

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

TABLE OF CONTENTS

2	DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES	2-1
2.1	Description of the Atlantic Fleet Training and Testing Study Area	2-1
2.1.1	AFTT Range Complexes	2-11
2.1.2	Air Warfare.....	2-13
2.1.3	Amphibious Warfare	2-14
2.1.4	Anti-Submarine Warfare	2-14
2.1.5	Electronic Warfare	2-15
2.1.6	Expeditionary Warfare	2-15
2.1.7	Mine Warfare	2-15
2.1.8	Surface Warfare	2-16
2.2	Proposed Activities.....	2-16
2.2.1	Proposed Training Activities	2-17
2.2.2	Proposed Testing Activities.....	2-28
2.3	Action Alternatives Development.....	2-39
2.3.1	Alternatives Eliminated from Further Consideration	2-40
2.3.1.1	Alternative Training and Testing Locations	2-40
2.3.1.2	Simulated Training and Testing Only	2-41
2.3.1.3	Alternatives Including Geographic Mitigation Measures within the Study Area	2-42
2.3.1.4	“Status Quo” Alternative	2-43
2.4	Alternatives Carried Forward.....	2-43
2.4.1	No Action Alternative.....	2-43
2.4.2	Alternative 1.....	2-44
2.4.2.1	Training	2-44
2.4.2.2	Testing.....	2-45
2.4.3	Alternative 2.....	2-45
2.4.3.1	Training	2-45
2.4.3.2	Testing.....	2-45
2.4.4	Comparison of Proposed Sonar and Explosive Use in the Action Alternatives to the 2018–2025 MMPA Permit Allotment.....	2-46
2.4.4.1	Training	2-46
2.4.4.2	Testing.....	2-47

List of Figures

Figure 2.1-1: Atlantic Fleet Training and Testing Study Area.....	2-3
Figure 2.1-2: Atlantic Fleet Training and Testing Study Area – Northeast and Mid-Atlantic Region.....	2-4
Figure 2.1-3: Atlantic Fleet Training and Testing Study Area – Southeast Region and Caribbean Sea.....	2-5
Figure 2.1-4: Atlantic Fleet Training and Testing Study Area – Gulf of Mexico Region	2-6
Figure 2.1-5: Atlantic Fleet Training and Testing Study Area – Inshore Locations	2-7
Figure 2.1-6: Atlantic Fleet Training and Testing Study Area – Coastal Zones and Designated Ship Shock Trial and Sinking Exercise Areas	2-8
Figure 2.1-7: Representative U.S. Coast Guard Stations in the Study Area	2-9
Figure 2.4-1: Proposed Hull-Mounted Mid-Frequency Sonar Hours by Training Activity Compared to the Number Authorized in the 2018–2025 Marine Mammal Protection Act Permit	2-46
Figure 2.4-2: Change in Explosive Use (for Both Action Alternatives) during Training Activities Compared to the 2013–2018 Marine Mammal Protection Act Permit	2-47

List of Tables

Table 2.1-1: Study Area – Training and Testing Ranges ¹	2-11
Table 2.1-2: Study Area – Inshore Locations	2-12
Table 2.1-3: Study Area – Ports and Piers.....	2-13
Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities	2-17
Table 2.2-2: Current and Proposed U.S. Coast Guard Training Activities	2-26
Table 2.2-3: Naval Air Systems Command Current and Proposed Testing Activities	2-29
Table 2.2-4: Naval Sea Systems Command Current and Proposed Testing Activities	2-31
Table 2.2-5: Current and Proposed Office of Naval Research Testing Activities	2-39

2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed activities in this Supplemental Environmental Impact Statement (EIS)/Overseas EIS (OEIS) (hereinafter referred to as the “Supplemental EIS/OEIS”) are consistent with those analyzed in the September [2018 Final EIS/OEIS](#), and are representative of the activities that the Action Proponents have been conducting in the Study Area for decades.

Modern military actions require teamwork among hundreds or thousands of people, across vast geographic areas, and the coordinated use of various equipment, ships, aircraft, and vehicles (e.g., unmanned aerial systems) to achieve success. Personnel increase in skill level by completing basic and specialized individual military training, then they advance to intermediate (e.g., unit-level training) and larger exercise training events, which culminate in advanced, integrated training composed of large groups of personnel and, in some instances, joint or combined exercises.¹

This chapter builds upon the purpose and need as described in [Chapter 1](#) (Purpose and Need). It describes the Study Area and identifies the primary mission areas under which these military readiness activities are conducted. Each Naval warfare community (e.g., aviation, surface, submarine, and expeditionary) conducts activities that contribute to its success in a primary mission area. Each primary mission area requires unique skills, sensors, weapons, and technologies to accomplish the mission. For example, under the anti-submarine warfare primary mission area, the surface, submarine, and aviation warfare communities each utilize different skills, sensors, and weapons to detect, locate, track, and eliminate submarine threats. The testing community contributes to the success of military readiness by anticipating and identifying technologies and systems that respond to the needs of the warfare communities.

Also included in this chapter are descriptions of activities that comprise the Proposed Action, which are necessary to meet military readiness requirements beyond 2025 and into the reasonably foreseeable future. These activities are then analyzed for their potential effects on the environment in the following chapters of this Supplemental EIS/OEIS. The type and level of activities analyzed in this Supplemental EIS/OEIS are described in [Appendix A](#) (Activity Descriptions) and [Appendix C](#) (U.S. Coast Guard Supporting Information). In accordance with the Marine Mammal Protection Act (MMPA), the Action Proponents have submitted to the National Marine Fisheries Service (NMFS) a Letter of Authorization request for the take of marine mammals incidental to military readiness activities described in this Supplemental EIS/OEIS. NMFS’s proposed action will be a direct outcome of responding to the Navy’s request for an incidental take authorization pursuant to the MMPA.

2.1 DESCRIPTION OF THE ATLANTIC FLEET TRAINING AND TESTING STUDY AREA

The Study Area (Figure 2.1-1) for this Supplemental EIS/OEIS is similar to the Study Area described in [Section 2.1](#) (Description of the Atlantic Fleet Training and Testing Study Area) of the 2018 Final EIS/OEIS (U.S. Department of the Navy, 2018) and includes areas of the western Atlantic Ocean along the east coast of North America, the Gulf of Mexico, and portions of the Caribbean Sea. A Navy range complex, where training and testing of military platforms, tactics, munitions, explosives, and electronic warfare systems occur, covers a geographic area that encompasses a water component (on and below the surface), an airspace component, and, in some cases, a land component. Range complexes include

¹ Large group exercises may include carrier strike groups, expeditionary strike groups, other U.S. services, and other nations.

established operating areas (OPAREAs) and special use airspace, which may be further divided to provide better control of the area for safety reasons. Land components associated with the range complexes and testing ranges are not included in the Study Area and no activities on these land areas are included as part of the Proposed Action. The Study Area begins at the mean high tide line along the United States (U.S.) coast and extends east to the 45-degree west longitude line, north to the 65-degree north latitude line, and south to approximately the 20-degree north latitude line. It also includes Navy and U.S. Coast Guard pierside locations and port transit channels, bays, harbors, inshore waterways, and civilian ports where military readiness activities occur as well as vessel and aircraft transit routes over water between homeports and OPAREAs (2018 Final EIS/OEIS [Section 2.1](#)). New to the Study Area for this Supplemental EIS/OEIS are inshore waters and pierside testing locations adjacent to the Gulf of Mexico, and changes to ship shock trial areas. The Gulf of Mexico ship shock trial area was moved to the south to avoid Rice's whale core habitat, the Jacksonville ship shock area expanded, and the Key West ship shock trial area was removed. Regional maps contained in Figure 2.1-2 through Figure 2.1-7 show additional detail of the range complexes² and testing ranges, which are described in Table 2.1-1 and Table 2.1-2. The vast majority of military readiness activities occur within designated range complexes and testing ranges that fall within the confines of the Study Area. Updates to naming conventions and data collection methods from the 2018 Final EIS/OEIS may result in activities showing in new locations in this Supplemental EIS/OEIS. Inshore waters are defined as bays, tributaries, and inlets where the Action Proponents conduct military readiness activities, and as shown in Table 2.1-2.

² A Navy range complex, where training and testing of military platforms, tactics, munitions, explosives, and electronic warfare systems occur, covers a geographic area that encompass a water component (on and below the surface), an airspace component, and, in some cases, a land component. Range complexes include established OPAREAs and special use airspace, which may be further divided to provide better control of the area for safety reasons.

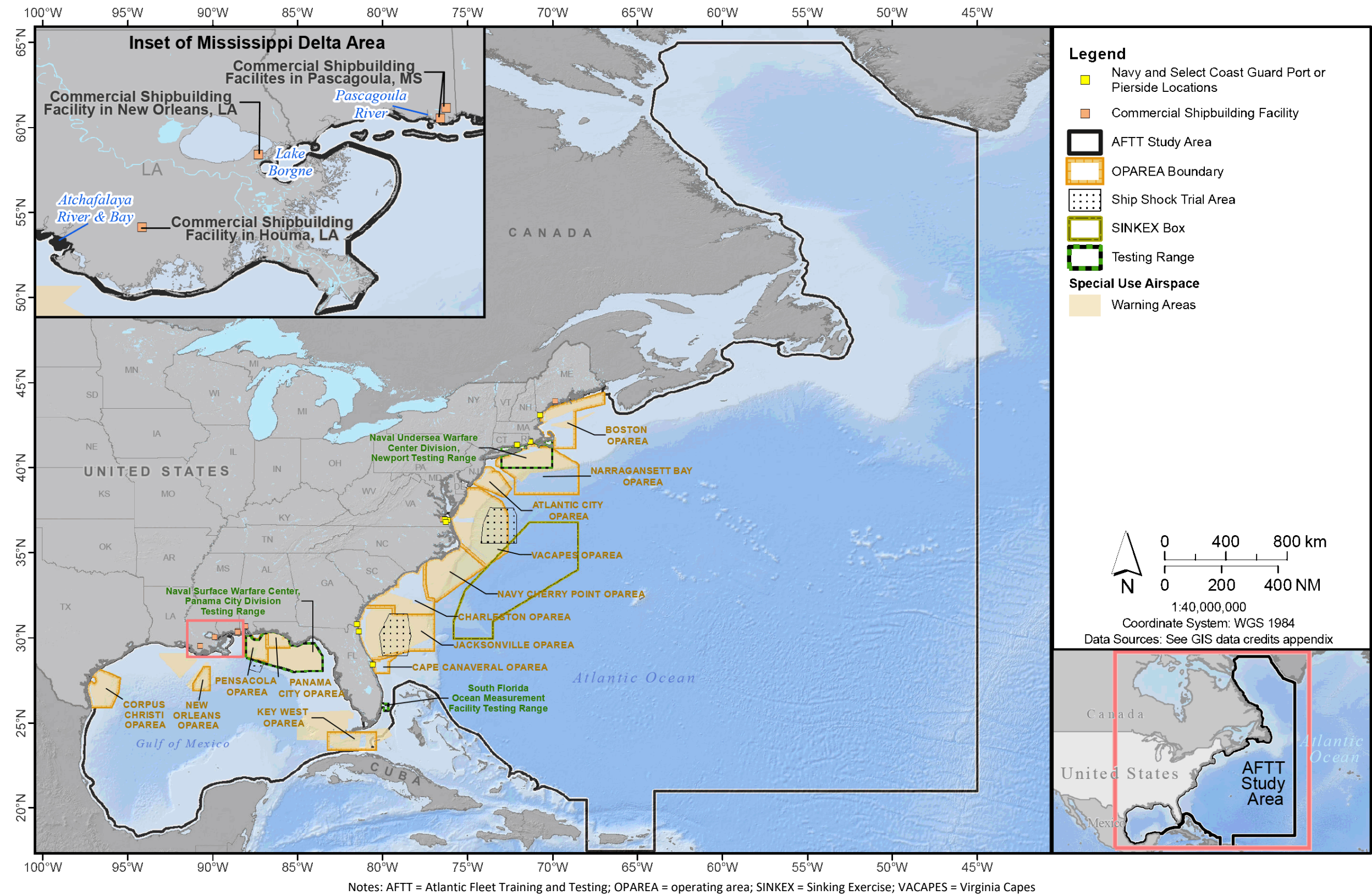


Figure 2.1-1: Atlantic Fleet Training and Testing Study Area

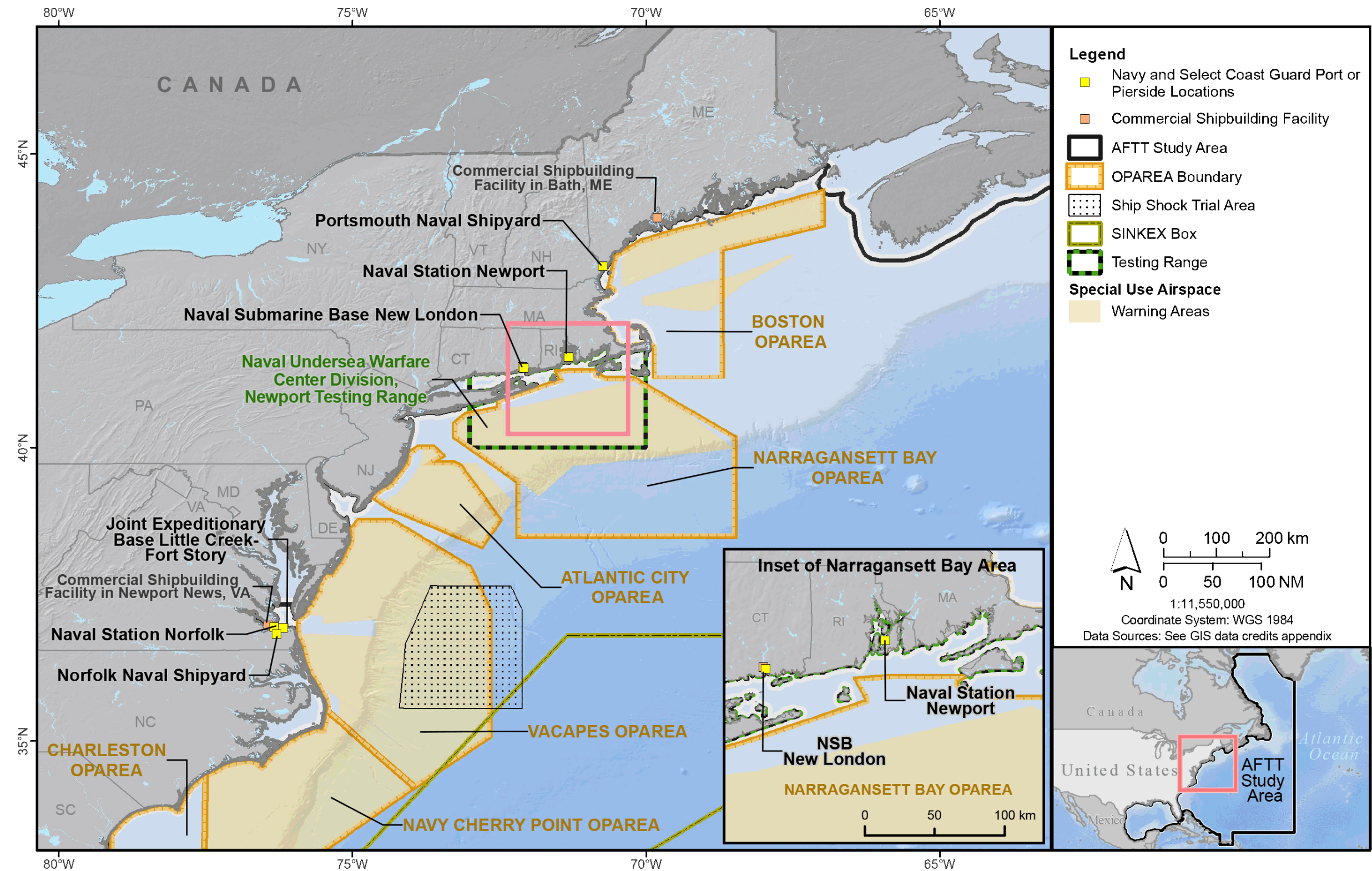


Figure 2.1-2: Atlantic Fleet Training and Testing Study Area – Northeast and Mid-Atlantic Region

