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3.11 Socioeconomic Resources and Environmental Justice

SOCIOECONOMIC RESOURCES AND ENVIRONMENTAL JUSTICE SYNOPSIS

Stressors associated with the Proposed Action with the potential to affect socioeconomic resources and communities with environmental justice concerns were considered, and the following conclusions have been reached for the Preferred Alternative (Alternative 1):

Socioeconomics

- Accessibility: Accessibility stressors are not expected to measurably affect commercial transportation and shipping, commercial and recreational fishing, or tourism and recreational use because inaccessibility to areas of co-use would be temporary and of short duration. As a result, effects would be less than significant.
- Airborne Acoustics: Airborne acoustic stressors are not expected to measurably affect tourism or recreational activity because most military readiness activities would occur well out to sea, far from tourism and recreation locations. Any noise in nearshore areas would be infrequent, short term, and temporary. As a result, effects would be less than significant.
- Physical Disturbance and Strike: Physical disturbance and strike stressors are not expected to measurably affect commercial and recreational fishing or tourism and recreational use because of the large size of the HCTT Study Area, the limited areas of operations, and implementation of standard operating procedures. As a result, effects would be less than significant.

Environmental Justice

- Subsistence Fishing: Given the expansive size of the Study Area and limited amounts of activities that occur within 3 NM, effects on subsistence fishing would be less than significant. If activities were to occur in areas where subsistence fishing takes place, closures would be temporary (lasting until the activity is complete). Communities would not be disproportionately affected by changes to accessibility of ocean areas when compared to others who fish in the Study Area.
- Air Quality and Climate Change: Air pollutant emissions associated with military readiness activities would not be expected to measurably affect the air quality in nearshore communities with environmental justice concerns, including the San Diego AB-617 Portside Community. GHG emissions associated with military readiness activities would not incrementally contribute to climate change and therefore would not adversely affect communities with environmental justice concerns. As a result, effects would be less than significant.

3.11.1 Introduction and Methods

Socioeconomic Resources. CEQ regulations implementing NEPA state that when economic or social effects and natural or physical environmental effects are interrelated, the EIS/OEIS will discuss these effects on the human environment (40 CFR section 1502.16(b). CEQ regulations state that the "human environment or environment means comprehensively the natural and physical environment and the relationship of present and future generations with that environment." To the extent that the ongoing and proposed military readiness activities in the HCTT Study Area could affect the natural or physical environment, the socioeconomic analysis evaluates how elements of the human environment might be affected. Three broad socioeconomic topics were identified based on their association with human activities and livelihoods in the HCTT Study Area. Each of these socioeconomic resources is an aspect of the human environment that involves economics (e.g., employment, income, or revenue) and social conditions (i.e., enjoyment and quality of life) associated with the marine environment of the HCTT Study Area. Therefore, this evaluation considered potential effects on three elements:

- Commercial transportation and shipping
- Commercial and recreational fishing
- Tourism and recreational use

The alternatives were evaluated based on the potential for and the degree to which military readiness activities could affect socioeconomic resources. The potential for effects depends on the likelihood that the military readiness activities would interface with public activities or infrastructure. Factors considered in the analysis include whether there would be temporal or spatial interfaces between the public or infrastructure and military readiness activities. If there is potential for this interface, factors considered to estimate the degree to which an exposure could affect socioeconomic resources include whether there could be an effect on livelihood, quality of experience, resource availability, income, or employment. If there is no potential for the public to interface with an activity, then no reasonably foreseeable effects would be expected.

Environmental Justice. EO 14096 defines environmental justice as "the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other federal activities that affect human health and the environment so that people:

- are fully protected from disproportionate and adverse human health and environmental effects (including risks) and federal hazards, including those related to climate change, the cumulative effects of environmental and other burdens, and the legacy of racism or other structural or systemic barriers; and
- have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices."

EO 14096 also uses the term "communities with environmental justice concerns" to refer to affected communities that may "experience disproportionate and adverse human health or environmental burdens."

EO 12898 clarifies that "Just treatment" as it is used in the definition of environmental justice means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.

The 2023 Ocean Justice Strategy report by the Ocean Policy Committee, co-chaired by the Director of the Office of Science and Technology Policy and Chair of the CEQ, recognizes that many communities (including minority, low-income, tribal, and indigenous populations) depend on marine resources and a healthy ocean environment for economic, cultural, recreational, and spiritual purposes. Ocean Justice is defined as "the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in Federal (Agency) decision-making and other Federal activities related to the ocean." The Ocean Justice Strategy establishes goals and best practices that the Federal Government can consider when working towards addressing inequities associated with access and availability to the ocean environment and marine resources. As outlined in the Ocean Justice Strategy, the vision for Ocean Justice includes:

- "Equitable access to the benefits of a healthy and resilient ocean and sustainable ocean economy;
- meaningful engagement of all communities in Federal ocean activities;
- recognition of the value of engagement with Tribal Nations, Indigenous Peoples, and Indigenous Knowledge in ocean decision-making and research;
- expanded and improved ocean education to build knowledge about the ocean and create a diverse and inclusive ocean workforce;
- and application of an ocean justice lens to research ways of knowing" (Ocean Policy Committee, 2023).

Communities with environmental justice concerns in the HCTT Study Area that practice subsistence fishing may be affected by the implementation of the Proposed Action. Additionally, some military readiness activities may be conducted in nearshore areas and have the potential to affect the air quality in communities with environmental justice concerns. GHG emissions associated with military readiness activities also have the potential to contribute to climate change and affect communities with environmental justice concerns. Since activities are occurring at-sea, other resources would not be expected to measurably affect communities with environmental justice concerns and are not considered further in this section. The alternatives were evaluated based on the potential for and the degree to which military readiness activities could adversely, disproportionately affect communities with environmental justice concerns.

In addition to the analysis presented in Section 3.11.3.2, the Action Proponents have embarked in robust community outreach and public involvement efforts. Efforts are intended to foster community support, mutually respectful dialogue, and community coordination and meaningful involvement during decision-making activities. Further information regarding public involvement and outreach efforts in Hawaii and California is detailed in Appendix L.

3.11.2 Affected Environment

3.11.2.1 Socioeconomic Resources

The primary area of interest for assessing potential effects on socioeconomic resources is the U.S. territorial waters of Hawaii and California (seaward of the mean high-water line to 12 NM). Limited socioeconomic resources outside this area of interest (i.e., that portion of the EEZ between 12 and 200 NM from shore) are also described when relevant to human activities.

The Center for Naval Analyses (CNA) characterized military and non-military vessel traffic within the HSTT Study Area. Data is based on a four-year average (2014–2018) acquired from approximately one billion positional vessel data records. Non-military vessels account for approximately 96 percent of

vessel traffic in the HSTT Study Area, whereas military vessels (Navy and USCG vessels) account for 4 percent of traffic. Given that the highest densities of military vessels analyzed in this EIS/OEIS are expected to occur in within the same geographic boundaries as the HSTT Study Area, it can be assumed that the density of military vessels in the HCTT Study Area would likely account for less than 4 percent of vessel all traffic in the region.

3.11.2.1.1 Commercial Transportation and Shipping

3.11.2.1.1.1 Ocean Transportation

Ocean transportation is the transit of commercial, private, and military vessels at sea, including submarines. Most of the waterways in the HCTT Study Area are accessible to commercial vessels; however, some areas are restricted. These areas may limit access to non-military activities on either a full-time or temporary timeframe.

The flow of vessel traffic in congested waters, especially near coastlines, is controlled by the use of directional shipping lanes for large vessels and flow controls for all vessels in harbors, bays, and ports to ensure that ports-of-entry remain as uncongested as possible. Military and non-military vessels alike adhere to regulations governing shipping traffic in these areas.

3.11.2.1.1.1.1 Hawaii Study Area

Ocean shipping is an important component of Hawaii's economy. Major inter-island ports include Honolulu, Barbers Point, Hilo, Kawaihae, and Kahului (Figure 3.11-1). The U.S. Army Corps of Engineers ranks the top 150 U.S. ports by cargo volume (U.S. Army Corps of Engineers, 2020, 2021). Based on 2020 rankings, Honolulu (Oahu) ranked 38 in total trade (domestic and foreign) with over 14 million tons of goods transferred (U.S. Army Corps of Engineers, 2020, 2021). Other ranked ports in Hawaii were Barbers Point (Oahu) at 63, Kahului (Maui) at 87, Hilo (Hawaii) at 104, and Kawaihae at 111.

Primary shipping routes within the Main Hawaiian Islands and extending east to North America and west to Asia, primarily from Barbers Points, Oahu, are shown in Figure 3.11-1. In addition to routes traveled by large commercial vessels, other routes throughout the Study Area provide access to and from marinas, mooring locations, fishing harbors, and military installations located along the islands.

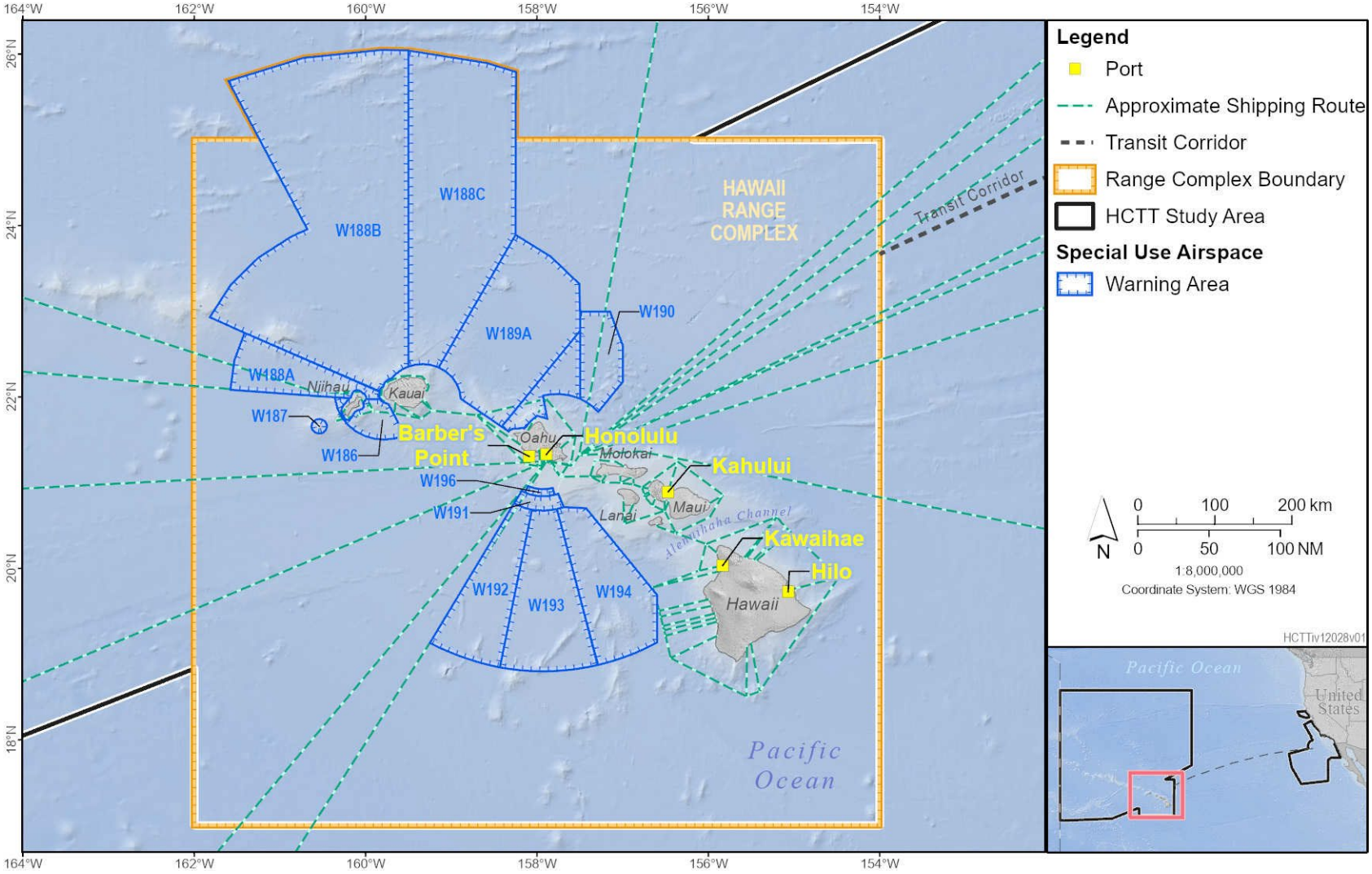


Figure 3.11-1: Main Hawaiian Islands Shipping Routes and Major Ports

3.11.2.1.1.1.2 California Study Area

Ocean shipping is a significant component of the California regional economy, and a large amount of shipping traffic occurs in Southern California. Of the 150 U.S. ports evaluated by the U.S. Army Corps of Engineers (2021), the Port of Long Beach ranked fifth in total trade (foreign and domestic) with 91.5 million tons of goods transferred in 2020. Los Angeles was ranked tenth, with over 64 million tons of goods transferred (U.S. Army Corps of Engineers, 2021). Port Hueneme, located in Ventura County, had over 1.9 million tons in foreign cargo volume traded in 2019 and ranked 63rd overall in total foreign trade (U.S. Army Corps of Engineers, 2021). The Port of San Diego traded approximately 1.3 tons in foreign cargo volume and ranked 75th overall in foreign trade (U.S. Army Corps of Engineers, 2021).

Major commercial shipping routes in California parallel the coastline, extending north to San Francisco, Seattle, Alaska, and Canadian ports and south to Central and South America. Transoceanic shipping routes extend westward from the major ports of San Diego, Long Beach, and Los Angeles to Hawaii. Several shipping routes cross the Study Area, particularly in PMSR, run through the Santa Barbra channel and north of the Channel Islands. A major commercial shipping channel established by the USCG is aligned just north of, and roughly parallel with, the northern Channel Islands. There are also shorter routes that run perpendicular to the coastline and connect smaller ports with the major shipping routes and the offshore islands as depicted in Figure 3.11-2. The shorter routes that connect vessels from Morro Bay Harbor and the Port of San Luis to shipping routes along the coastline may be in proximity to the proposed amphibious approach lanes between PMSR and the NOCAL Range Complex.

In addition to routes traveled by large commercial vessels, other routes throughout the Study Area provide access to and from marinas, mooring locations, fishing harbors, and military installations located both along the mainland and on offshore islands.

3.11.2.1.1.1.3 Transit Corridor

Major commercial shipping vessels use the transit corridor for shipping goods between Southern California and Hawaii, because it is the shortest distance between these two points (see Chapter 2; Figure 2-1). Vessels using this corridor are outside of military training areas and typically follow all USCG maritime regulations. The Action Proponents may use this corridor for military readiness activities while en route between Southern California and Hawaii.

