary area closures that have occurred for decades with the exception of changes to the Ship Shock Trial areas. The Gulf of America ship shock trial area was moved to the south, the Jacksonville ship shock area expanded, and the Virginia Capes and Key West ship shock trial areas were removed. Many of the restricted areas identified on these figures are artifacts of past military activities and are not currently scheduled (e.g., Small Point Mining Range off the coast of Maine).

Accessibility, or restrictions to the availability of air and ocean space, would be a temporary condition. While mariners and pilots have a responsibility to be aware of conditions on the ocean and in the air, it is not expected that direct conflicts in accessibility would occur. The locations of restricted areas are published and available to mariners and pilots, who typically review such information before boating or flying in any area. Restricted areas are typically avoided by experienced mariners and pilots. Prior to initiating a training or testing activity, the Action Proponents would follow standard operating

procedures to visually scan an area to ensure that non-participants are not present. If non-participants are present, the Action Proponent would delay, move, or cancel its activity. Accessibility is no longer restricted once the activity concludes. In addition, project review and approval processes for many ongoing and planned offshore projects in the Study Area (i.e., oil and gas leasing, and wind energy projects) have integrated Action Proponent input and review to reduce the potential for conflicts to air and ocean space. Therefore, there would be minimal potential for access to the ocean and airspace to directly impact human activities.

The Department of Defense and the Federal Aviation Administration cooperate in managing the airspace used by the military to support training and testing requirements. Special Use Airspace (Military Operations Areas and Restricted Areas over land, and Warning Areas over the ocean) is scheduled by the military and is released to the Federal Aviation Administration for use by civilian aircraft when not in use by the military. Non-military air routes already overlay Special Use Airspace that is below 18,000 feet (ft.). The Action Proponents would accommodate the needs of commercial and civilian aviation by maintaining a working relationship with the Federal Aviation Administration.

Offshore wind development in the Atlantic Ocean would be expected to increasingly overlap with Navy operating areas as these developments move farther offshore. Through the Military Aviation and Installation Assurance Siting Clearinghouse (Clearinghouse), the Department of Defense and the Bureau of Ocean Energy Management work closely to thoroughly review all active and proposed lease areas and offshore wind projects to ensure compatibility with military readiness activities.

Subsistence fishing is important for the economies and cultures of many tribal and non-tribal families and communities residing in states adjacent to the Study Area. Impacts on subsistence fishing may result when military readiness activities temporarily restrict access to fishing areas or if military readiness activities cause fish to avoid a popular fishing site. The Action Proponents strive to conduct their operations in a manner compatible with other ocean users by minimizing temporary access restrictions. In many cases, the Action Proponents coordinate directly with local tribes and fishermen to minimize impacts from military readiness activities. Given the size of the Study Area, the opportunities for military readiness activities to interfere with subsistence fishing are minimal because the majority of subsistence fishing would occur closer to the shore. Additionally, training or testing activities would be infrequent and temporary. Because the proposed activities would not lead to a noticeable change in Action Proponent presence, and because the proposed locations for these activities do not differ much from historical use, it is unlikely that subsistence fishing activities would be noticeably affected by military readiness activities requiring area restrictions.

Considering the expansive size of the Operating Areas, the disbursement of military expended materials over these large areas, and the Action Proponents' standard operating procedures and existing mitigation measures (Chapter 5, Mitigation), impacts from accessibility, airborne acoustics, and physical disturbances and strikes on energy production and distribution, mineral extraction, commercial transportation and shipping, commercial and recreational fishing, aquaculture, and tourism would be negligible and insignificant and would not result in a direct loss of income, revenue, employment, resource availability, or quality of experience.

Public Health and Safety. The affected environment provides the context for evaluating the effects of the military readiness activities on public health and safety. Generally, the greatest potential for a proposed activity to impact the public is in nearshore areas because that is where public activities are most concentrated. Proposed military readiness activities in nearshore areas could be close to dive sites and other recreational areas where the collective health and safety of groups of individuals would be of

concern. Most commercial and recreational marine activities (with the exception of commercial shipping) occur close to the shore, usually limited by the capabilities of the vessel or equipment used.

The area of interest for assessing potential impacts on public health and safety is generally the same as identified in the 2018 Final EIS/OEIS [Section 3.12](#) (Public Health and Safety). This includes the United States territorial waters of the east and Gulf coasts (seaward of the mean high-water line to 12 nautical miles), including bays, harbors, and inshore waterways of the east coast and inshore waters and pierside locations off the Gulf of America where military readiness activities occur. New to the Study Area for this Supplemental EIS/OEIS are inshore waters adjacent to the Gulf of America, and changes to ship shock trial areas. The Gulf of America ship shock trial area was moved to the south, the Jacksonville ship shock area expanded, and the Virginia Capes and Key West ship shock trial areas were removed.

Military, commercial, institutional, and recreational activities take place simultaneously in the Study Area and have coexisted safely for decades. These activities coexist safely because established rules and practices lead to safe use of the waterways and airspace. The rules, regulations, and procedures that the Navy observes with respect to safe recreational, commercial, and military use in sea surface areas and airspace are discussed in detail in the 2018 Final EIS/OEIS [Section 3.12](#) (Public Health and Safety). Sea Space, Airspace, Safety and Inspection Procedures, Aviation Safety, Submarine Navigation Safety, Surface Vessel Navigation Safety, Sonar Safety, Electromagnetic Energy Safety, Laser Safety, Explosive Munitions Detonation Safety, and Weapons Firing and Munitions Expenditure Safety within the Study Area are the same as described in the 2018 Final EIS/OEIS. Due to the Navy and Coast Guard's safety procedures, the potential for training and testing activities to impact public health and safety under the Proposed Action would be minor and insignificant.

The Action Proponents considered Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, during development of this Supplemental EIS/OEIS. Environmental health and safety risks to children were not analyzed in detail because the proposed military readiness activities would result in minor and insignificant impacts to the human population in coastal areas.

New to the Study Area for this Supplemental EIS/OEIS are inshore waters and pierside testing locations adjacent to the Gulf of America. The activities that would occur in this portion of the Study Area do not involve aircraft and would not be expected to adversely affect human populations in coastal areas.

The public may intermittently hear noise from transiting ships or aircraft overflights if they are in the general vicinity of a training or testing activity, but these occurrences would be infrequent. Occasional disturbances from military aircraft have been occurring for decades and are not expected to have lasting impacts on broader socioeconomic resources for the general public. For most activities, airborne noise from aircraft activities would be far enough from tourist and residential areas to have a negligible impact on people either on the water or on land and therefore is likely to have no significant impact. Additionally, there would be an overall decrease in the amount of aircraft activity throughout the Study Area compared to the 2018 Final EIS/OEIS, which would reduce impacts due to fewer airborne acoustic events involving aircraft.

There are potential impacts to communities in the vicinity of several naval air stations that are adjacent to the Study Area. Aircraft would need to transit over these areas to participate in training and testing activities occurring offshore. The populations in these areas would experience brief levels of elevated noise during these transits; however, the impact of airborne noise would be negligible because it would be transient, of short duration, and localized. Additionally, there would be an overall decrease in the amount of aircraft activity throughout the Study Area compared to the 2018 Final EIS/OEIS. There would not be disproportionately high and adverse human health or environmental effects to local populations. Similarly, there would be negligible impacts on public health and safety because of the Action

Proponents' standard operating procedures and therefore, there would not be disproportionately high and adverse human health or environmental effects on local communities or disproportionately high environmental health risks or safety risks to children.

3.0.3.3 Identifying Stressors for Analysis

The stressors analyzed in this Supplemental EIS/OEIS have not changed from those described in the 2018 Final EIS/OEIS. For a description of the Proposed Action military readiness activities and typical components of those activities (i.e., platforms, targets, and systems being trained/tested), see Appendix A (Activity Descriptions). For a description of which stressors are associated with each training or testing activity, see Appendix B (Activity Stressor Matrices).

For this Supplemental EIS/OEIS, the proposed military readiness activities were evaluated to identify if there were any changes in specific components that could act as an additional stressor by having direct or indirect impacts on the environment. This analysis includes identifying the spatial variation of all (existing and new) identified stressors. Matrices were prepared to identify associations between stressors, resources, and the spatial relationships of those stressors, resources, and activities within the Study Area. Stressors reviewed and analyzed in this Supplemental EIS/OEIS include acoustic, explosive, energy, physical disturbance and strike, entanglement, and ingestion stressors. Detailed information on each stressor can be found in the 2018 Final EIS/OEIS, and the discussion of the best available science about impacts from those stressors can be found in Appendix D (Acoustic and Explosive Impacts Supporting Information) and Appendix G (Non-Acoustic Impacts Supporting Information) of this Supplemental EIS/OEIS. Updates to individual components associated with a given stressor are provided in the appropriate sections below.

A preliminary analysis identified the stressor/resource interactions that warrant further analysis in the Supplemental EIS/OEIS based on public comments received during scoping, previous NEPA analyses, and opinions of subject matter experts. Stressor/resource interactions that are determined to have negligible or no impacts are documented in the relevant appendices and are not carried forward for analysis in the Supplemental EIS/OEIS. To aid in this assessment, the information provided in this section displays both the current stressor information for this Supplemental EIS/OEIS and the stressor information from the Selected Alternative (Alternative 1) of the 2018 Final EIS/OEIS. Seven-year totals have been included to show the big picture differences that are not always captured by just showing max and typical single years. The analysis of the 7 years also supports NMFS cooperating agency NEPA requirements for their determination whether to issue incidental take authorizations and Letters of Authorization. In many cases, the stressor information for this Supplemental EIS/OEIS is a reduction from the 2018 Final EIS/OEIS stressor information. There are several reasons for these reductions:

- The Action Proponents are proposing to conduct fewer activities to which various stressors are connected.
- Data collection for this Supplemental EIS/OEIS was more refined than that done for the 2018 Final EIS/OEIS, resulting in more accurate stressor data being captured.
- Data collection for this Supplemental EIS/OEIS was refined to consider materials realistically and consistently able to be recovered. The 2018 Final EIS/OEIS considered all materials to be either expended or recovered 100 percent of the time. Improvements to the data collection process included the capability to account for the partial recovery of materials to more realistically show how many materials would be expended. Examples of materials that are mostly recovered that were thought to be completely expended in the 2018 Final EIS/OEIS are casings of small-, medium-, and large-caliber projectiles, various targets, and in-water devices. The recovery rates of partially recovered materials was applied during data processing,

resulting in a notable reduction in the amounts of various types of materials expected to be expended and other associated stressors for this Supplemental EIS/OEIS.

3.0.3.3.1 Acoustic Stressors

The acoustic sources identified for analysis in this Supplemental EIS/OEIS are the same as those in the 2018 Final EIS/OEIS (sonar and other transducers, pile driving, vessel noise, aircraft noise, weapons noise, and air guns). Detailed information describing these sources can be found in Appendix D (Acoustic and Explosive Impacts Supporting Information).

In order to better organize and facilitate the analysis of hundreds of individual sources of underwater sound produced by the Action Proponents, including sonars and explosives, a schema of source bins was developed and is used in this Supplemental EIS/OEIS. A detailed description of the schema and the benefits of using this method are found in the technical report *Quantifying Acoustic Impacts on Marine Mammals and Sea Turtles: Methods and Analytical Approach for Phase IV Training and Testing (U.S. Department of the Navy, 2024b)*.

In the 2018 Final EIS/OEIS, non-impulsive, narrow-band sources were grouped into bins that were defined by their acoustic properties and in some cases, their purpose or application. For this Supplemental EIS/OEIS, sources are binned based only on their acoustic properties without regard to purpose or application. As in the previous 2018 Final EIS/OEIS, each bin was represented by the most impactful characteristics of any source within that bin. Specifically, bin parameters were based on (1) highest source level, (2) lowest geometric mean frequency, (3) highest duty cycle, and (4) largest horizontal and vertical beam patterns.

Breaking the bins up to represent smaller ranges of acoustic properties resulted in bin parameters that more closely match those of the sources contained within. In binning sources for the purpose of modeling, the combination of the four parameters above allowed for over 1,000 potential unique bins. While AFTT training and testing only uses sources falling into 83 of these potential bins, the binning construct allows for easy addition of bins as required. For written reports, bins will only be described by their frequency (low, medium, high, or very high) and their source level (low, medium, or high), resulting in 12 individual bins.

In many cases, sources that previously fell into one purpose-based bin now fall into multiple bins. Likewise, sources with similar acoustic parameters that were previously broken into separate bins due to different purposes now share a bin. As a result, the new bins do not represent a one-for-one replacement and a crosswalk table between the old bins and new bins is not possible. An exception to the new naming convention was retention of “MF1” to represent the hull-mounted surface ship sonar that was previously in the MF1 bin. The retention of this name was to allow for clear comparison to past documents due to the extensive use of these sources in training and testing activities.

Broadband sources were divided into bins BB1–BB27, with AFTT training and testing only using sources falling into 16 of these bins. As in the 2018 Final EIS/OEIS, some sources were removed from quantitative analysis because they are not anticipated to result in takes of protected species. This included sources with low source level, narrow beamwidth, downward-directed transmission, short pulse lengths, frequencies above known hearing ranges of marine mammals and sea turtles, or some combination of these factors, as well as sources used for safety of navigation.

Sonars and other transducers are now grouped into bins based on the frequency or bandwidth; source level; duty cycle; and three-dimensional beam coverage.

The use of source bins provides the following benefits:

- provides the ability for new sensors or munitions to be covered under existing authorizations, as long as those sources fall within the parameters of a “bin”
- improves efficiency of source utilization data collection and reporting requirements anticipated under the Marine Mammal Protection Act authorizations
- ensures a conservative approach to all impact estimates, as all sources within a given class are modeled as the most impactful source (highest source level, longest duty cycle, or largest net explosive weight) within that bin
- allows analyses to be conducted in a more efficient manner, without any compromise of analytical results
- provides a framework to support the reallocation of source usage (hours/explosives) between different source bins, as long as the total numbers of takes remain within the overall analyzed and authorized limits (This flexibility is required to support evolving training and testing requirements, which are linked to real world events.)