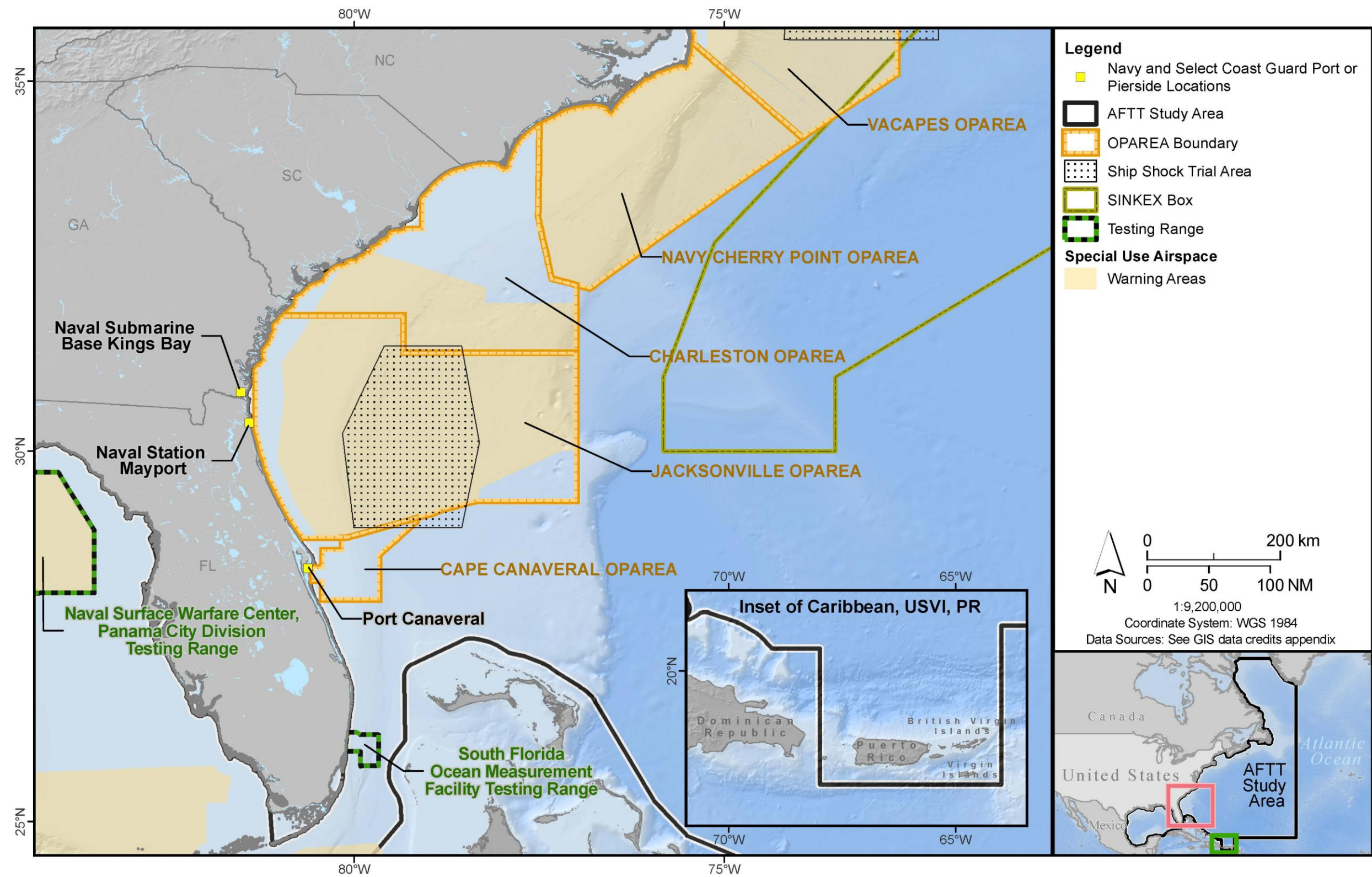


Figure 2.1-3: Atlantic Fleet Training and Testing Study Area – Southeast Region and Caribbean Sea

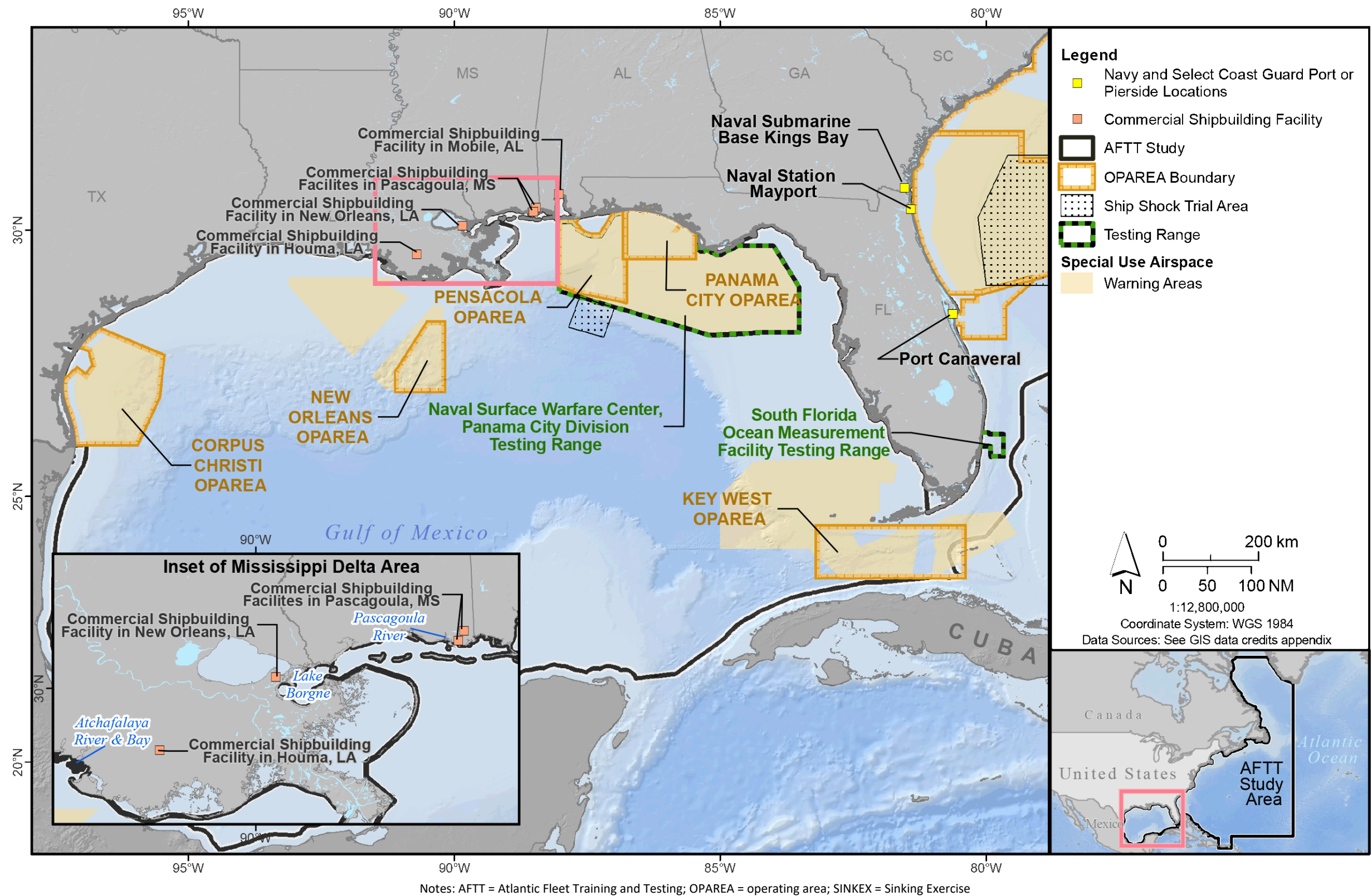


Figure 2.1-4: Atlantic Fleet Training and Testing Study Area – Gulf of Mexico Region

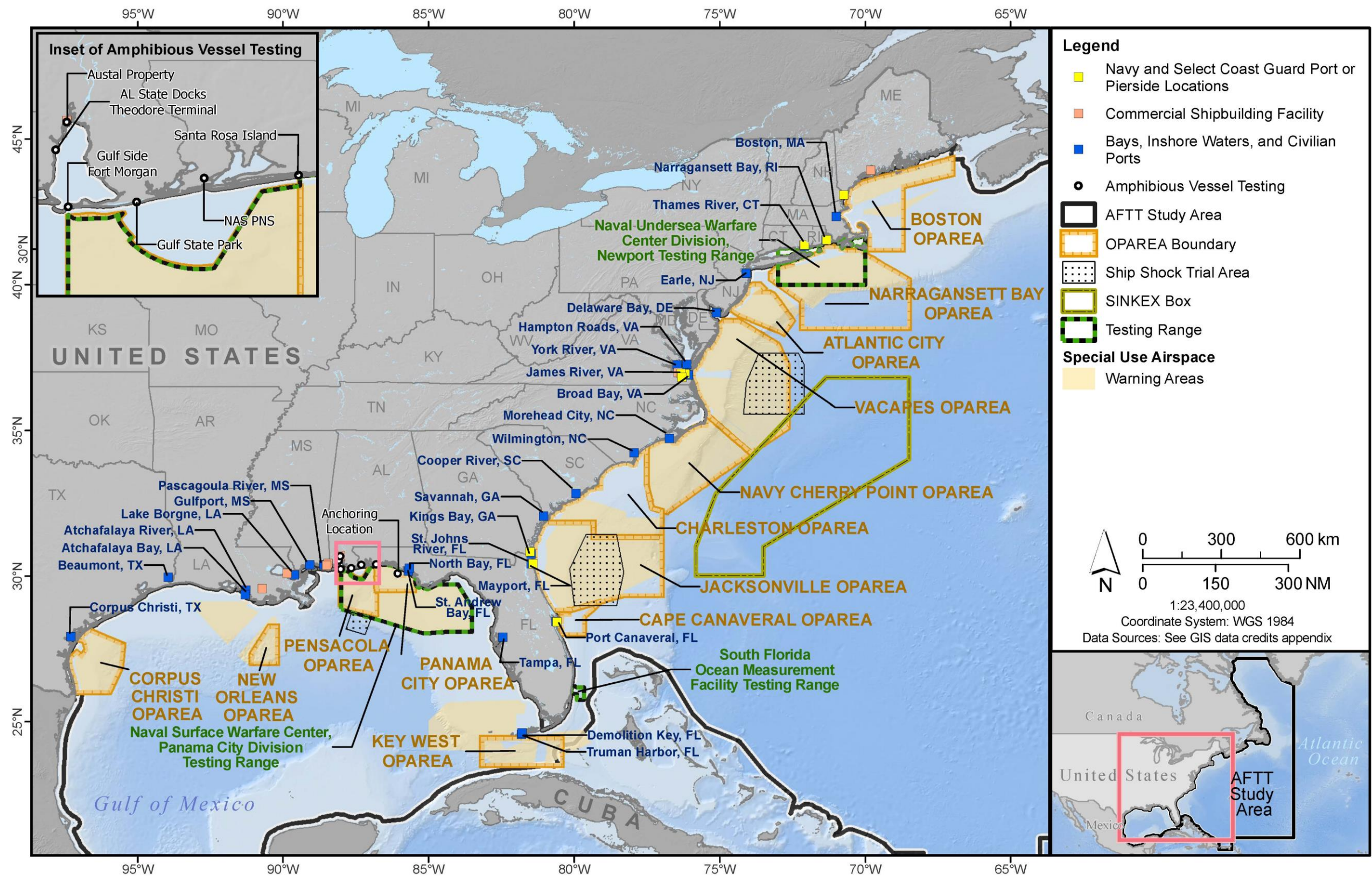


Figure 2.1-5: Atlantic Fleet Training and Testing Study Area – Inshore Locations

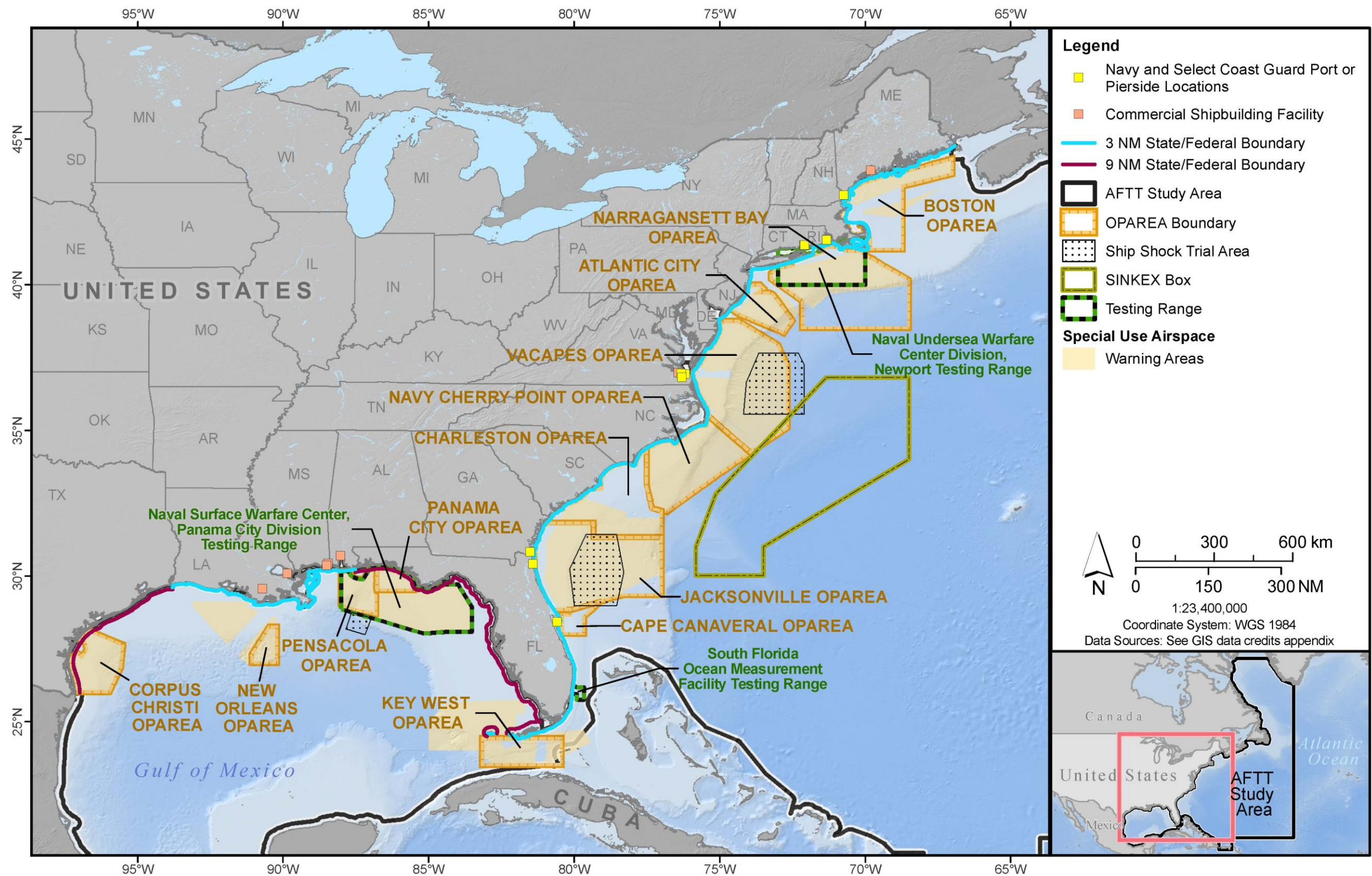
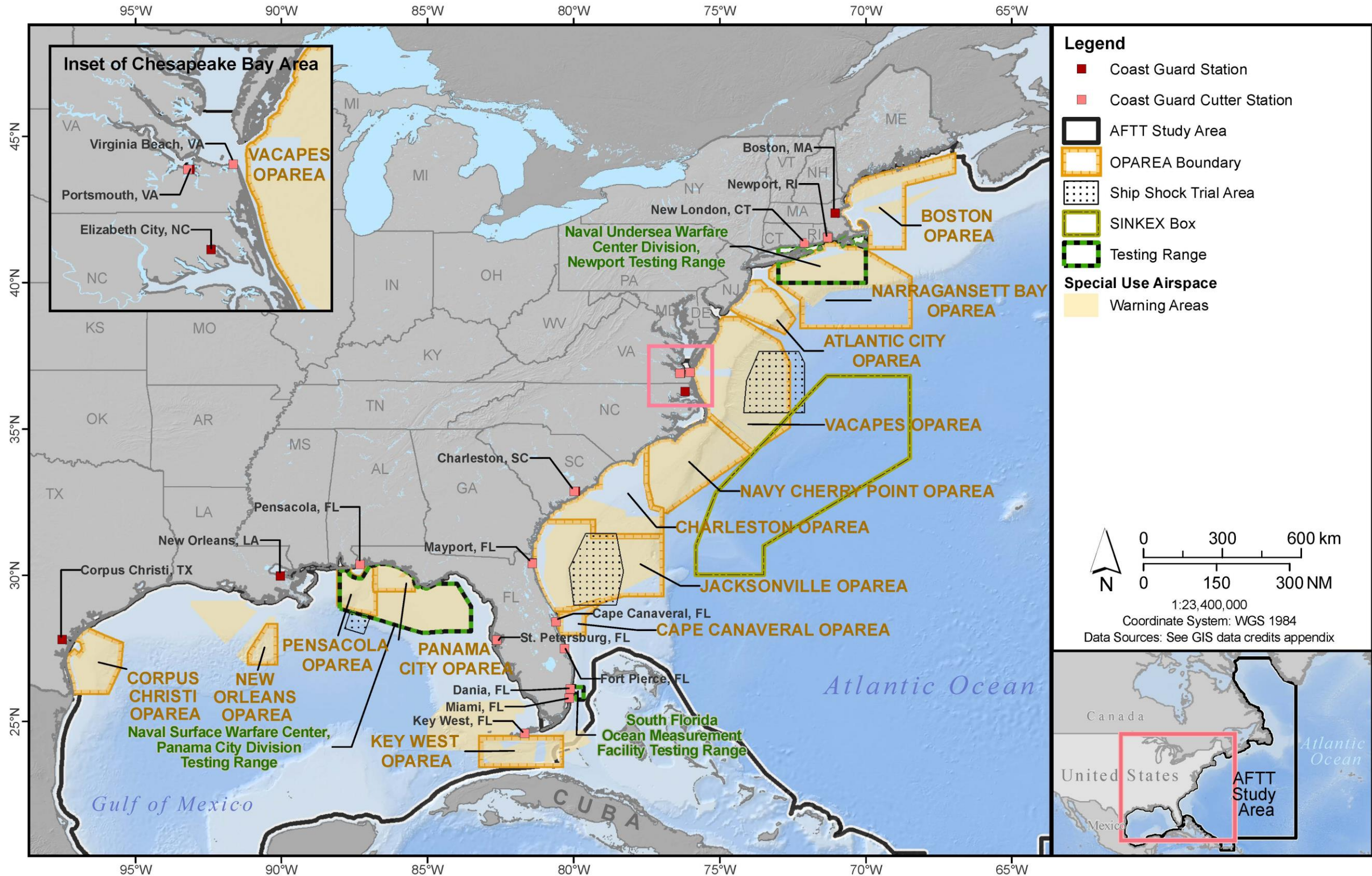