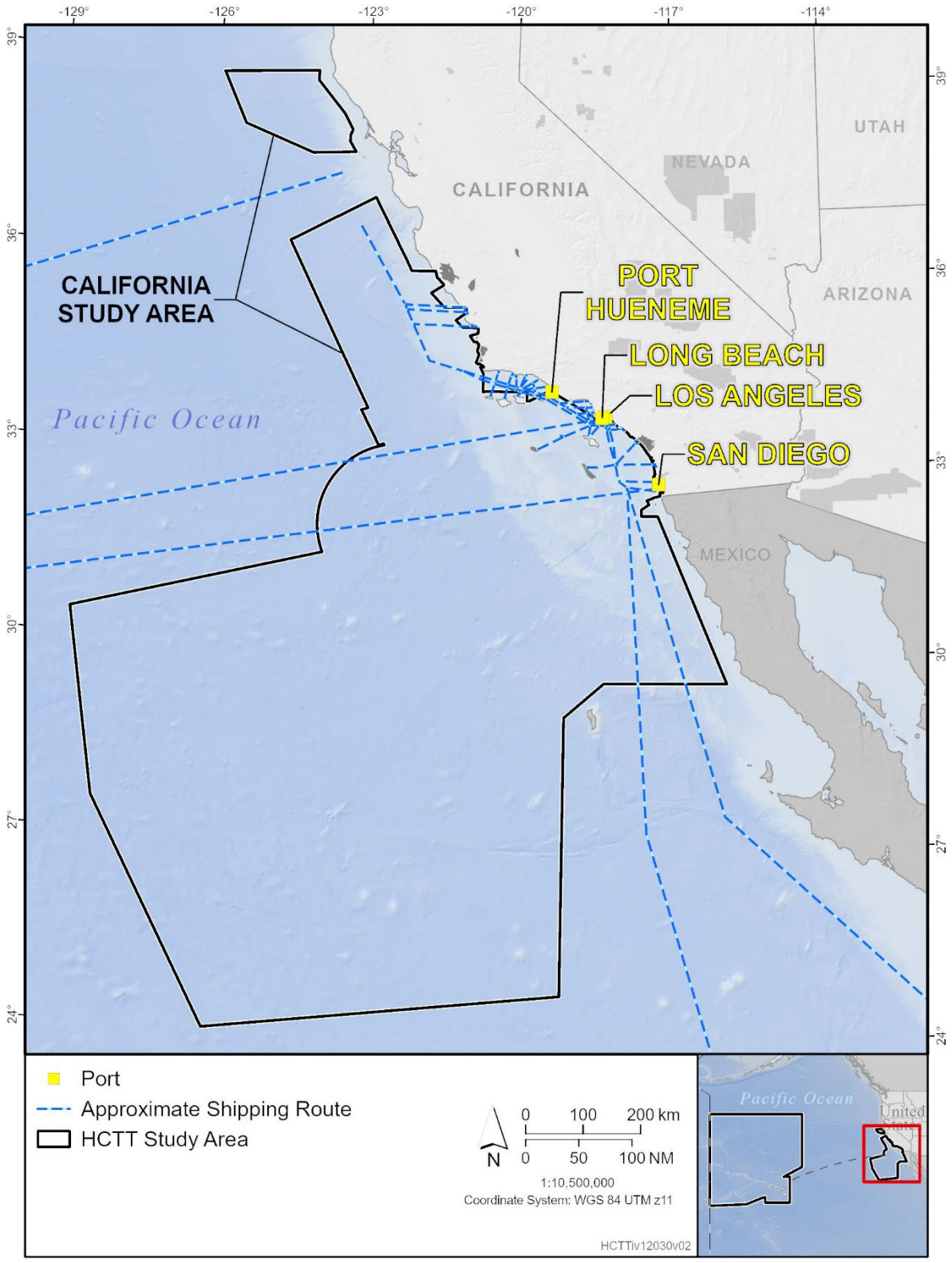


Figure 3.11-2: Shipping Routes and Major Ports in the California Study Area

3.11.2.1.1.2 Air Transport

3.11.2.1.1.2.1 Hawaii Study Area

Military Aviation. Several types of special use airspace (e.g., warning areas) are designated in the Hawaii Range Complex (Figure 3.11-3. For a detailed description of special use airspace in Hawaii, refer to the 2018 HSTT EIS/OEIS.

Commercial and General Aviation. Airspace within the Hawaii Range Complex includes several high-altitude commercial air traffic routes (Figure 3.11-3). For a detailed description of the airspace in Hawaii, refer to the 2018 HSTT EIS/OEIS.

3.11.2.1.1.2.2 California Study Area

Military Aviation. Several types of special use airspace and air traffic routes are designated throughout the California Study Area (Figure 3.11-4, Figure 3.11-5). San Diego FACSFAC is the scheduling and controlling authority for most military airspace in the SOCAL Range Complex. The Proposed Action includes the establishment of two new airspaces, W-293 and W-294, in proximity to the existing W-291 warning area (see Chapter 2; Figure 2-2) in Southern California. The proposed airspaces would be scheduled and controlled through San Diego FACSFAC.

The special use airspace in the NOCAL Range Complex is located least 12 NM from shore and encompasses approximately 16,000 NM^2 of airspace. In Northern California, FACSFAC is the using agency and the Oakland Air Route Traffic Control Center is the controlling authority for military airspace, with the exception of W-285B. W-285B is controlled by Northern California Traffic Control. For PMSR, the using agency is the NAVAIR Warfare Center Weapons Division and the controlling authority is the Los Angeles Air Route Traffic Control Center.

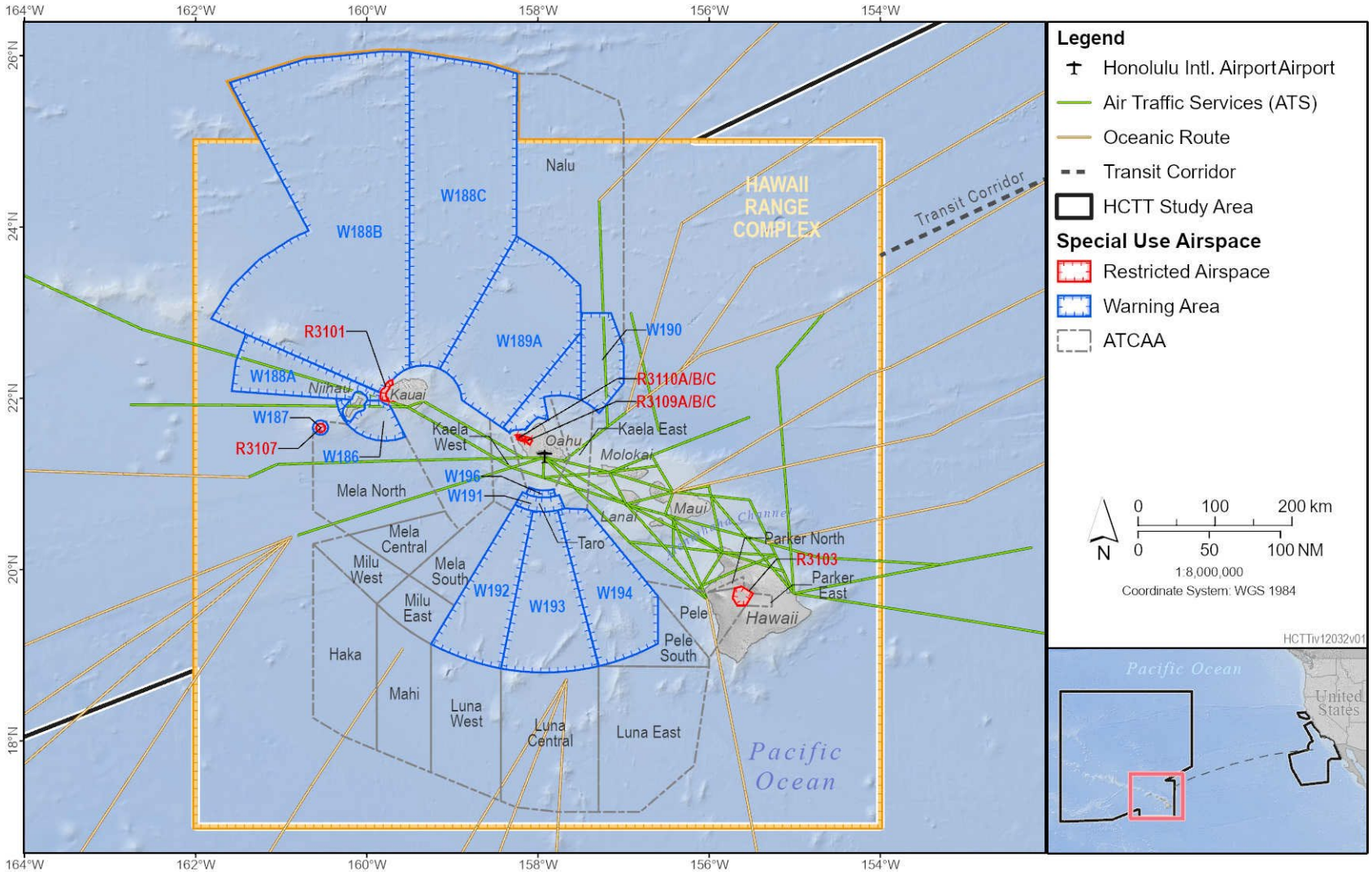


Figure 3.11-3: Air Traffic Routes and Special Use Airspace in the Hawaii Study Area

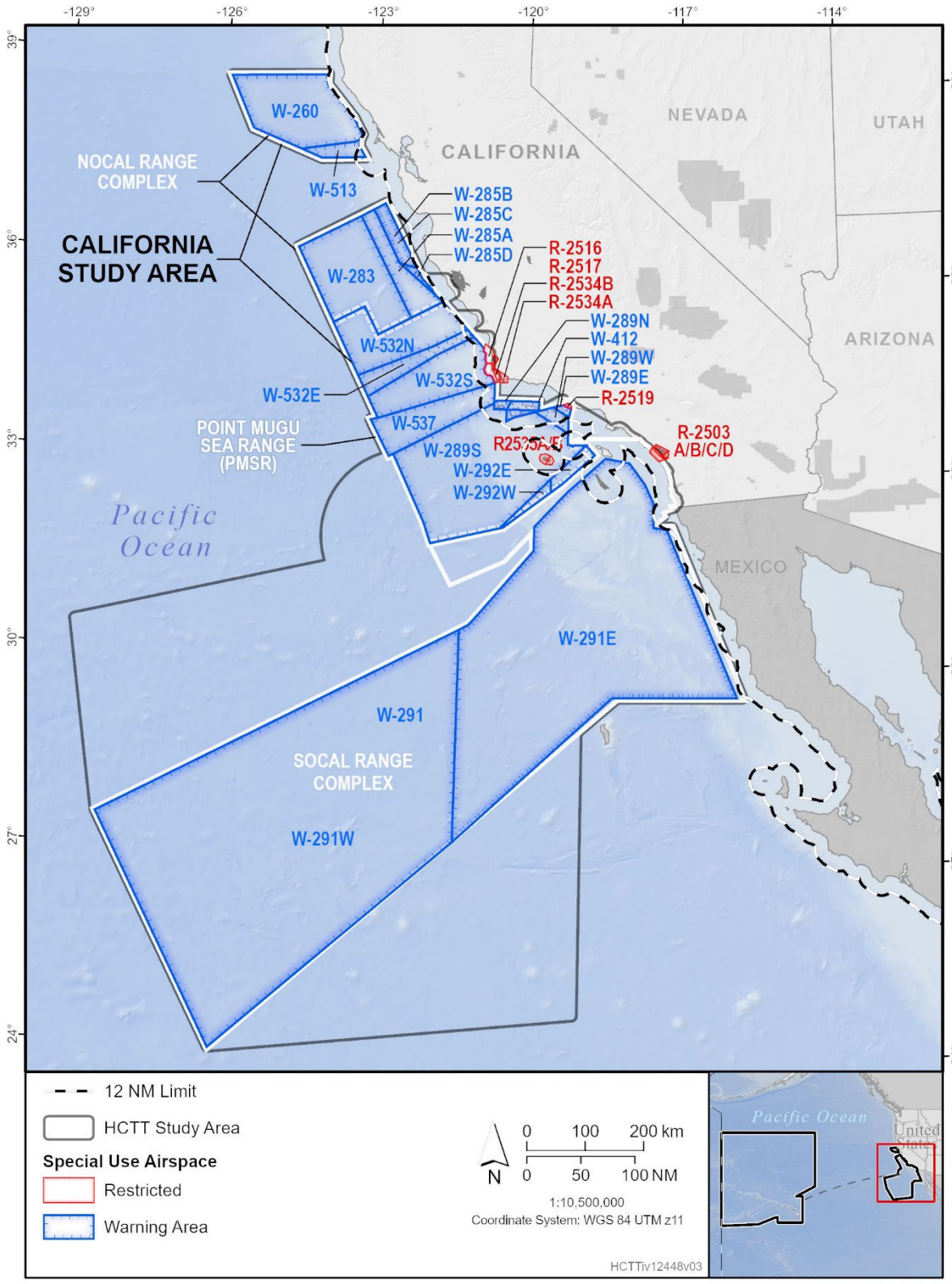
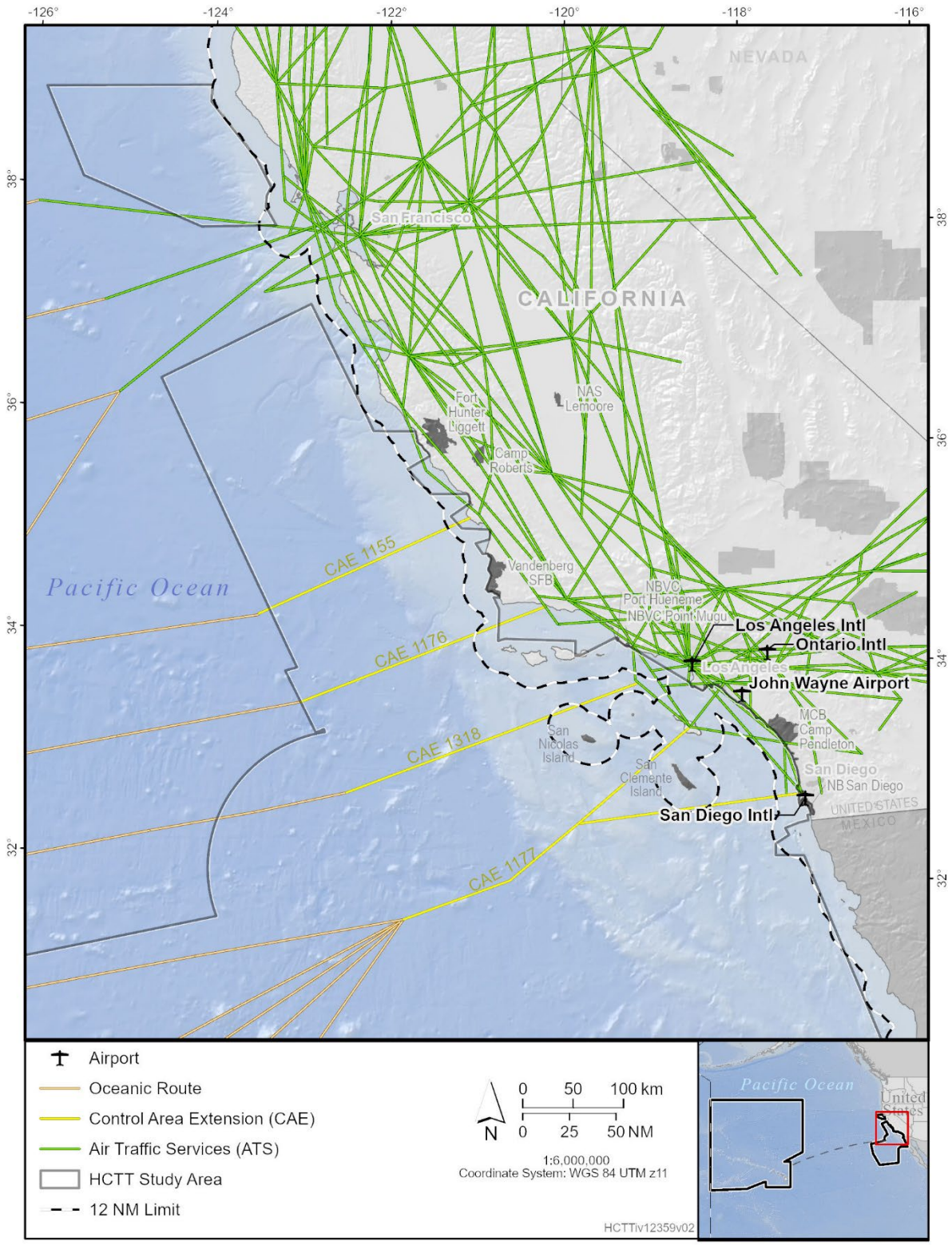


Figure 3.11-4: Special Use Airspace in the California Study Area



Notes: NAS = Naval Air Station, MCAS = Marine Corps Air Station, MCB = Marine Corps Base, Intl. = International

Figure 3.11-5: Air Traffic Routes in the California Study Area

Commercial and General Aviation. Established air routes enable general aviation and commercial air traffic to coordinate air travel with military operations. When a warning area is active, aircraft on Instrument Flight Rules clearances are precluded from entering by the Federal Aviation Administration (FAA). However, if a warning area is located entirely over international waters, non-participating aircraft operating under Visual Flight Rules are not prohibited from entering the area. Examples of aircraft flights of this nature include light aircraft, fish spotters, and whale watchers, which occur under Visual Flight Rules throughout many warning areas in California on a variable basis. Part or all of the warning areas lie within international airspace and are activated on an intermittent basis. At PMSR, air traffic routes for civilian aircraft with instrument flight rules clearances run north and south along the coast and do not enter the range. There are corridors for aircraft to cross the PMSR while under FAA control.