Table 3.0-2 through Table 3.0-4 show the bin use that could occur in any year under each action alternative for military readiness activities. A range of annual bin use indicates that use of that bin is anticipated to vary annually, consistent with the variation in the number of annual activities described in Chapter 2 (Description of Proposed Action and Alternatives). The 7-year total for both action alternatives takes that variability into account. Due to the changes in bin structure described above, a comparison to the Selected Alternative of the 2018 Final EIS/OEIS is not included in Table 3.0-2.

Table 3.0-2: Sonar and Transducer Sources Quantitatively Analyzed

Source Class Category	Description	Unit	Training				Testing			
			Alternative 1		Alternative 2		Alternative 1		Alternative 2	
			Annual	7-Year Total	Annual	7-Year Total	Annual	7-Year Total	Annual	7-Year Total
Broadband Sources										
LF	<205 dB	H	-	-	-	-	206-252	1,580	220-252	1,636
LF to MF		H	-	-	-	-	1,501-1,503	10,519	1,501-1,503	10,519
LF to HF		C	-	-	-	-	791-1,020	5,101	791-1,020	5,101
		H	-	-	-	-	2,367-2,571	16,356	2,367-2,571	16,356
MF to HF		C	133	931	133	931	-	-	-	-
		H	1,215-1,232	8,555	1,318-1,329	9,261	2,749-2,950	19,308	2,749-2,950	19,308
HF to VHF		H	10	70	10	70	-	-	-	-
Low-Frequency Acoustic Sources										
LFL	160 dB to 185 dB	H	-	-	-	-	1,969	13,783	1,969	13,783
LFM	185 dB to 205 dB	C	-	-	-	-	360	2,520	360	2,520
		H	746	5,219	746	5,219	5,386-6,106	39,862	6,106	42,742
LFH	>205 dB	C	1,920-2,020	13,740	2,020-2,120	14,440	6,078-6,084	42,588	6,078-6,084	42,588
		H	144	1,008	144	1,008	414-479	3,101	518	3,623
Mid-Frequency Acoustic Sources										
MFL	160 dB to 185 dB	H	-	-	-	-	3,238-3,582	22,336	3,238-3,582	22,336
MFM	185 dB to 205 dB	C	6,826-6,964	48,196	6,978-7,102	49,218	16,017-16,040	111,849	16,017-16,040	111,849
		H	2	14	2	14	3,081-3,509	23,012	3,358-3,509	24,121
MFH	>205 dB	H	2,343-2,466	16,794	2,481-2,566	17,646	7,203-7,943	52,542	7,622-7,943	53,976
High-Frequency Acoustic Sources										
HFL	160 dB to 185 dB	H	169	1,183	169	1,183	96	672	96	672
HFM	185 dB to 205 dB	C	-	-	-	-	860-1,660	8,420	1,660	11,620
		H	1,463-1,465	10,247	1,463-1,465	10,247	4,125-4,489	29,941	4,461-4,489	31,285
HFH	>205 dB	C	138	966	138	966	1,621-1,858	11,684	1,725-1,858	12,100
		H	3,892-3,940	27,436	3,892-3,940	27,436	3,779-4,580	28,383	3,851-4,580	28,671

Table 3.0-2: Sonar and Transducer Sources Quantitatively Analyzed (continued)

Source Class Category	Description	Unit	Training				Testing			
			Alternative 1		Alternative 2		Alternative 1		Alternative 2	
			Annual	7-Year Total	Annual	7-Year Total	Annual	7-Year Total	Annual	7-Year Total
Very High-Frequency Acoustic Sources										
VHFL	160 dB to 185 dB	H	12	84	12	84	-	-	-	-
VHFM	185 dB to 205 dB	H	918	6,426	918	6,426	120	840	120	840
VHFH	>205 dB	C	-	-	-	-	69-103	520	69-103	520
		H	719	5,031	719	5,031	5,584	39,088	5,584	39,088
Hull-Mounted Surface Ship Sonar										
MF1C	Hull-mounted surface ship sonar (previously MF11) with duty cycle >80%	H	661-722	4,811	991-1,027	7,043	1,139	7,974	1,139	7,974
MF1K	Hull-mounted surface ship sonar in Kingfisher mode	H	280	1,957	280	1,957	108	759	108	759
MF1	Hull-mounted surface ship sonar (previously MF1)	H	3,498-3,870	25,602	4,983-5,223	35,601	1,102-1,390	8,464	1,102-1,390	8,464

Notes: - = Not Applicable; % = percent; < = less than; > = greater than; C = Count; dB = decibel; F = frequency; H = high (Source Class Category); H = Hours (Unit); L = low; M = mid; V = very

Table 3.0-3: Training and Testing Air Gun and Non-Explosive Impulsive Sources Quantitatively Analyzed in the Study Area

Source Class Category	Description	Unit	Training					Testing				
			2018 Final EIS/OEIS	Alternative 1		Alternative 2		2018 Final EIS/OEIS	Alternative 1		Alternative 2	
			Annual Number of Activities	Annual	7-Year Total	Annual	7-Year Total	Annual Number of Activities	Annual	7-Year Total	Annual	7-Year Total
NEI	Non-explosive impulsive	C	-	-	-	-	-	-	192-240	1,488	240	1,680
AG	Air gun	C	-	-	-	-	-	604	4,400-5,400	33,800	5,400	37,800

Notes: - = Not Applicable; AG = Air gun; C = Count; EIS = Environmental Impact Statement; NEI = Non-explosive impulsive; OEIS = Overseas Environmental Impact Statement

Table 3.0-4: Number of Piles/Sheets Quantitatively Analyzed under Pile Driving and Removal Training Activities

Method	Pile Size and Type	Alternative 1		Alternative 2	
		Annual	7-Year Total	Annual	7-Year Total
Impact ¹	16-inch Timber or Plastic Round Piles	80	560	80	560
Vibratory	16-inch Timber or Plastic Round Piles	160	1,120	160	1,120
Vibratory	27-inch Steel Sheet	240	1,680	240	1,680

¹ Installation only

3.0.3.3.2 Explosive Stressors

The explosive sources identified for analysis in this Supplemental EIS/OEIS are the same as those in the 2018 Final EIS/OEIS (explosions in air and explosions in water). Detailed information describing these sources can be found in Appendix D (Acoustic and Explosive Impacts Supporting Information). As was done in the 2018 Final EIS/OEIS, the explosive sources are sorted by bins based on net explosive weight. Explosives were divided into bins E0-E17, with AFTT training and testing only using explosives falling into 15 of these bins. Table 3.0-5 shows the bin use that could occur in any year under each action alternative for military readiness activities. A range of annual bin use indicates that use of that bin is anticipated to vary annually, consistent with the variation in the number of annual activities described in Chapter 2 (Description of Proposed Action and Alternatives). The 7-year total for both action alternatives takes that variability into account.

Table 3.0-5: Explosive Sources Quantitatively Analyzed that Could Be Used Underwater or at the Water Surface

Bin	Net Explosive Weight	Example Explosive Source	Training					Testing				
			2018 Final EIS/OEIS	Alternative 1		Alternative 2		2018 Final EIS/OEIS	Alternative 1		Alternative 2	
			Annual	Annual	7-Year Total	Annual	7-Year Total	Annual	Annual	7-Year Total	Annual	7-Year Total
E1	0.1–0.25	Medium-caliber projectile	7,700	3,002	21,014	3,002	21,014	17,840-26,840	1,825	12,775	2,184	15,295
E2	> 0.25–0.5	Medium-caliber projectile	210-214	60	420	60	420	-	-	-	-	-
E3	> 0.5–2.5	Large-caliber projectile	4,592	5,258	36,806	5,258	36,086	3,054-3,422	1,069-1,971	8,705	1,249-2,151	9,965
E4	> 2.5–5	Mine neutralization charge	127-133	82	574	82	574	746-800	2,893-4,687	30,889	2,893-4,687	30,889
E5	> 5–10	5 in. projectile	1,436	1,109	7,763	1,109	7,763	1,325	1,268-1,860	11,540	1,268- 1,860	11,540
E6	> 10–20	Hellfire missile	602	508	3,556	508	3,556	28-48	17-25	125	21-25	149
E7	> 20–60	Demo block/ shaped charge	4	10	70	10	70	-	8-22	62	8-22	62
E8	> 60–100	Lightweight torpedo	22	20	140	20	140	33	10-13	41	10-13	41
E9	> 100–250	500 lb. bomb	66	138	966	138	966	4	5	35	5	35
E10	> 250–500	Harpoon missile	90	71	497	71	497	68-98	4	28	4	28
E11	> 500–675	650 lb. mine	1	1	7	1	7	10	1-2	8	1-2	8
E12	> 650–1,000	2,000 lb. bomb	18	20	140	20	140	-	-	-	-	-
E16	> 7,250–14,500	Small ship shock trial	-	-	-	-	-	0-12	0-6	15	0-6	15
E17	> 14,500–58,000	Full ship shock trial	-	-	-	-	-	0-4	-	-	-	-

Notes: - = Not Applicable; > = greater than; EIS = Environmental Impact Statement; in. = inch; lb. = pound; OEIS = Overseas Environmental Impact Statement

3.0.3.3.3 Energy Stressors

The energy stressors identified for analysis in this Supplemental EIS/ OEIS are the same as those in the 2018 Final EIS/OEIS (in-water electromagnetic devices, in-air electromagnetic devices, and high-energy lasers). Detailed information describing these stressors can be found in [Section 3.0.3.3.3](#) of the 2018 Final EIS/OEIS. Table 3.0-6 and Table 3.0-7 show the number and location of proposed activities that include energy stressors that are considered in this Supplemental EIS/OEIS and the equivalent information from the 2018 Final EIS/OEIS for comparison. As with the 2018 Final EIS/OEIS, it is assumed that in-air electromagnetic devices would be utilized during all activities involving vessels or aircraft, with very limited exceptions. Table 3.0-9 and Table 3.0-16 show the number and location of proposed activities that include vessels and aircraft, respectively, which provide a proxy for the level of in-air electromagnetic device use for the purposes of this Supplemental EIS/OEIS.

The only update to the impact analysis for this Supplemental EIS/OEIS is the result of new information regarding an automatic cutoff safety feature for high-energy laser devices. These devices automatically shut down if the target is lost, which makes the odds of striking an in-water animal discountable. This updated assumption has been incorporated into the appropriate resource sections.

Table 3.0-6: Number and Location of Activities Using In-Water Electromagnetic Devices

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Activities	Annual Maximum Number of Activities		7-Year Number of Activities	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Training					
VACAPES RC	1,203	1,473	1,473	10,311	10,311
Navy Cherry Point RC	2,823	417	417	2,919	2,919
JAX RC	350	398	398	2,786	2,786
Key West RC	-	202	202	1,414	1,414
Gulf RC	104	342	342	2,394	2,394
Inshore Areas					
VACAPES RC Inshore ¹	-	375	375	2,625	2,625
Port and Pierside Areas					
Boston, MA	4	1	1	1	1
Earle, NJ	4	1	1	1	1
Delaware Bay, DE	4	1	1	1	1
Hampton Roads, VA	8	1	1	1	1
Morehead City, NC	4	1	1	1	1
Wilmington, NC	4	1	1	1	1
Savannah, GA	4	1	1	1	1
Kings Bay, GA	4	1	1	1	1
Mayport, FL	4	1	1	1	1
Port Canaveral, FL	4	1	1	1	1
Tampa, FL	4	1	1	1	1

**Table 3.0-6: Number and Location of Activities Using In-Water Electromagnetic Devices
(continued)**

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Activities</i>	<i>Annual Maximum Number of Activities</i>		<i>7-Year Number of Activities</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Beaumont, TX	8	1	1	1	1
Corpus Christi, TX	4	1	1	1	1
Total	4,540	3,220	3,220	22,462	22,462
Testing					
Northeast RC	-	2	2	8	8
VACAPES RC	294	6	6	29	29
Navy Cherry Point RC	2	1	1	3	3
JAX RC	92	6	6	29	29
SFOMF	3	-	-	-	-
NSWC Panama City Testing Range	3	5	5	35	35
Gulf RC	40	2	2	8	8
Port and Pierside Areas					
Hampton Roads, VA	-	4	4	10	17
Little Creek, VA ¹	100	-	-	-	-
Total	534	26	26	122	129

¹ Activities occurred in these areas in the 2018 Final EIS/OEIS but the location name has been updated for this Supplemental EIS/OEIS.

Notes: - = Not Applicable; EIS = Environmental Impact Statement; JAX = Jacksonville; NSWC = Naval Surface Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; VACAPES = Virginia Capes

Table 3.0-7: Number and Location of Activities Using High-Energy Lasers

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Activities	Annual Maximum Number of Activities		7-Year Number of Activities	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Training					
VACAPES RC	4	8	8	56	56
Navy Cherry Point RC	-	10	10	70	70
JAX RC	4	8	8	56	56
Total	8	26	26	182	182
Testing					
Northeast RC	8	2	2	8	8
NUWC Newport Testing Range	8	2	2	8	8
VACAPES RC	116	110	110	764	764
Navy Cherry Point RC	8	2	2	8	8
JAX RC	8	7	7	38	38
SFOMF	8	-	-	-	-
Key West RC	8	-	-	-	-
NSWC Panama City Testing Range	8	2	2	8	8
Gulf RC	8	2	2	8	8
Total	180	127	127	842	842

Notes: - = Not Applicable; EIS = Environmental Impact Statement; JAX = Jacksonville; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; VACAPES = Virginia Capes

3.0.3.3.4 Physical Disturbance and Strike Stressors

The physical disturbance and strike stressors identified for analysis in this Supplemental EIS/OEIS are the same as those in the 2018 Final EIS/OEIS (vessels and in-water devices, aircraft and aerial targets, military expended material, seafloor devices, and pile driving). Detailed information describing these stressors can be found in [Section 3.0.3.3.4](#) of the 2018 Final EIS/OEIS. While the majority of information is the same as the 2018 Final EIS/OEIS, there are several updates to this stressor that are noted below.

