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3.14 SOCIOECONOMICS

Socioeconomics comprise the basic attributes and resources associated with the human environment, particularly population and economic activity. This section addresses the socioeconomics effects on commercial and recreational fishing, commercial shipping, tourism, housing and the economy, as well as diving, boating, and surfing.

3.14.1 Affected Environment

3.14.1.1 SOCAL Operating Areas

3.14.1.1.1 Existing Conditions

Military Activity

Navy activities in Southern California make a substantial contribution to the social and economic well-being of California. The Department of the Navy (DoN) (including United States [U.S.] Marine Corps [USMC] activities in the San Diego area) supports the largest concentration of naval forces in the world. Most of the ships and units that train in the Southern California (SOCAL) Range Complex are home-ported in San Diego, and their social and positive economic impact are felt in the cities, towns, and countryside of Southern California. However, the Proposed Action does not include an increase in personnel stationed in the San Diego area.

Civilian Activity

Commercial Shipping

Ocean shipping is a significant component in the Southern California regional economy. Key ports in Southern California include Los Angeles, Long Beach, and, to a lesser degree, San Diego. Los Angeles and Long Beach were ranked first and second among U.S. ports with respect to total cargo imported and exported in 2005; San Diego was ranked 28th (Department of Transportation [DoT] 2007).

The location of San Clemente Island (SCI) creates a separation zone within the SOCAL Range Complex. Most vessels entering or leaving the ports of Los Angeles or Long Beach travel northwest or south and bypass SCI without incident or delay. Shipping to and from the south would include an inshore route to the east of SCI within the SOCAL Range Complex. Ships traveling between Los Angeles/Long Beach and Hawaii via the most direct route would pass to the north of the SOCAL Range Complex (Figure 3.13-2 in Section 3.13, Traffic). Vessels coming or going from the Port of San Diego generally travel along shipping routes north or south near the coast which includes inshore waters of the SOCAL Range Complex but would bypass SCI to the east.

Commercial Fishing

Commercial fishing takes place throughout the SOCAL Operating Areas (OPAREAs) from nearshore waters adjacent to the mainland and offshore islands, to the offshore banks (e.g., Tanner and Cortes Banks), and waters in between. The California Department of Fish and Game (CDFG) maintains commercial catch block data for waters in the northern part of the study area (see Figure 3.7-1 in Section 3.7, Fish), and all statements referring to catch are for that part of the study area for which data are available. For the period 2002 to 2005, the most commonly harvested commercial species in the SOCAL OPAREAs were squid, tuna (albacore, yellowfin, bluefin, skipjack, and other), swordfish, Pacific/Jack mackerel, and Pacific sardine (see Table 3.7-1). During 2002, the SOCAL OPAREAs accounted for 36.7 percent of all California fish landings and 33.6 percent of invertebrate landings. In 2003, 2004, and 2005, the figures were 38 percent and 7.6 percent, 24.4 percent and 14.2 percent, and 26.8 percent and 46.3 percent, respectively.

Water depths in the SOCAL OPAREAs reach a maximum depth of > 3 miles (mi.) (> 5 kilometers [km]) below sea level. Pelagic species account for approximately 98 percent of the average annual catch in pounds within the SOCAL OPAREAs (Table 3.14-1). Flatfish, demersal fish, and other fish associated with the bottom account for only about 2 percent of the average annual catch of fish. This may be attributable to the small area occupied by shallow shelves within the SOCAL OPAREAs. Pelagic species encompass the majority of the commercial portion of the average annual pounds (lb) of catch. The average annual catch of pelagic, flatfish, demersal, and all other fish amounts to 50,901,141 average annual catch (in lb) and \$6,870,514 (in dollar value).

The average annual catch of crustaceans is about half lobster (average 431,805 lb per year) and half crab and shrimp (average 317,735 lb per year). The catch of crustaceans in the SOCAL OPAREAs was worth approximately \$4,314,628 per year. In comparison, the annual catch of squid was worth approximately \$7,186,356 and urchins were worth about \$1,860,552 whereas other invertebrates (e.g., snails, sea cucumbers) were worth about \$210,634 per year (Table 3.14-1).

Table 3.14-1: Average Annual Commercial Landing of Fish and Invertebrates and Value within the SOCAL Range Complex (2002-2005)

Type		Average Annual Catch (Pounds)	Average Value (Dollars)
Fish	Tuna (yellowfin, skipjack, bluefin, and albacore)	1,034,430	\$488,040
	Pacific Sardine	39,306,962	\$1,713,688
	Swordfish	358,655	\$1,500,446
	All Other Fish	10,201,094	\$3,168,340
Total Fish		50,901,141	\$6,870,514
Invertebrates	Lobster	431,805	\$3,078,629
	Crab	200,845	\$213,198
	Other Crustaceans (shrimp)	116,890	\$1,022,801
	Sea Urchins	2,588,887	\$1,860,552
	Squid	37,312,687	\$7,186,356
	Other Invertebrates	209,776	\$210,634
	Total Invertebrates	40,860,579	\$13,572,170
Totals		91,761,720	\$20,442,684

Source: CDFG 2007

Recreation and Tourism

The SOCAL Range Complex marine environments are popular locations for recreational activities including sightseeing, whale watching, sport fishing, boating, diving, and surfing. Most recreation- and tourism-related activities occur close to the mainland coast of Southern California or between the mainland and the Channel Islands. The shallower waters near the Channel Islands and some offshore banks, such as Tanner and Cortes Banks, are especially popular areas for Self-

Contained Underwater Breathing Apparatus (SCUBA) diving, fishing, and occasionally surfing. There is very little recreational activity in the southwestern portion of the SOCAL Range Complex due to its distance from land and its water depth.