Figure 2.1-6: Atlantic Fleet Training and Testing Study Area – Coastal Zones and Designated Ship Shock Trial and Sinking Exercise Areas



Notes: AFTT = Atlantic Fleet Training and Testing; OPAREA = operating area; SINKEX = Sinking Exercise; VACAPES = Virginia Capes

Figure 2.1-7: Representative U.S. Coast Guard Stations in the Study Area

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2.1.1 AFTT RANGE COMPLEXES

A summary of the Atlantic Fleet Training and Testing (AFTT) Range Complexes, Inshore Areas, and Ports are provided in Table 2.1-1, Table 2.1-2, and Table 2.1-3. See the 2018 Final EIS/OEIS [Section 2.1](#) (Description of the Atlantic Fleet Training and Testing Study Area) for detailed descriptions of the Range Complexes.

Table 2.1-1: Study Area – Training and Testing Ranges¹

<i>Name</i>	<i>Basic Location</i>	<i>Sea and Undersea Space</i>	<i>Air Space</i>
Northeast Range Complexes	750 miles along the coast from Maine to New Jersey	46,000 NM ² of sea and undersea space Includes three OPAREAs: Boston, Narragansett Bay, and Atlantic City	29,000 NM ² of special use airspace
Naval Undersea Warfare Center Division, Newport Testing Range	Includes the waters of Narragansett Bay, Rhode Island Sound, Block Island Sound	11,000 NM ² of sea and undersea space Includes three restricted areas: Coddington Cove, Narragansett Bay, and Rhode Island Sound	6,800 NM ² of special use airspace
Virginia Capes Range Complex (VACAPES RC)	250 miles along the coast from Delaware to North Carolina, from the shoreline to 150 NM seaward	30,000 NM ² of sea and undersea space Includes one OPAREA: Virginia Capes	30,000 NM ² of special use airspace
Navy Cherry Point Range Complex	Off the coast of North and South Carolina, from the shoreline to 120 NM seaward	19,000 NM ² of sea and undersea space Includes one OPAREA: Cherry Point	19,000 NM ² of special use airspace
Jacksonville Range Complex (JAX RC)	520 miles along the coast from North Carolina to Florida, from the shoreline to roughly 250 NM seaward	50,000 NM ² of sea and undersea space. Includes three OPAREAs: Charleston, Jacksonville, and Cape Canaveral Includes the Undersea Warfare Training Range	64,000 NM ² of special use airspace
Naval Surface Warfare Center, Carderock Division, South Florida Ocean Measurement Facility Testing Range (SFOMF)	Located adjacent to the Port Everglades entrance channel in Fort Lauderdale, Florida; out to roughly 25 NM from shore	500 NM ² of sea and undersea space	No associated special use airspace
Key West Range Complex	Off the southwestern coast of mainland Florida and along the southern Florida Keys, extending into the Gulf of Mexico and the Straits of Florida	8,000 NM ² of sea and undersea space south of Key West. Includes one OPAREA: Key West	23,000 NM ² of special use airspace

Table 2.1-1: Study Area – Training and Testing Ranges (continued)

<i>Name</i>	<i>Basic Location</i>	<i>Sea and Undersea Space</i>	<i>Air Space</i>
Naval Surface Warfare Center, Panama City Division Testing Range	Off the panhandle of Florida and Alabama, extending from the shoreline roughly 120 NM seaward and includes St. Andrew Bay	23,000 NM ² of sea and undersea space Includes two OPAREAs: Panama City and Pensacola	23,000 NM ² of special use airspace
Gulf of Mexico Range Complex (GOMEX RC)	Includes geographically separated areas throughout the Gulf of Mexico	20,000 NM ² of sea and undersea space Includes four OPAREAs: Panama City, Pensacola, New Orleans, and Corpus Christi	43,000 NM ² of special use airspace

¹ Areas and distances of locations, sea and undersea space, and airspace are approximations.

Notes: GOMEX = Gulf of Mexico; NM = nautical miles; NM² = square nautical miles; NSWC = Naval Surface Warfare Center; OPAREA = operating area; RC = Range Complex; SFOMF = South Florida Ocean Measurement Facility Testing Range; VACAPES = Virginia Capes

Table 2.1-2: Study Area – Inshore Locations

<i>Name</i>	<i>Associated Inshore Waters</i>
Northeast Range Complexes Inshore	Thames River Narragansett Bay Rhode Island Sound Block Island Sound
Virginia Capes Range Complex (VACAPES RC) Inshore	Lower Chesapeake Bay James River and tributaries Broad Bay York River
Jacksonville Range Complex (JAX RC) Inshore	Blount's Island Southeast Kings Bay Cooper River St. Johns River Port Canaveral
Key West Range Complex Inshore	Truman Harbor Demolition Key
Gulf of Mexico Range Complex (GOMEX RC) Inshore	St. Andrew Bay Mobile Bay Atchafalaya Bay* Atchafalaya River* Lake Borgne* Pascagoula River*

* New areas added since the 2018 Final EIS/OEIS analysis

Notes: EIS = Environmental Impact Statement; GOMEX = Gulf of Mexico; JAX = Jacksonville; OEIS = Overseas Environmental Impact Statement; RC = Range Complex; VACAPES = Virginia Capes

Table 2.1-3: Study Area – Ports and Piers

<i>Pierside Locations</i>	<i>Civilian Ports</i>	<i>Coast Guard Stations</i>
Portsmouth Naval Shipyard	Bath, ME	Southwest Harbor, ME
Naval Submarine Base New London	Boston, MA	Boston, MA
Naval Station Newport	Earle, NJ	New London, CT ¹
Naval Station Norfolk	Delaware Bay, DE	Newport, RI ¹
JEB Little Creek Fort Story	Hampton Roads, VA	Montauk, NY
Norfolk Naval Shipyard	Morehead City, NC	Atlantic City, NJ
Naval Submarine Base Kings Bay	Wilmington, NC	Virginia Beach, VA ¹
Naval Station Mayport	Kings Bay, GA	Portsmouth, VA ¹
Port Canaveral	Savannah, GA	Elizabeth City, NC
	Mayport, FL	Charleston, SC ¹
	Port Canaveral, FL	Mayport, FL ¹
	Tampa, FL	Cape Canaveral, FL ¹
	Pascagoula, MS	Fort Pierce, FL ¹
	Gulfport, MS*	Dania, FL ¹
	Beaumont, TX	Miami, FL ¹
	Corpus Christi, TX	Key West, FL ¹
		St. Petersburg, FL ¹
		Pensacola, FL ¹
		New Orleans, LA
		Corpus Christi, TX

* New areas added since the 2018 Final EIS/OEIS analysis

¹ Coast Guard cutter stations

Notes: CT = Connecticut; DE = Delaware; EIS = Environmental Impact Statement; FL = Florida; GA = Georgia; JEB = Joint Expeditionary Base; LA = Louisiana; MA = Massachusetts; ME = Maine; MS = Mississippi; NC = North Carolina; NJ = New Jersey; NY = New York; OEIS = Overseas Environmental Impact Statement; RI = Rhode Island; SC = South Carolina; TX = Texas; VA = Virginia; VACAPES = Virginia Capes

The Action Proponents categorize their functional warfare activities into seven primary mission areas:

- air warfare
- amphibious warfare
- anti-submarine warfare
- electronic warfare
- expeditionary warfare
- mine warfare
- surface warfare

Most activities addressed in this Supplemental EIS/OEIS are categorized under one of these primary mission areas (including proposed U.S. Coast Guard activities); the testing community has three additional categories of activities for vessel evaluation, unmanned systems, and acoustic and oceanographic science and technology. Activities that do not fall within these areas are listed as “other activities.” Each warfare community (surface, subsurface, aviation, and special warfare) may train in some or all of these primary mission areas. The research and acquisition community also categorizes most, but not all, of its testing activities under these primary mission areas. A description of the sonar, munitions, targets, systems, and other material used during military readiness activities within these primary mission areas is provided in [Appendix A](#) (Activity Descriptions).

2.1.2 AIR WARFARE

The mission of air warfare is to destroy or reduce enemy air and missile threats (including unmanned airborne threats) and serves two purposes: to protect U.S. forces from attacks from the air and to gain

air superiority. Air warfare provides U.S. forces with adequate attack warnings, while denying hostile forces the ability to gather intelligence about U.S. forces.

Aircraft conduct air warfare through radar search, detection, identification, and engagement of airborne threats. Surface ships conduct air warfare through an array of modern anti-aircraft weapon systems such as aircraft detecting radar, naval guns linked to radar-directed fire-control systems, surface-to-air missile systems, and radar-controlled cannons for close-in point defense.

Testing of air warfare systems is required to ensure the equipment is fully functional under the conditions in which it will be used. Tests may be conducted on radar and other early warning detection and tracking systems, new guns or gun rounds, and missiles. Testing of these systems may be conducted on new ships and aircraft, and on existing ships and aircraft following maintenance, repair, or modification. For some systems, tests are conducted periodically to assess operability. Additionally, tests may be conducted in support of scientific research to assess new and emerging technologies.

2.1.3 AMPHIBIOUS WARFARE

The mission of amphibious warfare is to project military power from the sea to the shore (i.e., attack a threat on land by a military force embarked on ships) through the use of naval firepower and expeditionary landing forces. Amphibious warfare operations include small unit reconnaissance or raid missions to large-scale amphibious exercises involving multiple ships and aircraft combined into a strike group.

Amphibious warfare training ranges from individual, crew, and small unit events to large task force exercises. Individual and crew training include amphibious vehicles and naval gunfire support training. Such training includes shore assaults, boat raids, airfield or port seizures, reconnaissance, and disaster relief. Large-scale amphibious exercises involve ship-to-shore maneuver, naval fire support, such as shore bombardment, air strikes, and attacks on targets that are in close proximity to friendly forces.

Testing of guns, munitions, aircraft, ships, and amphibious vessels and vehicles used in amphibious warfare are often integrated into training activities and, in most cases, the systems are used in the same manner in which they are used for training activities. Amphibious warfare tests, when integrated with training activities or conducted separately as full operational evaluations on existing amphibious vessels and vehicles following maintenance, repair, or modernization, may be conducted independently or in conjunction with other amphibious ship and aircraft activities. Testing is performed to ensure effective ship-to-shore coordination and transport of personnel, equipment, and supplies. Tests may also be conducted periodically on other systems, vessels, and aircraft intended for amphibious operations to assess operability and to investigate efficacy of new technologies.

2.1.4 ANTI-SUBMARINE WARFARE

The mission of anti-submarine warfare is to locate, neutralize, and defeat hostile submarine forces that threaten Navy forces. Anti-submarine warfare is based on the principle that surveillance and attack aircraft, ships, and submarines all search for hostile submarines. These forces operate together or independently to gain early warning and detection and to localize, track, target, and attack submarine threats.

Anti-submarine warfare training addresses basic skills such as detecting and classifying submarines, as well as evaluating sounds to distinguish between enemy submarines and friendly submarines, ships, and marine life. More advanced training integrates the full spectrum of anti-submarine warfare from detecting and tracking a submarine to attacking a target using either exercise torpedoes (i.e., torpedoes

that do not contain a warhead) or simulated weapons. These integrated anti-submarine warfare training exercises are conducted in coordinated, at-sea training events involving submarines, ships, and aircraft.

Testing of anti-submarine warfare systems is conducted to develop new technologies and assess weapon performance and operability with new systems and platforms, such as unmanned systems. Testing uses ships, submarines, and aircraft to demonstrate capabilities of torpedoes, missiles, countermeasure systems, and underwater surveillance and communications systems. Tests may be conducted as part of a large-scale fleet training event involving submarines, ships, fixed-wing aircraft, and helicopters. These integrated training events offer opportunities to conduct research and acquisition activities and to train aircrew in the use of new or newly enhanced systems during a large-scale, complex exercise.

2.1.5 ELECTRONIC WARFARE

The mission of electronic warfare is to degrade the enemy's ability to use electronic systems, such as communication systems and radar, and to confuse or deny them the ability to defend their forces and assets. Electronic warfare is also used to detect enemy threats and counter their attempts to degrade the electronic capabilities of the Navy.

Typical electronic warfare training activities include threat avoidance, signals analysis for intelligence purposes, and use of airborne and surface electronic jamming devices to defeat tracking and communications systems.

Testing of electronic warfare systems is conducted to improve the capabilities of systems and ensure compatibility with new systems. Testing involves the use of aircraft, surface ships, and submarine crews to evaluate the effectiveness of electronic systems. Similar to training activities, typical electronic warfare testing activities include the use of airborne and surface electronic jamming devices (including testing chaff and flares; see [Appendix A](#), Activity Descriptions, for a description of these devices) to defeat tracking and communications systems. Chaff tests evaluate newly developed or enhanced chaff, chaff dispensing equipment, or modified aircraft systems' use against chaff deployment. Flare tests evaluate deployment performance and crew competency with newly developed or enhanced flares, flare dispensing equipment, or modified aircraft systems' use against flare deployment.

2.1.6 EXPEDITIONARY WARFARE

The mission of expeditionary warfare is to provide security and surveillance in the littoral (at the shoreline), riparian (along a river), or coastal environments. Expeditionary warfare is wide ranging and includes defense of harbors, operation of remotely operated vehicles, and boarding/seizure operations.

Expeditionary warfare training activities include underwater construction team training, dive and salvage operations, and insertion/extraction via air, surface, and subsurface platforms.

2.1.7 MINE WARFARE

The mission of mine warfare is to detect and classify mines, and to deploy countermeasures and neutralize (disable) mines to protect Navy ships and submarines and to maintain free access to ports and shipping lanes. Mine warfare also includes offensive mine laying to gain control of or deny the enemy access to sea space. Naval mines can be laid by ships, submarines, unmanned underwater vehicles, or aircraft.