Regarding vessels, in-water devices, aircraft, targets, military expended material, and pile driving, this Supplemental EIS/OEIS includes the addition of U.S. Coast Guard activities and vessels. Representative vessels used by the Coast Guard within the Study Area are presented in Table 3.0-8. Representative vessels used by the U.S. Navy are the same as those described in [Table 3.0-17](#) of the 2018 Final EIS/OEIS. Also of note, the number of high-speed vessel hours for small crafts in inshore waters would be the same as was described in [Table 3.0-20](#) of the 2018 Final EIS/OEIS, and therefore that information will not be provided here. The inshore waters added to the Study Area for this Supplemental EIS/OEIS would not be utilized for high-speed vessel activity. Coast Guard air frames are similar, and in most cases the same, as the U.S. Navy's aircraft; see Appendix A (Activity Descriptions) for more information.

Table 3.0-8: Representative U.S. Coast Guard Vessel Types, Lengths, and Speeds

<i>Type</i>	<i>Example(s)</i>	<i>Length</i>	<i>Typical Operating Speed</i>
Large cutters	Legend-Class, Heritage-Class, Famous-Class, Juniper-Class, Reliance-Class	181 ft. to 418 ft.	0 to 30 knots
Small cutters	Keeper-Class, Sentinel-Class, Bay-Class, Island-Class, Marine Protector-Class, Small Harbor Tug	66 ft. to 180 ft.	0 to 30 knots
Boats	Aid to Navigation Boats, Screening Vessels, Lifeboats, Response Boats, Training Boats, Long-Range Interceptors, Law Enforcement Boats, Cutterboat Over the Horizon, Transportable Security Boats	13 ft. to 65 ft.	0 to 40 knots

Note: ft. = feet

Regarding military expended material, various materials have reductions in the amounts expended based on more accurate data collection processes and applying recovery rates, as applicable, as previously described above. Table 3.0-4, Table 3.0-9 through Table 3.0-16, and Table 3.0-19 show either the number and location of proposed activities that include physical disturbance and strike stressors or the actual number of those stressors that are considered in this Supplemental EIS/OEIS and the equivalent information from the 2018 Final EIS/OEIS for comparison.

Table 3.0-9: Number and Location of Activities Including Vessels

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Activities</i>	<i>Annual Maximum Number of Activities</i>		<i>7-Year Number of Activities</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Training					
Northeast RC	411	489	498	3,420	3,482
VACAPES RC	12,412	9,552	9,702	66,861	67,932
Navy Cherry Point RC	6,754	2,654	2,688	18,569	18,810
SINKEX Box ¹	2	1	1	7	7
JAX RC	10,841	4,130	4,295	28,902	30,074
Key West RC	131	231	243	1,617	1,701
Gulf RC	771	859	874	6,012	6,115
Other AFTT Areas	689	364	419	2,541	2,930
Inshore Areas					
Northeast RC Inshore ²	198	283	287	1,981	2,008
VACAPES RC Inshore ²	2,270	2,428	2,446	16,996	17,122
JAX RC Inshore ²	122	228	234	1,596	1,638
Key West RC Inshore ²	5	176	176	1,232	1,232
Gulf RC Inshore ²	50	68	69	471	483

Table 3.0-9: Number and Location of Activities Including Vessels (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Activities</i>	<i>Annual Maximum Number of Activities</i>		<i>7-Year Number of Activities</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Port and Pierside Areas					
Boston, MA	2	1	1	1	1
NSB New London	235	66	66	462	462
Earle, NJ	2	1	1	1	1
Delaware Bay, DE	2	1	1	1	1
JEB Little Creek Fort Story	386	231	231	1,613	1,613
NS Norfolk	515	209	209	1,463	1,463
Hampton Roads, VA	4	1	1	1	1
Morehead City, NC	2	1	1	1	1
Wilmington, NC	2	1	1	1	1
Savannah, GA	2	1	1	1	1
Kings Bay, GA	2	1	1	1	1
NSB Kings Bay	5	2	2	14	14
Mayport, FL	2	1	1	1	1
NS Mayport	341	119	120	833	840
Port Canaveral, FL	47	3	3	15	15
Tampa, FL	2	18	20	121	134
Pascagoula, MS	-	18	19	121	133
Gulfport, MS	-	20	20	140	140
Beaumont, TX	4	18	20	121	134
Corpus Christi, TX	2	1	1	1	1
Total	36,213	22,177	22,652	155,118	158,492
Testing					
Northeast RC	1,088	314	335	1,998	2,206
NUWC Newport Testing Range	767	304	304	2,062	2,066
VACAPES RC	1,784	1,243	1,306	6,617	7,391
Navy Cherry Point RC	791	28	30	169	189
JAX RC	1,298	359	381	2,003	2,269
SFOMF	198	156	156	1,003	1,003
Key West RC	398	262	290	1,802	2,012
NSWC Panama City Testing Range	406	900	900	6,285	6,285
Gulf RC	618	323	340	1,787	2,164
Other AFTT Areas	-	28	31	187	208

Table 3.0-9: Number and Location of Activities Including Vessels (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Activities</i>	<i>Annual Maximum Number of Activities</i>		<i>7-Year Number of Activities</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Inshore Areas					
Northeast RC Inshore ²	-	1	1	6	6
VACAPES RC Inshore ²	-	1	1	3	7
Gulf RC Inshore ²	-	24	24	123	123
Port and Pierside Areas					
Bath, ME	11	20	20	110	110
Portsmouth Naval Shipyard	26	24	24	152	152
Newport, RI	4	5	5	32	32
NSB New London	9	2	2	13	13
Hampton Roads, VA	-	5	5	11	24
NS Norfolk	64	103	103	532	532
JEB Little Creek	61	2	2	12	12
NSB Kings Bay	4	3	3	15	15
NS Mayport	27	23	23	120	120
Port Canaveral, FL	3	4	4	15	15
Pascagoula, MS	7	22	22	120	120
Total	7,564	4,156	4,312	25,177	27,074

¹ SINKE Box numbers included with Other AFTT Areas in the 2018 Final EIS/OEIS.

² Activities occurred in these areas in the 2018 Final EIS/OEIS but the location name has been updated for this Supplemental EIS/OEIS.

Notes: - = Not Applicable; AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; JAX = Jacksonville; JEB = Joint Expeditionary Base; NS = Naval Station; NSB = Naval Submarine Base; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SINKE = Sinking Exercise; SFOMF = South Florida Ocean Measurement Facility; VACAPES = Virginia Capes

Table 3.0-10: Number and Location of Activities Including In-Water Devices

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Activities</i>	<i>Annual Maximum Number of Activities</i>		<i>7-Year Number of Activities</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Training					
Northeast RC	135	181	181	1,264	1,264
VACAPES RC	7,316	4,274	4,374	29,913	30,613
Navy Cherry Point RC	2,027	1,365	1,387	9,546	9,703
SINKEX Box ¹	1	1	1	7	7
JAX RC	5,097	3,060	3,210	21,412	22,465
Key West RC	32	147	147	1,029	1,029
Other AFTT Areas	361	231	286	1,614	1,999
NSWC Panama City Testing Range	328	-	-	-	-
Gulf RC	724	432	436	3,021	3,049
Inshore Areas					
Northeast RC Inshore ²	-	24	24	168	168
VACAPES RC Inshore ²	998	416	416	2,912	2,912
Port and Pierside Areas					
Boston, MA	7	1	1	1	1
Earle, NJ	7	1	1	1	1
Delaware Bay, DE	7	1	1	1	1
Hampton Roads, VA	14	1	1	1	1
Morehead City, NC	7	1	1	1	1
Wilmington, NC	7	1	1	1	1
Savannah, GA	7	1	1	1	1
Kings Bay, GA	51	1	1	1	1
Mayport, FL	77	1	1	1	1
Port Canaveral, FL	7	1	1	1	1
Tampa, FL	7	1	1	1	1
Beaumont, TX	14	1	1	1	1
Corpus Christi, TX	7	1	1	1	1
Total	17,238	10,144	10,475	70,899	73,222
Testing					
Northeast RC	450	203	219	1,333	1,499
NUWC Newport Testing Range	1,032	400	400	2,722	2,722
VACAPES RC	1,266	957	1,019	5,905	6,397
Navy Cherry Point RC	137	7	7	37	37
JAX RC	800	278	295	1,681	1,858

Table 3.0-10: Number and Location of Activities Including In-Water Devices (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Activities	Annual Maximum Number of Activities		7-Year Number of Activities	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
SFOMF	204	109	109	682	682
Key West RC	111	32	39	207	256
NSWC Panama City Testing Range	438	506	510	3,532	3,560
Gulf RC	322	160	172	1,027	1,167
Inshore Areas					
Gulf RC Inshore	-	1	1	4	4
Port and Pierside Areas					
Bath, ME	-	2	2	11	11
Newport, RI	-	5	5	32	32
Pascagoula, MS	-	2	2	11	11
Total	4,760	2,662	2,780	17,184	18,236

¹ SINKEX Box numbers included with Other AFTT Areas in the 2018 Final EIS/OEIS.

² Activities occurred in these areas in the 2018 Final EIS/OEIS but the location name has been updated for this Supplemental EIS/OEIS.

Notes: - = Not Applicable; AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; JAX = Jacksonville; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; SINKEX = Sinking Exercise; VACAPES = Virginia Capes

Table 3.0-11: Number and Location of Non-Explosive Practice Munitions Expended during Military Readiness Activities

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Training					
<i>Kinetic Energy Rounds</i>					
VACAPES RC	32	-	-	-	-
Navy Cherry Point RC	4	-	-	-	-
JAX RC	4	-	-	-	-
Gulf RC	4	-	-	-	-
Other AFTT Areas	4	-	-	-	-
Total	48	0	0	0	0

Table 3.0-11: Number and Location of Non-Explosive Practice Munitions Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
<i>Large-Caliber Projectiles</i>					
Northeast RC	-	100	100	700	700
VACAPES RC	4,930	3,710	3,710	25,970	25,970
Navy Cherry Point RC	1,234	1,174	1,174	8,218	8,218
JAX RC	2,534	2,284	2,284	15,988	15,988
Other AFTT Areas	210	210	210	1,470	1,470
Gulf RC	498	538	538	3,766	3,766
Total	9,406	8,016	8,016	56,112	56,112
<i>Large-Caliber Projectile Casings¹</i>					
Northeast RC	-	17	17	114	114
VACAPES RC	4,930	267	267	1,863	1,863
Navy Cherry Point RC	2,274 ²	126	126	877	877
SINKEX Box	-	1	1	7	7
JAX RC	2,534	137	137	955	955
Other AFTT Areas	210	17	17	114	114
Gulf RC	498	85	85	591	591
Total	10,446	646	646	4,521	4,521
<i>Medium-Caliber Projectiles</i>					
Northeast RC	1,000	13,500	13,500	94,500	94,500
VACAPES RC	658,561	745,450	745,450	5,218,150	5,239,150
Navy Cherry Point RC	328,149	333,250	333,250	2,332,750	2,332,750
JAX RC	383,861	374,150	374,150	2,619,050	2,633,050
Key West RC	28,000	19,000	19,000	133,000	133,000
Other AFTT Areas	21,150	10,750	10,750	75,250	75,250
Gulf RC	28,950	38,350	38,350	268,450	268,450
Total	1,449,671	1,534,450	1,534,450	10,741,150	10,776,150
<i>Medium-Caliber Projectile Casings¹</i>					
Northeast RC	1,000	645	645	4,515	4,515
VACAPES RC	658,561	19,020	19,020	133,137	133,137
Navy Cherry Point RC	328,149	8,318	8,318	58,223	58,223
JAX RC	383,861	9,935	9,935	69,542	69,542
Key West RC	28,000	495	495	3,465	3,465
Other AFTT Areas	21,150	558	558	3,903	3,903
Gulf RC	28,950	1,443	1,443	10,098	10,098
Total	1,449,671	40,414	40,414	282,883	282,883

Table 3.0-11: Number and Location of Non-Explosive Practice Munitions Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
<i>Small-Caliber Projectiles</i>					
Northeast RC	27,000	35,000	35,000	245,000	245,000
VACAPES RC	2,262,000	2,915,000	2,915,000	20,405,000	20,405,000
Navy Cherry Point RC	393,000	408,800	408,800	2,861,600	2,861,600
JAX RC	1,026,000	1,067,400	1,067,400	7,471,800	7,471,800
Other AFTT Areas	100,000	105,000	105,000	735,000	735,000
Gulf RC	83,000	150,000	150,000	1,050,000	1,050,000
Total	3,891,000	4,681,200	4,681,200	32,768,400	32,768,400
<i>Small-Caliber Projectile Casings¹</i>					
Northeast RC	27,000	8,000	8,100	56,000	56,700
NUWC Newport Testing Range	8,320	-	-	-	-
VACAPES RC	2,267,000 ²	590,000	590,100	4,130,000	4,130,700
Navy Cherry Point RC	393,000	82,760	82,860	579,320	580,020
JAX RC	1,031,000 ²	217,480	217,580	1,522,360	1,523,060
Key West RC	-	1,000	1,100	7,000	7,700
Other AFTT Areas	100,000	21,000	21,000	147,000	147,000
Gulf RC	83,000	31,000	31,100	217,000	217,700
<i>Inshore Areas</i>					
VACAPES RC Inshore ³	181,020	-	-	-	-
<i>Port and Pierside Areas</i>					
Port Canaveral, FL	12,800	-	-	-	-
Total	4,103,140	951,240	951,840	6,658,680	6,662,880
<i>Rockets</i>					
Northeast RC	1	4	4	28	28
VACAPES RC	1,835	788	788	5,516	5,516
Navy Cherry Point RC	304	385	385	2,695	2,695
JAX RC	2,095	1,063	1,063	7,441	7,441
Key West RC	-	16	16	112	112
Gulf RC	191	120	120	840	840
Total	4,426	2,376	2,376	16,632	16,632
<i>Rockets (Flechette)</i>					
VACAPES RC	95	-	-	-	-
JAX RC	110	-	-	-	-
Total	205	0	0	0	0
<i>Torpedoes</i>					
Northeast RC	24	2	2	9	9