3.11.2.1.1.2.3 Transit Corridor

There are numerous commercial air routes over the transit corridor between California and Hawaii. Commercial aircraft typically fly above 30,000 ft. during transoceanic flight. These air routes are controlled by the FAA.

3.11.2.1.2 Commercial and Recreational Fishing

Commercial and recreational fishing takes place throughout much of the HCTT Study Area from waters adjacent to the mainland and offshore islands to offshore banks and deep waters far from land. Recreational fishing trips in Hawaii and California account for approximately 3.6 percent of total recreational fishing in the United States (National Marine Fisheries Service, 2021). Additionally, approximately 1.6 percent of total commercial landings in the United States are caught in Hawaii and California (National Marine Fisheries Service, 2021). Many fishing activities in these regions are seasonal and occur at varying degrees of intensity and duration throughout the year.

3.11.2.1.2.1 Hawaii Study Area

Commercial Fishing. The major fisheries in Hawaiian waters include tuna, billfishes, bottom fishes, other species of pelagic fish, as well as a smaller invertebrate fishery. In 2022, commercial landings in Hawaiian waters for all fisheries combined exceeded 29 million pounds and were valued at $135 million (National Marine Fisheries Service, 2023a). Offshore of the Hawaiian Islands, only 5 percent of commercial landings are caught from state waters, and over 50 percent are caught on the high seas, beyond 200 NM from the coast and outside of the U.S. EEZ.

The value of commercial landings in Hawaii has increased dramatically since the late 1980s (Figure 3.11-6). Between 1988 and 1993 the value of landings for all species increased from approximately $22 million to $73 million—an increase of over 230 percent (National Oceanic and Atmospheric Administration Fisheries, 2023a). After plateauing in the mid to late 1990s, the total value of all fisheries has increased steadily since 2001. The sharp decline in total landings and value of landings in 2020 is likely due to the Covid-19 pandemic; however, the total and value of commercial landings has since recovered and exceeded pre-pandemic levels (National Marine Fisheries Service, 2023c). The increase in the value of commercial fisheries over the past decades prior to the pandemic is indicative of the importance of commercial fishing to the Hawaiian economy.

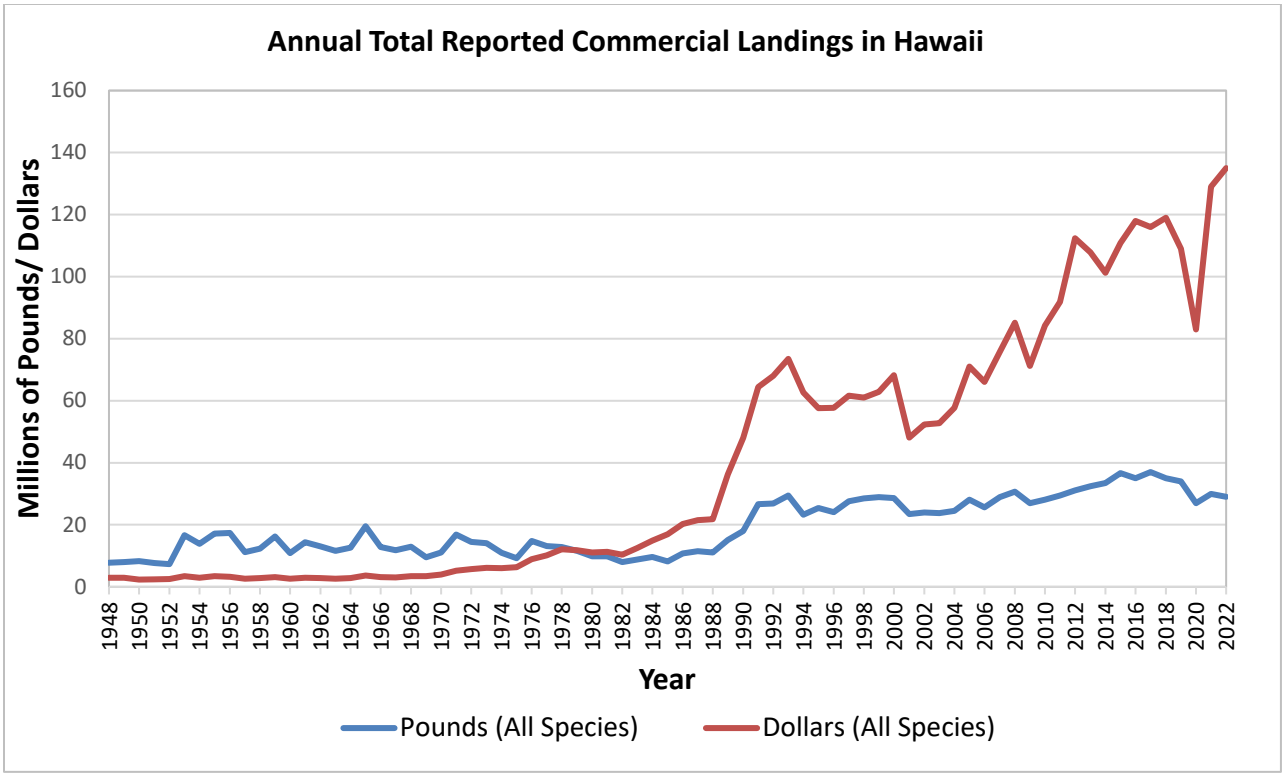


Figure 3.11-6: Annual Reported Commercial Landings for All Species in Hawaii from 1948-2022

Recreational Fishing. Hawaii does not have a mandatory recreational marine fishing license as many other coastal states do and does not have mandatory reporting of recreational catches (Hawaii Division of Aquatic Resources, 2015). The NMFS Office of Science and Technology maintains a database of statistical data on recreational fishing practices in coastal states (National Marine Fisheries Service, 2023b). Recreational catch between 2018 and 2022 totaled over 60 million fish in marine and estuarine waters (National Marine Fisheries Service, 2023b).

A report conducted by the American Sportfishing Association (2021) estimated that over 226,000 anglers spent nearly $509 million while fishing in Hawaii in 2018, generating almost $800 million in economic output for the State of Hawaii. This economic output was estimated to have supported over 5,400 jobs in Hawaii in 2018 (American Sportfishing Association, 2021).

3.11.2.1.2.2 California Study Area

Commercial Fishing. In California, commercial fisheries such as groundfishes (e.g., flatfishes, skates, some sharks, and rockfishes), highly migratory species (e.g., tuna, billfish, some sharks, dolphinfish, and swordfish), and coastal pelagic species (anchovies, mackerel, and sardines) are harvested and sold, with many of the same species also being targeted by recreational anglers. Most commercial fishing in California takes place in state waters, less than 3 NM from shore, where limited military readiness activities are conducted.

Commercial landings in California have significantly decreased since 2000, and values have fluctuated since a peak in 2013 (Figure 3.11-7). In recent years, landing values have surpassed the total pounds, indicating that the types of species landed in California remain economically valuable.

In 2022, over 184 million pounds of fishes and invertebrates valued at $197 million were harvested at California ports (California Department of Fish and Wildlife, 2022). Based on landings (pounds), Pacific sardines and sablefish were the finfish species most harvested by commercial fishers in California in 2022. California waters support a large and economically important invertebrate fishery as well, which, at a value of over $118 million in 2022, was over 2.5 times greater than the value of finfish landings (California Department of Fish and Wildlife, 2022).

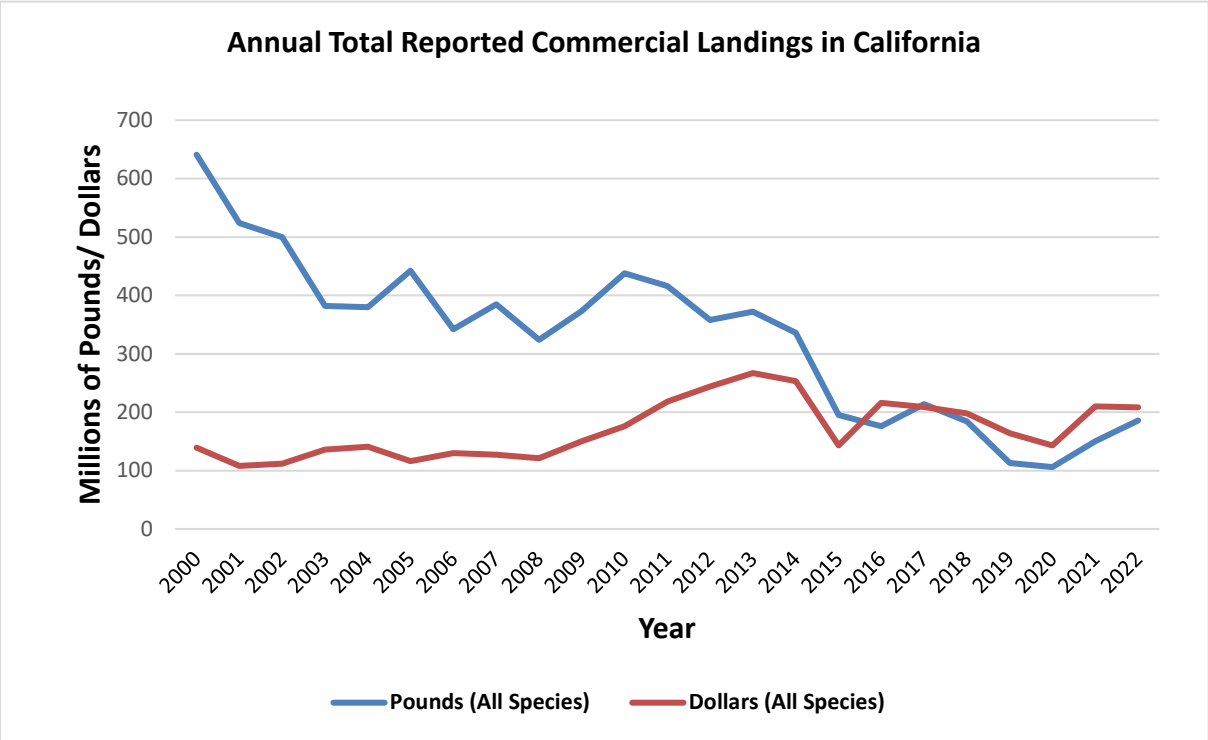


Figure 3.11-7: Annual Reported Commercial Landings for All Species in California (2000–2022)

Recreational Fishing. The California coastal marine environment, including areas within the California Study Area, continue to support a popular and thriving recreational fishing industry. From 2018 through 2022, recreational anglers caught over 47 million fishes in the waters of California (National Marine Fisheries Service, 2023b). Recreational fisheries on the U.S. West Coast primarily occur in waters 3 NM or less off the coast.

A survey conducted by the National Oceanic and Atmospheric Administration estimated that marine recreational fishing trips in California generated over $795 million in sales and $498 million in gross domestic product for the state in 2017 (Lovell et al., 2020). Sales from shore angler trips amounted to over $287 million, private boat rental trips generated nearly $141 million, and for-hire trips totaled to over $366 million in sales (Lovell et al., 2020). Recreational angler trips in 2017 were estimated to support approximately 6,311 jobs and generate $290 million in income in California (Lovell et al., 2020).

3.11.2.1.2.3 Transit Corridor

There are no data on commercial or recreational fishing within the transit corridor. Minimal fishing activity is likely to occur in the transit corridor because of the great distance from shore.

3.11.2.1.3 Tourism and Recreational Use

Coastal tourism and recreation include the full range of tourism, leisure, and recreationally oriented activities that take place in the coastal zone and offshore coastal waters. These activities include coastal tourism development (e.g., hotels, resorts, restaurants, food industry, vacation homes, and second homes) and the infrastructure supporting coastal development (e.g., retail businesses, marinas, fishing tackle stores, dive shops, fishing piers, recreational boating harbors, beaches, and recreational fishing facilities). Also included are ecotourism and recreational activities such as recreational boating, beach access, cruises, swimming, surfing, snorkeling, diving, and sightseeing (National Oceanic and Atmospheric Administration, 1998).

3.11.2.1.3.1 Hawaii Study Area

Tourism represents the largest influx of private capital into the Hawaii economy (Hawaii Tourism Authority, 2015). Tourism continues to be the biggest generator of jobs in Hawaii, supporting over 216,000 jobs (direct, indirect, and induced) in 2019 and 160,000 jobs in 2021 (Hawaii Tourism Authority, 2023). Although tourism declined in recent years due to the Covid-19 pandemic, the industry in Hawaii has started to recover. Visitor expenditures increased from $13 billion in 2021 to nearly $20 billion in 2022, an increase of over 50 percent (Hawaii Tourism Authority, 2023). With lifted domestic travel restrictions, over 9 million visitors arrived in Hawaii in 2022, and there was over 230,000 visitors in Hawaii on any given day in 2022 (Hawaii Tourism Authority, 2023).

Marine environments in Hawaii are popular locations for recreational activities such as sightseeing, whale watching, sport fishing, boating, diving, and surfing. The intensity of tourism and recreational activities generally declines with increasing distance from shore, although specific resources in the open-ocean area may result in a concentration of use. Recreational activities vary seasonally.

3.11.2.1.3.2 California Study Area

Travel and tourism are important to the California economy; however, tourism sharply declined in 2020 due to the Covid-19 pandemic. Tourism in California is gradually recovering, with visitor volume expected to recover to 100 percent of 2019 pre-pandemic visitation levels by 2024 (Visit California, 2023). In 2022, visitor spending contributed over $134 billion to California's economy. Over 1.09 million jobs in California were supported by travel and tourism in 2022 (Visit California, 2023).

Marine environments in California are popular locations for recreational activities such as sightseeing, whale watching, sport fishing, boating, diving, and surfing. Most recreation and tourist activities occur close to the mainland coast of California or between the mainland and the Channel Islands. Recreational activities may occur throughout the California Study Area, including waters off SCI. Recreational activities vary seasonally.