Mine warfare neutralization training includes exercises in which aircraft, ships, submarines, underwater vehicles, unmanned vehicles, or marine mammal detection systems search for mine shapes. Personnel train to destroy or disable mines by attaching underwater explosives to or near the mine or using remotely operated vehicles to destroy the mine.

Mine warfare testing is similar to training but focuses on the development of mine warfare systems to improve sonar, laser, and magnetic detectors intended to hunt, locate, and record the positions of mines for avoidance or subsequent neutralization. Mine detection and classification testing involves the use of air, surface, and subsurface platforms using a variety of systems to locate and identify objects underwater. Mine countermeasure and neutralization testing includes the use of air, surface, and subsurface platforms to evaluate the effectiveness of tracking devices, countermeasure and neutralization systems, and explosive munitions to neutralize mine threats. Most neutralization tests use mine shapes, or non-explosive practice mines, to evaluate a new or enhanced capability; however, a small percentage require the use of high-explosive mines to evaluate and confirm effectiveness of various systems.

2.1.8 SURFACE WARFARE

The mission of surface warfare is to obtain control of sea space from which naval forces may operate and entails offensive action against other surface and subsurface targets while also defending against enemy forces. In surface warfare, aircraft use cannons, air-launched cruise missiles, or other precision-guided munitions; ships employ torpedoes, naval guns, and surface-to-surface missiles; and submarines attack surface ships using torpedoes or submarine-launched, anti-ship cruise missiles.

Surface warfare training includes surface-to-surface gunnery and missile exercises, air-to-surface gunnery and missile exercises, and submarine missile or torpedo launch events, and other munitions against surface targets.

Testing of weapons used in surface warfare is conducted to develop new technologies and to assess weapon performance and operability with new systems and platforms, such as unmanned systems. Tests include various air-to-surface guns and missiles, surface-to-surface guns and missiles, and bombing tests. Testing events may be integrated into training activities to test aircraft or aircraft systems in the delivery of ordnance on a surface target. In most cases the tested systems are used in the same manner in which they are used for training activities.

2.2 PROPOSED ACTIVITIES

The Action Proponents have been conducting military readiness activities in the Study Area for over a century and with active sonar for over 70 years. The tempo and types of military readiness activities have fluctuated due to the introduction of new technologies, evolving nature of international events, advances in warfighting doctrine and procedures, and changes in force structure (e.g., organization of ships, weapons, and personnel). Such developments influence the frequency, duration, intensity, and location of required military readiness activities. This Supplemental EIS/OEIS reflects the most current compilation of military readiness activities deemed necessary to accomplish military readiness requirements. The types and numbers of activities included in the Proposed Action account for fluctuations in training and testing to meet evolving or emergent military readiness requirements. Key factors used to identify and group the exercises are the scale of the exercise, duration of the exercise, and the amount that sonars or other sound sources are used.

For training and testing to be optimally effective, units must be able to safely use their sensors and weapon systems as they are intended to be used in military missions and combat operations. Standard operating procedures applicable to training and testing have been developed through years of experience to provide for safety (including public health and safety) and mission success. Standard operating procedures are part of the Proposed Action and are considered in the [Chapter 3](#) (Affected Environment and Environmental Consequences) environmental analysis for applicable resources. For a detailed discussion of these standard operating procedures, see [Appendix A](#) (Activity Descriptions).

In furtherance of national security objectives, foreign militaries may participate in multinational training and testing events in the Study Area. Foreign military participation is not part of the federal action unless the U.S. military exercises substantial control and responsibility over those foreign military activities. Foreign military vessels operate pursuant to their own national authorities and have independent rights under customary international law, embodied in the principle of sovereign immunity, to engage in various activities on the world's oceans and seas.

2.2.1 PROPOSED TRAINING ACTIVITIES

A major training exercise is comprised of multiple "unit-level" exercises conducted by several units operating together while commanded and controlled by a single commander (these units are collectively referred to as carrier and expeditionary strike groups). These exercises typically employ an exercise scenario developed to train and evaluate the strike group in tactical naval tasks. In a major training exercise, most of the operations and activities being directed and coordinated by the strike group commander are identical in nature to the operations conducted during individual, crew, and smaller unit-level training events. However, in a major training exercise, these disparate training tasks are conducted in concert rather than in isolation. Some integrated or coordinated anti-submarine warfare exercises are similar in that they are composed of several unit-level exercises but are generally on a smaller scale than a major training exercise, are shorter in duration, use fewer assets, and use fewer hours of hull-mounted sonar per exercise. Coordinated training exercises involve multiple units working together to meet unit-level training requirements, whereas integrated training exercises involve multiple units working together for deployment. Coordinated exercises involving the use of sonar are presented under the category of anti-submarine warfare. The anti-submarine warfare portions of these exercises are considered together in coordinated activities for the sake of acoustic modeling. When other training objectives are being met, those activities are described via unit-level training in each of the relevant primary mission areas below.

The training activities proposed by the Navy are described in Table 2.2-1. This table provides information on all training activities (see [Appendix A](#), Activity Descriptions, for a full description of each), such as the name of the proposed activity, the number of events per year analyzed in the 2018 Final EIS/OEIS, the number of events per year proposed under Alternative 1 and Alternative 2 of this Supplemental EIS/OEIS, and activity locations.

U.S. Coast Guard activities are not as extensive as the Navy activities due to differing mission requirements. As noted in Table 2.2-1, there are some Navy-led activities that the Coast Guard may participate in. Coast Guard-led activities are in Table 2.2-2.

Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Major Training Exercise - Large Integrated Anti-Submarine Warfare				
Composite Training Unit Exercise*	-	0	1	Gulf of Mexico Range Complex
	2 - 3	2 - 3	3	Jacksonville Range Complex
				Navy Cherry Point Range Complex
				Virginia Capes Range Complex
Major Training Exercise - Medium Integrated Anti-Submarine Warfare				
Sustainment/Task Force Exercise	6	2	2	Jacksonville Range Complex
				Navy Cherry Point Range Complex ⁴
				Virginia Capes Range Complex

Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Small Integrated Anti-Submarine Warfare Training				
Navy Undersea Warfare Training Assessment Course	6	2	2	Jacksonville Range Complex Navy Cherry Point Range Complex Virginia Capes Range Complex
Surface Warfare Advanced Tactical Training	6	2	2	Jacksonville Range Complex Navy Cherry Point Range Complex Virginia Capes Range Complex
Medium Coordinated Anti-Submarine Warfare Training				
Anti-Submarine Warfare Tactical Development Exercise	2	1	1	Jacksonville Range Complex
	1	-	-	Navy Cherry Point Range Complex
	1	1	1	Virginia Capes Range Complex
Small Coordinated Anti-Submarine Warfare Training				
Group Sail	4	5	5	Jacksonville Range Complex
	5	4	4	Navy Cherry Point Range Complex
	5	5	5	Virginia Capes Range Complex
Amphibious Ready Group Marine Expeditionary Unit Composite Training Unit Exercise	-	1	1	Navy Cherry Point Range Complex
Air Warfare				
Air Combat Maneuvers	1,270	1,270	1,270	Jacksonville Range Complex
	6,300	6,300	6,300	Key West Range Complex
	1,155	1,925	1,925	Navy Cherry Point Range Complex
	1,200	1,200	1,200	Virginia Capes Range Complex
Air Defense Exercise	85	85	85	Gulf of Mexico Range Complex
	5,157	938	938	Jacksonville Range Complex
	5,166	1,601	1,601	Navy Cherry Point Range Complex
	3,425	3,425	3,425	Virginia Capes Range Complex
Gunnery Exercise Air-to-Air Medium-Caliber	75	40	40	Jacksonville Range Complex
	70	20	20	Key West Range Complex
	40	40	40	Navy Cherry Point Range Complex
	120	80	80	Virginia Capes Range Complex
Gunnery Exercise Air-to-Air Small-Caliber	-	5	5	Jacksonville Range Complex
	-	5	5	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Air Large-Caliber	7	10	10	Jacksonville Range Complex
	25	25	25	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Air Medium-Caliber	31	20	20	Jacksonville Range Complex
	23	9	9	Navy Cherry Point Range Complex
	10	-	-	Other AFTT Areas ⁵
	59	36	36	Virginia Capes Range Complex
Missile Exercise – Man-Portable Air Defense System	5	14	14	Navy Cherry Point Range Complex

Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Missile Exercise Air-to-Air	-	30	30	Gulf of Mexico Range Complex
	48	15	15	Jacksonville Range Complex
	8	16	16	Key West Range Complex
	48	15	15	Navy Cherry Point Range Complex
	40	16	16	Virginia Capes Range Complex
Missile Exercise Surface-to-Air	2	2	2	Gulf of Mexico Range Complex
	5	6	6	Jacksonville Range Complex
	2	2	2	Navy Cherry Point Range Complex
	2	2	2	Northeast Range Complexes
	30	36	36	Virginia Capes Range Complex
Amphibious Warfare				
Amphibious Assault	5	5	5	Navy Cherry Point Range Complex
Amphibious Operations in a Contested Environment	-	45	45	Navy Cherry Point Range Complex
	-	12	12	Virginia Capes Range Complex
Amphibious Raid	20	20	20	Jacksonville Range Complex
	34	34	34	Navy Cherry Point Range Complex
Amphibious Ready Group Marine Expeditionary Unit Exercise	5	1	1	Navy Cherry Point Range Complex
Amphibious Squadron Marine Expeditionary Unit Integration Training	1	1	1	Navy Cherry Point Range Complex
Amphibious Vehicle Maneuvers	2	2	2	Jacksonville Range Complex Inshore
	186	46	46	Virginia Capes Range Complex
	-	256	256	Virginia Capes Range Complex Inshore
Naval Surface Fire Support Exercise – At Sea	4	2	2	Gulf of Mexico Range Complex
	12	6	6	Jacksonville Range Complex
	2	2	2	Navy Cherry Point Range Complex
	38	19	19	Virginia Capes Range Complex
Naval Surface Fire Support Exercise – Land-Based Target	13	13	13	Navy Cherry Point Range Complex
Non-Combat Evacuation Operation*	1	1	1	Navy Cherry Point Range Complex
Anti-Submarine Warfare				
Anti-Submarine Warfare Torpedo Exercise – Helicopter	14	14	14	Jacksonville Range Complex
	4	4	4	Virginia Capes Range Complex
Anti-Submarine Warfare Torpedo Exercise – Maritime Patrol Aircraft	14	14	14	Jacksonville Range Complex
	4	4	4	Virginia Capes Range Complex
Anti-Submarine Warfare Torpedo Exercise – Ship	16	16	16	Jacksonville Range Complex
	5	5	5	Virginia Capes Range Complex

Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Anti-Submarine Warfare Torpedo Exercise – Submarine	12	12	12	Jacksonville Range Complex
	6	6	6	Northeast Range Complexes
	2	2	2	Virginia Capes Range Complex
Anti-Submarine Warfare Tracking Exercise – Helicopter	-	3	3	Gulf of Mexico Range Complex
	370	370	370	Jacksonville Range Complex
	12	12	12	Navy Cherry Point Range Complex
	24	24	24	Other AFTT Areas ⁵
	8	8	8	Virginia Capes Range Complex
Anti-Submarine Warfare Tracking Exercise – Maritime Patrol Aircraft	525	475	475	Jacksonville Range Complex
	46	35	35	Navy Cherry Point Range Complex
	90	80	80	Northeast Range Complexes
	176	155	155	Virginia Capes Range Complex
Anti-Submarine Warfare Tracking Exercise – Ship	5	5	5	Gulf of Mexico Range Complex
	440	290	440	Jacksonville Range Complex
	55	33	55	Navy Cherry Point Range Complex
	5	5	5	Northeast Range Complexes
	110	55	110	Other AFTT Areas ⁵
	220	120	220	Virginia Capes Range Complex
Anti-Submarine Warfare Tracking Exercise – Submarine	13	13	13	Jacksonville Range Complex
	1	1	1	Navy Cherry Point Range Complex
	18	18	18	Northeast Range Complexes
	44	44	44	Other AFTT Areas ⁵
	-	2	2	SINKEX Box
	6	6	6	Virginia Capes Range Complex
Electronic Warfare				
Counter Targeting Chaff Exercise – Aircraft	18	18	18	Gulf of Mexico Range Complex
	2,990	2,990	2,990	Jacksonville Range Complex
	3,000	3,000	3,000	Key West Range Complex
	1,610	1,610	1,610	Navy Cherry Point Range Complex
	130	130	130	Virginia Capes Range Complex
Counter Targeting Chaff Exercise – Ship	5	5	5	Gulf of Mexico Range Complex
	5	5	5	Jacksonville Range Complex
	5	5	5	Navy Cherry Point Range Complex
	50	10	10	Virginia Capes Range Complex
Counter Targeting Flare Exercise	92	92	92	Gulf of Mexico Range Complex
	1,900	1,900	1,900	Jacksonville Range Complex
	1,550	1,550	1,550	Key West Range Complex
	1,115	1,115	1,115	Navy Cherry Point Range Complex
	50	50	50	Virginia Capes Range Complex
Electronic Warfare Operations	181	21	21	Jacksonville Range Complex
	2,620	370	370	Navy Cherry Point Range Complex
	302	32	32	Virginia Capes Range Complex

Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
High-Speed Anti-Radiation Missile Exercise	4	1	1	Jacksonville Range Complex
	10	2	2	Navy Cherry Point Range Complex
	11	3	3	Virginia Capes Range Complex
Expeditionary Warfare				
Dive and Salvage Operations	16	16	16	Gulf of Mexico Range Complex
	60	60	60	NS Mayport
	8	8	8	Key West Range Complex
	16	16	16	Navy Cherry Point Range Complex
	30	145	145	Virginia Capes Range Complex Inshore
Maritime Security Operations – Anti-Swimmer Grenades	2	-	-	Gulf of Mexico Range Complex
	2	-	-	Jacksonville Range Complex
	2	-	-	Navy Cherry Point Range Complex
	4	-	-	Northeast Range Complexes
	5	-	-	Virginia Capes Range Complex
Personnel Insertion/Extraction – Air	-	50	50	Gulf of Mexico Range Complex Inshore
	10	10	10	Jacksonville Range Complex Inshore
	10	-	-	Key West Range Complex
	2,164	74	74	Virginia Capes Range Complex
	-	104	104	Virginia Capes Range Complex Inshore
Personnel Insertion/Extraction – Surface and Subsurface	5	12	12	Gulf of Mexico Range Complex
	1	2	2	Jacksonville Range Complex
	2	-	-	Northeast Range Complexes
	-	48	48	Northeast Range Complexes Inshore
	360	175	175	Virginia Capes Range Complex
	-	216	216	Virginia Capes Range Complex Inshore
Personnel Insertion/Extraction – Swimmer/Diver	42	42	42	Virginia Capes Range Complex Inshore
Port Damage Repair	-	4	4	Gulfport, MS
Underwater Construction Team Training	8	16	16	Gulf of Mexico Range Complex
	-	16	16	Gulfport, MS
	4	8	8	Jacksonville Range Complex Inshore
	4	16	16	Key West Range Complex
	8	-	-	Virginia Capes Range Complex
	-	100	100	Virginia Capes Range Complex Inshore
Mine Warfare				
Airborne Mine Countermeasures – Mine Detection	310	290	290	Gulf of Mexico Range Complex
	317	275	275	Jacksonville Range Complex
	-	187	187	Key West Range Complex
	371	321	321	Navy Cherry Point Range Complex
	1,540	1,420	1,420	Virginia Capes Range Complex

Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Airborne Mine Countermeasures – Towed Mine Neutralization	50	30	30	Gulf of Mexico Range Complex
	100	70	70	Jacksonville Range Complex
	-	15	15	Key West Range Complex
	108	96	96	Navy Cherry Point Range Complex
	510	375	375	Virginia Capes Range Complex Inshore
Airborne Mine Laying	1	1	1	Jacksonville Range Complex
	2	2	2	Navy Cherry Point Range Complex
	4	4	4	Virginia Capes Range Complex
Civilian Port Defense – Homeland Security Anti-Terrorism/Force Protection Exercises*	1	0 - 1	0 - 1	Beaumont, TX Boston, MA Corpus Christi, TX Delaware Bay, DE Earle, NJ Hampton Roads, VA Kings Bay, GA Mayport, FL Morehead City, NC Port Canaveral, FL Savannah, GA Tampa, FL Wilmington, NC
Coordinated Unit Level Helicopter Airborne Mine Countermeasures Exercise	2	2	2	Gulf of Mexico Range Complex
	2	2	2	Jacksonville Range Complex
	-	2	2	Key West Range Complex
	2	2	2	Navy Cherry Point Range Complex
	2	2	2	Virginia Capes Range Complex
Installation and Maintenance of Mine Training Areas	-	1	1	Jacksonville Range Complex
	-	1	1	Key West Range Complex
	-	1	1	Navy Cherry Point Range Complex
	-	1	1	Virginia Capes Range Complex
	-	1	1	Virginia Capes Range Complex Inshore
Mine Countermeasures – Mine Neutralization – Remotely Operated Vehicles	132	66	66	Gulf of Mexico Range Complex
	71	36	36	Jacksonville Range Complex
	-	10	10	Key West Range Complex
	71	36	36	Navy Cherry Point Range Complex
	630	315	315	Virginia Capes Range Complex
Mine Countermeasures – Ship Sonar	22	22	22	Gulf of Mexico Range Complex
	53	53	53	Jacksonville Range Complex
	53	53	53	Virginia Capes Range Complex

Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Mine Neutralization Explosive Ordnance Disposal	16	96	96	Gulf of Mexico Range Complex
	20	100	100	Jacksonville Range Complex
	17	30	30	Key West Range Complex
	60	176	176	Key West Range Complex Inshore
	16	86	86	Navy Cherry Point Range Complex
	524	325	325	Virginia Capes Range Complex
	6	96	96	Virginia Capes Range Complex Inshore
Submarine Mobile Mine and Mine Laying Exercise	-	2	2	Jacksonville Range Complex
Surface Ship Object Detection	76	76	76	Jacksonville Range Complex
	162	162	162	Virginia Capes Range Complex
Underwater Mine Countermeasure Raise, Tow, Beach and Exploitation Operations	56	24	24	Gulf of Mexico Range Complex
	78	20	20	Jacksonville Range Complex
	-	4	4	Jacksonville Range Complex Inshore
	8	40	40	Key West Range Complex
	24	16	16	Navy Cherry Point Range Complex
	446	20	20	Virginia Capes Range Complex
	-	100	100	Virginia Capes Range Complex Inshore
Surface Warfare				
Bombing Exercise Air-to-Surface	67	47	47	Gulf of Mexico Range Complex
	434	260	260	Jacksonville Range Complex
	108	73	73	Navy Cherry Point Range Complex
	329	272	272	Virginia Capes Range Complex
Gunnery Exercise Air-to-Surface Medium-Caliber	30	30	30	Gulf of Mexico Range Complex
	495	490	490	Jacksonville Range Complex
	395	395	395	Navy Cherry Point Range Complex
	720	720	720	Virginia Capes Range Complex
Gunnery Exercise Air-to-Surface Small-Caliber	200	108	108	Jacksonville Range Complex
	130	71	71	Navy Cherry Point Range Complex
	560	300	300	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Surface Boat Medium-Caliber	6	6	6	Gulf of Mexico Range Complex
	26	26	26	Jacksonville Range Complex
	128	128	128	Navy Cherry Point Range Complex
	2	2	2	Northeast Range Complexes
	260	404	404	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Surface Boat Small-Caliber	67	21	21	Gulf of Mexico Range Complex
	84	25	25	Jacksonville Range Complex
	92	28	28	Navy Cherry Point Range Complex
	18	6	6	Northeast Range Complexes
	330	213	213	Virginia Capes Range Complex

Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Gunnery Exercise Surface-to-Surface Ship Large-Caliber	9	8	8	Gulf of Mexico Range Complex
	51	46	46	Jacksonville Range Complex
	35	34	34	Navy Cherry Point Range Complex
	10	9	9	Other AFTT Areas ⁵
	75	63	63	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Surface Ship Medium-Caliber	33	34	34	Gulf of Mexico Range Complex
	161	110	110	Jacksonville Range Complex
	72	70	70	Navy Cherry Point Range Complex
	41	40	40	Other AFTT Areas ⁵
	321	319	319	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Surface Ship Small-Caliber	10	4	4	Gulf of Mexico Range Complex
	300	120	120	Jacksonville Range Complex
	20	12	12	Navy Cherry Point Range Complex
	50	20	20	Other AFTT Areas ⁵
	450	180	180	Virginia Capes Range Complex
Integrated Live Fire Exercise	2	2	2	Jacksonville Range Complex
	2	2	2	Virginia Capes Range Complex
Laser Targeting – Aircraft	315	330	330	Jacksonville Range Complex
	272	286	286	Virginia Capes Range Complex
Laser Targeting - Ship	4	4	4	Jacksonville Range Complex
	4	4	4	Virginia Capes Range Complex
Long Range Unmanned Surface Vessel Training	-	10	10	Jacksonville Range Complex
	-	10	10	Virginia Capes Range Complex
Maritime Security Operations	59	59	59	Gulf of Mexico Range Complex
	210	165	165	Jacksonville Range Complex
	-	45	45	Jacksonville Range Complex Inshore
	75	75	75	Navy Cherry Point Range Complex
	13	13	13	Northeast Range Complexes Inshore
	895	521	521	Virginia Capes Range Complex
	-	374	374	Virginia Capes Range Complex Inshore
Missile Exercise Air-to-Surface - Rocket	10	10	10	Gulf of Mexico Range Complex
	102	115	115	Jacksonville Range Complex
	10	15	15	Navy Cherry Point Range Complex
	92	100	100	Virginia Capes Range Complex
Missile Exercise Air-to-Surface	102	81	81	Jacksonville Range Complex
	-	8	8	Key West Range Complex
	52	72	72	Navy Cherry Point Range Complex
	88	83	83	Virginia Capes Range Complex
Missile Exercise Surface-to-Surface	16	19	19	Jacksonville Range Complex
	12	15	15	Virginia Capes Range Complex
Sinking Exercise*	1	1	1	SINKEX Box
Small Boat Attack	25	15	15	Jacksonville Range Complex
	25	30	30	Virginia Capes Range Complex

Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Other Training Activities				
Elevated Causeway System	1	-	-	Navy Cherry Point Range Complex
	1	-	-	Virginia Capes Range Complex Inshore
Precision Anchoring	9	9	9	Gulf of Mexico Range Complex
	231	231	231	Jacksonville Range Complex
	710	710	710	Virginia Capes Range Complex
Search and Rescue	776	704	704	Jacksonville Range Complex
	-	30	30	Jacksonville Range Complex Inshore
	1176	598	598	Virginia Capes Range Complex
	-	760	760	Virginia Capes Range Complex Inshore
Ship-to-Shore Fuel Transfer System Training	-	1	1	Navy Cherry Point Range Complex Virginia Capes Range Complex Inshore Jacksonville Range Complex
Submarine Navigation	29	29	29	Jacksonville Range Complex
	169	169	169	Northeast Range Complexes
	84	84	84	Virginia Capes Range Complex
Submarine Sonar Maintenance and Systems Checks	9	4	4	Jacksonville Range Complex
	4	2	2	Port Canaveral, FL
	-	2	2	NSB Kings Bay
	13	-	-	Navy Cherry Point Range Complex
	86	66	66	Northeast Range Complexes
	66	66	66	NSB New London
	12	12	12	Other AFTT Areas ⁵
	47	34	34	Virginia Capes Range Complex
	34	34	34	NS Norfolk
Submarine Under Ice Certification	3	3	3	Jacksonville Range Complex
	3	3	3	Navy Cherry Point Range Complex
	9	9	9	Northeast Range Complexes
	9	9	9	Virginia Capes Range Complex
Surface Ship Sonar Maintenance and Systems Checks	0 - 18	50	50	Jacksonville Range Complex
	50	50	50	NS Mayport
	120	120	120	Navy Cherry Point Range Complex
	235	175	175	NS Norfolk
	0 - 18	18	18	Other AFTT Areas ⁵
	120	175	175	Virginia Capes Range Complex
Unmanned Aerial System Training and Certification	-	50	50	Jacksonville Range Complex
	-	100	100	Navy Cherry Point Range Complex
	-	51	51	Virginia Capes Range Complex

Table 2.2-1: Current and Proposed Navy and Marine Corps Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Unmanned Underwater Vehicle Training - Certification and Development	-	10	10	Gulf of Mexico Range Complex
	-	22	22	Jacksonville Range Complex
	-	10	10	Navy Cherry Point Range Complex
	-	12	12	Northeast Range Complexes
	-	32	32	Virginia Capes Range Complex
	-	21	21	Virginia Capes Range Complex Inshore
Waterborne Training	42	42	42	Gulf of Mexico Range Complex
	55	69	69	Jacksonville Range Complex Inshore
	141	185	185	Northeast Range Complexes Inshore
	110	182	182	Virginia Capes Range Complex Inshore

* Activities marked with an asterisk are Navy-led activities in which the U.S. Coast Guard may participate.

¹ The Department of the Navy selected Alternative 1, the Preferred Alternative, in the Record of Decision signed October 18, 2018.

² For activities where the maximum number of events varies between years, a range is provided to indicate the “representative–maximum” number of events. For activities where no variation is anticipated, only the maximum number of events within a single year is provided.

³ Locations given are areas where activities typically occur. However, activities could be conducted in other locations within the Study Area. Where multiple locations are provided within a single cell, the number of activities could occur in any of the locations, not in each of the locations.

⁴ Location is proposed for this Supplemental EIS/OEIS, but was not proposed for the 2018 AFTT EIS/OEIS

⁵ Other AFTT Areas include areas outside of range complexes and testing ranges but still within the AFTT Study Area. Other AFTT Area activities typically refer to those activities that occur while vessels are in transit.

Notes: AFTT = Atlantic Fleet Training and Testing; DE = Delaware; EIS = Environmental Impact Statement; FL = Florida; GA = Georgia; JEB = Joint Expeditionary Base; MA = Massachusetts; MS = Mississippi; NC = North Carolina; NJ = New Jersey; NS = Naval Station; NSB = Naval Submarine Base; OEIS = Overseas Environmental Impact Statement; SINKEX = Sinking Exercise; TX = Texas; VA = Virginia

Table 2.2-2: Current and Proposed U.S. Coast Guard Training Activities

Activity Name	2018 EIS/OEIS	Supplemental		Location ²
	Annual # of Activities	Annual # of Activities		
	Alt 1 ¹	Alt 1	Alt 2	
Air Warfare				
Gunnery Exercise Surface-to-Air Large-Caliber	-	5	5	Jacksonville Range Complex
	-	20	20	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Air Medium-Caliber	-	2	2	Jacksonville Range Complex
	-	3	3	Virginia Capes Range Complex
Electronic Warfare				
Counter Targeting Chaff Exercise – Ship	-	3	3	Gulf of Mexico Range Complex
	-	3	3	Jacksonville Range Complex
	-	3	3	Navy Cherry Point Range Complex
	-	5	5	Virginia Capes Range Complex

Table 2.2-2: Current and Proposed U.S. Coast Guard Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ²
	Annual # of Activities	Annual # of Activities		
	Alt 1 ¹	Alt 1	Alt 2	
Surface Warfare				
Gunnery Exercise Air-to-Surface Medium Caliber	-	10	10	Gulf of Mexico Range Complex
	-	30	30	Jacksonville Range Complex
	-	10	10	Navy Cherry Point Range Complex
	-	25	25	Northeast Range Complexes
	-	10	10	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Surface Boat Medium-Caliber	-	7	7	Gulf of Mexico Range Complex
	-	7	7	Jacksonville Range Complex
	-	7	7	Key West Range Complex
	-	7	7	Navy Cherry Point Range Complex
	-	11	11	Northeast Range Complexes
Gunnery Exercise Surface-to-Surface Boat Small-Caliber	-	11	11	Virginia Capes Range Complex
	-	6	6	Jacksonville Range Complex
	-	2	2	Navy Cherry Point Range Complex
	-	20	20	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Surface Ship Large-Caliber	-	29	29	Gulf of Mexico Range Complex
	-	15	15	Jacksonville Range Complex
	-	10	10	Navy Cherry Point Range Complex
	-	15	15	Northeast Range Complexes
	-	20	20	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Surface Ship Medium-Caliber	-	12	12	Gulf of Mexico Range Complex
	-	40	40	Jacksonville Range Complex
	-	20	20	Navy Cherry Point Range Complex
	-	100	100	Virginia Capes Range Complex
Gunnery Exercise Surface-to-Surface Ship Small-Caliber	-	4	4	Gulf of Mexico Range Complex
	-	1	1	Northeast Range Complexes
	-	1	1	Other AFTT Areas
Laser Targeting - Ship	-	4	4	Jacksonville Range Complex
	-	4	4	Virginia Capes Range Complex
Maritime Security Operations	-	89	98	Gulf of Mexico Range Complex
	-	149	164	Jacksonville Range Complex
	-	50	55	Key West Range Complex
	-	116	128	Navy Cherry Point Range Complex
	-	50	55	Northeast Range Complexes
	-	498	548	Virginia Capes Range Complex
Other Training Activities				
Precision Anchoring	-	100	100	Gulf of Mexico Range Complex
	-	200	200	Jacksonville Range Complex
	-	500	500	Virginia Capes Range Complex

Table 2.2-2: Current and Proposed U.S. Coast Guard Training Activities (continued)

Activity Name	2018 EIS/OEIS	Supplemental		Location ²
	Annual # of Activities	Annual # of Activities		
	Alt 1 ¹	Alt 1	Alt 2	
Search and Rescue	-	100	100	Gulf of Mexico Range Complex
	-	100	100	Jacksonville Range Complex
	-	100	100	Navy Cherry Point Range Complex
	-	100	100	Other AFTT Areas
	-	100	100	Virginia Capes Range Complex
Unmanned Aerial System Training and Certification	-	200	200	Jacksonville Range Complex
	-	200	200	Navy Cherry Point Range Complex
	-	250	250	Virginia Capes Range Complex
Unmanned Underwater Vehicle Training – Certification and Development	-	10	10	Gulf of Mexico Range Complex
	-	10	10	Jacksonville Range Complex
	-	10	10	Navy Cherry Point Range Complex
	-	20	20	Virginia Capes Range Complex
	-	20	20	Virginia Capes Range Complex Inshore
Waterborne Training	-	138	152	Beaumont, TX Gulf of Mexico Range Complex Gulf of Mexico Range Complex Inshore Pascagoula, MS Tampa, FL
	-	60	66	Jacksonville Range Complex Inshore
	-	69	76	Key West Range Complex
	-	185	204	Northeast Range Complexes Northeast Range Complexes Inshore
	-	9	10	NS Mayport
	-	182	200	Virginia Capes Range Complex Inshore

¹ The Department of the Navy selected Alternative 1, the Preferred Alternative, in the Record of Decision signed October 18, 2018.

² Locations given are areas where activities typically occur. However, activities could be conducted in other locations within the Study Area. Where multiple locations are provided within a single cell, the number of activities could occur in any of the locations, not in each of the locations.

Notes: AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; FL = Florida; MS = Mississippi; NS = Naval Station; OEIS = Overseas Environmental Impact Statement; TX = Texas; - = Not Applicable

2.2.2 PROPOSED TESTING ACTIVITIES

As described in the 2018 Final EIS/OEIS, the Navy's research and acquisition community engages in a broad spectrum of testing activities. These activities include, but are not limited to, basic and applied scientific research and technology development; testing, evaluation, and maintenance of systems (e.g., missiles, radar, and sonar) and platforms (e.g., surface ships, submarines, and aircraft); and acquisition of systems and platforms to support Navy missions and give a technological advantage over adversaries. The individual commands within the research and acquisition community included in this Supplemental EIS/OEIS are Naval Air Systems Command, Naval Sea Systems Command, and the Office of Naval Research.

Testing activities proposed by individual commands in this Supplemental EIS/OEIS are described in Table 2.2-3, Table 2.2-4, and Table 2.2-5. These tables provide information on all testing activities, such as location, number of events per year, and number of events per year analyzed in the 2018 Final EIS/OEIS. More information about each activity can be found in [Appendix A](#) (Activity Descriptions) and [Appendix B](#) (Activity Stressor Matrices).

The Coast Guard is not proposing any testing activities as part of the Proposed Action. The Coast Guard uses the same systems and weapons as the Navy and rely on the Navy's acquisition community to test all ships and systems to be added to the Coast Guard's inventory.