Table 3.0-11: Number and Location of Non-Explosive Practice Munitions Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
VACAPES RC	21	2	2	8	8
JAX RC	92	5	5	33	33
Total	137	9	9	50	50
<i>Bombs</i>					
VACAPES RC	2,188	2,192	2,192	15,344	15,344
Navy Cherry Point RC	596	620	620	4,340	4,340
JAX RC	1,360	1,328	1,328	9,296	9,296
Gulf RC	270	268	268	1,876	1,876
Total	4,414	4,408	4,408	30,856	30,856
Testing					
<i>Kinetic Energy Rounds</i>					
Northeast RC	33,503	-	-	-	-
NUWC Newport Testing Range	4	-	-	-	-
VACAPES RC	35,003	-	-	-	-
Navy Cherry Point RC	35,003	-	-	-	-
JAX RC	35,003	-	-	-	-
SFOMF	4	-	-	-	-
Key West RC	35,003	-	-	-	-
NSWC Panama City Testing Range	4	-	-	-	-
Gulf RC	35,003	-	-	-	-
Total	208,530	0	0	0	0
<i>Large-Caliber Projectiles</i>					
Northeast RC	1,761	55	55	307	307
NUWC Newport Testing Range	-	5	5	32	32
VACAPES RC	8,147	3,177	3,177	15,396	15,396
Navy Cherry Point RC	1,440	5	5	32	32
JAX RC	14,524	2,581	2,581	11,224	11,224
Key West RC	3,190	-	-	-	-
NSWC Panama City RC	280	105	105	732	732
Gulf RC	2,774	55	55	307	307
Total	32,116	5,983	5,983	28,030	28,030
<i>Large-Caliber Projectile Casings¹</i>					
Northeast RC	1,761	3	3	17	17
NUWC Newport Testing Range	-	1	1	3	3
VACAPES RC	8,147	223	223	1,042	1,042

Table 3.0-11: Number and Location of Non-Explosive Practice Munitions Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Navy Cherry Point RC	1,440	1	1	3	3
JAX RC	14,524	230	230	1,067	1,067
Key West RC	3,190	-	-	-	-
NSWC Panama City RC	280	11	11	73	73
Gulf RC	2,774	3	3	17	17
Total	32,116	472	472	2,222	2,222
<i>Medium-Caliber Projectiles</i>					
Northeast RC	9,060	3,000	3,000	16,500	16,500
VACAPES RC	234,665	219,575	219,575	796,625	796,625
Navy Cherry Point RC	8,160	-	-	-	-
JAX RC	237,360	22,500	22,500	150,400	150,400
Key West RC	32,660	-	-	-	-
NSWC Panama City Testing Range	5,100	5,100	5,100	35,700	35,700
Gulf RC	22,860	4,000	4,000	19,500	19,500
Total	549,865	254,175	254,175	1,018,725	1,018,725
<i>Medium-Caliber Projectile Casings¹</i>					
Northeast RC	9,060	150	150	825	825
VACAPES RC	234,665	12,709	12,709	52,016	52,016
Navy Cherry Point RC	8,160	-	-	-	-
JAX RC	237,360	663	663	4,364	4,364
Key West RC	32,660	-	-	-	-
NSWC Panama City Testing Range	5,100	102	102	714	714
Gulf RC	22,860	200	200	975	975
Total	549,865	13,824	13,824	58,894	58,894
<i>Small-Caliber Projectiles</i>					
Northeast RC	4,800	-	-	-	-
VACAPES RC	77,800	25,375	25,375	177,300	177,300
Navy Cherry Point RC	4,800	-	-	-	-
JAX RC	4,800	11,275	11,275	78,600	78,600
NSWC Panama City Testing Range	7,000	8,000	8,000	50,000	50,000
Key West RC	4,800	-	-	-	-
Gulf RC	17,800	-	-	-	-
Total	121,800	44,650	44,650	305,900	305,900

Table 3.0-11: Number and Location of Non-Explosive Practice Munitions Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
<i>Small-Caliber Projectile Casings¹</i>					
Northeast RC	4,800	-	-	-	-
VACAPES RC	77,800	7,035	7,035	38,620	38,620
Navy Cherry Point RC	4,800	-	-	-	-
JAX RC	4,800	2,415	2,415	16,080	16,080
NSWC Panama City Testing Range	7,000	1,600	1,600	10,000	10,000
Key West RC	4,800	-	-	-	-
Gulf RC	17,800	600	600	1,400	1,400
Total	121,800	11,650	11,650	66,100	66,100
<i>Rockets</i>					
Northeast RC	1	16	16	102	102
NUWC Newport Testing Range	-	12	12	80	80
VACAPES RC	759	1,272	1,272	7,934	7,934
Navy Cherry Point RC	-	12	12	80	80
JAX RC	407	752	752	5,024	5,024
NSWC Panama City Testing Range	-	12	12	80	80
Gulf RC	1	16	16	102	102
Total	1,168	2,092	2,092	13,402	13,402
<i>Rockets (Flechette)</i>					
VACAPES RC	249	252	252	1,764	1,764
JAX RC	136	171	171	1,197	1,197
Total	385	423	423	2,961	2,961
<i>Torpedoes</i>					
Northeast RC	146	42	42	170	170
NUWC Newport Testing Range	315	2	2	14	14
VACAPES RC	375	51	51	207	227
Navy Cherry Point RC	118	3	3	15	15
JAX RC	369	50	50	215	219
SFOMF	6	1	1	4	4
Key West RC	2	2	2	5	5
NSWC Panama City Testing Range	180	31	31	216	216
Gulf RC	132	41	41	163	163
Total	1,643	223	223	1,009	1,033

Table 3.0-11: Number and Location of Non-Explosive Practice Munitions Expended during Military Readiness Activities (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Materials</i>	<i>Annual Maximum Number of Materials</i>		<i>7-Year Number of Materials</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
<i>Bombs</i>					
VACAPES RC	916	178	178	1,246	1,246
JAX RC	12	12	12	84	84
Gulf RC	-	8	8	56	56
Total	928	198	198	1,386	1,386
<i>Missiles</i>					
Northeast RC	25	2	2	6	6
VACAPES RC	1,633	288	288	1,882	1,882
Navy Cherry Point RC	25	2	2	6	6
JAX RC	594	70	70	430	430
SFOMF	-	2	2	6	6
Key West RC	32	-	-	-	-
Gulf RC	42	6	6	42	42
Total	2,351	370	370	2,372	2,372

¹ In the 2018 Final EIS/OEIS, projectile casings (outside of small-caliber) were not individually listed as military expended material in the non-explosive practice munitions table, rather the medium- and large-caliber projectiles accounted for both the projectile itself and the casing. It was assumed for every one projectile expended there was also one casing. In the 2018 Final EIS/OEIS, all projectiles and casings were assumed to be expended at a rate of 100 percent.

² A small amount of casings (only) were accounted for separately in the 2018 Final EIS/OEIS due to specific training events and are added to the total projectile casing count for the location.

³ Activities occurred in these areas in the 2018 Final EIS/OEIS but the location name has been updated for this Supplemental EIS/OEIS.

Notes: - = Not Applicable; AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; JAX = Jacksonville; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; SINKEX = Sinking Exercise; VACAPES = Virginia Capes

Table 3.0-12: Number and Location of Explosives that May Result in Fragments Used during Military Readiness Activities

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Munitions	Annual Maximum Number of Munitions		7-Year Number of Munitions	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Training					
<i>Neutralizers</i>					
VACAPES RC	62	60	60	420	420
Navy Cherry Point RC	1	2	2	14	14
JAX RC	2	-	-	-	-
Gulf RC	22	20	20	140	140
Total	87	82	82	574	574
<i>Bombs</i>					
VACAPES RC	88	108	108	756	756
JAX RC	56	70	70	490	490
SINKEX Box	12	10	10	70	70
Gulf RC	4	16	16	112	112
Total	160	204	204	1,428	1,428
<i>Drones</i>					
Navy Cherry Point RC	-	34	34	238	238
Total	0	34	34	238	238
<i>EOD</i>					
Key West RC Inshore	10	72	72	504	504
Total	10	72	72	504	504
<i>Grenades</i>					
Northeast RC	56	-	-	-	-
VACAPES RC	4,070	36	36	252	252
Navy Cherry Point RC	28	-	-	-	-
JAX RC	28	-	-	-	-
Gulf RC	28	-	-	-	-
Total	4,210	36	36	252	252
<i>Torpedoes</i>					
SINKEX Box	1	1	1	7	7
Total	1	1	1	7	7
<i>Large-Caliber Projectiles</i>					
Northeast RC	-	45	45	315	315
VACAPES RC	762	662	662	4,634	4,634
Navy Cherry Point RC	210	290	290	2,030	2,030

Table 3.0-12: Number and Location of Explosives that May Result in Fragments Used during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Munitions	Annual Maximum Number of Munitions		7-Year Number of Munitions	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
SINKEX Box	200	20	20	140	140
JAX RC	642	442	442	3,094	3,094
Other AFTT Areas	114	114	114	798	798
Gulf RC	114	199	199	1,393	1,393
Total	2,042	1,772	1,772	12,404	12,404
<i>Medium-Caliber Projectiles</i>					
Northeast RC	-	3,000	3,000	21,000	21,000
VACAPES RC	46,100	56,200	56,200	393,400	393,400
Navy Cherry Point RC	20,000	33,400	33,400	233,800	233,800
JAX RC	45,600	52,400	52,400	366,800	366,800
Other AFTT Areas	400	400	400	2,800	2,800
Key West RC	-	500	500	3,500	3,500
Gulf RC	6,000	7,900	7,900	55,300	55,300
Total	118,100	153,800	153,800	1,076,600	1,076,600
<i>Missiles</i>					
Northeast RC	2	2	2	14	14
VACAPES RC	199	173	173	1,211	1,211
Navy Cherry Point RC	187	379	379	2,653	2,653
SINKEX Box	4	2	2	14	14
JAX RC	192	125	125	875	875
Key West RC	8	24	24	168	168
Gulf RC	2	32	32	224	224
Total	594	737	737	5,159	5,159
<i>Rockets</i>					
VACAPES RC	1,748	2,160	2,160	15,120	15,120
Navy Cherry Point RC	76	90	90	630	630
JAX RC	1,824	2,184	2,184	15,288	15,288
Gulf RC	190	224	224	1,568	1,568
Total	3,838	4,658	4,658	32,606	32,606
Testing					
<i>Neutralizers</i>					
VACAPES RC	250	1,782	1,782	10,698	10,698
JAX RC	50	-	-	-	-

Table 3.0-12: Number and Location of Explosives that May Result in Fragments Used during Military Readiness Activities (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Munitions</i>	<i>Annual Maximum Number of Munitions</i>		<i>7-Year Number of Munitions</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
NSWC Panama City Testing Range	328	6	6	42	42
Gulf RC	100	1,470	1,470	10,290	10,290
Total	728	3,258	3,258	21,030	21,030
<i>Bombs</i>					
VACAPES RC	4	-	-	-	-
Total	4	0	0	0	0
<i>Buoys</i>					
Northeast RC	736	180	225	1,260	1,575
VACAPES RC	368	180	225	1,260	1,575
Navy Cherry Point RC	152	-	-	-	-
JAX RC	152	180	225	1,260	1,575
Key West RC	202	60	60	420	420
Gulf RC	368	180	225	1,260	1,575
Total	1,978	780	960	5,460	6,720
<i>Torpedoes</i>					
Northeast RC	7	2	2	4	4
VACAPES RC	7	2	2	4	4
Navy Cherry Point RC	3	2	2	4	4
JAX RC	7	2	2	4	4
Key West RC	3	2	2	4	4
NSWC Panama City Testing Range	12	-	-	-	-
Gulf RC	7	2	2	4	4
Total	46	12	12	24	24
<i>Large-Caliber Projectiles</i>					
Northeast RC	1,632	-	-	-	-
VACAPES RC	4,763	1,271	1,271	5,411	5,411
Navy Cherry Point RC	1,632	-	-	-	-
JAX RC	7,876	2,015	2,015	10,079	10,079
Key West RC	2,332	-	-	-	-
NSWC Panama City Testing Range	280	100	100	700	700
Gulf RC	2,243	-	-	-	-
Total	20,758	3,386	3,386	16,190	16,190

Table 3.0-12: Number and Location of Explosives that May Result in Fragments Used during Military Readiness Activities (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Munitions</i>	<i>Annual Maximum Number of Munitions</i>		<i>7-Year Number of Munitions</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
<i>Medium-Caliber Projectiles</i>					
Northeast RC	3,860	-	-	-	-
VACAPES RC	17,270	10,775	10,775	75,425	75,425
Navy Cherry Point RC	3,360	-	-	-	-
JAX RC	14,860	5,400	5,400	37,800	37,800
Key West RC	3,360	-	-	-	-
Gulf RC	3,360	-	-	-	-
Total	46,070	16,175	16,175	113,225	113,225
<i>Missiles</i>					
Northeast RC	10	2	2	11	11
VACAPES RC	222	245	245	1,100	1,124
Navy Cherry Point RC	-	2	2	14	14
JAX RC	70	76	76	241	241
Gulf RC	12	9	9	60	60
Total	314	334	334	1,426	1,450
<i>Rockets</i>					
VACAPES RC	206	9	9	63	63
JAX RC	200	-	-	-	-
Total	406	9	9	63	63
<i>Sonobuoys</i>					
Northeast RC	-	432	540	3,024	3,780
VACAPES RC	-	432	540	3,024	3,780
JAX RC	-	432	540	3,024	3,780
Key West RC	36	10	10	70	70
Gulf RC	-	432	540	3,024	3,780
Total	36	1,738	2,170	12,166	15,190

Notes: - = Not Applicable; AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; EOD = Explosive Ordnance Disposal; JAX = Jacksonville; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; SINKEX = Sinking Exercise; VACAPES = Virginia Capes

Table 3.0-13: Number and Location of Targets Expended during Military Readiness Activities