3.11.2.1.3.3 Transit Corridor

It is assumed that there is very minimal tourism and recreational activity within the transit corridor. It is highly unlikely that tourism activities would occur in the transit corridor because of the great distance from shore.

3.11.2.2 Environmental Justice

The primary areas of interest in assessing environmental justice are where communities with environmental justice concerns have the potential to be adversely and disproportionately affected by the implementation of the Proposed Action.

3.11.2.2.1 Subsistence Fishing

The U.S. EPA considers subsistence fishers to be people who rely on fish as an affordable food source or for whom fish are culturally important (U.S. Environmental Protection Agency, 2024). There are no particular criteria or thresholds (such as income level or frequency of fishing) that define subsistence fishers; however, survey-based studies indicate that Native Americans, low-income urban populations, and Asian-Americans are more likely to be subsistence fishers (Gassel, 1997; Schumann & Macinko, 2007). Regions with a high percentage of individuals below the poverty line or a high percentage classified as Native American or Asian may have a greater number of subsistence fishers. Therefore, minority, low-income, tribal, and indigenous communities are more likely to engage in subsistence fishing and may be disproportionately affected by changes to the accessibility and availability of marine resources. Most subsistence fishing is expected to occur within 3 NM from shore, because the smaller boats that are typically used by subsistence fishers are not equipped for long trips offshore, and traditional fishing sites are generally associated with nearshore reefs.

Many communities engage in fishing practices not just for subsistence or financial reasons, but as part of their cultural heritage, social customs, or religion. Fishing practices may be representative of traditions that have been passed on for generations that many tribal or indigenous populations practice as an important part of their cultural and social identity. Beyond that, the practice of traditional fishing has supported the conservation and protection of the natural environment for centuries using traditional ecological knowledge rooted in a deep understanding and connection with the environment.

The multifaceted nature of traditional fishing practices and their contribution to local communities remains difficult to quantify; however, it is clear that there is both a social and economic benefit to many in those communities even for those who rarely or never actually fish (e.g., someone who doesn't fish may receive fish at low or no cost within their community). Allen (2013) reported on the complicated issue of defining traditional fishers. Many fishers identifying as traditional or subsistence fishers also participate in recreational and commercial fishing. It is not always clear when fishers are engaging in subsistence fishing, fishing for cultural or social reasons, fishing for financial gain or leisure, or some combination, which can occur even on a single fishing trip.

3.11.2.2.1.1 Hawaii Study Area

In Hawaii, subsistence practices are considered to be "customary and traditional native Hawaiian uses of renewable ocean resources for direct personal or family consumption or sharing" (Zanre, 2014). The cultural and economic value of subsistence fishing to Native Hawaiians is considered an important component of many communities which strive to preserve a long-standing way of life (McClenachan & Kittinger, 2013; Steutermann-Rogers, 2015a). In a survey conducted by the Pacific Islands Fisheries Group, survey participants commonly expressed that their motivation for bottomfishing is to support family members and give fish away to eat. Others that were interviewed expressed that fishing is part of their cultural identity and is a practice that has been passed down through generations.

> "[F]ishing is what defines who I am, and I'm just trying to carry it on for my grandfather and my dad. And you know, that's definitely -- that's what I want to do and that's what I love to do. And it's my livelihood" (Calhoun, 2020).

The Hawaii bottomfish handline fishery is a culturally significant resource for Native Hawaiian populations. Hawaii bottomfish fisheries (both commercial and non-commercial) harvest approximately 14 shallow and deep-water species consisting of 9 snappers, 4 jacks, and 1 species of grouper (National Oceanic and Atmospheric Administration, 2024). The primary high-value targets, also known as the

Deep 7 bottom fishery, consist of six deep-water snappers and the grouper species. Native Hawaiians have targeted bottomfish species, particularly the Deep 7 bottom fishery, for hundreds of years using traditional handline fishing methods (National Oceanic and Atmospheric Administration, 2024).

The shallow-water reef associated fisheries in Hawaii consist of important finfishes, invertebrates, and coastal pelagic fishes that support subsistence activities. Approximately 72–74 percent of fish caught by non-commercial fishers in nearshore reef fisheries are kept for personal consumption or for sharing with their community (Grafeld et al., 2017). In 2017, the shallow-water reef associated fisheries in Hawaii were valued between approximately 10 and 16 million dollars (Grafeld et al., 2017). Majority of this value (between 7 and 12 million dollars) was associated with non-commercial fishing practices and amounts to over 7 million meals annually (Grafeld et al., 2017).

Recent efforts to preserve Native Hawaiian cultural practices, traditional ecological knowledge, and important fisheries has resulted in the establishment of community-based subsistence fishing areas (CBSFAs) in Hawaii (Levine & Richmond, 2014; Steutermann-Rogers, 2015b). These areas were established through coordination between communities practicing subsistence or traditional fishing and state and local governments, an approach that recent studies have shown to be effective at achieving the regulatory goals of sustaining the fishery (Ayers & Kittinger, 2014; Steutermann-Rogers, 2015a). As of 2024, there are three designated CBSFAs in the State of Hawaii: Haena, Milolii, and Kipahulu. The Haena CBSFA is located off the northwestern shore of Kauai between Haena and Wainiha. It extends from the shoreline to 1 NM off the coast (Figure 3.11-8). Milolii CBSFA is located between Paakai Point at Kipahoehoe to Kauna Point off the southwest coast of the island of Hawaii. It extends from the shoreline to the 100 m depth contour (Figure 3.11-9).The Kipahulu CBSFA, located off the southeast coast of Maui, was designated by law as an CBFSA in 2024 (Figure 3.11-10). It spans across approximately 5.7 miles of coastline and extends from the shoreline to approximately 60 m depth.

To aid in the preservation of subsistence and traditional fishing practices, the governor of Hawaii along with the Hawaii Department of Land and Natural Resources have signed into law specific fishing rules for the CBSFAs. The rules limit harvests and set bag limits for species; provide restrictions on the types of fishing gear and methods that may be used; and prohibit commercial fishing in the CBSFAs. These rules ultimately allow for communities to meet their consumptive needs and are reflective of traditional fishing management practices meant to preserve and maintain the sustainability of marine resources.