Table 2.2-3: Naval Air Systems Command Current and Proposed Testing Activities

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Air Warfare				
Air Combat Maneuvers Test	550	550	550	Virginia Capes Range Complex
Air Platform Vehicle Test	12	12	12	Gulf of Mexico Range Complex
	9	9	9	Jacksonville Range Complex
	9	9	9	Key West Range Complex
	9	9	9	Navy Cherry Point Range Complex
	190	190	190	Virginia Capes Range Complex
Air Platform Weapons Integration Test	-	2	2	Gulf of Mexico Range Complex
	40	40	40	Virginia Capes Range Complex
Air-to-Air Gunnery Test – Medium-Caliber	55	55	55	Virginia Capes Range Complex
Air-to-Air Missile Test	83	83	83	Virginia Capes Range Complex
Air-to-Air Weapons System Test	10	2	2	Gulf of Mexico Range Complex
Intelligence, Surveillance, and Reconnaissance Test	-	5	5	Gulf of Mexico Range Complex
	7	8	8	Jacksonville Range Complex
	9	10	10	Navy Cherry Point Range Complex
	406	233	233	Virginia Capes Range Complex
Anti-Submarine Warfare				
Anti-Submarine Tracking Test – Fixed-Wing	10 - 15	15	15	Gulf of Mexico Range Complex
	19	19	19	Jacksonville Range Complex
	10 - 12	12	12	Key West Range Complex
	14 - 15	15	15	Navy Cherry Point Range Complex
	36 - 45	45	45	Northeast Range Complexes
	-	25	25	SINKEX Box
	25	25	25	Virginia Capes Range Complex
Anti-Submarine Warfare Torpedo Test	20 - 43	20 - 43	43	Jacksonville Range Complex
	40 - 121	40 - 121	121	Virginia Capes Range Complex
Anti-Submarine Warfare Tracking Test – Rotary Wing	4 - 6	6	6	Gulf of Mexico Range Complex
	0 - 12	23	23	Jacksonville Range Complex
	2 - 27	27	27	Key West Range Complex
	28 - 110	110	110	Northeast Range Complexes
	137 - 280	280	280	Virginia Capes Range Complex

**Table 2.2-3: Naval Air Systems Command Current and Proposed Testing Activities
(continued)**

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Kilo Dip Test	2 - 6	6	6	Gulf of Mexico Range Complex
	0 - 6	6	6	Jacksonville Range Complex
	0 - 6	6	6	Key West Range Complex
	0 - 4	4	4	Northeast Range Complexes
	20 - 40	40	40	Virginia Capes Range Complex
Sonobuoy Lot Acceptance Test	160	186	186	Key West Range Complex
Electronic Warfare				
Chaff Test	20	20	20	Gulf of Mexico Range Complex
	4	4	4	Jacksonville Range Complex
	24	24	24	Virginia Capes Range Complex
Electronic Systems Test	2	2	2	Jacksonville Range Complex
	61	61	61	Virginia Capes Range Complex
Flare Test	10	20	20	Gulf of Mexico Range Complex
	20	20	20	Virginia Capes Range Complex
Mine Warfare				
Airborne Dipping Sonar Minehunting Test	16 - 32	-	-	Gulf of Mexico Range Complex
	-	32	32	NSWC Panama City Testing Range
	6 - 18	40	40	Virginia Capes Range Complex
Airborne Laser Mine Detection System Test	40	-	-	Gulf of Mexico Range Complex
	-	40	40	NSWC Panama City Testing Range
	50	50	50	Virginia Capes Range Complex
Airborne Mine Neutralization System Test	20 - 27	-	-	Gulf of Mexico Range Complex
	-	27	27	NSWC Panama City Testing Range
	24	25	25	Virginia Capes Range Complex
Airborne Sonobuoy Minehunting Test	52	26	26	NSWC Panama City Testing Range
	24	12	12	Virginia Capes Range Complex
Mine Laying Test	1	1	1	Jacksonville Range Complex
	2	2	2	Virginia Capes Range Complex
Surface Warfare				
Air-to-Surface Bombing Test	20	20	20	Virginia Capes Range Complex
Air-to-Surface Gunnery Test	25 - 55	55	55	Jacksonville Range Complex
	110 - 140	140	140	Virginia Capes Range Complex
Air-to-Surface Missile Test	0 - 10	5	5	Gulf of Mexico Range Complex
	29 - 38	29	29	Jacksonville Range Complex
	117 - 148	117	117	Virginia Capes Range Complex
Air-to-Surface High-Energy Laser Test	108	108	108	Virginia Capes Range Complex
Laser Targeting Test	5	5	5	Virginia Capes Range Complex
Maritime Security Operations	12	12	12	Jacksonville Range Complex
	12	12	12	Navy Cherry Point Range Complex
	20	20	20	Virginia Capes Range Complex

**Table 2.2-3: Naval Air Systems Command Current and Proposed Testing Activities
(continued)**

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Rocket Test	15 - 19	19	19	Jacksonville Range Complex
	31 - 35	35	35	Virginia Capes Range Complex
Other Testing Activities				
Acoustic and Oceanographic Research	1	1	1	Gulf of Mexico Range Complex
	1	1	1	Jacksonville Range Complex
	1	1	1	Key West Range Complex
	1	1	1	Northeast Range Complex
	1	1	1	Virginia Capes Range Complex
Air Platform Shipboard Integration Test	-	30	30	Gulf of Mexico Range Complex
	-	30	30	Jacksonville Range Complex
	-	30	30	Key West Range Complex
	126	152	152	Virginia Capes Range Complex
Shipboard Electronics Systems Evaluation	24	-	-	Gulf of Mexico Range Complex
	24	-	-	Jacksonville Range Complex
	24	-	-	Key West Range Complex
	26	-	-	Virginia Capes Range Complex
Undersea Range System Test	4 - 20	4 – 20	20	Jacksonville Range Complex

¹ The Department of the Navy selected Alternative 1, the Preferred Alternative, in the Record of Decision signed October 18, 2018.

² For activities where the maximum number of events varies between years, a range is provided to indicate the “representative–maximum” number of events. For activities where no variation is anticipated, only the maximum number of events within a single year is provided.

³ Locations given are areas where activities typically occur. However, activities could be conducted in other locations within the Study Area. Where multiple locations are provided within a single cell, the number of activities could occur in any of the locations, not in each of the locations.

Notes: EIS – Environmental Impact Statement; OEIS = Overseas Environmental Impact Statement; NSWC = Naval Surface Warfare Center; SINKEX = Sinking Exercise

Table 2.2-4: Naval Sea Systems Command Current and Proposed Testing Activities

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Amphibious Warfare				
Amphibious Vessel Testing	-	0 - 1	1	Gulf of Mexico Range Complex Inshore
Anti-Submarine Warfare				
Anti-Submarine Warfare Mission Package Testing	-	1 - 2	2	Gulf of Mexico Range Complex
	42	2	2	Jacksonville Range Complex
	-	1 - 2	2	Northeast Range Complexes
	4	-	-	Newport, RI
	4	-	-	NUWC Newport Testing Range
	26	-	-	Virginia Capes Range Complex

**Table 2.2-4: Naval Sea Systems Command Current and Proposed Testing Activities
(continued)**

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
At-Sea Sonar Testing	5	7 - 9	9	Gulf of Mexico Range Complex Jacksonville Range Complex Navy Cherry Point Range Complex Northeast Range Complexes SFOMF Virginia Capes Range Complex
	-	7 - 14	14	Gulf of Mexico Range Complex
	4	4	4	Jacksonville Range Complex
	2	2	2	Navy Cherry Point Range Complex
	-	8 - 15	15	Northeast Range Complexes
	8	-	-	NUWC Newport Testing Range
	12	16-22	22	Virginia Capes Range Complex
	-	2	2	SFOMF
Pierside Sonar Testing	13	5 - 10	10	NSB New London Gulf of Mexico Range Complex Inshore ⁴ Jacksonville Range Complex ⁴ NSB Kings Bay Newport, RI ⁴ NS Norfolk Northeast Range Complexes ⁴ Port Canaveral, FL Virginia Capes Range Complex ⁴
	11	10 - 20	20	Bath, ME
	8	-	-	Newport, RI
	-	10 - 18	18	NS Mayport
	13	63 - 84	84	NS Norfolk
	2	10 - 20	20	Pascagoula, MS
	2	16 - 24	24	Portsmouth Naval Shipyard
	24	-	-	Portsmouth Naval Shipyard
Submarine Sonar Testing/Maintenance	16	-	-	NS Norfolk
Surface Ship Sonar Testing/Maintenance	1	1	1	Jacksonville Range Complex
	1	-	-	NS Mayport
	3	4	4	Virginia Capes Range Complex
	3	-	-	NS Norfolk
Torpedo (Explosive) Testing	6	1 - 5	5	Gulf of Mexico Range Complex Jacksonville Range Complex Key West Range Complex Navy Cherry Point Range Complex Northeast Range Complexes Virginia Capes Range Complex

**Table 2.2-4: Naval Sea Systems Command Current and Proposed Testing Activities
(continued)**

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Torpedo (Non-Explosive) Testing	46	13 - 17	17	Gulf of Mexico Range Complex Jacksonville Range Complex Key West Range Complex ⁴ Navy Cherry Point Range Complex Northeast Range Complexes SFOMF ² Virginia Capes Range Complex Jacksonville Range Complexes Inshore ⁵
	30	30	30	NUWC Newport Testing Range
Electronic Warfare				
Radar and Other Systems Testing	6 - 13	5 - 15	15	Gulf of Mexico Range Complex Jacksonville Range Complex Key West Range Complex Navy Cherry Point Range Complex JEB Little Creek Fort Story ⁵ NS Norfolk Northeast Range Complexes NSWC Panama City Testing Range ⁴ NUWC Newport Testing Range ⁴ SFOMF Virginia Capes Range Complex
	-	17 - 34	34	Gulf of Mexico Range Complex
	2	5 - 10	10	NS Norfolk
	2	17 - 34	34	Northeast Range Complexes
	4	-	-	NSB New London
	21 - 45	33 - 65	65	Virginia Capes Range Complex
	-	0 - 1	1	Virginia Capes Range Complex Inshore
Mine Warfare				
Mine Countermeasure and Neutralization Testing	13	18 - 45	45	Gulf of Mexico Range Complex
	6	24 - 48	48	Virginia Capes Range Complex
Mine Countermeasure Mission Package Testing	19	15	15	Gulf of Mexico Range Complex
	10	8	8	Jacksonville Range Complex
	11	11	11	NSWC Panama City Testing Range
	2	2	2	SFOMF
	5	3	3	Virginia Capes Range Complex
Mine Detection and Classification Testing	-	0 - 1	1	Jacksonville Range Complex NSWC Panama City Testing Range Port Canaveral, FL
	6	-	-	Gulf of Mexico Range Complex
	-	0 - 1	1	Jacksonville Range Complex
	7 - 12	-	-	Jacksonville Range Complex Inshore

**Table 2.2-4: Naval Sea Systems Command Current and Proposed Testing Activities
(continued)**

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
	10	-	-	Navy Cherry Point Range Complex
	47 - 55	286 - 287	287	NSWC Panama City Testing Range
	4	-	-	SFOMF
	3	-	-	Virginia Capes Range Complex
Other Testing Activities				
Acoustic and Oceanographic Research	-	0 - 1	1	Gulf of Mexico Range Complex Jacksonville Range Complex Key West Range Complex
	-	3	3	Northeast Range Complexes
	-	0 - 1	1	Other AFTT Areas ⁶
Acoustic Component Testing	33	33	33	SFOMF
	-	1	1	Jacksonville Range Complex
Simulant Testing	80	-	-	Jacksonville Range Complex
	80	-	-	Navy Cherry Point Range Complex
	80	-	-	Northeast Range Complexes
	80	0-5	5	Virginia Capes Range Complex
Countermeasure Testing	7 - 9	16 - 20	20	Gulf of Mexico Range Complex Jacksonville Range Complex Key West Range Complex Navy Cherry Point Range Complex ⁴ Northeast Range Complexes NUWC Newport Testing Range ⁵ Virginia Capes Range Complex JEB Little Creek Fort Story ⁴
	-	8 - 10	10	Gulf of Mexico Range Complex
	-	6	6	NUWC Newport Testing Range
	-	6 - 10	10	Virginia Capes Range Complex
Insertion/Extraction	268	501 - 502	502	Key West Range Complex NSWC Panama City Testing Range
Intelligence, Surveillance, Reconnaissance	-	2	2	Jacksonville Range Complex
	-	1	1	Virginia Capes Range Complex
Line Charge Testing	4	4	4	NSWC Panama City Testing Range
Non-Acoustic Component Testing	-	0 - 3	3	Gulf of Mexico Range Complex Virginia Capes Range Complex
	4	0 - 3	3	Gulf of Mexico Range Complex
	-	0 - 1	1	Hampton Roads, VA
	4	0 - 1	1	Virginia Capes Range Complex
Payload Deployer Testing	1	1 - 2	2	Gulf of Mexico Range Complex
	1	1 - 2	2	Northeast Range Complexes
	39	39	39	NUWC Newport Testing Range
Semi-Stationary Equipment Testing	-	8 - 14	14	NSB New London NS Mayport NS Norfolk

**Table 2.2-4: Naval Sea Systems Command Current and Proposed Testing Activities
(continued)**

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
				Port Canaveral, FL Virginia Capes Range Complex Inshore Key West Range Complex Inshore
	4	4	4	Newport, RI
	11	-	-	Gulf of Mexico Range Complex
	-	30	30	NSWC Panama City Testing Range
	190	155 - 173	173	NUWC Newport Testing Range
Towed Equipment Testing	36	43 - 49	49	NUWC Newport Testing Range
Surface Warfare				
Gun Testing - Large-Caliber	19	1 - 15	15	Gulf of Mexico Range Complex ⁵ Jacksonville Range Complex Key West Range Complex ⁵ Navy Cherry Point Range Complex ⁵ Northeast Range Complexes ⁵ Virginia Capes Range Complex
	1	1 - 2	2	Gulf of Mexico Range Complex
	1	2 - 4	4	Jacksonville Range Complex
	1	1 - 2	2	Northeast Range Complexes
	33	15	15	NSWC Panama City Testing Range
Gun Testing - Medium-Caliber	12	-	-	Gulf of Mexico Range Complex Jacksonville Range Complex Key West Range Complex Navy Cherry Point Range Complex Northeast Range Complexes Virginia Capes Range Complex
	-	1 - 2	2	Gulf of Mexico Range Complex
	-	1 - 2	2	Northeast Range Complexes
	102	102	102	NSWC Panama City Testing Range
	5	12 - 21	21	Virginia Capes Range Complex
Gun Testing - Small-Caliber	24	0 - 3	3	Gulf of Mexico Range Complex Jacksonville Range Complex Key West Range Complex Navy Cherry Point Range Complex Northeast Range Complexes Virginia Capes Range Complex
	13	0 - 1	1	Gulf of Mexico Range Complex
	7	8	8	NSWC Panama City Testing Range
	8	0 - 3	3	Virginia Capes Range Complex
Kinetic Energy Weapons Testing	61	-	-	Gulf of Mexico Range Complex Jacksonville Range Complex Key West Range Complex Navy Cherry Point Range Complex

**Table 2.2-4: Naval Sea Systems Command Current and Proposed Testing Activities
(continued)**

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
				Northeast Range Complexes Virginia Capes Range Complex
Missile and Rocket Testing	21	6 - 18	18	Gulf of Mexico Range Complex Jacksonville Range Complex Key West Range Complex ⁵ Navy Cherry Point Range Complex Northeast Range Complexes ⁵ Virginia Capes Range Complex
	22	20 - 30	30	Virginia Capes Range Complex
Unmanned Systems				
Underwater Search, Deployment, and Recovery	33	33	33	SFOMF
	-	0 - 5	5	Virginia Capes Range Complex
Unmanned Aerial System Testing	15	-	-	Northeast Range Complexes
	17	17	17	NUWC Newport Testing Range
	15	-	-	Virginia Capes Range Complex
Unmanned Surface Vehicle System Testing	-	8 - 14	14	Gulf of Mexico Range Complex Gulf of Mexico Range Complex Inshore Jacksonville Range Complex Key West Range Complex NS Mayport Navy Cherry Point Range Complex NS Norfolk Other AFTT Areas ⁶ Pascagoula, MS Virginia Capes Range Complex
	132	4	4	NUWC Newport Testing Range
Unmanned Underwater Vehicle Testing	16	-	-	Gulf of Mexico Range Complex Jacksonville Range Complex NUWC Newport Testing Range
	41	-	-	Gulf of Mexico Range Complex
	25	-	-	Jacksonville Range Complex
	9	-	-	Jacksonville Range Complex Inshore
	145 - 146	208 - 209	209	NSWC Panama City Testing Range
	308 - 309	138	138	NUWC Newport Testing Range
	42	1	1	SFOMF
Vessel Evaluation				
Air Defense Testing	1	-	-	Gulf of Mexico Range Complex
	2	2	2	Jacksonville Range Complex
	1	-	-	Northeast Range Complexes
	5	18 - 31	31	Virginia Capes Range Complex
Aircraft Carrier Sea Trials – Propulsion Testing	2	-	-	Virginia Capes Range Complex