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number Targets	Annual Maximum Number of Targets		7-Year Number of Targets	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Training					
<i>Air Targets (Decoy)</i>					
Northeast RC	2	-	-	-	-
VACAPES RC	81	-	-	-	-
Navy Cherry Point RC	52	-	-	-	-
JAX RC	61	-	-	-	-
Key West RC	9	-	-	-	-
Gulf RC	2	-	-	-	-
Total	207	0	0	0	0
<i>Air Targets (Drone)</i>					
Northeast RC	-	1	1	5	5
VACAPES RC	18	22	22	153	153
Navy Cherry Point RC	28	249	249	1,742	1,742
JAX RC	7	11	11	77	77
Key West RC	2	3	3	17	17
Gulf RC	-	10	10	65	65
Total	55	296	296	2,059	2,059
<i>Air Targets (Other)</i>					
VACAPES RC	-	25	25	171	173
Navy Cherry Point RC	-	13	13	87	87
JAX RC	-	16	16	107	108
Key West RC	-	10	10	70	70
Total	0	64	64	435	435
<i>Mine Targets</i>					
VACAPES RC	221	94	94	657	657
Navy Cherry Point RC	78	26	26	176	176
JAX RC	78	25	25	175	175
Key West RC	2	11	11	77	77
Gulf RC	93	23	23	161	161
<i>Inshore Areas</i>					
VACAPES RC Inshore ¹	2	22	22	154	154
JAX RC Inshore ¹	-	1	1	2	2
Key West RC Inshore ¹	-	1	1	4	4
Total	474	203	203	1,406	1,406

**Table 3.0-13: Number and Location of Targets Expended during Military Readiness Activities
(continued)**

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number Targets	Annual Maximum Number of Targets		7-Year Number of Targets	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
<i>Ship Hulks</i>					
VACAPES RC	-	1	1	4	4
JAX RC	-	1	1	4	4
SINKEX Box	1	1	1	7	7
Total²	1	3	3	15	15
<i>Sub-Surface Targets (Maneuvering)</i>					
Northeast RC	82	62	62	434	434
VACAPES RC	304	204	274	1,423	1,913
Navy Cherry Point RC	98	57	72	393	501
JAX RC	1,057	811	916	5,677	6,412
Other AFTT Areas	134	70	109	490	759
Gulf RC	3	6	6	40	40
Total	1,678	1,210	1,439	8,457	10,059
<i>Surface Targets (Floating)</i>					
Northeast RC	20	34	34	232	232
VACAPES RC	4,512	1,691	1,691	11,831	11,831
Navy Cherry Point RC	1,298	540	540	3,777	3,777
JAX RC	3,013	961	961	6,724	6,724
Key West RC	-	3	3	17	17
Other AFTT Areas	200	46	46	322	322
Gulf RC	334	152	152	1,058	1,058
Total	9,377	3,427	3,427	23,961	23,961
<i>Surface Targets (Maneuvering)</i>					
VACAPES RC	70	-	-	-	-
Navy Cherry Point RC	23	-	-	-	-
JAX RC	78	-	-	-	-
Gulf RC	3	-	-	-	-
Total	174	0	0	0	0
Testing					
<i>Air Targets (Decoy)</i>					
VACAPES RC	5	55	55	385	385
JAX RC	2	-	-	-	-
Gulf RC	-	2	2	14	14
Total	7	57	57	399	399

**Table 3.0-13: Number and Location of Targets Expended during Military Readiness Activities
(continued)**

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number Targets</i>	<i>Annual Maximum Number of Targets</i>		<i>7-Year Number of Targets</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
<i>Air Targets (Drone)</i>					
Northeast RC	6	7	7	48	48
NUWC Newport Testing Range	6	18	18	126	126
VACAPES RC	200	157	157	635	645
Navy Cherry Point RC	8	7	7	44	44
JAX RC	62	46	46	178	187
SFOMF	6	-	-	-	-
NSWC Panama City Testing Range	-	7	7	44	44
Key West RC	6	-	-	-	-
Gulf RC	16	7	7	48	48
Total	310	249	249	1,123	1,142
<i>Air Targets (Other)</i>					
Northeast RC	-	1	1	2	2
NUWC Newport Testing Range	-	1	1	2	2
VACAPES RC	-	6	6	13	13
Navy Cherry Point RC	-	1	1	2	2
JAX RC	-	1	1	2	2
NSWC Panama City Testing Range	-	1	1	2	2
Gulf RC	-	1	1	2	2
Total	0	12	12	25	25
<i>Mine Targets</i>					
NUWC Newport Testing Range	-	45	45	306	306
VACAPES RC	127	1,207	1,207	7,367	7,367
JAX RC	122	204	204	1,368	1,368
SFOMF	40	146	146	1,020	1,020
NSWC Panama City Testing Range	370	2,141	2,141	11,971	11,971
Gulf RC	232	364	364	2,548	2,548

**Table 3.0-13: Number and Location of Targets Expended during Military Readiness Activities
(continued)**

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number Targets</i>	<i>Annual Maximum Number of Targets</i>		<i>7-Year Number of Targets</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Port and Pierside Areas					
Port Canaveral, FL	-	12	12	25	25
Total	891	4,119	4,119	24,605	24,605
Ship Hulks					
Northeast RC	-	1	1	1	1
VACAPES RC	-	1	1	1	1
Navy Cherry Point RC	-	1	1	1	1
JAX RC	-	1	1	1	1
Key West RC	-	1	1	1	1
Gulf RC	-	1	1	1	1
Total³	0	1	1	3	3
Sub-Surface Targets (Maneuvering)					
Northeast RC	54	189	189	1,253	1,253
NUWC Newport Testing Range	516	-	-	-	-
VACAPES RC	57	501	501	3,383	3,383
Navy Cherry Point RC	7	2	2	4	4
JAX RC	184	150	150	854	854
SFOMF	95	1	1	7	7
Key West RC	3	42	42	288	288
Gulf RC	208	33	33	161	161
Total	1,124	918	918	5,950	5,950
Sub-Surface Targets (Stationary)					
Northeast RC	2,228	-	-	-	-
NUWC Newport Testing Range	374	-	-	-	-
VACAPES RC	1,142	-	-	-	-
Navy Cherry Point RC	81	-	-	-	-
JAX RC	320	-	-	-	-
SFOMF	84	-	-	-	-
Key West RC	32	-	-	-	-
Gulf RC	960	-	-	-	-
Total	5,221	0	0	0	0

**Table 3.0-13: Number and Location of Targets Expended during Military Readiness Activities
(continued)**

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number Targets	Annual Maximum Number of Targets		7-Year Number of Targets	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
<i>Surface Targets (Floating)</i>					
Northeast RC	172	12	12	59	59
NUWC Newport Testing Range	484	24	24	164	164
VACAPES RC	832	162	162	640	640
Navy Cherry Point RC	172	4	4	27	27
JAX RC	545	48	48	189	189
SFOMF	56	-	-	-	-
Key West RC	178	1	1	3	3
NSWC Panama City Testing Range	-	214	214	1,074	1,074
Gulf RC	248	32	32	119	119
Total	2,687	497	497	2,275	2,275
<i>Surface Targets (Maneuvering)</i>					
Northeast RC	-	1	1	2	2
NUWC Newport Testing Range	450	1	1	2	2
VACAPES RC	153	16	16	65	65
Navy Cherry Point RC	-	1	1	2	2
JAX RC	19	6	6	31	31
Key West RC	2	-	-	-	-
NSWC Panama City Testing Range	-	1	1	2	2
Gulf RC	2	1	1	2	2
Total	627	27	27	106	106

¹ Activities occurred in these areas in the 2018 Final EIS/OEIS but the location name has been updated for this Supplemental EIS/OEIS.

² For this Supplemental EIS/OEIS, ship hulks may be expended in either Virginia Capes Range Complex or Jacksonville Range Complex, but only up to one would be expended per year and only up to seven over 7 years for these two locations.

³ For the Supplemental EIS/OEIS, ship hulks may be expended in any of the six locations listed, but only up to one would be expended per year and only up to three over 7 years.

Notes: - = Not Applicable; AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; JAX = Jacksonville; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; VACAPES = Virginia Capes

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Training					
<i>Acoustic Countermeasures</i>					
Northeast RC	84	12	12	84	84
VACAPES RC	51	25	25	175	175
Navy Cherry Point RC	24	-	-	-	-
JAX RC	184	96	96	672	672
Other AFTT Areas	88	-	-	-	-
Total	431	133	133	931	931
<i>AMNS Neutralizer (Non-Explosive)</i>					
VACAPES RC	-	12	12	80	80
Navy Cherry Point RC	-	2	2	10	10
JAX RC	-	2	2	11	11
Key West RC	-	1	1	3	3
Gulf RC	-	3	3	16	16
Total	0	20	20	120	120
<i>Mine Anchors</i>					
VACAPES RC	-	124	124	867	867
Navy Cherry Point RC	-	36	36	248	248
JAX RC	-	34	34	234	234
Key West RC	-	15	15	102	102
Gulf RC	-	38	38	266	266
<i>Inshore Areas</i>					
VACAPES RC Inshore ¹	-	43	43	301	301
JAX RC Inshore ¹	-	1	1	3	3
Total	0	291	291	2,021	2,021
<i>Bottom-Placed Instruments</i>					
Other AFTT Areas	-	6	6	42	42
Total	0	6	6	42	42
<i>Buoy (Fixed)</i>					
Other AFTT Areas	-	1	1	3	3
Total	0	1	1	3	3
<i>Chaff – Air Cartridge</i>					
VACAPES RC	2,080	2,080	2,080	14,560	14,560
Navy Cherry Point RC	25,760	25,760	25,760	180,320	180,320
JAX RC	47,840	47,840	47,840	334,880	334,880

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Key West RC	4,800	48,000	48,000	336,000	336,000
Gulf RC	288	288	288	2,016	2,016
Total	80,768	123,968	123,968	867,776	867,776
<i>Chaff – Ship Cartridge</i>					
VACAPES RC	264	150	150	1,050	1,050
Navy Cherry Point RC	480	40	40	280	280
JAX RC	516	40	40	280	280
Gulf RC	120	40	40	280	280
Total	1,380	270	270	1,890	1,890
<i>Compression Pad/Plastic Piston</i>					
VACAPES RC	1,000	1,000	1,000	7,000	7,000
Navy Cherry Point RC	22,300	5,000	5,000	35,000	35,000
JAX RC	38,000	8,000	8,000	56,000	56,000
Key West RC	31,000	25,000	25,000	175,000	175,000
Gulf RC	1,840	1,840	1,840	12,880	12,880
<i>Inshore Areas</i>					
VACAPES RC Inshore ¹	20,400	-	-	-	-
Total	114,540	40,840	40,840	285,880	285,880
<i>Decelerator/Parachute – Extra Large</i>					
VACAPES RC	5	-	-	-	-
Total	5	0	0	0	0
<i>Decelerator/Parachute – Large</i>					
Northeast RC	1	2	2	14	14
VACAPES RC	30	44	44	308	308
Navy Cherry Point RC	-	10	10	67	67
JAX RC	1	14	14	95	95
Key West RC	-	8	8	56	56
Gulf RC	1	32	32	224	224
Total	33	110	110	764	764
<i>Decelerator/Parachute – Medium</i>					
VACAPES RC	40	8	8	56	56
Navy Cherry Point RC	48	8	8	53	53
JAX RC	48	8	8	53	53
Key West RC	8	8	8	56	56
Total	144	32	32	218	218

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
<i>Decelerator/Parachute – Small</i>					
Northeast RC	2,882	5,120	5,120	35,840	35,840
VACAPES RC	7,497	10,975	10,975	76,823	76,823
Navy Cherry Point RC	2,542	4,657	4,657	32,068	32,180
JAX RC	27,265	43,213	43,213	296,859	297,083
Other AFTT Areas	432	504	504	3,528	3,528
Gulf RC	-	63	1,601	441	11,207
Total	40,618	64,532	66,070	445,559	456,661
<i>Endcap – Chaff and Flare</i>					
VACAPES RC	3,120	3,088	3,088	21,616	21,616
Navy Cherry Point RC	48,108	48,068	48,068	336,473	336,473
JAX RC	85,888	85,848	85,848	600,933	600,933
Key West RC	79,008	79,008	79,008	553,056	553,056
Gulf RC	2,128	2,128	2,128	14,896	14,896
<i>Inshore Areas</i>					
VACAPES RC Inshore ¹	20,400	-	-	-	-
Total	238,652	218,140	218,140	1,526,974	1,526,974
<i>Expended Bathythermograph</i>					
Northeast RC	142	98	98	686	686
VACAPES RC	414	371	471	2,593	3,293
Navy Cherry Point RC	108	388	410	2,564	2,821
JAX RC	1,353	1,300	1,450	8,222	9,477
Other AFTT Areas	154	347	402	2,429	2,814
Gulf RC	5	5	262	35	1,834
Total	2,176	2,509	3,093	16,529	20,925
<i>Fiber-Optic Canister</i>					
VACAPES RC	62	117	117	819	819
Navy Cherry Point RC	1	9	9	63	63
JAX RC	2	8	8	51	51
Key West RC	-	2	2	14	14
Gulf RC	22	32	32	219	219
Total	87	168	168	1,166	1,166
<i>Flare O-Ring</i>					
VACAPES RC	1,040	1,008	1,008	7,056	7,056
Navy Cherry Point RC	22,348	5,008	5,008	35,053	35,053

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Materials</i>	<i>Annual Maximum Number of Materials</i>		<i>7-Year Number of Materials</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
JAX RC	38,048	8,008	8,008	56,053	56,053
Key West RC	31,008	25,008	25,008	175,056	175,056
Gulf RC	1,840	1,840	1,840	12,880	12,880
<i>Inshore Areas</i>					
VACAPES RC Inshore ¹	20,400	-	-	-	-
Total	114,684	40,872	40,872	286,098	286,098
<i>Flares</i>					
VACAPES RC	1,040	1,000	1,000	7,000	7,000
Navy Cherry Point RC	22,348	5,000	5,000	35,000	35,000
JAX RC	38,048	8,000	8,000	56,000	56,000
Key West RC	31,008	25,000	25,000	175,000	175,000
Gulf RC	1,840	1,840	1,840	12,880	12,880
<i>Inshore Areas</i>					
VACAPES RC Inshore ¹	20,400	-	-	-	-
Total	114,684	40,840	40,840	285,880	285,880
<i>Grenade (Non-Explosive)</i>					
Northeast RC	-	500	550	3,500	3,850
VACAPES RC	-	500	550	3,500	3,850
Navy Cherry Point RC	-	500	550	3,500	3,850
JAX RC	-	500	550	3,500	3,850
Key West RC	-	500	550	3,500	3,850
Gulf RC	-	500	550	3,500	3,850
Total	0	3,000	3,300	21,000	23,100
<i>Heavyweight Torpedo Accessories</i>					
Northeast RC	24	24	24	168	168
VACAPES RC	8	8	8	56	56
JAX RC	48	48	48	336	336
SINKEX Box	1	1	1	7	7
Total	81	81	81	567	567
<i>JATO Bottles</i>					
Northeast RC	1	-	-	-	-
VACAPES RC	35	-	-	-	-
JAX RC	1	-	-	-	-
Gulf RC	1	-	-	-	-
Total	38	0	0	0	0