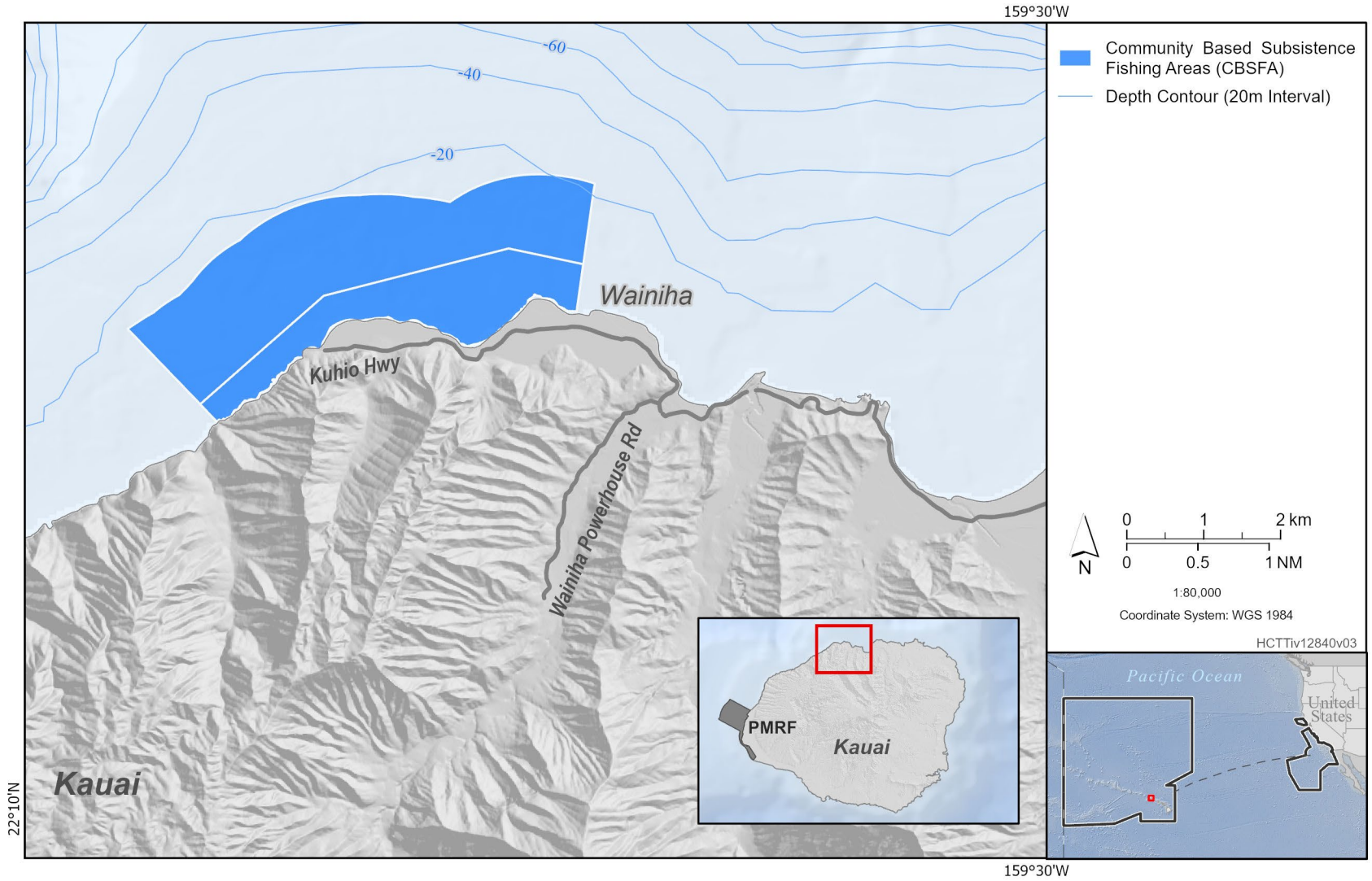


Figure 3.11-8: Haena Community Based Subsistence Fishing Area

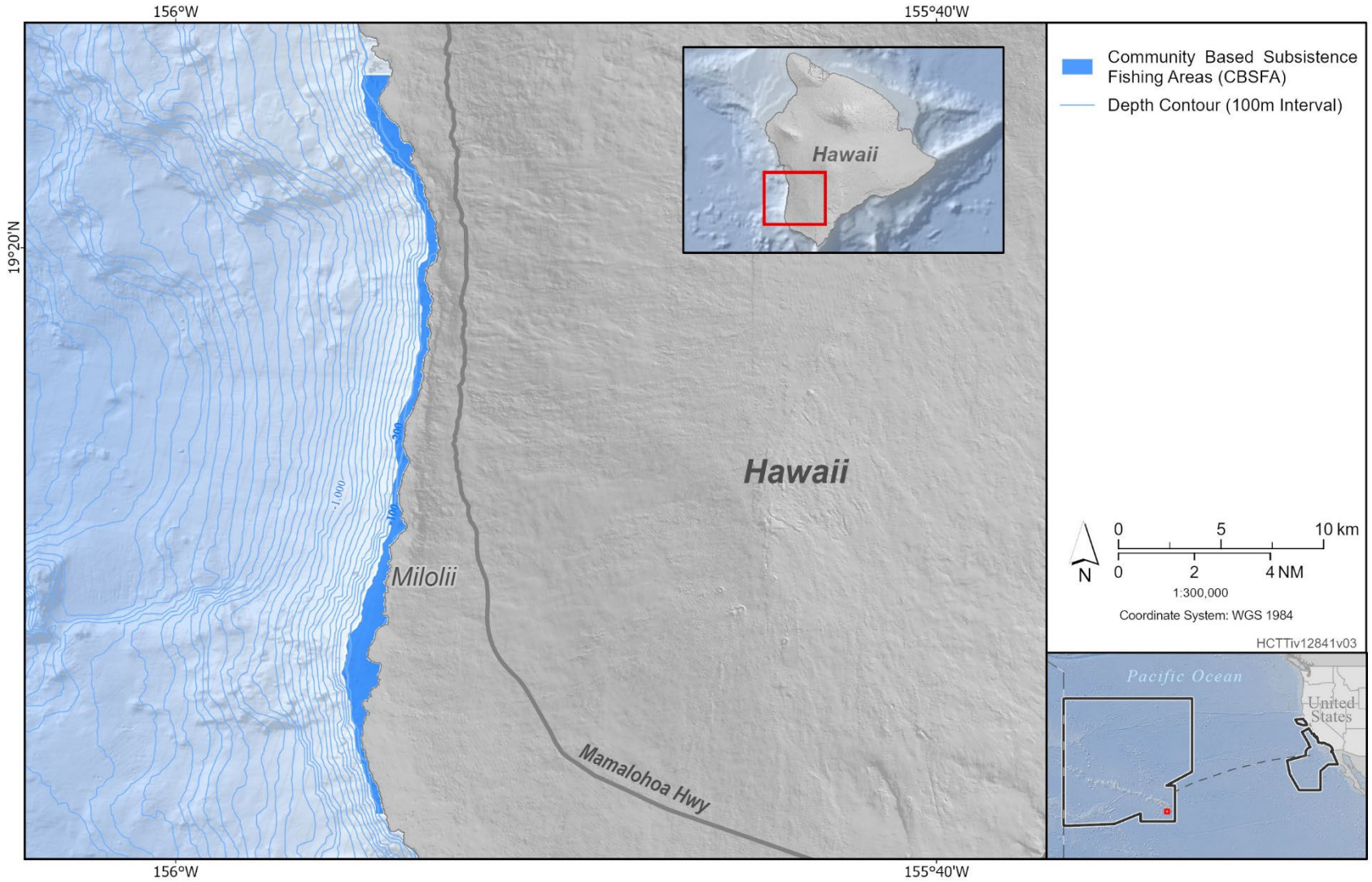


Figure 3.11-9: Milolii Community Based Subsistence Fishing Area

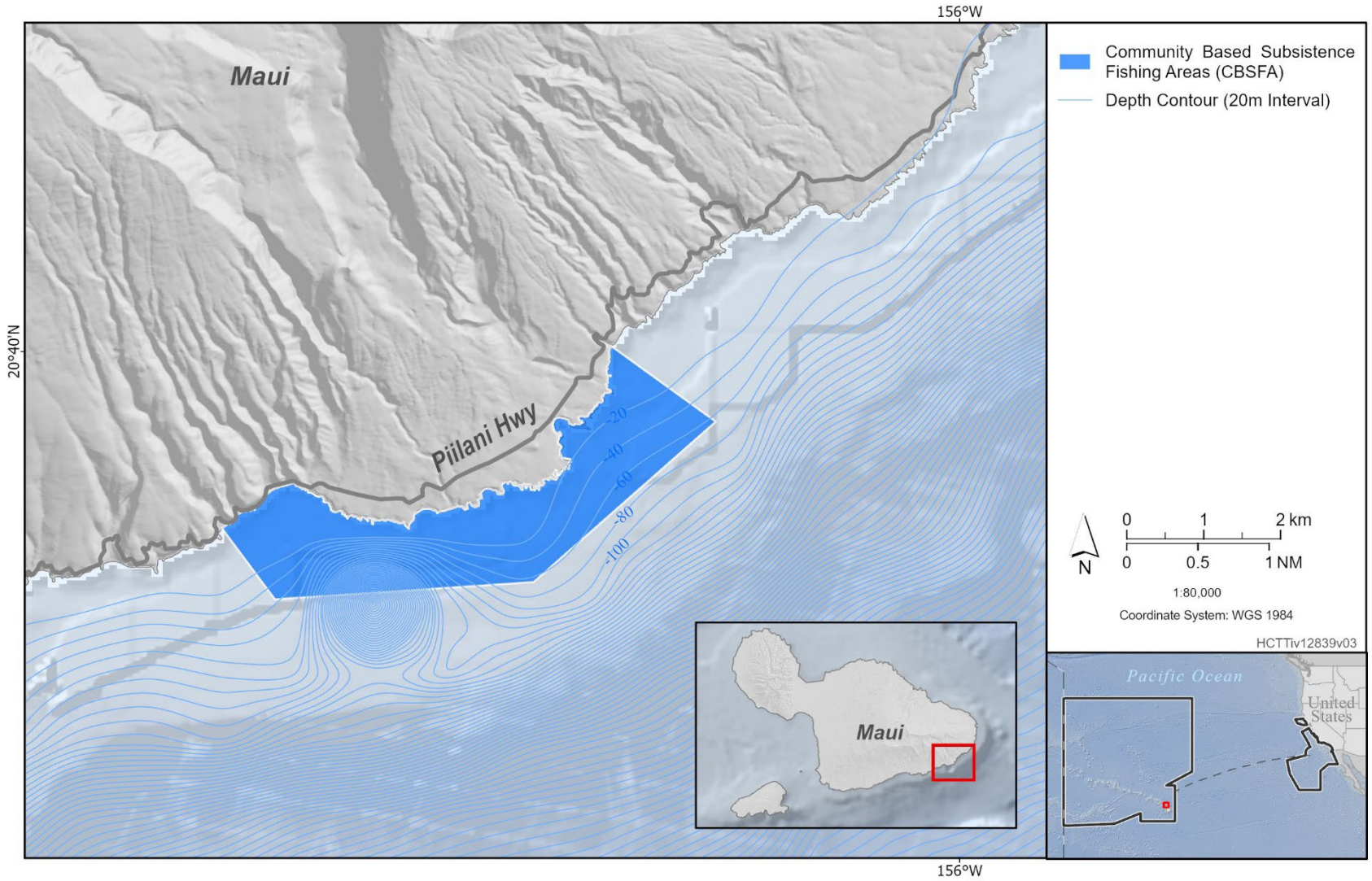


Figure 3.11-10: Kipahulu Community Based Subsistence Fishing Area

3.11.2.2.1.2 California Study Area

In California, many people fish off piers and in local bays, harbors, and waterways for regular subsistence rather than for recreation. High costs of living have produced food insecurity among low-income populations in California, and as a result subsistence fishing has become increasingly common, particularly among Asian, Hispanic, Hawaiian, Pacific Islander, and African American ethnicities (Cooper, 2023). Tribal and indigenous communities may also engage in subsistence fishing practices off the California coast. Pier fishing is especially popular throughout California because fishing is allowed on all public piers and does not require purchasing a fishing license. Based on 2015 census data, almost all pier anglers in California were reported to fall under the 200 percent poverty level, with majority under the 100 percent poverty level (Cooper, 2023). Although the economic value of subsistence fisheries may often be low in California, they may be critical for the livelihoods of many communities.

In a 2012 survey conducted at four public piers in Los Angeles County, approximately 23 percent of pier-based anglers who eat the fish they catch reported that they are dependent on their catch for their diet and cost-savings (Pitchon & Norman, 2012). Thirty-one percent of those who eat the fish they catch reported that they were concerned about their food running out before they were able to purchase more (Pitchon & Norman, 2012). Additionally, a 2017 fish consumption survey in the San Diego Bay indicates that approximately 46 percent of those surveyed eat the fish that they catch (Steinberg, 2017). Target species caught and often kept for consumption include the Pacific Chub Mackerel, California Halibut, spotted sand bass, and the bonito and short fin corvina.

People who fish off piers and in nearshore areas (e.g., harbors) and eat the fish they catch may be disproportionately exposed to contaminants. Pier anglers, who are often fishing for subsistence, are 4 times more likely to consume fish with high contaminants than boat anglers due to elevated contaminant levels near piers and in harbors and bays (Cooper, 2023).

Subsistence fishing would be expected to occur at nearshore locations throughout the California Study Area, particularly near the amphibious approach lanes at PMSR and the southern portion of the NOCAL Range Complex, areas along the Southern California coastline from approximately Dana Point to Port Hueneme, and the San Diego harbor. Subsistence fishing practices do not typically occur in the northern portion of the NOCAL Range Complex due to its distance from shore, and therefore communities that practice subsistence fishing in those areas would not be measurably affected and are not considered further in this section.

3.11.2.2.1.3 Transit Corridor

It is assumed that subsistence fishing practices do not typically occur within the transit corridor because of the great distance from shore.

3.11.2.2.2 Air Quality and Climate Change

Most military readiness activities in the Study Area would be conducted further away from shore in offshore waters, often beyond 12 NM. However, some military readiness activities may be conducted in nearshore areas within 3 NM and have the potential to affect air quality in nearby communities with environmental justice concerns.

Under the Proposed Action, GHG emissions would also be generated from mobile sources using fossil fuel combustion as a source of power (e.g., vessels, aircraft) and the expenditure of munitions. Predictable global trends associated with increasing GHG emissions and climate change include rising global temperatures, changes in precipitation patterns, increased frequency or intensity of extreme

weather events, rising sea levels and associated storm surges, and ocean acidification. Communities with environmental justice concerns generally have greater sensitivity to the adverse effects of climate change and lack the resources needed to adapt to changing environments.

GHG emissions associated with the Proposed Action would contribute to climate change at a global scale, regardless of the specific location in which the emissions are produced. However, as determined in Section 3.1, emissions associated with military readiness activities would not be enough to cause or incrementally contribute to global warming. As a result, climate change-related effects associated with the Proposed Action would not adversely affect communities with environmental justice concerns and are not considered further in this section. Refer to Chapter 4 for discussion of the cumulative effects related to climate change and communities with environmental justice concerns.

3.11.2.2.2.1 Hawaii Study Area

As described in Section 3.1, the entire State of Hawaii is in attainment of the NAAQS for all criteria air pollutants. Air pollutants associated with military readiness activities that would occur within 3 NM would not measurably affect adjacent land areas because of the relatively low concentration of emissions and the generally strong ventilation resulting from regional meteorological conditions. Therefore, military readiness activities would not measurably affect the air quality in nearshore communities, including communities with environmental justice concerns, and they are not discussed further in this section. Refer to Section 3.1 for additional information regarding air quality.

3.11.2.2.2.2 California Study Area

The California Study Area encompasses nearshore locations at Naval Base Point Loma, Naval Base Coronado, and Naval Base San Diego within San Diego Bay. It also includes four amphibious approach lanes between PMSR and the NOCAL Range Complex, and areas along the Southern California coastline from approximately Dana Point to Port Hueneme. The nearshore military readiness activities occurring at the amphibious approach lane near the southern portion of the NOCAL Range Complex would occur within attainment areas. Other military readiness activities in the NOCAL Range Complex would occur at least 12 NM from shore and therefore would not adversely affect the air quality in nearshore communities, including communities with environmental justice concerns.

Emissions associated with the Proposed Action would also be below the applicable General Conformity *de minimis* levels for all pollutants established for the South Central Coast Air Basin and the South Coast Air Basin. As a result, military readiness activities conducted within 3 NM at Port Hueneme, PMSR, amphibious approach lanes, and areas along the Southern California coastline from approximately Dana Point to Port Hueneme would not measurably affect the air quality in nearshore communities, including communities with environmental justice concerns, and they are not discussed further in this section. Refer to Section 3.1 for additional information regarding air quality.

In San Diego, the AB-617 Portside Community near Naval Base San Diego is recognized by the Community Air Protection Program as a community with environmental justice concerns exposed to high levels of air pollutants. This community encompasses the neighborhoods of Barrio Logan, Logan Heights, Sherman Heights, and West National City (Figure 3.11-11). The San Diego AB-617 Portside Community has historically been exposed to air pollutants from port operations, industrial land use operations (e.g., heavy duty equipment, railways), and two freeways that run directly through them (California Air Resources Board, 2024). Sensitive receptors in the Portside Community include approximately 24 schools, 16 licensed daycare facilities, and 2 hospitals (California Air Resources Board,

2024). A CERP was adopted in 2021 that includes strategies to reduce air pollution emissions and community exposure to air pollution in the community.

According to 2022 U.S. Census Bureau American Community Survey data (based on a 5-year average), approximately 50,106 individuals reside in the portside community. Of the individuals living within the portside community, 18.6 percent fall below the poverty line and 50.5 percent are considered minority populations (Table 3.11-1).

3.11.2.2.2.3 Transit Corridor

Due to the great distance from shore, military readiness activities that occur in the transit corridor would not affect air quality in nearshore communities with environmental justice concerns.

Table 3.11-1: San Diego AB-617 Portside Community Population Demographics

Census Tract	Total Population (2022)	Percent Minority	Percent Hispanic or Latino Origin	Percent Below Poverty
San Diego Portside Community	50,106	50.5	71.6	18.6
Census Tract 35.02	4,917	57.7	89.2	21.8
Census Tract 36.01	3,526	54.6	88.7	14.7
Census Tract 36.03	3,312	44.9	80.8	15.8
Census Tract 39.01	4,375	60.9	91.3	19.8
Census Tract 39.02	4,282	53.6	84.3	6.2
Census Tract 40	4,164	48.9	82.8	21.4
Census Tract 47	1,446	37.4	56.7	4.3
Census Tract 49	4,877	52.5	77.4	24.9
Census Tract 50	2,108	41.9	80.8	24.2
Census Tract 51.01	2,912	62.8	45.0	9.4
Census Tract 51.02	4,200	37.7	21.4	18.4
Census Tract 51.03	2,732	38.1	35.9	51.6
Census Tract 116.02	4,031	34.6	71.1	11.6
Census Tract 219	3,224	63.8	71.6	22.0

Sources: U.S. Census Bureau (2022d), U.S. Census Bureau (2022c), U.S. Census Bureau (2022a), U.S. Census Bureau (2022b)

Figure 3.11-11: San Diego AB-617 Portside Community

3.11.3 Environmental Consequences

None of the proposed military readiness activities would be conducted under the No Action Alternative. Therefore, baseline conditions of the existing environment for socioeconomic resources and environmental justice would either remain unchanged or would improve slightly after cessation of ongoing military readiness activities. As a result, the No Action Alternative is not analyzed further within this section.

This section evaluates how and to what degree the activities described in Chapter 2 could affect socioeconomic resources of the HCTT Study Area. This section also identifies and evaluates effects associated with military readiness activities that could adversely and disproportionately affect communities with environmental justice concerns. This analysis considers standard operating procedures and mitigation measures that would be implemented under Alternative 1 and Alternative 2 of the Proposed Action.

As stated in Section 3.0.2, a significance determination is only required for activities that may have reasonably foreseeable adverse effects on the human environment based on the significance factors in 40 CFR 1501.3(d). All of the stressors analyzed in this section could have a reasonably foreseeable adverse effect, thus requiring a significance determination.

A stressor is considered to have a significant effect on the human environment based on an examination of the context of the action and the intensity of the effect. In the present instance, the effects of the stressors analyzed would be considered significant if the effects would be long term (lasting for more than a year after the activity) and extend beyond the local geographical area into a broad regional area.

Secondary stressors resulting in indirect effects on socioeconomic resources and communities with environmental justice concerns are discussed in Section 3.11.4.

3.11.3.1 Socioeconomic Resources

For socioeconomic resources, this section evaluates the effects of the alternatives on the economy of the region of influence as well as social effects. The evaluation addresses how the action may affect the way individuals live, work, play, relate to one another, and function as members of society. Because military readiness activities are predominantly offshore, socioeconomic effects would be associated with economic activity, employment, income, and social conditions (e.g., livelihoods) of industries or operations that use the ocean resources within the Study Area. Although the typical socioeconomic considerations such as population, housing, and employment are not applicable, this section will analyze the potential for economic effects on marine-based activities and coastal communities. When considering effects on recreational activities such as fishing, boating, and tourism, both the economic effect associated with revenue from recreational tourism and public enjoyment of recreational activities are considered.

Military readiness activities were evaluated to identify specific components that could act as stressors by directly or indirectly affecting socioeconomic resources (i.e., commercial transportation and shipping, commercial and recreational fishing, tourism and recreation). The stressors analyzed for socioeconomic resources include:

- **accessibility** (availability of access to ocean and airspace)
- **airborne acoustics** (weapons firing, aircraft, pile driving, and vessel noise)
- **physical disturbance and strikes** (aircraft, vessels and in-water devices, MEM)

A stressor is considered to have a significant effect on the human environment based on an examination of the context and intensity of the effect. In the present instance, the effects related to accessibility, airborne acoustics, or physical disturbance and strike would be considered significant if the effects have short-term or long-term changes that would result in a direct loss of income, revenue, or employment.

3.11.3.1.1 Effects on Accessibility

Military readiness activities have the potential to temporarily limit access to areas of the ocean for a variety of activities associated with commercial transportation and shipping, commercial and recreational fishing, and tourism and recreation in the HCTT Study Area. In 2015, the Navy completed the SOCAL and NOCAL Range Complexes Encroachment Action Plan to evaluate the use of offshore and nearshore waters by military and civilian stakeholders (U.S. Department of the Navy, 2015). The Navy does not possess exclusive rights to these waters. Based on freedom of the seas and open access rights to citizens and commercial organizations alike, these same waters are used by civilians for commercial and recreational activities.

Figure 3.11-12, Figure 3.11-13, Figure 3.11-14, and Figure 3.11-15 depict defensive and restricted areas in the Study Area. When military readiness activities are scheduled that require specific areas to be free of non-participating vessels and aircraft due to public safety concerns, the Action Proponents request that the USCG and FAA issue Local Notices to Mariners (LNM)s and Notices to Airmen (NOTAMs), respectively, to warn the public of upcoming activities and allow them to plan accordingly. These temporary clearance procedures are established and implemented for the safety of the public and have been employed regularly over time without substantial effects on socioeconomic resources.

Limits on accessibility in most areas of the HCTT Study Area due to military readiness activities would essentially remain unchanged from the current conditions, with the exception of the proposed special use airspace (W-293 and W-294), areas along the Southern California coastline from approximately Dana Point to Port Hueneme, and four amphibious approach lanes providing access between PMSR and the NOCAL Range Complex. Since these locations would be in proximity to publicly accessed areas, accessibility would be occasionally limited in these areas. However, accessibility, or restrictions to the availability of air and ocean space, throughout the HCTT Study Area, including the proposed airspace and amphibious approach lanes, would be a temporary condition. While mariners and pilots have a responsibility to be aware of conditions on the ocean and in the air, direct conflicts in accessibility would not be expected to occur. The locations of restricted areas are published and available to mariners and pilots, who typically review such information before boating or flying in any area.

Prior to initiating a military readiness activity, standard operating procedures would be followed to visually scan an area to ensure that nonparticipants are not present. If nonparticipants are present, the Action Proponents delay, move, or cancels the activity. Accessibility is no longer restricted once the activity concludes. Additional information on existing procedures for mitigating potential effects on accessibility are described in the SOCAL and NOCAL Range Complexes Navy Encroachment Action Plan (U.S. Department of the Navy, 2015).