**Table 2.2-4: Naval Sea Systems Command Current and Proposed Testing Activities
(continued)**

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Hydrodynamic and Maneuverability Testing	2	-	-	Gulf of Mexico Range Complex Jacksonville Range Complex Key West Range Complex Navy Cherry Point Range Complex Northeast Range Complexes Virginia Capes Range Complex
In-Port Maintenance Testing	24	2	2	NS Mayport, FL NS Norfolk
	2	2	2	NS Mayport
	5	4	4	NS Norfolk
Large Ship Shock Trials	0 - 1	-	-	Gulf of Mexico Range Complex Jacksonville Range Complex Virginia Capes Range Complex
Propulsion Testing	42	13 - 73	73	Gulf of Mexico Range Complex Gulf of Mexico Range Complex Inshore ⁴ Jacksonville Range Complex Key West Range Complex Navy Cherry Point Range Complex Northeast Range Complexes Virginia Capes Range Complex
	86	30 - 58	58	Gulf of Mexico Range Complex
	5	1 - 2	2	Northeast Range Complexes
	-	1 - 2	2	NSWC Panama City Testing Range
	7	15 - 74	74	Virginia Capes Range Complex
	-	0 - 1	1	Hampton Roads, VA
Signature Analysis Operations	1	-	-	Jacksonville Range Complex
	59	79 - 94	94	SFOMF
	0 - 3	0 - 2	0 - 2	Jacksonville Range Complex Virginia Capes Range Complex Gulf of Mexico Range Complex ⁴
Submarine Sea Trials – Propulsion Testing	1	-	-	Jacksonville Range Complex
	1	2 - 4	4	Northeast Range Complexes
	1	2 - 4	4	Virginia Capes Range Complex
Submarine Sea Trials – Weapons System Testing	6	3 - 7	7	Gulf of Mexico Range Complex Jacksonville Range Complex Jacksonville Range Complex Inshore ⁵ NSB Kings Bay ⁴ Northeast Range Complexes Port Canaveral, FL ⁴ SFOMF ⁵ Virginia Capes Range Complex
	4	2 - 4	4	Northeast Range Complexes

**Table 2.2-4: Naval Sea Systems Command Current and Proposed Testing Activities
(continued)**

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
	-	1	1	Northeast Range Complexes Inshore
	4	2 - 4	4	Virginia Capes Range Complex
Surface Warfare Testing	-	17 - 76	76	Jacksonville Range Complex Virginia Capes Range Complex
	2	0 - 2	2	Gulf of Mexico Range Complex
	13	4 - 6	6	Jacksonville Range Complex
	1	-	-	Key West Range Complex
	10	-	-	Northeast Range Complexes
	9	5 - 7	7	Virginia Capes Range Complex
Undersea Warfare Testing	4 - 6	6 - 24	24	Jacksonville Range Complex Navy Cherry Point Range Complex Northeast Range Complexes ⁴ SFOMF Virginia Capes Range Complex
	2	-	-	Gulf of Mexico Range Complex
	6	4 - 6	6	Jacksonville Range Complex
	-	0 - 1	1	Key West Range Complex
Vessel Signature Evaluation	9	1 - 4	4	Jacksonville Range Complex Virginia Capes Range Complex
	2	0 - 1	1	Gulf of Mexico Range Complex
	-	1 - 3	3	Hampton Roads, VA
	16	-	-	Jacksonville Range Complex
	-	0 - 1	1	NUWC Newport Testing Range
	-	0 - 1	1	SFOMF
	18	0 - 1	1	Virginia Capes Range Complex
5	-	-	JEB Little Creek Fort Story	

¹ The Department of the Navy selected Alternative 1, the Preferred Alternative, in the Record of Decision signed October 18, 2018.

² For activities where the maximum number of events varies between years, a range is provided to indicate the “representative–maximum” number of events. For activities where no variation is anticipated, only the maximum number of events within a single year is provided.

³ Locations given are areas where activities typically occur. However, activities could be conducted in other locations within the Study Area. Where multiple locations are provided within a single cell, the number of activities could occur in any of the locations, not in each of the locations.

⁴ Location is proposed for this Supplemental EIS/OEIS, but was not proposed for the 2018 AFTT EIS/OEIS

⁵ Location was proposed for the 2018 AFTT EIS/OEIS, but is not proposed for this Supplemental EIS/OEIS⁶ Other AFTT Areas include areas outside of range complexes and testing ranges but still within the AFTT Study Area. Other AFTT Area activities typically refer to those activities that occur while vessels are in transit.

Notes: AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; FL = Florida; GA = Georgia; JEB = Joint Expeditionary Base; MS = Mississippi; NS = Naval Station; NSB = Naval Submarine Base; NSWC = Naval Surface Warfare Center; NUWC = Naval Undersea Warfare Center; OEIS = Overseas Environmental Impact Statement; RI = Rhode Island; SFOMF = South Florida Ocean Measurement Facility; VA = Virginia

Table 2.2-5: Current and Proposed Office of Naval Research Testing Activities

Activity Name	2018 EIS/OEIS	Supplemental		Location ³
	Annual # of Activities	Annual # of Activities ²		
	Alt 1 ¹	Alt 1	Alt 2	
Acoustic and Oceanographic Science and Technology				
Acoustic and Oceanographic Research	5	-	-	Gulf of Mexico Range Complex
	9	-	-	Northeast Range Complexes
	2	-	-	Other AFTT Areas
	2	-	-	Virginia Capes Range Complex
	-	12 - 15	15	Gulf of Mexico Range Complex Jacksonville Range Complex Northeast Range Complexes Virginia Capes Range Complex
Large Displacement Unmanned Undersea Vehicle Testing	4	-	-	Gulf of Mexico Range Complex
	12	-	-	Jacksonville Range Complex
	4	-	-	Navy Cherry Point Range Complex
	16	-	-	Northeast Range Complexes
	8	-	-	Virginia Capes Range Complex
	-	4 - 5	5	Gulf of Mexico Range Complex Jacksonville Range Complex Northeast Range Complexes Virginia Capes Range Complex
Mine Countermeasure Technology Research	-	4 - 5	5	Gulf of Mexico Range Complex Jacksonville Range Complex Northeast Range Complexes Virginia Capes Range Complex
	1	-	-	Jacksonville Range Complex
	2	-	-	Northeast Range Complexes
	1	-	-	Virginia Capes Range Complex

¹ The Department of the Navy selected Alternative 1, the Preferred Alternative, in the Record of Decision signed October 18, 2018.

² For activities where the maximum number of events varies between years, a range is provided to indicate the “representative–maximum” number of events. For activities where no variation is anticipated, only the maximum number of events within a single year is provided.

³ Locations given are areas where activities typically occur. However, activities could be conducted in other locations within the Study Area. Where multiple locations are provided within a single cell, the number of activities could occur in any of the locations, not in each of the locations.

Notes: AFTT = Atlantic Fleet Training and Testing; EIS = Environmental Impact Statement; OEIS = Overseas Environmental Impact Statement

2.3 ACTION ALTERNATIVES DEVELOPMENT

The identification, consideration, and analysis of alternatives are critical components of the National Environmental Policy Act (NEPA) process and contribute to the goal of informed decision making. The Council on Environmental Quality (CEQ) issued regulations implementing NEPA, and these regulations require the decision maker to consider the reasonably foreseeable environmental effects of the proposed action and a reasonable range of alternatives (including the no action alternative) to the proposed action (40 CFR section 1502.14). CEQ guidance further provides that an EIS must evaluate reasonable alternatives to the proposed actions and, for alternatives eliminated from detailed study, briefly discuss the reasons for them having been

eliminated. To be reasonable, an alternative, except for the no action alternative, must be technically and economically feasible and meet the purpose and need for the proposed action.

The Action Alternatives, and in particular the mitigation measures incorporated within the Action Alternatives, were developed to meet both the Action Proponents' purpose and need to train and test and NMFS's independent purpose and need to evaluate the potential impacts of Action Proponents' activities. The Action Proponents will implement mitigation measures to avoid or reduce potential impacts from the Proposed Action on environmental resources. Mitigation measures would be implemented under either Action Alternative and are detailed and analyzed in [Chapter 5](#) (Mitigation).

The Action Proponents developed the alternatives considered in this Supplemental EIS/OEIS after careful assessment by subject matter experts, including military commands that utilize the ranges, military range management professionals, and Navy environmental managers and scientists. The Action Proponents also used the most recent military policy and historical data in developing alternatives.

Through comparison of Navy's Strategic Planning for projected capability requirements against historical analysis of multiple years of classified sonar usage data, followed by cross referencing the training requirements during the same time period, the Action Proponents produced a refined estimate of sonar usage anticipated to meet its training and testing requirements, which support the development of the action alternatives. The Navy, in its role as the Lead Agency, continues this refined process of checks and balances from phase to phase.

With regards to testing activities, the level of activity in any given year is highly variable and is dependent on technological advancements, emergent requirements identified during operations, and fiscal fluctuations. Therefore, the environmental analysis must consider all testing activities that could possibly occur to ensure that the analysis fully captures the potential environmental effects. These factors were considered in alternatives carried forward for consideration and analysis as described in Section 2.4 (Alternatives Carried Forward).

2.3.1 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

This Supplemental EIS/OEIS serves as an update to the 2018 Final EIS/OEIS; therefore, alternatives eliminated from consideration in the 2018 Final EIS/OEIS were evaluated to determine if they should be reconsidered for the Supplemental EIS/OEIS and are discussed below. The Action Proponents determined that these alternatives did not meet the purpose of and need for the Proposed Action after a thorough consideration of each.

2.3.1.1 Alternative Training and Testing Locations

The 2018 Final EIS/OEIS [Section 2.4.3.1](#) (Alternative Training and Testing Locations) states there is no other series of integrated ranges in the Atlantic Ocean that affords this level of operational support and comprehensive integration for range activities. There are no other potential locations in the Atlantic where roughly half of the Navy's fleet is located, where land ranges, OPAREAs, undersea terrain and ranges, testing ranges, and military airspace combine to provide the venues necessary for the training and testing realism and effectiveness required to train and certify U.S. forces ready for combat operations. U.S. Coast Guard stations need to be strategically located to perform all of their missions, and they cannot move training to other locations. Therefore, conducting military readiness activities in alternative locations does not meet the purpose of and need for the Proposed Action and has been eliminated from detailed study.

2.3.1.2 Simulated Training and Testing Only

The 2018 Final EIS/OEIS [Section 1.4.1](#) (Why the Navy Trains) states that simulators and synthetic training are critical elements that provide early skill repetition and enhance teamwork aboard vessels and in aircraft. For the purposes of this Supplemental EIS/OEIS, “simulators” will be used to describe specific devices that mimic actual equipment, such as an Anti-Submarine Warfare simulator, while “synthetic training” will refer to any training that takes place in a virtual environment. Since 2018, advanced technology has ushered in training environments that merge live, virtual and constructive capabilities to expand the scale and complexity of training conditions. Such training environments connect live, in-person elements with manned virtual simulators and constructive computer-generated forces.

The Action Proponents currently use simulation for training and testing whenever possible; however, there are limitations, and its use cannot completely replace live training or testing. To determine the balance of live and synthetic military readiness activities, the roles of live and simulated activities in relation to attaining performance goals should be considered. Measuring the relative effectiveness of in-port and underway training is difficult at best. However, if the Action Proponents are to pursue an increased use of simulation to replace live underway training, the combination of live and synthetic training to achieve maximum readiness must be evaluated.

- While simulation is often more cost-effective, some training events cannot or should not be replaced by a simulator. For example, conducting live fire exercises increases operator and crew proficiency, tests weapons system and ordnance reliability under live conditions, evaluates doctrinal procedures and system performance, and assesses the effectiveness of past training.
- Underway training can be used to validate the level of proficiency attained from using synthetic training while ashore.
- Simulation can be used to augment training completed underway but cannot completely replace it.
- Some simulators cannot provide the same level of fidelity as live events.

Training and Testing Without Use of Active Sonar. The Navy uses passive and active sonar to detect submarines. Sonar proficiency is a complex and perishable skill that requires regular, hands-on training in realistic and diverse conditions. More than 475 submarines are operated by approximately 40 countries worldwide (Global Firepower, 2024). As a result, detection of and defense against enemy submarines is a top Navy priority. Anti-submarine warfare training and testing activities prepare and equip sailors for countering such threats. Failure to detect and defend against hostile submarines can cost lives, such as the 46 sailors who died when a Republic of Korea frigate (CHEONAN) was sunk by a North Korean submarine in March 2010 (Gregg, 2010). These difficult-to-detect submarines are true threats to global commerce, national security, and the safety of military personnel. As a result, defense against enemy submarines is a top priority for the Navy.

Although the Navy’s Anti-Submarine Warfare simulators provide all-world, high-fidelity synthetic environments and realistic and versatile scenarios, there remain limits to the realism that current technology can presently provide. For example:

- Bottom bounce and other environmental conditions. Sound hitting the ocean floor (bottom bounce) reacts differently depending on the bottom type and depth. Likewise, sound is affected by passing through changing currents, eddies, or across differences in ocean temperature, pressure, or salinity.

- Ambient noise. Not all worldwide oceanographic phenomena have been modeled, including some types of naturally occurring noise in the sea and the noise resulting from human activity but excluding self-noise and reverberation.
- Mutual sonar interference. When multiple sonar sources are operating in the vicinity of each other, interference due to similarities in frequency can occur. Again, this is a complex variable that must be recognized by sonar operators but is difficult to simulate with any degree of fidelity.

Similar to the limitations noted above, operational testing cannot be based exclusively on computer modeling and simulation either (see 10 United States Code sections 4171 - 72). At-sea testing provides the critical information on usability, operability, reliability, survivability, lethality, and supportability needed by the Navy to make decisions on the procurement of platforms and systems (to include sonar), ensuring that what is purchased performs as expected and that tax dollars are used effectively. This testing requirement is also critical to protect the Sailors, Marines, and Coast Guardsmen who depend on these technologies to execute their mission with minimal risk to themselves.

The Navy's Systems Commands are responsible for administering large contracts for the Navy's procurement of platforms and systems, and also share those platforms/systems with the U.S. Coast Guard. These contracts include performance criteria and specifications that must be verified through testing to ensure that the Navy accepts platforms and systems that support the warfighter's needs. Although simulation is a key component in platform and systems development, it does not adequately provide information on how a system will perform or whether it will be available to meet performance and other specification requirements due to the complexity of the technologies in development and environments in which they will operate. For this reason, at some point in the development process, platforms and systems must undergo at-sea or in-flight testing. Therefore, simulation as an alternative that replaces training and testing in the field does not meet the purpose of and need for the Proposed Action and has been eliminated from detailed study.

2.3.1.3 Alternatives Including Geographic Mitigation Measures within the Study Area

The Action Proponents considered, but did not develop, an alternative based solely on geographic mitigation. Developing such an alternative would mean that geographic or temporal restrictions would be included for one action alternative but not for others. Such a framework would not meet the Action Proponents' purpose and need for the reasons described below and outlined in [Chapter 1](#) (Purpose and Need).

NEPA regulations allow agencies to "include appropriate mitigation measures not already included in the Proposed Action or alternatives" (40 CFR section 1502.14(e)). The Navy defines its Proposed Action and alternatives prior to conducting its environmental analyses. As a general approach, the Action Proponents develop mitigation outside of (i.e., after) the alternatives development framework, and mitigation is designed to be implemented under all action alternatives carried forward. This approach allows the Action Proponents to refine and tailor their mitigation measures based on the findings of their environmental analyses, potential benefits to marine resources, suggestions received through public comments during scoping and on the Draft Supplemental EIS/OEIS, consultations with environmental regulatory agencies, and operational practicality assessments. The Action Proponents will consider applicable existing mitigation measures developed during previous EIS/OEIS projects and develop new mitigations as appropriate.