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
<i>Lightweight Torpedo Accessories</i>					
VACAPES RC	13	13	13	91	91
JAX RC	44	44	44	308	308
Total	57	57	57	399	399
<i>Marine Markers</i>					
NUWC Newport Testing Range	64	-	-	-	-
VACAPES RC	1,022	388	388	2,716	2,716
Navy Cherry Point RC	332	50	50	350	350
JAX RC	1,060	674	674	4,718	4,718
Other AFTT Areas	24	50	50	350	350
Key West RC	30	-	-	-	-
Gulf RC	53	50	50	350	350
<i>Inshore Areas</i>					
VACAPES RC Inshore ¹	978	660	660	4,620	4,620
<i>Port and Pierside Areas</i>					
Port Canaveral, FL	64	-	-	-	-
Total	3,627	1,872	1,872	13,104	13,104
<i>Non-Explosive Buoy</i>					
VACAPES RC	24	-	-	-	-
Navy Cherry Point RC	17	-	-	-	-
JAX RC	116	-	-	-	-
Total	157	0	0	0	0
<i>Non-Explosive Sonobuoy</i>					
Northeast RC	2,882	5,120	5,120	35,840	35,840
VACAPES RC	7,484	10,967	10,967	76,767	76,767
Navy Cherry Point RC	2,542	4,657	4,657	32,068	32,180
JAX RC	27,237	43,185	43,185	296,663	296,887
Other AFTT Areas	432	504	504	3,528	3,528
Gulf RC	-	63	1,601	441	11,207
Total	40,577	64,496	66,034	445,307	456,409
<i>Sabot-Plastic</i>					
VACAPES RC	-	62,250	62,250	435,750	446,250
Navy Cherry Point RC	-	19,000	19,000	133,000	133,000
JAX RC	-	33,500	33,500	234,500	234,500

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Materials</i>	<i>Annual Maximum Number of Materials</i>		<i>7-Year Number of Materials</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Other AFTT Areas	-	4,500	4,500	31,500	31,500
Gulf RC	-	4,500	4,500	31,500	31,500
Total	0	123,750	123,750	866,250	876,750
<i>Sabot-Kinetic Energy Round</i>					
VACAPES RC	32	-	-	-	-
Navy Cherry Point RC	4	-	-	-	-
JAX RC	4	-	-	-	-
Other AFTT Areas	4	-	-	-	-
Gulf RC	4	-	-	-	-
Total	48	0	0	0	0
<i>Small Floating Surface Device</i>					
VACAPES RC	-	347	347	2,429	2,429
Navy Cherry Point RC	-	50	50	350	350
JAX RC	-	130	130	910	910
Other AFTT Areas	-	50	50	350	350
Gulf RC	-	50	50	350	350
<i>Inshore Areas</i>					
VACAPES RC Inshore ¹	-	47	47	329	329
JAX RC Inshore ¹	-	5	5	35	35
Gulf RC Inshore ¹	-	25	25	175	175
Total	0	704	704	4,928	4,928
Testing					
<i>Acoustic Countermeasures</i>					
Northeast RC	843	237	237	1,158	1,158
NUWC Newport Testing Range	64	104	104	664	664
VACAPES RC	1,163	265	265	1,354	1,354
Navy Cherry Point RC	708	132	132	607	607
JAX RC	1,508	317	317	1,482	1,482
SFOMF	17	13	13	88	88
Key West RC	-	104	104	411	411
Gulf RC	697	147	147	620	620
<i>Port and Pierside Areas</i>					
NSB Kings Bay	-	10	10	10	10

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Materials</i>	<i>Annual Maximum Number of Materials</i>		<i>7-Year Number of Materials</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Port Canaveral, FL	-	10	10	10	10
Total	5,000	1,339	1,339	6,404	6,404
<i>AMNS Neutralizer (Non-Explosive)</i>					
VACAPES RC	-	2	2	14	14
NSWC Panama City Testing Range	-	3	3	15	15
Total	0	5	5	29	29
<i>Anchors</i>					
Northeast RC	-	561	563	3,481	3,938
VACAPES RC	-	561	563	3,481	3,938
JAX RC	-	561	563	3,481	3,938
Gulf RC	-	561	563	3,481	3,938
Total	0	2,244	2,252	13,924	15,752
<i>Anchors (Other)</i>					
Northeast RC	685	38	38	233	233
NUWC Newport Testing Range	70	-	-	-	-
VACAPES RC	343	64	64	380	408
JAX RC	20	170	170	430	470
SFOMF	654	600	600	2,830	2,830
Gulf RC	338	50	50	310	350
Total	2,110	922	922	4,183	4,291
<i>Mine Anchors</i>					
VACAPES RC	2	1,202	1,202	7,203	7,203
NSWC Panama City Testing Range	4	2,100	2,100	10,500	10,500
JAX RC	-	20	20	140	140
SFOMF	-	408	408	2,856	2,856
Total	6	3,730	3,730	20,699	20,699
<i>Anti-Torpedo Torpedo</i>					
Northeast RC	78	3	3	15	15
VACAPES RC	96	3	3	15	15
Navy Cherry Point RC	36	1	1	3	3
JAX RC	104	3	3	15	15
Key West RC	-	1	1	3	3

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Gulf RC	72	1	1	4	4
Total	386	12	12	55	55
<i>Anti-Torpedo Torpedo Accessories</i>					
Northeast RC	78	56	56	296	296
VACAPES RC	96	56	56	296	296
Navy Cherry Point RC	36	12	12	43	43
JAX RC	104	56	56	296	296
Key West RC	-	12	12	43	43
Gulf RC	72	18	18	67	67
Total	386	210	210	1,041	1,041
<i>Bottom-Placed Instruments</i>					
Northeast RC	-	1	1	1	1
NUWC Newport Testing Range	-	1	1	3	3
VACAPES RC	-	1	1	1	1
Navy Cherry Point RC	-	1	1	1	1
JAX RC	-	1	1	1	1
Key West RC	-	1	1	1	1
Gulf RC	-	1	1	1	1
Total	0	7	7	9	9
<i>Concrete Slugs</i>					
Northeast RC	38	76	76	418	418
VACAPES RC	-	72	72	192	192
JAX RC	-	72	72	192	192
Gulf RC	38	76	76	418	418
Total	76	296	296	1,220	1,220
<i>Compression Pad/Piston</i>					
VACAPES RC	20,195	11,010	11,010	77,070	77,070
Gulf RC	600	1,200	1,200	8,400	8,400
Total	20,795	12,210	12,210	85,470	85,470
<i>Chaff – Air Cartridge</i>					
Northeast RC	-	2	2	11	11
VACAPES RC	20,595	11,410	11,410	79,870	79,870
JAX RC	400	400	400	2,800	2,800

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Gulf RC	1,200	1,202	1,202	8,411	8,411
Total	22,195	13,014	13,014	91,092	91,092
<i>Chaff – Ship Cartridge</i>					
Northeast RC	144	-	-	-	-
VACAPES RC	1,019	132	132	780	852
Navy Cherry Point RC	144	-	-	-	-
JAX RC	480	84	84	444	516
Key West RC	144	-	-	-	-
Gulf RC	144	-	-	-	-
Total	2,075	216	216	1,224	1,368
<i>Canister – Miscellaneous</i>					
Northeast RC	240	-	-	-	-
VACAPES RC	240	-	-	-	-
Total	480	0	0	0	0
<i>Decelerators/Parachutes – Extra Large</i>					
Northeast RC	-	6	6	40	40
NUWC Newport Testing Range	-	6	6	40	40
VACAPES RC	-	44	44	124	124
Navy Cherry Point RC	-	6	6	40	40
JAX RC	-	6	6	40	40
NSWC Panama City Testing Range	-	6	6	40	40
Gulf RC	-	6	6	40	40
Total	0	80	80	364	364
<i>Decelerators/Parachutes – Large</i>					
Northeast RC	1	14	14	91	91
NUWC Newport Testing Range	-	12	12	80	80
VACAPES RC	14	274	274	1,429	1,429
Navy Cherry Point RC	-	12	12	80	80
JAX RC	1	52	52	239	239
NSWC Panama City Testing Range	-	12	12	80	80
Gulf RC	1	14	14	91	91
Total	17	390	390	2,090	2,090

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
<i>Decelerators/Parachutes – Small</i>					
Northeast RC	3,637	13,272	13,272	92,399	92,399
NUWC Newport Testing Range	1,200	1,220	1,220	8,540	8,540
VACAPES RC	5,711	18,077	18,077	125,462	125,866
Navy Cherry Point RC	2,185	2,730	2,730	18,605	18,605
JAX RC	6,037	4,839	4,839	32,935	33,027
SFOMF	32	32	32	224	224
Other AFTT Areas	-	5,065	5,065	35,455	35,455
Key West RC	3,008	7,305	7,305	50,630	50,630
NSWC Panama City Testing Range	192	716	716	5,012	5,012
Gulf RC	2,068	4,127	4,127	28,384	28,384
Total	24,070	57,383	57,383	397,646	398,142
<i>Endcap – Chaff and Flare</i>					
VACAPES RC	40,790	22,420	22,420	156,940	156,940
JAX RC	400	400	400	2,800	2,800
Gulf RC	1,800	2,400	2,400	16,800	16,800
Total	42,990	25,220	25,220	176,540	176,540
<i>Endcaps and Pistons (Non Chaff and Flare)</i>					
NUWC Newport Testing Range	379	379	379	2,653	2,653
Total	379	379	379	2,653	2,653
<i>Expendable Bathythermographs</i>					
Northeast RC	21,104	45	45	192	192
VACAPES RC	9,740	289	289	1,722	1,722
Navy Cherry Point RC	277	93	93	534	534
JAX RC	561	578	578	2,662	2,662
SFOMF	4	21	21	115	115
Key West RC	10	23	23	80	80
Gulf RC	9,813	32	32	131	131
Total	41,509	1,081	1,081	5,436	5,436
<i>Fiber-Optic Canister</i>					
VACAPES RC	250	100	100	700	700
JAX RC	50	-	-	-	-

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Materials</i>	<i>Annual Maximum Number of Materials</i>		<i>7-Year Number of Materials</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
NSWC Panama City Testing Range	328	108	108	756	756
Gulf RC	100	-	-	-	-
Total	728	208	208	1,456	1,456
<i>Flares</i>					
VACAPES RC	20,195	11,010	11,010	77,070	77,070
Gulf RC	600	1,200	1,200	8,400	8,400
Total	20,795	12,210	12,210	85,470	85,470
<i>Flare O-Rings</i>					
VACAPES RC	20,195	11,010	11,010	77,070	77,070
Gulf RC	600	1,200	1,200	8,400	8,400
Total	20,795	12,210	12,210	85,470	85,470
<i>Heavyweight Torpedo Accessories</i>					
Northeast RC	98	129	129	568	568
NUWC Newport Testing Range	20	20	20	140	140
VACAPES RC	128	157	157	764	764
Navy Cherry Point RC	42	49	49	272	272
JAX RC	134	171	171	845	845
SFOMF	6	12	12	74	74
Key West RC	2	18	18	66	66
Gulf RC	84	107	107	443	443
Total	514	663	663	3,172	3,172
<i>JATO Bottles</i>					
Northeast RC	1	18	18	120	120
NUWC Newport Testing Range	-	18	18	120	120
VACAPES RC	14	361	361	2,185	2,185
Navy Cherry Point RC	-	18	18	120	120
JAX RC	1	23	23	149	149
NSWC Panama City Testing Range	-	18	18	120	120
Gulf RC	1	18	18	120	120
Total	17	474	474	2,934	2,934

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Materials</i>	<i>Annual Maximum Number of Materials</i>		<i>7-Year Number of Materials</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
<i>Lander</i>					
Northeast RC	-	50	50	310	350
VACAPES RC	-	50	50	310	350
JAX RC	-	50	50	310	350
Gulf RC	-	50	50	310	350
Total	0	200	200	1,240	1,400
<i>Lightweight Torpedo Accessories</i>					
Northeast RC	54	7	7	24	24
NUWC Newport Testing Range	20	20	20	140	140
VACAPES RC	225	149	149	572	976
Navy Cherry Point RC	50	7	7	24	24
JAX RC	213	124	124	662	754
Key West RC	2	7	7	24	24
NSWC Panama City Testing Range	192	616	616	4,312	4,312
Gulf RC	54	7	7	24	24
Total	810	937	937	5,782	6,278
<i>Sabot – Plastic</i>					
Northeast RC	-	1,500	1,500	8,250	8,250
VACAPES RC	-	63,900	63,900	120,100	120,100
JAX RC	-	750	750	3,000	3,000
Gulf RC	-	1,500	1,500	8,250	8,250
Total	0	67,650	67,650	139,600	139,600
<i>Sabot – Kinetic Energy Round</i>					
Northeast RC	33,503	-	-	-	-
NUWC Newport Testing Range	4	-	-	-	-
VACAPES RC	33,503	-	-	-	-
Navy Cherry Point RC	33,503	-	-	-	-
JAX RC	33,503	-	-	-	-
SFOMF	4	-	-	-	-
Key West RC	33,503	-	-	-	-
NSWC Panama City Testing Range	4	-	-	-	-

Table 3.0-14: Number and Location of Other Military Materials Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Gulf RC	33,503	-	-	-	-
Total	201,030	0	0	0	0
<i>Non-Explosive Sonobuoy</i>					
Northeast RC	3,596	13,399	13,399	92,881	92,881
NUWC Newport Testing Range	1,200	1,200	1,200	8,400	8,400
VACAPES RC	5,505	18,222	18,222	126,472	126,472
Navy Cherry Point RC	2,144	2,989	2,989	20,023	20,023
JAX RC	5,847	6,305	6,305	43,671	43,671
SFOMF	32	32	32	224	224
Key West RC	3,007	7,531	7,531	51,817	51,817
NSWC Panama City Testing Range	192	159	159	1,113	1,113
Gulf RC	2,027	3,129	3,129	20,991	20,991
Other AFTT Areas	-	5,065	5,065	35,455	35,455
Total	23,550	58,031	58,031	401,047	401,047
<i>Tripods</i>					
Northeast RC	-	5	5	31	35
VACAPES RC	-	5	5	31	35
JAX RC	-	5	5	31	35
Gulf RC	-	5	5	31	35
Total	0	20	20	124	140

¹ Activities occurred in these areas in the 2018 Final EIS/OEIS but the location name has been updated for this Supplemental EIS/OEIS.