3.11.3.1.1.1 Commercial Transportation and Shipping

Restricted areas, danger zones, and temporary closures of areas as a result of military readiness activities have the potential to disrupt accessibility to sea and airspace used for commercial transportation and shipping in the HCTT Study Area. However, commercial vessels entering areas within the HCTT Study Area, including established restricted areas and danger zones, operate under maritime regulations, and potential disruptions to commercial shipping would be limited or avoided by the use of LNMs (Section 3.0). Additionally, pilots are notified of upcoming temporary closures to special use airspace via NOTAMs.

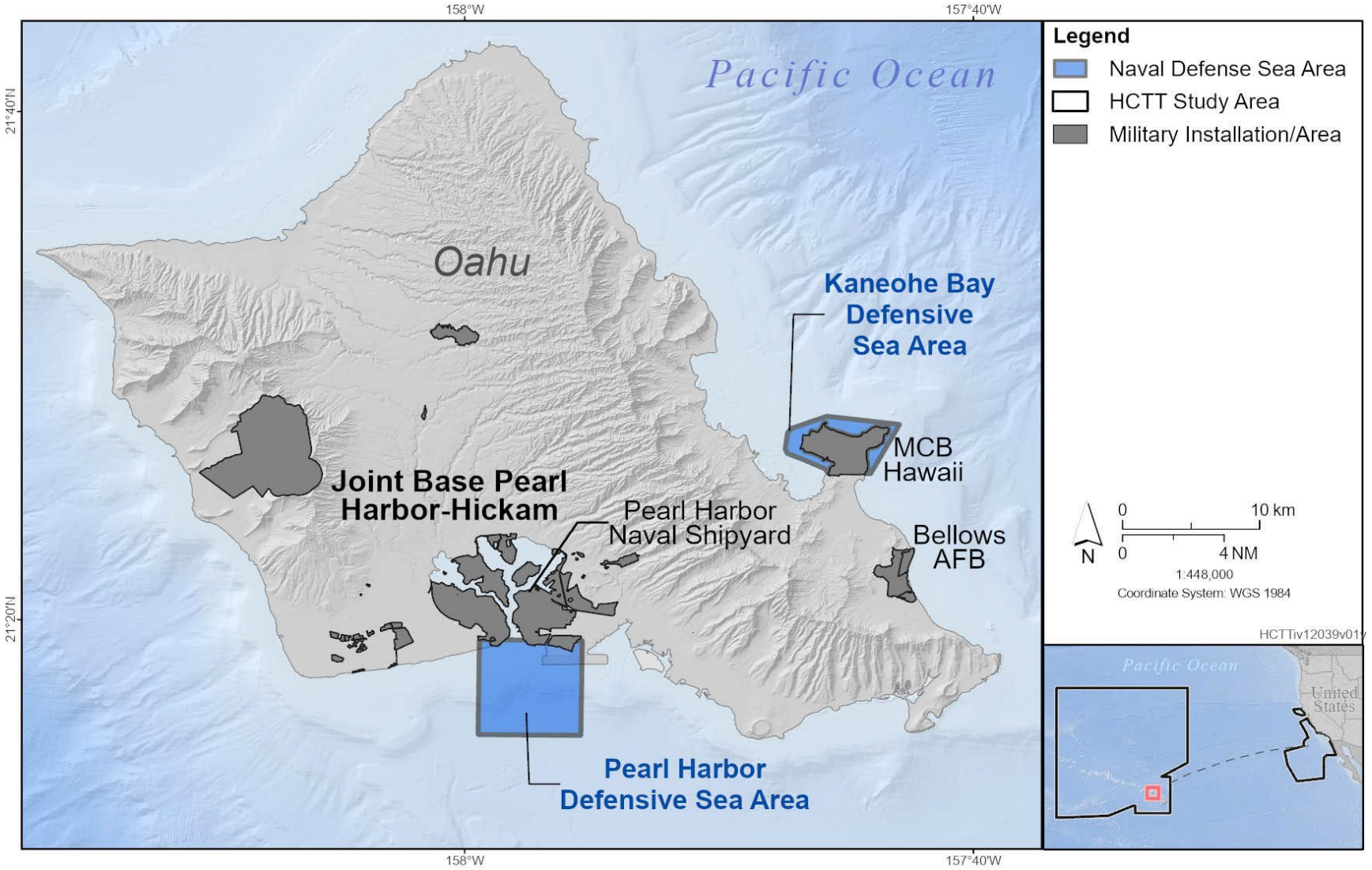


Figure 3.11-12: Defensive Sea Areas in the Hawaii Study Area

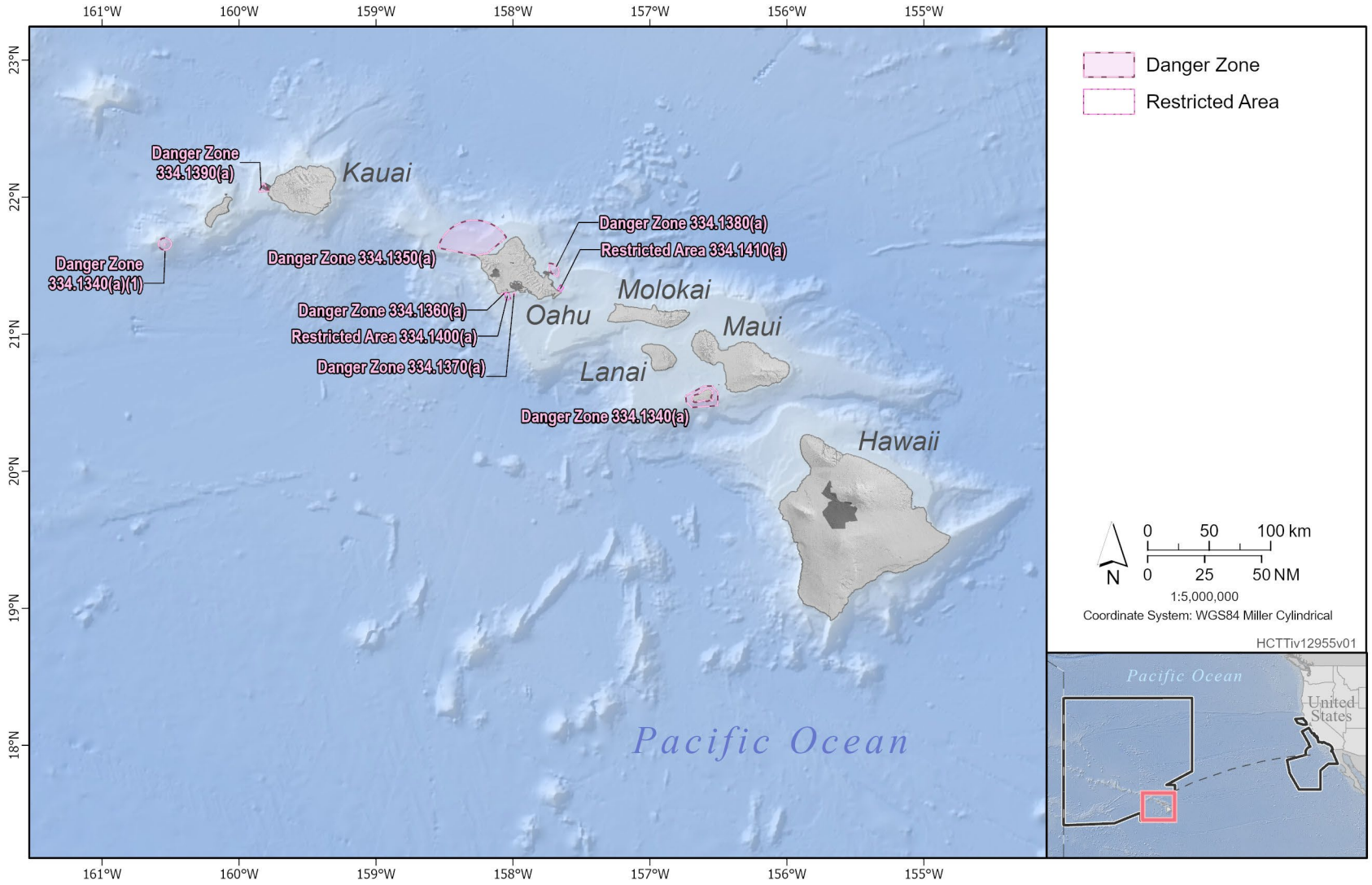


Figure 3.11-13: Restricted Sea Areas in the Hawaii Study Area

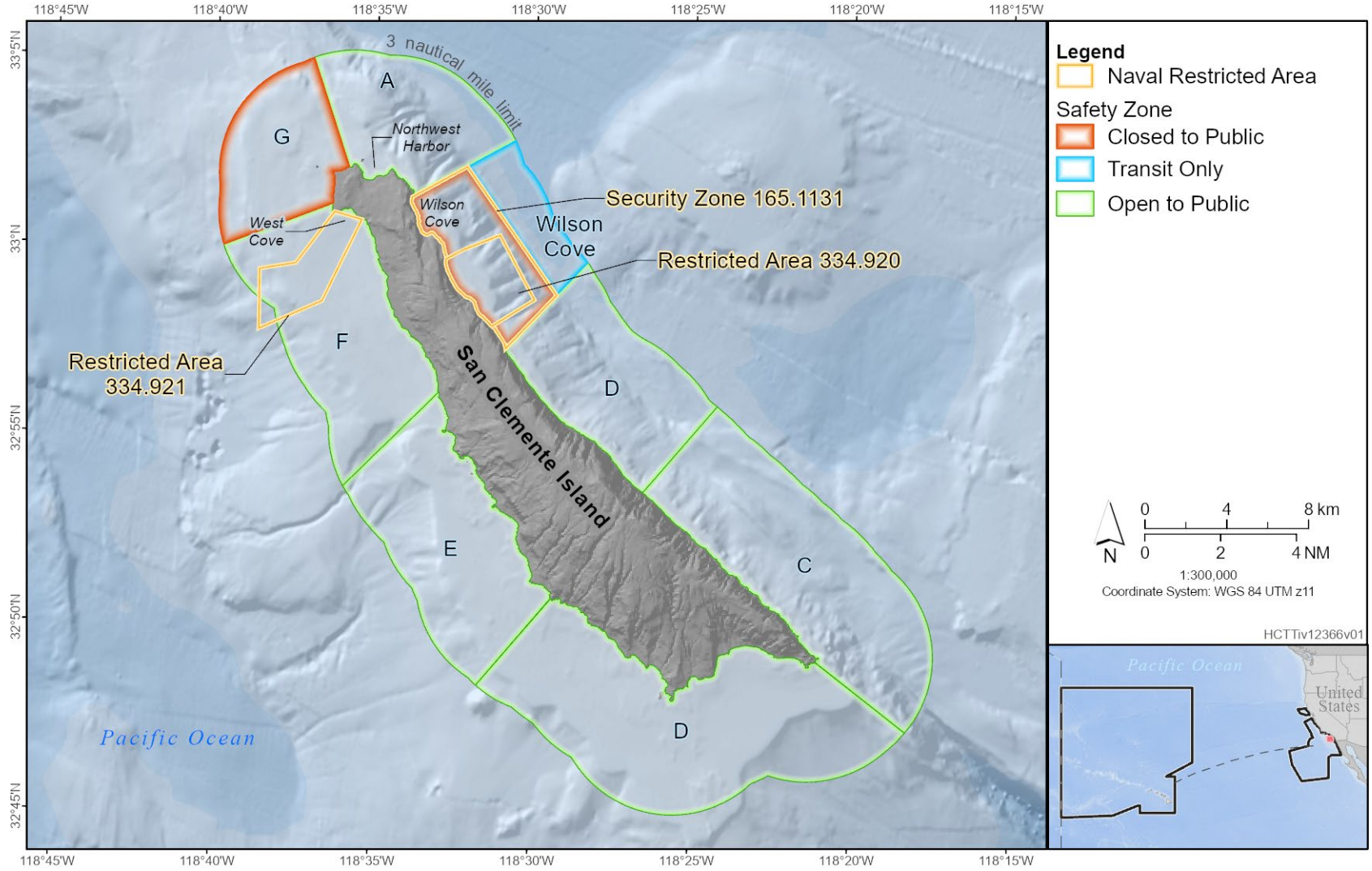


Figure 3.11-14: Restricted Sea Areas near San Clemente Island

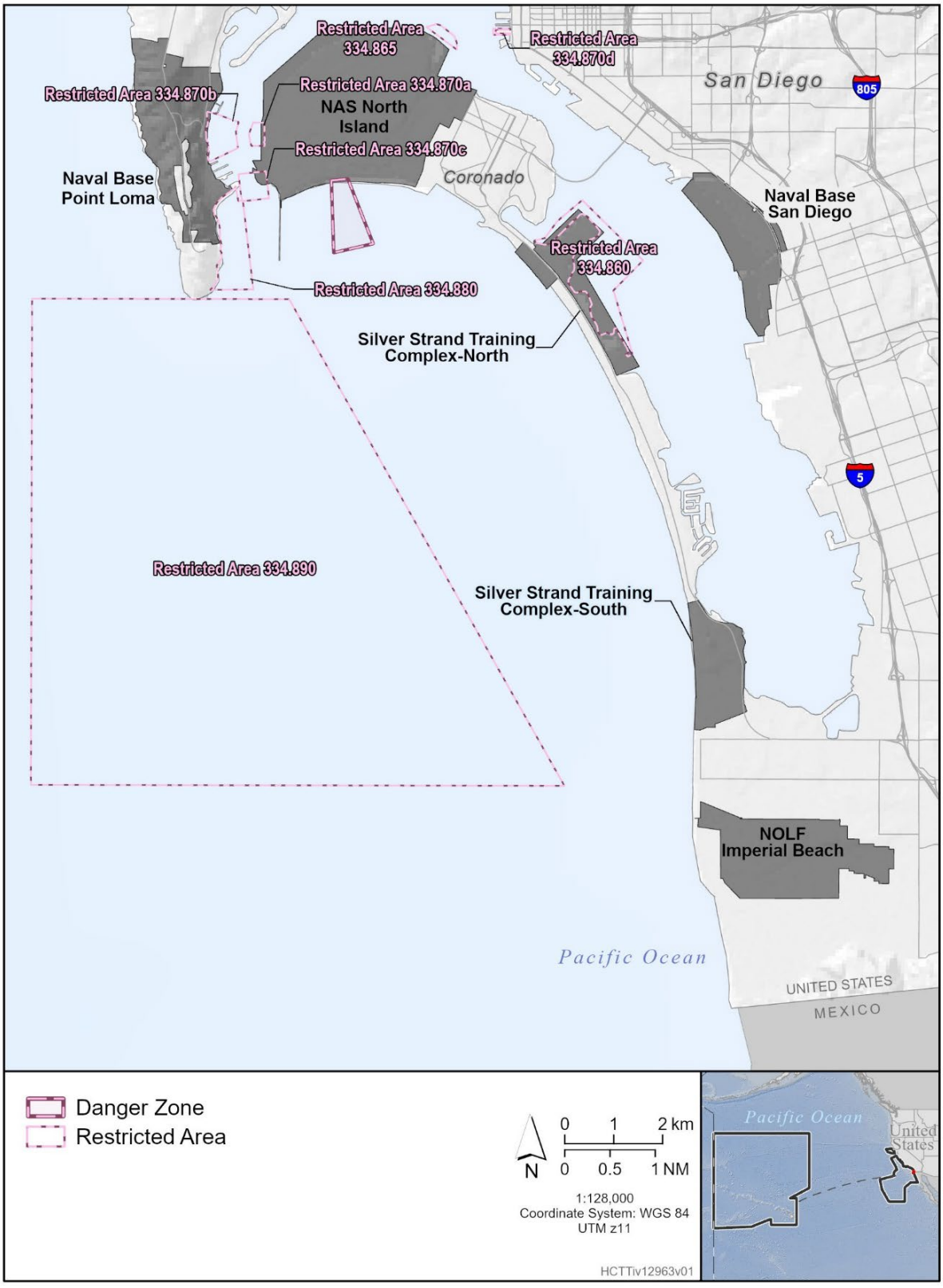


Figure 3.11-15: Restricted Areas in the Southern California Range Complex

3.11.3.1.1.2 Commercial and Recreational Fishing

The Action Proponents have performed military readiness activities within this region in the past with limited interruption to fishing or recreational activities. Knowledge and avoidance of popular fishing areas would minimize interactions between training and testing activities and fishing. Commercial and recreational interests such as fishing, boating, and beach use are only restricted temporarily for the duration of the activity. Temporary closing of areas within the Study Area for security and safety would not limit public access to surrounding areas. Areas that would be temporarily closed are re-opened at the completion of the activity.