As described in Section 5.2 (Mitigation Dissemination) of [Chapter 5](#) (Mitigation), the Action Proponents conduct extensive biological effectiveness and operational practicality assessments of all potential mitigations. Action Proponents' senior leadership review and approve all mitigations included in a Draft or Final EIS/OEIS. Therefore, if the Action Proponents were to create a geographic mitigation alternative, all mitigations included in that alternative would have been verified as effective and practical, and approved by

Action Proponents' senior leadership prior to publication of a Draft EIS/OEIS. From an MMPA compliance standpoint, NMFS would require the Navy to implement mitigations that benefit marine mammals under all action alternatives (i.e., not only the mitigation alternative) to meet the least practicable adverse impact standard. In other words, approved and effective mitigation would be implemented regardless of its association with an alternative; therefore, basing an alternative solely on geographic mitigation would not be reasonable. Overall, the Action Proponents' mitigation development process ensures that it includes the maximum level of mitigation that is practical to implement under the Proposed Action.

2.3.1.4 "Status Quo" Alternative

The Action Proponents considered a Status Quo Alternative based on the 2018 Final EIS/OEIS Preferred Alternative (see [Section 2.5.2](#), Alternative 1, in the 2018 Final EIS/OEIS) and the 2018 Final EIS/OEIS Record of Decision. Under such an alternative, the Navy and Marine Corps would continue military readiness activities in the Study Area at current levels documented in the 2018 Final EIS/OEIS Record of Decision, and would request separate authorizations under the MMPA and Endangered Species Act (ESA) as required. The Navy and Marine Corps could continue to conduct military readiness activities, and the U.S. Coast Guard Activities post-2025 would require separate NEPA analysis and MMPA permitting. A Status Quo Alternative may limit the Action Proponents' ability to implement new systems and platforms. This alternative may not allow for new testing requirements, and future training requirements are based on changing world events, advances in technology, and Action Proponents' tactical and strategic priorities; the "status quo" alternative would not afford the Navy, Marine Corps, or Coast Guard the ability to meet these evolving requirements. Thus, such an alternative would not be reasonable and has been eliminated from detailed study.

2.4 ALTERNATIVES CARRIED FORWARD

The Action Proponents' anticipated level of training and testing activity evolves over time based on numerous factors. Additionally, the Action Proponents' ongoing sonar reporting program has gathered classified data regarding the number of active sonar hours used to meet anti-submarine warfare requirements, which are used to create an accurate projection of the number of active sonar hours required to meet anti-submarine warfare training requirements into the reasonably foreseeable future. Similarly, the Action Proponents collect data on explosives use to help refine requirements.

2.4.1 NO ACTION ALTERNATIVE

Under the No Action Alternative analyzed in this Supplemental EIS/OEIS, the Action Proponents would not conduct the proposed military readiness activities in the Study Area. Consequently, the No Action Alternative of not conducting the proposed live, at-sea training and testing in the Study Area is inherently unreasonable in that it does not meet the Action Proponents' purpose and need (see [Section 1.4](#), Purpose and Need). From NMFS' perspective, pursuant to its obligation to grant or deny requests for authorization to take marine mammals under the MMPA, the No Action Alternative involves NMFS denying Navy's application for an incidental take authorization under section 101(a)(5)(A) of the MMPA. If NMFS were to deny the Navy's application, the Navy would not be authorized to incidentally take marine mammals, and the Navy would not conduct the proposed training and testing activities proposed in this Supplemental EIS/OEIS. Thus, NMFS assumes that there would be no take of marine mammals.

Cessation of Action Proponents' proposed at-sea military readiness activities would mean that the Action Proponents would not fully meet their statutory requirements and would be less able to properly defend themselves and the United States from enemy forces, less able to successfully detect enemy submarines, and less able to effectively use their weapons systems or defensive countermeasures. For example, sonar proficiency, which is a complex and perishable skill, requires regular, underway training in realistic and

diverse conditions to detect and counter hostile submarines. Inability to train at sea with active sonar would result in diminished anti-submarine warfare capability.

Additionally, without proper hands-on training while at sea, individual Sailors, Marines, and Coast Guardsmen serving onboard ships and submarines would not be adequately taught how to properly operate complex equipment in inherently dynamic and dangerous environments. Even with high levels of training and a culture of safety, injuries and death have occurred during routine non-combat operations. Therefore, without sufficient underway training, it is likely that there would be an increase in the number of mishaps, potentially resulting in the death or serious injury of Sailors, Marines and Coast Guardsmen. Failing to allow our Sailors, Marines, and Coast Guardsmen to achieve and maintain the skills necessary to defend the United States and its interests will result in an unacceptable increase in the danger they willingly face.

Finally, the lack of live training and testing would require a higher reliance on simulated training and testing. While the Action Proponents continue to develop new ways to provide realistic training through simulation, there are limits to the realism that current technology can provide. Sole reliance on simulation would limit the Navy's ability to fully develop battle-ready proficiency in the employment of active sonar (Section 2.3.1.2, Simulated Training and Testing Only).

2.4.2 ALTERNATIVE 1

Alternative 1 is the Environmentally Preferred Action Alternative. It is also the Action Proponent's Preferred Action Alternative. Alternative 1 reflects a representative year of training and testing to account for the natural fluctuations of training cycles, testing programs, and deployment schedules that generally limit the maximum level of training and testing that could occur in the reasonably foreseeable future.

2.4.2.1 Training

Under this alternative, the Action Proponents propose to conduct military readiness training activities into the reasonably foreseeable future, as necessary to meet current and future readiness requirements. These military readiness training activities include new activities as well as activities subject to previous analysis that are currently ongoing and have historically occurred in the Study Area. The requirements for the types of activities to be conducted, as well as the intensity at which they need to occur, have been validated by senior Action Proponent leadership. Specifically, training activities are based on the requirements of the Optimized Fleet Response Plan and on changing world events, advances in technology, and Action Proponents' tactical and strategic priorities. These activities account for force structure changes and include training with new aircraft, vessels, unmanned/autonomous systems, and weapon systems that will be introduced to the Fleet after November 2025. The numbers and locations of all proposed training activities are provided in Table 2.2-1 and Table 2.2-2.

Alternative 1 reflects a representative year of training that (1) accounts for the natural fluctuation of training cycles and deployment schedules that influence the number of Composite Training Unit Exercises that would occur in any 7-year period, and (2) assumes that some unit-level training requirements are met during integrated, coordinated, and major training exercises vice discrete unit-level training events.

Using a representative level of activity rather than a maximum level of training activity in every year reduces the amount of hull-mounted mid-frequency active sonar estimated to be necessary to meeting training requirements. But also by using this framework, the Action proponents accept a degree of risk that if global events necessitated a rapid expansion of military training, they may not have sufficient capacity in their MMPA and ESA authorizations to carry out those training requirements.

2.4.2.2 Testing

Under Alternative 1, the Action Proponents propose an annual level of testing that reflects the fluctuations in testing programs by recognizing that the maximum level of testing will not be conducted each year. This alternative includes the testing of new platforms, systems, and related equipment that will be introduced after November 2025. The majority of testing activities that would be conducted under this alternative are similar to those conducted currently or in the past. This alternative includes the testing of some new systems using new technologies and takes into account inherent uncertainties in this type of testing. The numbers and locations of all proposed testing activities are listed in Table 2.2-3, Table 2.2-4, and Table 2.2-5.

2.4.3 ALTERNATIVE 2

2.4.3.1 Training

As under Alternative 1, this alternative includes new and ongoing activities. Under Alternative 2, the Action Proponents would meet the highest levels of required military readiness by (1) conducting a total of four carrier strike group Composite Training Unit Exercises every year, and (2) meeting all unit-level training requirements using dedicated, discrete training events, instead of achieving them in conjunction with integrated, coordinated, and major training exercises as described for Alternative 1. The numbers and locations of all proposed training activities are provided in Section 2.2.1 (Proposed Training Activities), Table 2.2-1, and Table 2.2-2.

Alternative 2 reflects the maximum number of training activities that could occur within a given year and assumes that the maximum level of activity would occur every year over any 7-year period. This allows for the greatest capacity for the Navy to maintain readiness when considering potential changes in the national security environment, fluctuations in training and deployment schedules, and potential in-theater demands. Both unit-level training and major training exercises are assumed to occur at a maximum level every year.

Additionally, this alternative will analyze three Composite Training Unit Exercises each year along with a contingency Composite Training Unit Exercise in the Gulf of Mexico each year, for a maximum number of 28 Composite Training Unit Exercises over any 7-year period.

2.4.3.2 Testing

Like Alternative 1, Alternative 2 entails a level of testing activities to be conducted into the reasonably foreseeable future and includes the testing of new platforms, systems, and related equipment that will be introduced beginning in November 2025. The majority of testing activities that would be conducted under this alternative are the same as or similar to those conducted currently or in the past.

Alternative 2 would include the testing of some new systems using new technologies, taking into account the potential for delayed or accelerated testing schedules, variations in funding availability, and innovations in technology development. To account for these inherent uncertainties in testing, this alternative assumes that the maximum annual testing efforts predicted for each individual system or program could occur concurrently in any given year. This alternative also includes the contingency for augmenting some weapon systems tests in response to potential increased world conflicts and changing U.S. leadership priorities as the result of a direct challenge from a naval opponent that possesses near-peer capabilities. Therefore, this alternative includes the provision for higher levels of annual testing of certain anti-submarine warfare and mine warfare systems to support expedited delivery of these systems to the Fleet. All proposed testing activities are listed in Table 2.2-3 through Table 2.2-5, Section 2.2.2 (Proposed Testing Activities).

2.4.4 COMPARISON OF PROPOSED SONAR AND EXPLOSIVE USE IN THE ACTION ALTERNATIVES TO THE 2018–2025 MMPA PERMIT ALLOTMENT

2.4.4.1 Training

As a comparison to the amount of training analyzed in the previous environmental planning compliance documents and reflected in the 2018–2025 MMPA permit (2018 Final EIS/OEIS), the Navy considered hull-mounted mid-frequency active sonar. Composite Training Unit Exercises are major exercises that involve multiple platforms and numerous hours of sonar to meet mission objectives. During Phase II, each Composite Training Unit Exercise was assumed to require 1,000 hours of hull-mounted mid-frequency sonar. In Phase III planning, based on our analysis of Phase II usage data, the Navy reduced the estimated number of hull-mounted mid-frequency sonar for each Composite Training Unit Exercise to 600 hours. Likewise, through analysis of Phase III usage data, the Navy has been able to further reduce the estimated amount of hull-mounted mid-frequency sonar that is used in a Composite Training Unit Exercise. As such, for both Alternatives 1 and 2, an estimated 400 hours of hull-mounted mid-frequency sonar is included for each Composite Training Unit Exercise. What differentiates the amount of hull-mounted mid-frequency sonar in Alternative 1 from Alternative 2 is (1) the completion of some unit-level training through other training exercises, and (2) 10 fewer Composite Training Unit Exercises over a 7-year period.

A comparison of proposed hours of hull-mounted mid-frequency sonar hours to that permitted from 2018 to 2025 is depicted in Figure 2.4-1.

For this Supplemental EIS/OEIS, Figure 2.4-2 shows the explosive use per bin (a category of explosives) proposed in this Supplemental EIS/OEIS compared to the 2018–2025 permitted level (there is no difference in explosive use between the alternatives).

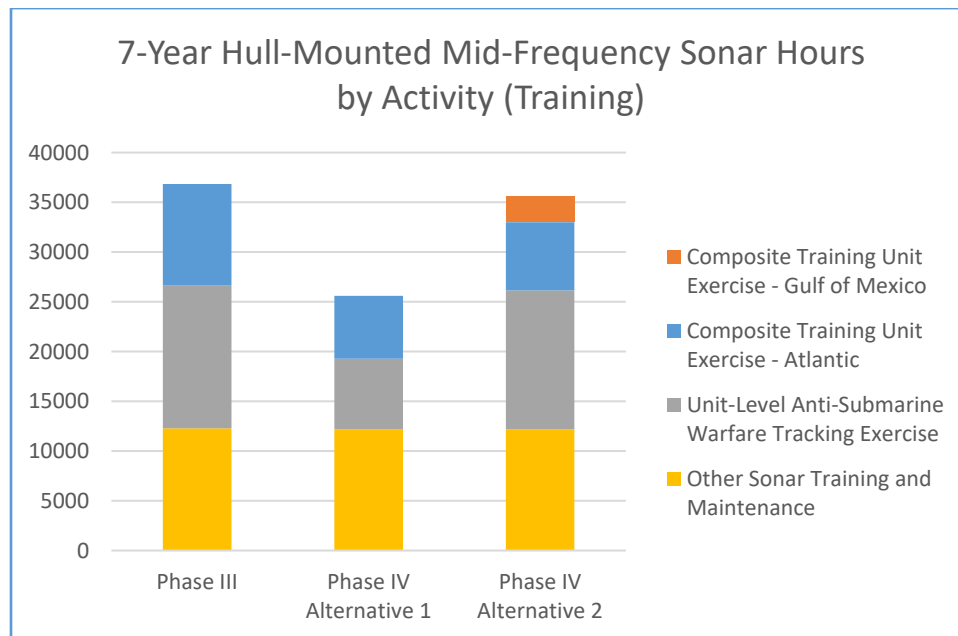
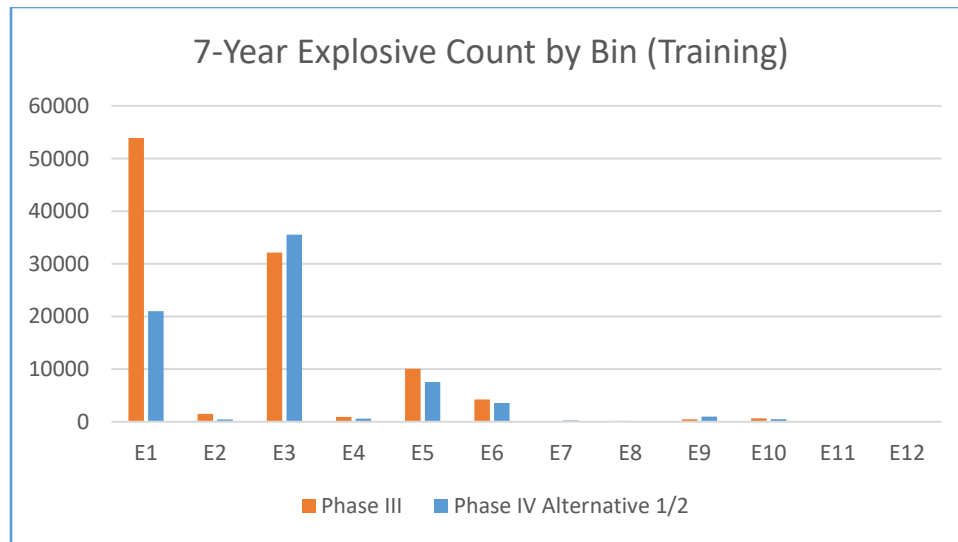


Figure 2.4-1: Proposed Hull-Mounted Mid-Frequency Sonar Hours by Training Activity Compared to the Number Authorized in the 2018–2025 Marine Mammal Protection Act Permit



Note: Alternative 1 and Alternative 2 would use the same number of explosives in this Supplemental EIS/OEIS; the bar graph depicts both alternatives.

Figure 2.4-2: Change in Explosive Use (for Both Action Alternatives) during Training Activities Compared to the 2013–2018 Marine Mammal Protection Act Permit

2.4.4.2 Testing

The Navy’s testing community faces a number of challenges in accurately defining future testing requirements. These challenges include varying funding availability, changes in Congressional and Department of Defense/Navy priorities in response to emerging threats in the world, and the acquisition of new technologies that introduce increased uncertainties in the timeline, tempo, or success of a system’s testing schedule. As it does now, the Navy testing community took into account these same challenges in projecting requirements for Phase IV. Although the best information available to the Navy has always been taken into account, as a result of the implementation of Phase III, the Navy testing community has improved its ability to obtain and define that information and, consequently, its ability to project future testing needs. It is expected that over time, the Navy’s ability to project future testing requirements will continue to improve with increasing refinement of the process and more or better historical data. Nonetheless, the inherent challenges and uncertainties in testing, as described previously, will continue to make projection of future testing requirements challenging. The majority of platforms, weapons, and systems that use sonar and explosives for testing are the same or very similar to those analyzed in the 2018 Final EIS/OEIS. Some platforms, weapons, and systems will increase under the current Proposed Action, while others will decrease. For testing, the Action Proponents project a net increase in the use of sonar and a significant net decrease in the use of explosives.

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