Notes: - = Not Applicable; AFTT = Atlantic Fleet Training and Testing; AMNS = Airborne Mine Neutralization System; EIS = Environmental Impact Statement; JATO = Jet-Assisted Take-Off; JAX = Jacksonville; NSB = Naval Submarine Base; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; SINKEX = Sinking Exercise; VACAPES = Virginia Capes

Table 3.0-15: Number and Location of Activities that Use Seafloor Devices

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Activities</i>	<i>Annual Maximum Number of Activities</i>		<i>7-Year Number of Activities</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Training					
Northeast RC	-	12	12	84	84
VACAPES RC	3,176	3,475	3,475	24,321	24,321
Navy Cherry Point RC	662	551	551	3,857	3,857
JAX RC	665	916	916	6,412	6,412
Key West RC	23	292	292	2,044	2,044
NSWC Panama City Testing Range	244	-	-	-	-
Gulf RC	383	637	637	4,459	4,459
Other AFTT Areas	-	2	2	14	14
Inshore Areas					
VACAPES RC Inshore ¹	402	1,238	1,238	8,666	8,666
JAX RC Inshore ¹	-	14	14	98	98
Key West RC Inshore ¹	84	176	176	1,232	1,232
Port and Pierside Areas					
Boston, MA	1	1	1	1	1
Earle, NJ	1	1	1	1	1
Delaware Bay, DE	1	1	1	1	1
Hampton Roads, VA	2	1	1	1	1
JEB Little Creek Fort Story	216	231	231	1,613	1,613
Morehead City, NC	1	1	1	1	1
Wilmington, NC	1	1	1	1	1
Savannah, GA	1	1	1	1	1
Kings Bay, GA	1	1	1	1	1
NSB Kings Bay	22	-	-	-	-
Mayport, FL	1	1	1	1	1
NS Mayport	-	60	60	420	420
Port Canaveral, FL	1	1	1	1	1
Tampa, FL	1	1	1	1	1
Gulfport, MS	-	20	20	140	140
Beaumont, TX	2	1	1	1	1
Corpus Christi, TX	1	1	1	1	1
Total	5,676	7,637	7,637	53,373	53,373
Testing					
Northeast RC	11	84	86	521	592
NUWC Newport Testing Range	322	272	272	1,864	1,864
VACAPES RC	159	186	187	1,002	1,079

Table 3.0-15: Number and Location of Activities that Use Seafloor Devices (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Activities</i>	<i>Annual Maximum Number of Activities</i>		<i>7-Year Number of Activities</i>	
	<i>Selected Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Navy Cherry Point RC	10	2	2	7	8
JAX RC	33	124	125	780	860
SFOMF	100	128	128	814	814
Key West RC	1	4	4	9	18
NSWC Panama City Testing Range	344	506	506	3,528	3,528
Gulf RC	50	104	105	637	726
Inshore Areas					
VACAPES RC Inshore ¹	-	1	1	3	3
Key West RC Inshore ¹	-	1	1	3	3
Port and Pierside Areas					
NSB New London	-	1	1	3	3
NS Mayport	-	1	1	3	3
Port Canaveral, FL	-	1	1	4	4
Total	1,030	1,415	1,420	9,178	9,505

¹ Activities occurred in these areas in the 2018 Final EIS/OEIS but the location name has been updated for this Supplemental EIS/OEIS.

Notes: - = Not Applicable; AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; JAX = Jacksonville; JEB = Joint Expeditionary Base; NS = Naval Station; NSB = Naval Submarine Base; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; SINKEX = Sinking Exercise; VACAPES = Virginia Capes

Table 3.0-16: Number and Location of Activities with Aircraft

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Activities</i>	<i>Annual Maximum Number of Activities</i>		<i>7-Year Number of Activities</i>	
	<i>Preferred Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Training					
Northeast RC	92	107	107	749	749
VACAPES RC	22,111	10,463	10,508	73,236	73,572
Navy Cherry Point RC	36,031	8,415	8,422	58,896	58,948
SINKEX Box ¹	1	1	1	7	7
JAX RC	38,101	11,120	11,130	77,832	77,919

Table 3.0-16: Number and Location of Activities with Aircraft (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Activities</i>	<i>Annual Maximum Number of Activities</i>		<i>7-Year Number of Activities</i>	
	<i>Preferred Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
Key West RC	26,346	11,108	11,108	77,756	77,756
NSWC Panama City Testing Range	244	-	-	-	-
Gulf RC	1,088	856	864	5,992	6,048
Other AFTT Areas	47	37	37	259	259
Inshore Areas					
VACAPES RC Inshore ²	2,910	1,139	1,139	7,973	7,973
JAX RC Inshore ²	144	10	10	70	70
Gulf RC Inshore ²	50	50	50	350	350
Port and Pierside Areas					
Boston, MA	1	1	1	1	1
Earle, NJ	1	1	1	1	1
Delaware Bay, DE	1	1	1	1	1
Hampton Roads, VA	2	1	1	1	1
Morehead City, NC	1	1	1	1	1
Wilmington, NC	1	1	1	1	1
Savannah, GA	1	1	1	1	1
Kings Bay, GA	1	1	1	1	1
NSB Kings Bay	480	-	-	-	-
Mayport, FL	1	1	1	1	1
NS Mayport	35	-	-	-	-
Port Canaveral, FL	1	1	1	1	1
Tampa, FL	1	1	1	1	1
Beaumont, TX	2	1	1	1	1
Corpus Christi, TX	1	1	1	1	1
Total	127,695	43,319	43,389	303,133	303,664
Testing					
Northeast RC	756	202	224	1,348	1,502
NUWC Newport Testing Range	49	26	25	176	176
VACAPES RC	4,595	2,611	2,878	17,162	18,906
Navy Cherry Point RC	639	49	56	336	385
JAX RC	921	316	344	1,966	2,189
SFOMF	35	1	1	7	7
Key West RC	253	273	308	1,903	2,148

Table 3.0-16: Number and Location of Activities with Aircraft (continued)

<i>Location</i>	<i>2018 Final EIS/OEIS</i>	<i>Supplemental EIS/OEIS</i>			
	<i>Annual Maximum Number of Activities</i>	<i>Annual Maximum Number of Activities</i>		<i>7-Year Number of Activities</i>	
	<i>Preferred Alternative</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 1</i>	<i>Alternative 2</i>
NSWC Panama City Testing Range	229	190	194	1,313	1,341
Gulf RC	192	185	205	1,217	1,363
Other AFTT Areas	-	25	28	175	196
Port and Pierside Areas					
Little Creek, VA ²	2	-	-	-	-
Norfolk, VA	2	-	-	-	-
Total	7,673	3,878	4,263	25,603	28,213

¹ SINKEX Box numbers included with Other AFTT Areas in the 2018 Final EIS/OEIS.

² Activities occurred in these areas in the 2018 Final EIS/OEIS but the location name has been updated for this Supplemental EIS/OEIS.

Notes: - = Not Applicable AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; JAX = Jacksonville; NS = Naval Station; NSB = Naval Submarine Base; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas EIS Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; SINKEX = Sinking Exercise; VACAPES = Virginia Capes

3.0.3.3.5 Entanglement Stressors

The entanglement stressors identified for analysis in this Supplemental EIS/OEIS are the same as those in the 2018 Final EIS/OEIS (wires and cables, decelerators/parachutes, and biodegradable polymers). The only update to the biodegradable polymer stressor for this Supplemental EIS/OEIS is the addition of bio-inspired slime resulting from testing activities. Detailed information describing these stressors (with the exception of bio-inspired slime, which can be found in the following paragraph) can be found in [Section 3.0.3.3.5](#) of the 2018 Final EIS/OEIS.

Maritime vessel-stopping techniques are designed to slow or potentially stop the advance of a vessel using biodegradable polymers that interact with the vessel's propulsion or sensor systems.

Examples of maritime vessel-stopping proposed activities using biodegradable polymers include bio-inspired slime. The polymers are designed to temporarily interact with the marine vessel (e.g., propeller(s) of a target craft), rendering it either less effective or ineffective. The bio-inspired slime consists of spun fibers made from synthetic proteins, which are based on the amino acid repeat units found in natural hagfish slime material. These proteins are configured into a non-woven mat that can be deployed on the water surface. Once wet, the fiber mats turn into more of a viscous fiber material which increases its ability to adhere to surfaces. In all end-uses, the biodegradable polymers are designed to degrade to smaller compounds as a result of microorganisms and enzymes.

Some of the polymer constituents would dissolve or break down within two hours of immersion. Based on the constituents of the proposed biodegradable polymers, it is anticipated that the material would break down into small pieces within a few days or weeks and then dissolve into the water column within

subsequent months. Degradation and dispersal timelines are influenced by water temperature, currents, and other oceanographic features.

Overall, the longer the polymer remains in the water, the more it will break down and become weaker, thus making it more likely to further degrade or become brittle and likely to break. Once the protein fibers in the bio-inspired slime are fully wetted, the material will have a slight net negative buoyancy and thus will sink over time. At the end of dispersion, the remaining materials are likely to comprise either generally separated fibers with lengths on the order of 54 micrometers or small particles of nominally the same size. Biodegradable polymers would be used only during proposed testing activities, not during training activities.

Table 3.0-17 and Table 3.0-18 show either the number and location of proposed activities that include entanglement stressors or the actual number of those stressors that are considered in this Supplemental EIS/OEIS and the equivalent information from the 2018 Final EIS/OEIS for comparison.

Table 3.0-14 shows the number and location of decelerators/parachutes proposed for this Supplemental EIS/OEIS and the equivalent information from the 2018 Final EIS/OEIS for comparison.

Table 3.0-17: Number and Location of Wires and Cables Expended during Military Readiness Activities

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Training					
<i>Bathythermograph Wires</i>					
Northeast RC	142	98	98	686	686
VACAPES RC	414	371	471	2,593	3,293
Navy Cherry Point RC	108	388	410	2,564	2,821
JAX RC	1,353	1,300	1,450	8,222	9,477
Gulf RC	5	5	262	35	1,834
Other AFTT Areas	154	347	402	2,429	2,814
Total	2,176	2,509	3,093	16,529	20,925
<i>Fiber-Optic Cables</i>					
VACAPES RC	62	117	117	819	819
Navy Cherry Point RC	9	9	9	63	63
JAX RC	2	8	8	51	52
Key West RC	-	2	2	14	14
Gulf RC	22	32	32	219	219
Total	95	168	168	1,166	1,167
<i>Guidance Wires</i>					
Northeast RC	24	24	24	168	168
VACAPES RC	8	8	8	56	56

Table 3.0-17: Number and Location of Wires and Cables Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
JAX RC	48	48	48	336	336
SINKEX Box	1	1	1	7	7
Total	81	81	81	567	567
<i>Sonobuoy Wires</i>					
Northeast RC	2,882	5,120	5,120	35,840	35,840
VACAPES RC	7,484	10,967	10,967	76,767	76,767
Navy Cherry Point RC	2,542	4,657	4,657	32,068	32,180
JAX RC	27,237	43,185	43,185	296,663	296,887
Gulf RC	-	63	1,601	441	11,207
Other AFTT Areas	432	504	504	3,528	3,528
Total	40,577	64,496	66,034	445,307	456,409
Testing					
<i>Bathythermograph Wires</i>					
Northeast RC	21,104	139	139	774	849
VACAPES RC	9,740	414	414	2,497	2,497
Navy Cherry Point RC	277	93	93	534	534
JAX RC	561	703	703	3,437	3,537
SFOMF	4	21	21	115	115
Key West RC	10	23	23	80	80
Gulf RC	9,813	157	157	906	1,006
Total	41,509	1,550	1,550	8,343	8,618
<i>Fiber-Optic Cable</i>					
VACAPES RC	250	100	100	700	700
JAX RC	50	1	1	2	2
NSWC Panama City Testing Range	328	108	108	756	756
Gulf RC	100	-	-	-	-
Total	728	209	209	1,458	1,458
<i>Guidance Wires</i>					
Northeast RC	98	129	129	568	568
NUWC Newport Testing Range	20	20	20	140	140
VACAPES RC	128	157	157	764	764

Table 3.0-17: Number and Location of Wires and Cables Expended during Military Readiness Activities (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Materials	Annual Maximum Number of Materials		7-Year Number of Materials	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Navy Cherry Point RC	42	49	49	272	272
JAX RC	134	171	171	845	845
SFOMF	6	12	12	74	74
Key West RC	2	18	18	66	66
Gulf RC	84	107	107	443	443
Total	514	663	663	3,172	3,172
<i>Sonobuoy Wires</i>					
Northeast RC	3,596	13,384	13,384	92,826	92,826
NUWC Newport Testing Range	1,200	2,400	2,400	16,800	16,800
VACAPES RC	5,505	18,207	18,207	126,417	126,417
Navy Cherry Point RC	2,144	2,974	2,974	19,968	19,968
JAX RC	5,847	5,290	5,290	35,816	35,816
SFOMF	32	32	32	224	224
Key West RC	3,007	7,412	7,412	51,034	51,034
NSWC Panama City Testing Range	192	159	159	1,113	1,113
Gulf RC	2,027	3,114	3,114	20,936	20,936
Other AFTT Areas	-	5,065	5,065	35,455	35,455
Total	23,550	58,037	58,037	400,589	400,589

Notes: - = Not Applicable AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; JAX = Jacksonville; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; SINKEX = Sinking Exercise; VACAPES = Virginia Capes

Table 3.0-18: Number and Location of Activities Including Biodegradable Polymers during Testing

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Activities	Annual Maximum Number of Activities		7-Year Number of Activities	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Testing					
Northeast RC	-	2	2	12	12
NUWC Newport Testing Range	30	-	-	-	-
VACAPES RC	30	2	2	12	12
Navy Cherry Point RC		2	2	12	12
JAX RC	30	2	2	12	12
Key West RC	30	2	2	12	12
Gulf RC	30	7	7	43	43
Port and Pierside Areas					
JEB Little Creek Fort Story	-	2	2	12	12
Total	150	19	19	115	115

Notes: - = Not Applicable; EIS = Environmental Impact Statement; JAX = Jacksonville; JEB = Joint Expeditionary Base; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; VACAPES = Virginia Capes

3.0.3.3.6 Ingestion Stressors

The ingestion stressors identified for analysis in this Supplemental EIS/OEIS are the same as those in the 2018 Final EIS/OEIS (military expended materials – munitions and military expended materials other than munitions). The only update to this stressor for the Supplemental EIS/OEIS is the addition of synthetic bio-inspired slime resulting from testing activities, described above in [Section 3.0.3.3.5](#) (Entanglement Stressors) (Table 3.0-18). Detailed information describing ingestion stressors (with the exception of synthetic slime) can be found in [Section 3.0.3.3.6](#) of the 2018 Final EIS/OEIS.