These range clearance procedures for safety purposes would not adversely affect commercial and recreational fishing activities because displacement is temporary, only lasting for the duration of the military readiness activity. Limited military readiness activities are expected to occur within 3 NM, where most commercial and recreational fishing is anticipated to occur. When a range clearance is required, the public is notified via LNMs issued by the USCG (Section 3.0).

SCI, located in the California Study Area, is an area subject to frequent military readiness activities that may require closures of the area. SCI is also a popular area for fishing and recreational activities due to the presence of highly productive and valuable fisheries. Closures affecting waters around San Clemente Island are posted at https://www.scisland.org/. Refer to the 2018 HSTT EIS/OEIS for information regarding methods implemented by the Navy to avoid conflicts between civilian and military activities during potentially hazardous events off of SCI.

SNI, 43 miles northwest from SCI in the California Study Area, is also subject to frequent closures due to military readiness activities. A naval restricted area extends from the shoreline to approximately 3 miles seaward; however, the restricted area is open to all vessels for activities such as recreational fishing and diving when there are no closures. There is a requirement that all non-military vessels and personnel always remain 300 yards from the shoreline when in the area.

Upon completion of a military readiness activities in the Study Area, the safety zone would be reopened, and fishers and boaters would be able to return to the previously closed area. To help manage competing demands and maintain public access in the Study Area, the Action Proponents conduct their offshore operations in a manner that minimizes restrictions to commercial fishers. Military ships, commercial fishers, and recreational users can operate within the area together while maintaining a safe separation distance. If necessary, the Action Proponents would relocate to avoid conflicts with civilians and maintain the safety of non-participants.

The Action Proponents may also temporarily establish an exclusion zone for the duration of a specific activity (e.g., an activity involving the detonation of explosives) to prevent non-participating vessels and aircraft from entering an unsafe area. Establishment of an exclusion zone would temporarily limit commercial and recreational fishing in that specific area; however, other areas in the HCTT Study Area would remain open to commercial and recreational fishing (U.S. Department of the Navy, 2015). The Action Proponents does not exclude fishing activities from occurring in areas of the HCTT Study Area that are not being used during military readiness activities.

To minimize potential military/civilian interactions, the Navy will continue to publish scheduled operation times and locations on publicly accessible Navy websites and through USCG issued LNMs up to six months in advance to ensure that commercial and recreational users are aware of the Navy's plans and allow users to plan their activities to avoid scheduled military readiness activities. Therefore, decreases in the frequency of fishing trips or in the availability of desirable fishing locations due to

military readiness activities would not be expected. Should there be nonparticipants present in an exclusion zone, the Action Proponents would halt or delay (and reschedule, if necessary) all potentially hazardous activity until the nonparticipants have exited the exclusion zone.

3.11.3.1.1.3 Tourism and Recreational Use

Temporary range clearance procedures in the Study Area, for safety purposes, would not adversely affect tourism and recreational activities because displacement is of short duration and are in areas where tourism activities are not as prevalent. Published notices (i.e., LNMS) would allow recreational users to adjust their routes to avoid temporary restricted areas. If civilian vessels are within an activity area at the time of a scheduled operation, military personnel would continue operations only where and when it is safe and possible to avoid the civilian vessels. If avoidance is not safe or possible, the operation would be halted and may relocate or be delayed. Therefore, there would be no adverse effects on tourism and recreational activities from conducting military readiness activities in the HCTT Study Area.

As described in detail in Section 3.7, military readiness activities have been occurring in the same areas for decades, and there are no data or other information to indicate that populations of any marine mammals, including those popular with whale watchers, have been or would be affected for viewing. Therefore, no effects on wildlife viewing and other wildlife-dependent recreational activities and no economic effects on tourism (such as whale watching) and related businesses dependent on observing wildlife in their natural habitats are anticipated.

3.11.3.1.1.4 Effects on Accessibility Under Alternative 1

Training and Testing. Potential effects on accessibility associated with training and testing activities would be associated primarily with air warfare, surface warfare, anti-submarine warfare, mine warfare, amphibious warfare, and vessel evaluations. There would be minimal anticipated effects on commercial transportation and shipping, commercial and recreational fishing, and tourism and recreational activities because inaccessibility to areas of co-use for training and testing would be temporary and of short duration. In addition, the Action Proponents have implemented standard operating procedures to improve communications between the military and fishers, both recreational and commercial, and reduce the number of instances when fishers must leave a temporarily closed area. Other areas not in use or temporarily restricted would remain accessible and available for use.

Modernization and Sustainment of Ranges. Potential effects on accessibility would be associated primarily with special use airspace modifications and the installation of training minefields, seafloor cables, and seafloor sensors. There would be minimal anticipated effects on commercial transportation and shipping, commercial and recreational fishing, and tourism and recreational activities associated with modernization and sustainment of ranges because inaccessibility to areas of co-use would be temporary and of short duration, lasting until an activity (e.g., installation of cables) concludes. Other areas not in use or temporarily restricted would remain accessible and available for use. For proposed special use airspace W-293, a lower altitude ceiling of 17,000 ft. would apply to avoid affecting commercial air traffic that fly through the area.

Conclusion. The changes in accessibility as a result of military readiness activities under Alternative 1 are consistent with a less than significant determination since (1) standard operating procedures would be implemented so that there would be minimal anticipated effects on commercial transportation and shipping, commercial and recreational fishing, and tourism and recreational activities; (2) closures are temporary, and the large expanse of the HCTT Study Area would remain available to the public for

commercial and recreational use; and (3) effects on accessibility of areas within the Study Area would not result in a direct loss of income, revenue, or employment.

3.11.3.1.1.5 Effects on Accessibility Under Alternative 2

The locations and types of activities that have the potential to affect accessibility in the Study Area would be the same under Alternative 1 and 2. However, there would be a small increase in the number of activities conducted in the Study Area. The increases would not result in substantive changes to the potential for or types of socioeconomic effects associated with changes in accessibility. There would also be no changes to the standard operating procedures defining safety precautions and actions taken by the Action Proponents to protect the public during military readiness activities occurring at-sea. Therefore, changes to accessibility associated with military readiness activities under Alternative 2 would be less than significant.

3.11.3.1.2 Effects from Airborne Acoustics

As an environmental stressor, loud noises, sonic booms, and vibrations generated from military readiness activities such as weapons firing, in-air explosions, aircraft transiting, and pile driving have the potential to disrupt wildlife and humans in the HCTT Study Area. The public might intermittently hear noise from ships or aircraft overflights if they are in the general vicinity of the activities.

3.11.3.1.2.1 Commercial Transportation and Shipping

Airborne noise associated with military readiness activities would not be expected to affect commercial transportation and shipping.

3.11.3.1.2.2 Commercial and Recreational Fishing

Based on the analysis of effects from the Proposed Action, fishes would not experience substantial effects from airborne acoustics (Section 3.6). Marine invertebrates (Section 3.4), also important commercial fishery resources, would not be affected by airborne acoustics, because most marine invertebrates are limited in their ability to sense sound. Therefore, airborne noise from military readiness activities would not significantly affect the availability of target species for commercial or recreational fishing.

3.11.3.1.2.3 Tourism and Recreational Use

Noise interference could decrease public enjoyment of tourism and recreational activities. These effects would occur on a temporary basis, only when weapons firing; in-air explosions; aircraft transiting and participating in military readiness activities; and pile driving occur. Military readiness activities involving weapons firing and in-air explosions would only occur when it is confirmed the area is clear of nonparticipants, reducing the likelihood these activities would be a disturbance. Although pile driving would occur inshore, noise would be temporary, intermittent, and would only last for the duration of the activity. The possibility of encountering some type of noise related to a military readiness activity is unlikely to deter a resident or tourist from participating in a recreational activity (e.g., a fishing trip) in nearshore or offshore areas.

3.11.3.1.2.4 Effects from Airborne Acoustics Under Alternative 1

Training and Testing. Potential airborne noise effects would be associated primarily with air warfare, surface warfare, anti-submarine warfare, mine warfare, and amphibious warfare. There would be minimal anticipated effects on commercial transportation and shipping, commercial and recreational fishing, and tourism and recreational activities because most training and testing activities occur well

out to sea, while most civilian activities, including tourism, fishing, and recreational activities, occur closer to shore. Although there is the potential for training and testing to generate noise that coastal residents and tourists on the water and land may be exposed to, noise would be infrequent, short term, and temporary. Additionally, standard operating procedures are already in place to avoid effects on civilian activities and would require that the area is clear of nonparticipants before initiating an activity.

Modernization and Sustainment of Ranges. Potential airborne acoustic effects would be associated primarily with the installation of training minefields, seafloor cables, and seafloor sensors. There would be minimal anticipated effects on commercial transportation and shipping, commercial and recreational fishing, and tourism and recreation because activities would be of short duration and temporary, lasting until installation or maintenance is complete.

Conclusion. The analysis of effects of airborne acoustics from military readiness activities under Alternative 1 are consistent with a less than significant determination since (1) noise would be temporary, lasting for the duration of the activity; and (2) infrequent exposure to airborne noise would not result in a direct loss of income, revenue, employment, resource availability, or quality of experience.

3.11.3.1.2.5 Effects from Airborne Acoustics Under Alternative 2

The locations and types of activities associated with airborne acoustics would be the same under Alternative 1 and 2. However, there would be a small increase in the number of activities conducted in the Study Area. The increases would not result in substantive changes to the potential for or types of effects associated with airborne acoustics. Therefore, airborne acoustic effects during military readiness activities under Alternative 2 would be less than significant.

3.11.3.1.3 Effects from Physical Disturbance and Strike

As an environmental stressor, direct physical encounters or collisions with objects moving through the water or air (e.g., vessels, aircraft, unmanned devices, and towed devices), dropped or fired into the water (non-explosive practice munitions, other military expended materials, and seafloor devices), or resting on the ocean floor (anchors, mines, and targets) may damage or encounter civilian equipment. Physical disturbances that damage equipment and infrastructure could disrupt the collection and transport of products, which may affect industry revenue or operating costs.

Military readiness equipment and vessels moving through the water could collide with non-military vessels and equipment. Most of the military readiness activities involve vessel movement and use of towed devices. However, the likelihood that a military vessel would collide with a non-military vessel is remote, because of the use of navigational aids or buoys separating vessel traffic, shipboard lookouts, radar, and marine band radio communications by both the military and civilians. Therefore, the potential to affect commercial transportation and shipping by physical disturbance or strike is negligible and requires no further analysis.

Aircraft conducting military readiness activities in the HCTT Study Area operate in designated military special use airspace (e.g., Warning Areas and Restricted Areas). All aircraft, military and civilian, are subject to FAA regulations, which define permissible uses of designated airspace, and are implemented to control those uses. These regulations are intended to accommodate the various categories of aviation, whether military, commercial, or general aviation. By adhering to these regulations, the likelihood of civilian aircraft encountering military aircraft or munitions is remote. In addition, military aircraft follow procedures outlined in DoD air operations manuals, which are specific to a warning area

or other special use airspace, and which describe procedures for operating safely when civilian aircraft are in the vicinity. The proposed airspace (W-291 and W-293) would follow existing standard operation procedures in place for special use airspace.

MEM can physically interact with civilian equipment and infrastructure. Many of the military readiness activities use military expended materials including chaff, flares, projectiles, casings, target fragments, missile fragments, rocket fragments, ballast weights, and mine shapes.

3.11.3.1.3.1 Commercial Transportation and Shipping

Military vessels and aircraft conducting military readiness activities generally conduct activities far from commercially used waterways and airways, although activities may occur throughout the HCTT Study Area. While physical disturbances or strikes could damage commercial marine vessels or aircraft, the Action Proponents implement standard operating procedures for clearing areas of all nonparticipants before initiating hazardous activities. Additionally, the Action Proponents recover many practice munitions (e.g., mines and mine shapes) for reuse following the activity. They also recover larger floating objects or materials, such as targets or target fragments, to avoid having them become hazards to navigation. Smaller objects that remain in the water column would be unlikely to pose a risk to commercial equipment.

3.11.3.1.3.2 Commercial and Recreational Fishing

The majority of military readiness activities takes place within 200 NM from shore (National Marine Fisheries Service, 2012a, 2012b). Most recreational fishing would occur far from potential physical disturbances and strikes associated with military readiness activities. Some commercial fishing may occur beyond state waters in the HCTT Study Area and could be affected by the proposed activities if those activities were to alter fish population levels in those areas to such an extent that commercial fishers would no longer be able to find their target species.

Section 3.6 also evaluated potential effects on fish habitat from physical disturbances, strikes (by small-medium-, and large-caliber projectiles), and the use of electromagnetic and towed devices. Physical disturbances and strikes would be concentrated within designated areas, resulting in localized disturbances of hard bottom areas, but could occur anywhere in the HCTT Study Area. Direct and indirect effects on the fishes using hard bottom habitat in the HCTT Study Area could occur. The use of towed devices may result in short-term and localized movement of fishes to avoid the device; however, long-term avoidance of an area is not anticipated. Effects on populations of fishes in the HCTT Study Area would not be expected, and, therefore, loss of revenue or employment by commercial fishers would not occur.

Commercial fishing activities have the potential to be affected by military equipment placed in the water column or on the seafloor for use during military readiness activities. This equipment could include ship anchors; moored or bottom-mounted targets, mines, and mine shapes; seafloor cables and sensors; bottom-mounted tripods; and the use of towed system and attachment cables. Many different types of commercial fishing gear are used in the HCTT Study Area, including gillnets, longline gear, troll gear, trawls, seines, and traps or pots. Commercial bottom-fishing activities, such as dredging, bottom trawling, long lines, and pots and traps have the greatest potential to be affected by materials expended during military readiness activities that ultimately reside on the seafloor. For example, military expended materials, such as decelerators/parachutes, cables, and guidance wires, would ultimately sink to the seafloor and could inadvertently snag, entangle, and damage fishing equipment. Interaction with bottom-fishing gear could result in the loss of or damage to commercial fishing gear and military

equipment. When these rare events occur, they could result in loss of income, revenue, and employment. Commercial fishers anticipate that fishing gear will be lost or damaged throughout the year and incorporate the economic loss into their business model.[1]

The Action Proponents recover many of the targets and target fragments used in military readiness activities and would continue to do so to minimize the potential for interaction with fishing gear and fishing vessels. Unrecoverable items are typically small, constructed of soft materials or are intentionally designed to sink to the bottom after serving their purpose, so that they would not represent a collision risk to vessels, including commercial fishing vessels. Although larger expended items may pose a risk to certain types of fishing gear used for bottom fishing, the probability of encountering such an item is remote given the large area over which expended materials would be distributed; the depth of the water where most activities using expended materials would occur; and the tendency for larger, heavier materials to become embedded in soft sediments, making them less likely to be snagged by fishing gear.