Table 3.0-11, Table 3.0-12, Table 3.0-14, and Table 3.0-19 show either the number and location of proposed activities that include ingestion stressors or the actual number of those stressors that are considered in this Supplemental EIS/OEIS and the equivalent information from the 2018 Final EIS/OEIS for comparison.

Table 3.0-19: Number and Location of Targets Expended during Military Readiness Activities that May Result in Fragments

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Targets	Annual Maximum Number of Targets		7-Year Number of Targets	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
Training					
<i>Air Targets</i>					
Northeast RC	2	1	1	5	5
VACAPES RC	99	21	21	144	144
Navy Cherry Point RC	80	150	150	1,048	1,048
JAX RC	68	11	11	76	76
Key West RC	11	10	10	68	68
Gulf RC	2	7	7	47	47
Total	262	200	200	1,388	1,388
<i>Mine Shapes</i>					
VACAPES RC	221	2	2	11	11
Navy Cherry Point RC	78	1	1	1	1
JAX RC	78	-	-	-	-
Key West RC	2	-	-	-	-
Gulf RC	93	1	1	4	4
Total	472	4	4	16	16
<i>Surface Targets</i>					
Northeast RC	20	22	22	148	148
VACAPES RC	4,582	331	331	2,312	2,312
Navy Cherry Point RC	1,321	146	146	1,018	1,018
JAX RC	3,091	315	315	2,199	2,199
Key West RC	-	1	1	3	3
Gulf RC	336	51	51	357	357
Other AFTT Areas	200	4	4	27	27
Total	9,550	870	870	6,064	6,064
Testing					
<i>Air Targets</i>					
Northeast RC	14	5	5	29	29
NUWC Newport Testing Range	-	4	4	26	26
VACAPES RC	583	105	105	456	456
Navy Cherry Point RC	6	4	4	26	26
JAX RC	168	37	37	141	141
Key West RC	13	-	-	-	-
NSWC Panama City Testing Range	-	4	4	26	26
Gulf RC	25	5	5	29	29
Total	809	164	164	733	733

Table 3.0-19: Number and Location of Targets Expended during Military Readiness Activities that May Result in Fragments (continued)

Location	2018 Final EIS/OEIS	Supplemental EIS/OEIS			
	Annual Maximum Number of Targets	Annual Maximum Number of Targets		7-Year Number of Targets	
	Selected Alternative	Alternative 1	Alternative 2	Alternative 1	Alternative 2
<i>Mine Shapes</i>					
VACAPES RC	127	15	15	105	105
JAX RC	122	-	-	-	-
SFOMF	40	-	-	-	-
NSWC Panama City Testing Range	370	15	15	105	105
Gulf RC	232	15	15	105	105
Total	891	45	45	315	315
<i>Sub-Surface Targets</i>					
Northeast RC	-	1	1	1	1
VACAPES RC	-	1	1	1	1
Navy Cherry Point RC	-	1	1	1	1
JAX RC	-	5	5	5	5
Key West RC	-	1	1	1	1
Gulf RC	-	1	1	1	1
Total	0	10	10	10	10
<i>Surface Targets</i>					
Northeast RC	173	4	4	27	27
NUWC Newport Testing Range	934	4	4	26	26
VACAPES RC	984	44	44	211	235
Navy Cherry Point RC	172	4	4	27	27
JAX RC	545	15	15	98	98
SFOMF	56	-	-	-	-
Key West RC	180	1	1	1	1
NSWC Panama City Testing Range	-	4	4	26	26
Gulf RC	250	4	4	27	27
Total	3,294	80	80	443	467

Notes: - = Not Applicable; AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; JAX = Jacksonville; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility; SINKEX = Sinking Exercise; VACAPES = Virginia Capes

3.0.3.4 Resource-Specific Impacts Analysis for Individual Stressors

The direct and indirect impacts of each stressor are analyzed in each resource section for which there may be an impact. Quantitative methods were used to the extent possible, but data limitations required the use of qualitative methods for most stressor/resource interactions. Resource-specific methods are described in the relevant resource sections. While specific methods used to analyze the impacts of

individual stressors varied by resource, the following generalized approach was used for all stressor/resource interactions:

- The frequency, duration, and spatial extent of exposure to stressors were analyzed for each resource. The frequency of exposure to stressors, or frequency of a proposed activity, was characterized as intermittent or continuous and was quantified in terms of number per unit of time when possible. Duration of exposure was expressed as short- or long-term and was quantified in units of time (e.g., seconds, minutes, hours) when possible. The spatial extent of exposure was generally characterized as widespread or localized, and the stressor footprint or area (e.g., square feet, square nautical miles) was quantified when possible.
- An analysis was conducted to determine whether, and how, resources are likely to respond to stressor exposure or be altered by stressor exposure based upon available scientific knowledge. This step included reviewing available scientific literature and empirical data. For many stressor/resource interactions, a range of likely responses or endpoints was identified. For example, exposure of an organism to sound produced by an underwater explosion could result in no response, a physiological response such as increased heart rate, a behavioral response such as being startled, or injury.
- The information obtained was used to analyze the likely impacts of individual stressors on a resource and to characterize the type, duration, and intensity of impacts. The type of impact was generally defined as beneficial or adverse and was further defined as a specific endpoint (e.g., change in behavior, mortality, change in concentration, loss of habitat, loss of fishing time). When possible, the endpoint was quantified. The duration of an impact was generally characterized as short-term (e.g., minutes, days, weeks, months, depending on the resource), long-term (e.g., months, years, decades, depending on the resource), or permanent. The intensity of an impact was then determined. For biological resources, the analysis started with individual organisms and their habitats, and then addressed populations, species, communities, and representative ecosystem characteristics, as appropriate.

3.0.3.5 Resource-Specific Impacts Analysis for Multiple Stressors

The stressors associated with the proposed military readiness activities could affect the environment individually or in combination. When appropriate, resource impacts were collectively considered for multiple stressors in addition to resource impacts considered for individual stressors. Therefore, following the resource-specific impacts analysis for individual stressors, the combined impacts of all stressors were analyzed for that resource. This step determines the overall impacts of the alternatives on each resource, and it considers the potential for impacts that are additive (where the combined impacts on the resource are equal to the sum of the individual impacts), synergistic (where impacts combine in such a way as to amplify the effect on the resource), and antagonistic (where impacts will cancel each other out or reduce a portion of the effect on the resource). This analysis helps inform the cumulative impacts analysis and make overall impact conclusions for each resource.

Evaluating the combined impacts of multiple stressors can be complex, especially when the impacts associated with a stressor are hard to measure. Therefore, some general assumptions were used to help determine the potential for individual stressors to contribute to combined impacts. For this analysis, combined impacts were considered more likely to occur in the following situations:

- Stressors co-occur in time and space, causing a resource to be simultaneously affected by more than one stressor.
- A resource is repeatedly affected by multiple stressors or is re-exposed before fully recovering from a previous exposure.

- The impacts of individual stressors are permanent or long term (years or decades) versus short term (minutes, days, or months).
- The intensity of the impacts from individual stressors contributes to a combined overall adverse impact.

The resource-specific impacts analysis for multiple stressors included the following steps:

- Information obtained from the analysis of individual stressors was used to develop a conceptual model to predict the combined impacts of all stressors on each resource. This conceptual model incorporated factors such as the co-occurrence of stressors in space and time, the impacts or assessment endpoints of individual stressors (e.g., mortality, injury, changes in animal behavior or physiology, habitat alteration, or changes in human use), and the duration and intensity of the impacts of individual stressors.
- To the extent possible, additive impacts on a given resource were considered by summing the impacts of individual stressors. This summation was only possible for stressors with identical and quantifiable assessment endpoints. For example, if one stressor disturbed 0.25 square nautical miles (NM²) of benthic habitat, a second stressor disturbed 0.5 NM², and all other stressors did not disturb benthic habitat, then the total benthic habitat disturbed would be 0.75 NM². For stressors with identical but not quantifiable assessment endpoints, available scientific knowledge, best professional judgment, and the general assumptions outlined above were used to evaluate potential additive impacts.
- For stressors with differing impacts and assessment endpoints, the potential for additive, synergistic, and antagonistic effects were evaluated based on available scientific knowledge, professional judgment, and the general assumptions outlined above.

A cumulative impact is the impact on the environment that results when the incremental impact of an action is added to other past, present, and reasonably foreseeable future actions. The cumulative impacts analysis considers other actions regardless of what agency (federal or nonfederal) or person undertakes the actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time (40 Code of Federal Regulations section 1508.1(i)(3)). The goal of the analysis is to provide the decision makers with information relevant to reasonably foresee potentially significant impacts. See Chapter 4 (Cumulative Impacts) for the specific approach used for determining cumulative impacts.

3.0.3.6 Significance Criteria

Significance criteria provide a structured framework for assessing impacts, supporting conclusions regarding the significance of effects, and comparing effects between alternatives. For this Supplemental EIS/OEIS, the Action Proponents developed significance criteria for each resource by defining the context and intensity of potential impacts and dividing those impacts into four categories. A significance conclusion was then designated for each category of impacts. The significance criteria for each resource analyzed are provided in the relevant resource section. Appendix K (Activity Impact Determinations) contains the activity level NEPA significance determinations for the military readiness activities under the Proposed Action.

3.0.3.7 Biological Resource Methods

The analysis of impacts on biological resources focused on the likelihood of encountering the stressor, the primary stimulus, response, and recovery of individual organisms. Where appropriate, the potential of a biological resource to overlap with a stressor was analyzed with consideration given to the specific geographic area (coastal areas, open-ocean areas, range complexes, operating areas, and other training

and testing ranges) in which the overlap could occur. Additionally, the differential impacts of training versus testing activities that introduce stressors to the resource were considered.

For each of the non-biological resources considered in this Supplemental EIS/OEIS, the methods are unique to each specific resource and are therefore described in each resource section. See the 2018 Final EIS/OEIS's [Section 3.1.1.3](#) (Approach to Analysis) for air quality, [Section 3.2.1.2](#) (Methods) for sediment and water quality, [Section 3.10.1.3](#) (Methods) for cultural resources, [Section 3.11.1](#) (Introduction and Methods) for socioeconomics, and the Methods subsection under [Section 3.12.1](#) (Introduction) for public health and safety. Changes to methods for Air Quality for this Supplemental EIS/OEIS are addressed in Section 3.1 (Air Quality).

3.0.3.7.1 Conceptual Framework for Assessing Effects from Proposed Action Activities

The conceptual framework for assessing effects from non-acoustic activities used for this Supplemental EIS/OEIS is the same as that from the 2018 Final EIS/OEIS. Detailed information describing the conceptual framework can be found in the following sections of the 2018 Final EIS/OEIS:

- Acoustic and explosive activities – [Section 3.0.3.6.1](#)
- Energy-producing activities – [Section 3.0.3.6.2](#)
- Physical disturbance or strike – [Section 3.0.3.6.3](#)
- Entanglement – [Section 3.0.3.6.4](#)
- Ingestion – [Section 3.0.3.6.5](#)
- Secondary stressors – [Section 3.0.3.6.6](#)

In addition to the conceptual framework, a comparison of stressor numbers between this Supplemental EIS/OEIS and the 2018 Final EIS/OEIS was conducted. The supplemental analysis threshold was set as the proportional limit that could potentially have an impact on previous analyses. This threshold was set at a 5 percent proportional change for all stressors and locations. This analysis categorized each stressor and location combination to determine the changes in stressor levels:

- Notable increase: The stressor for that location is above the supplemental analysis threshold (5 percent proportional increase).
- Not Previously Analyzed: The stressor was not previously analyzed in this location in the 2018 Final EIS/OEIS; however, the location is not new for the Supplemental EIS/OEIS.
- New: New location for Supplemental EIS/OEIS Study Area, and therefore the stressor has not been analyzed there previously.
- Removed: The stressor is no longer occurring in that location for the Supplemental EIS/OEIS.
- Decrease: The stressor amount has decreased in that location between the 2018 Final EIS/OEIS and this Supplemental EIS/OEIS.
- Same: The stressor amount is the same for that location in both the 2018 Final EIS/OEIS and this Supplemental EIS/OEIS.
- Discountable: The stressor for that location is below the supplemental analysis threshold (5 percent proportional increase).

The resulting information was incorporated into the analysis for each biological resource section of this Supplemental EIS/OEIS, and used in the non-biological resource sections, where appropriate.

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