3.11.3.1.3.3 Tourism and Recreational Use

While military readiness activities can occur throughout the HCTT Study Area, most activities (especially hazardous) occur well out to sea. Most civilian recreational activities engaged in by both tourists and residents take place within a few miles of land or in many cases along the shoreline. As a result, conflicts between military readiness activities and tourist activities within the offshore areas, such as recreational diving and snorkeling, would not occur.

Other tourist and recreational activities occurring farther from shore would usually be conducted from larger boats that are typically well marked and visible to ships conducting military readiness activities. Vessel operators engaged in tourism activities are responsible for being aware of designated danger zones in surface waters and any LNMs that are in effect. Operators of recreational or commercial vessels are responsible for abiding by USCG maritime regulations. In conjunction with these responsibilities, standard operating procedures require military vessels to ensure that an area is clear of nonparticipants before conducting military readiness activities. Conflicts between military readiness activities in offshore areas and offshore recreational activities are not expected to occur. The Action Proponents would continue to recover larger pieces of targets used in certain activities so that target debris would not pose a collision risk to civilian vessels. Unrecoverable pieces of targets are typically small, constructed of soft materials such as cardboard, are pieces of tethered target balloons, or are designed to sink to the seafloor after use and would not damage civilian vessels if encountered.

Temporary range clearance procedures in the Study Area, for safety purposes, would not adversely affect tourism activities, because displacement is of short duration (typically less than 24 hours) and are in areas where tourism activities are not as prevalent. Action Proponents temporarily limit public access to areas where there is a risk of injury or property damage using LNMs. If civilian vessels are within a military readiness activity area at the time of a scheduled operation, military personnel could continue operations and avoid them if it is safe and possible to do so. If avoidance is not safe or possible, the operation may relocate or be delayed. In some instances where safety requires exclusive use of a specific area, nonparticipants in the area are asked to relocate to a safer area for the duration of the operation.

[1] Should the gear lost be causally connected to military activity, the fisher could file a claim in Admiralty. (see https://www.jag.navy.mil/legal-services/code-15/admiralty/)

3.11.3.1.3.4 Effects from Physical Disturbance and Strike Stressors Under Alternative 1

Training and Testing. Potential physical disturbance and strike effects would be associated primarily with air warfare, surface warfare, anti-submarine warfare, mine warfare, and amphibious warfare. Military readiness activities in these warfare areas would continue at current levels within established ranges and locations. The Action Proponents recover many practice munitions (e.g., mines and mine shapes) for reuse following the activity. They also recover larger floating objects or materials, such as targets or target fragments, to avoid having them become hazards to navigation. Smaller objects that remain in the water column would be unlikely to pose a risk to fishing gear. In addition, the Navy provides advance notification of activities to the public through LNMs and postings on Navy websites. As a result, damage to or loss of commercial and recreational fishing gear from interaction with military vessels, equipment, or other expended materials is unlikely.

Furthermore, the Action Proponents will implement mitigation to avoid effects from explosives and physical disturbance and strike stressors on seafloor resources in areas with geographic mitigation throughout the HCTT Study Area (see Chapter 5). Geographic mitigation will help avoid potential effects on shallow-water coral reefs, biogenic habitat, artificial reefs, and shipwrecks, which are valuable components of the snorkeling, diving, and fishing industries.

Modernization and Sustainment of Ranges. Potential physical disturbance and strike effects would be associated primarily with the installation of training minefields, seafloor cables, and seafloor sensors. Prior to in-water installations, construction, or maintenance, the Navy would issue LNMs to alert boaters to the avoid areas of activity. Entanglement by cables associated with modernization and sustainment of ranges would not affect fish habitat and is unlikely to be encountered by commercial fishers. As a result, damage or encounters with civilian equipment used for commercial transportation and shipping, commercial and recreational fishing, and tourism and recreation would be unlikely to occur.

Conclusion. Physical disturbance and strike associated with military readiness activities under Alternative 1 are consistent with a less than significant determination since (1) standard operating procedures are implemented to avoid interactions with civilian vessels and equipment, (2) military expended materials are widely distributed throughout the expansive size of the HCTT Study Area, (3) many practice munitions are recovered after an activity concludes, and (4) LNMs are released prior to conducting activities to inform civilians to temporarily avoid areas.

3.11.3.1.3.5 Effects from Physical Disturbance and Strike Stressors Under Alternative 2

The locations and types of activities associated with physical disturbance and strike would be the same under Alternative 1 and 2. However, there would be a small increase in the number of activities conducted in the Study Area. The increases would not result in substantive changes to the potential for or types of effects associated with the probability of physical disturbance and strike. As a result, potential effects from physical disturbance and strike associated with military readiness activities under Alternative 2 would be less than significant.

3.11.3.2 Environmental Justice

The stressors that could affect environmental justice populations are those that would have the potential to adversely and disproportionately affect communities with environmental justice concerns. Military readiness activities analyzed in this EIS/OEIS would be conducted in the ocean and in harbors and bays, and as a result, communities that practice traditional or subsistence fishing may be affected by the Proposed Action as activities have the potential to affect accessibility and availability of marine

resources. Additionally, some military readiness activities may occur nearshore and have the potential to affect the air quality in nearshore communities and contribute to climate change.

Secondary stressors resulting in indirect effects on environmental justice communities of concern, such as population-level effects to fishes, are discussed in Section 3.11.4.

3.11.3.2.1 Effects on Subsistence Fishing

Subsistence fishing typically occurs from the shore (e.g., pierside) or from small vessels within 3 NM or closer to shore. Military readiness activities, especially those that involving explosives or expended materials, generally occur farther from shore (beyond 12 NM) in waters where subsistence fishing typically does not occur. Although public access may be limited throughout the HCTT Study Area during military readiness activities due to safety reasons; however, restrictions would be temporary and of short duration (lasting until the activity is complete).

Most closures would occur in established ranges, warning areas, and danger zones located primarily beyond 3 NM. As a result, popular subsistence fishing areas, including the CBSFAs and pierside locations throughout the Study Area, would not be subject to frequent closures. Most military readiness activities conducted near the island of Kauai, where the Haena CBSFA is located, would be expected to occur in waters off PMRF located on the western side of the island. Most military readiness activities conducted off Maui, where the Kipahulu CBSFA is located, would be expected to occur in the Hawaii Area Tracking System Area, Kahoolawe Sub Training Minefield, and the Maui Basin, all of which are located in waters beyond 3 NM. Limited military readiness activities would be expected to occur off the island of Hawaii within 3 NM. SUA off the southwest coast of the island of Hawaii would start at least 3 NM shore, and therefore activities conducted in the SUA would not overlap the Miliolii CBSFA.

Due to the expansive size of the Study Area in which activities may occur throughout and the sporadic timing when activities may take place, there is low potential to displace or alter the distribution of species permanently, including species targeted by subsistence fishers. Additionally, standard operating procedures (refer to Section 3.0) would continue to be implemented to protect the health and overall condition of target species and marine resources, including those targeted by subsistence fishers.

3.11.3.2.1.1 Effects on Subsistence Fishing Under Alternative 1

Training and Testing. Potential effects to subsistence fishing would be associated primarily with air warfare, surface warfare, anti-submarine warfare, mine warfare, and amphibious warfare. The Action Proponents have conducted training and testing within these regions in the past with limited interruption to subsistence fishing practices. Knowledge and avoidance of popular fishing areas, including designated CBSFAs, would minimize interactions between training and testing activities and fishing practices. Additionally, most military readiness activities that are conducted repeatedly over time typically use established ranges, warning areas, and danger zones and would not be expected to affect accessibility to popular subsistence fishing areas. If closure of an area is required, largely for safety purposes, the public is notified using LNMs. Closures of areas would be temporary and of short duration (lasting until the activity is complete). Areas not in use or temporarily restricted would remain accessible and available for use. Accessibility is no longer restricted once the activity concludes.

Range Modernization and Sustainment. Potential effects on subsistence fishing would be associated primarily with the installation of training minefields, seafloor cables, and seafloor sensors. Closures of areas associated with range modernization and sustainment would be temporary and of short duration, lasting until the activity (e.g., installation temporary minefields) is complete. LNMs would be issued to

the public to inform the public of these temporary closures. Range modernization and sustainment activities would not be anticipated to occur in proximity to public piers, popular fishing areas, or near the Hawaii CBSFAs.

Conclusion. There would be less than significant adverse effects on communities with environmental justice concerns who engage in subsistence fishing practices since (1) limited military readiness activities would be conducted within 3 NM (where most subsistence fishing occurs); (2) closures are temporary and the large expanse of the HCTT Study Area would remain available to the public for use; and (3) popular subsistence fishing areas, including CBSFAs and pierside locations throughout the Study Area, would not be subject to frequent closures as most closures would occur in established ranges, warning areas, and danger zones located primarily beyond 3 NM.

Military readiness activities that require temporary closures of areas, largely for safety purposes, are not expected to disproportionately occur in popular subsistence fishing areas as most closures would be expected to occur in areas beyond 3 NM. As a result, communities with environmental justice concerns who practice subsistence fishing would not be disproportionately affected by changes to accessibility of ocean areas when compared to the general population who fish in the Study Area.

3.11.3.2.1.2 Effects on Subsistence Fishing Under Alternative 2

The locations and types of activities associated with the Proposed Action would be the same under Alternative 1 and 2. However, there would be a small increase in the number of activities conducted in the Study Area. The increases would not result in substantive changes to the potential for or types of effects on subsistence fishing practices. There would also be no changes to the standard operating procedures and mitigation measures that would be implemented to protect fishes and important habitats used by fish (refer to Section 3.0). As a result, potential effects from physical disturbance and strike associated with military readiness activities under Alternative 2 would be less than significant.

3.11.3.2.2 Effects on Air Quality

There would be a limited amount of military readiness activities expected to occur within 3 NM that have the potential to affect air quality in the San Diego Air Basin. All warning areas (including the proposed W-293 and W-294), where most military readiness activities would be expected to occur, extend from at least 3 NM from shore outward from the coastline. As discussed in Section 3.1, pollutants emitted beyond 3NM from shore would be dispersed and transported resulting in lower concentrations when they reach the coastal land mass. The contributions of air pollutants generated in the Study Area to the air quality in onshore areas are unlikely to measurably add to existing onshore pollutant concentrations.

3.11.3.2.2.1 Air Quality Effects Under Alternative 1

Training and Testing. There would be a limited amount of training and testing activities expected to occur within 3 NM nearshore in the San Diego Bay. As determined in Section 3.1, air pollutant emissions associated with the Proposed Action would be below the General Conformity *de minimis* thresholds for the San Diego Air Basin. As a result, training and testing activities would not be expected to measurably affect air quality in the San Diego Air Basin.

Range Modernization and Sustainment. Potential effects on air quality in the San Diego Air Basin would be associated primarily with the installation and maintenance of training minefields and other training areas, and the installation and maintenance of underwater platforms. As determined in Section 3.1, air pollutant emissions associated with the Proposed Action (including range modernization and

sustainment activities in the San Diego Harbor) would be below the General Conformity *de minimis* thresholds for the San Diego Air Basin. Therefore, range modernization and sustainment activities would not be expected to measurably affect air quality in the San Diego and South Coast Air Basins.

Conclusion. There would be less than significant adverse effects on communities with environmental justice concerns, particularly the San Diego AB-617 Portside Community, related to air quality since (1) limited amounts of military readiness activities would occur within 3 NM of the shoreline, and (2) there would not be measurable changes to air quality associated with the Proposed Action. Emissions in the San Diego Air Basin would be below *de minimis* threshold levels. As a result, the San Diego AB-617 Portside Environmental Justice Community would not be disproportionately or adversely affected by implementation of the Proposed Action. Effects would be consistent with a less than significant determination.

3.11.3.2.2.2 Air Quality Effects Under Alternative 2

Changes in air quality would be similar to what is described under Alternative 1. A nominal increase in vessel and aircraft activity would occur; however, the increase would not be expected to measurably affect air quality in the San Diego Air Basin as most military readiness activities would be expected to occur beyond 3 NM. Therefore, effects on air quality under Alternative 2 would not disproportionately or adversely affect the San Diego AB- 617 Portside Community and would be less than significant.

3.11.4 Secondary Stressors

Socioeconomic resources could be indirectly affected by military readiness activities if changes to physical and biological resources were to alter the way commercial transportation, commercial or recreational fishing, and tourism and recreation were conducted. Additionally, environmental justice communities of concern could be indirectly affected if changes to resources alter the way that subsistence fishing is conducted by these communities.

Effects on sediment and water quality, fishes, invertebrates, and marine mammals were considered to be potential secondary stressors to socioeconomic resources and environmental justice communities of concern that practice subsistence fishing. Effects to sediment and water quality have the potential to affect habitat for fishes and invertebrates that are of vital importance to the commercial fishing industry as well as recreational and subsistence fishers and the local industries that support those activities. A portion of the tourism industry is also dependent on coastal and marine-based activities in both California and Hawaii and could be affected by effects on fisheries. No indirect or secondary effects on commercial transportation and shipping, and air quality are anticipated.

Commercial, recreational, and subsistence fishing and tourism could be affected if military readiness activities altered fish or invertebrate populations to such an extent that species abundance was no longer sufficient to support these activities. Disturbances to marine mammal populations that result in abandonment of areas where whales are known to occur could affect the whale watching industry. However, no secondary effects would occur to these resources within the Study Area based on the results of analyses presented in Sections 3.4, 3.5, and 3.6. These sections concluded that there would be no population-level effects on marine species from military readiness activities, including from the use of explosives and sonar and other transducers. Therefore, indirect or secondary effects on commercial transportation, commercial or recreational fishing, tourism, and subsistence fishing would be less than significant.

3.11.5 Summary of Combined Potential Effects

3.11.5.1 Combined Effects of All Stressors Under Alternative 1

Socioeconomic Resources. Military readiness activities would be widely dispersed throughout the HCTT Study Area, limiting the potential for co-occurrence of stressors from multiple military readiness activities being conducted at the same time but in a different location. Certain military readiness activities may return to a specific geographic location to use its unique physical characteristics. Repeatedly using the same area may limit accessibility to that area for commercial or recreational activities, relative to a less frequently used area. The Action Proponents typically use established ranges, warning areas, and danger zones for military readiness activities that are conducted repeatedly over time. Many commercial and recreational users in the region are familiar with the locations of military readiness activities, which allows for better planning and fewer instances of conflict. When an area needs to be temporarily closed to the public, the Navy notifies the public through LNMs and NOTAMs ahead of time to avoid potential conflicts with the public. If multiple, incompatible military readiness activities need to use a specific location, the activities would not be scheduled at the same time, and stressors associated with each activity would not occur at the same time. Therefore, an increase in effects to resulting from a combination of stressors occurring simultaneously is not expected.

Environmental Justice. Limited military readiness activities would be expected to occur within 3 NM. Military readiness activities would be dispersed throughout the HCTT Study Area, mainly beyond 3 NM, limiting the potential for the co-occurrence of stressors related to subsistence fishing and air quality to occur at the same time at a location where communities with environmental justice concerns are present. Therefore, an increase in effects on communities with environmental justice concerns resulting from a combination of stressors occurring simultaneously is not expected.

3.11.5.2 Combined Effects of All Stressors Under Alternative 2

The number and types of activities that would be conducted is similar to those described under Alternative 1 (see Chapter 2). Therefore, the combined effects of all stressors for socioeconomics and environmental justice would be similar to what is described under Alternative 1.

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