Santa Catalina and Santa Barbara Islands are within the study area; however, no operations occur on land at either island and naval operations are conducted offshore of the islands to avoid potential contact with nonparticipants.

Whale watching takes place primarily from December through March, for the annual gray whale southward migration and the northward migration. Though tourist day trips typically stay closer to the mainland, these activities can occur throughout the SOCAL Range Complex.

Charter and privately operated boats enter the SOCAL OPAREAs and SCI waters for salt-water sport fishing (see Figure 3.14-1), recreational diving, surfing, and other boating activities. Salt-water sport fishing, surfing, and recreational diving are centered primarily around SCI itself, and secondarily in the shallower waters over the Tanner and Cortes Banks. Due to distance from shore, Tanner and Cortes Banks are inherently more hazardous due to their open-ocean diving conditions. Therefore, the nearshore waters off SCI are a more popular destination than the more remote banks. This makes them suitable primarily for skilled divers, a more limited market for charter operators.

SCI's relatively warm waters, good underwater visibility, and largely pristine diving conditions make it a popular destination. Charter dive trips to specific sites are often published and booked as many as 6 months in advance. Most dive charters are scheduled for weekends, though not all. Diving occurs year-round, though the number of trips to SCI and the banks appear to peak during lobster season (October-March).

Fishing destinations are generally more fluid, in response to changing fishing conditions, but a number of charter boats fish SOCAL Range Complex waters on a routine basis. Sport fishermen pursue various fish species with hook and line; some divers also spearfish or take invertebrates (mainly lobster) by hand within the SOCAL OPAREAs.

Surfing can also be found in the offshore OPAREAs and nearshore SCI areas. In the winter months, when large Northern Pacific ocean swell is generated, some charter and private vessels travel out to Cortes Bank to surf the waves created by the rapidly rising seamounts. Also, surfers can venture year-round to the breaks off of SCI to surf the island's south points (China and Pyramid Points) and up the west shore of the island depending on the swell direction of the season. Although both areas within the SOCAL OPAREAs are accessed throughout the year, due to the difficulty in access and a rare culmination of conditions necessary for surfing these spots, these areas are rarely accessed.

Other limited surf spots and dive sites occur throughout the nearshore areas, for diving, at various shipwrecks and reefs and, for surfing, off of Point Loma and around Santa Catalina Island.

Population and Housing

With the exception of SCI, Santa Catalina Island, Santa Barbara Island, and San Nicolas Island, the SOCAL Range Complex consists of open water areas with no permanent population centers or housing. The population of SCI is addressed in Section 3.14.1.2.1. The population of Santa Catalina and San Nicolas Islands are not addressed in this analysis because the islands would not be affected by the Proposed Action; all operations occur offshore of the islands. Santa Barbara Island has no residents or housing and will not be addressed in this analysis.



Figure 3.14-1: Sport Fishing, Surfing, and Diving Areas

3.14.1.1.2 Current Mitigation Measures

Long-range advance notice of scheduled operations times are made available to the public and the commercial fishing community via the Internet at <http://www.scisland.org/schedules>. The Navy reports their latest operations schedules to the appropriate agency to make the schedule available to the public through Notice to Airmen (NOTAMs) and Notice to Mariners (NOTMARs) to allow the public to plan accordingly. The local 11th District U.S. Coast Guard (USCG) NOTMAR may be found at: <http://www.navcen.uscg.gov/lnm/d11/default.htm>. The FAA NOTAM may be found on the FAA website: http://www.faa.gov/airports_airtraffic/air_traffic/publications/notices/. These sites provide commercial fishermen, recreational boaters, and other area users notice that the military will be operating in a specific area and will allow them to plan their own activities accordingly. Military actions may temporarily relocate civilian and recreational activities. Schedules will be updated when changes occur up until the day of the operation. If operations are cancelled at any time, this information will be posted and the area will again be identified as clear for public use (DoN 2007). To minimize potential military/civilian interactions, the Navy will continue to publish scheduled operation times and locations up to 6 months in advance when possible.

3.14.1.2 San Clemente Island

3.14.1.2.1 Existing Conditions

Military Activity

Military support facilities on SCI are staffed by government contractors or Navy civilian or military personnel. The mission of SCI and its personnel is to operate facilities and provide services, arms, and material support to Fleet tactical training and Research, Development, Test and Evaluation (RDT&E) activities. All employment on SCI is directly or indirectly related to Navy activities.

Civilian Activity

Recreation and Tourism

All activities onshore at SCI are military in nature; therefore, no public recreation or tourism exists on SCI. Some recreation and tourism activities can occur near SCI but not on the island itself.

Population and Housing

No permanent resident population exists on SCI. Most of the on-island living quarters are located in the Wilson Cove area, and range from trailers to permanent Bachelor Enlisted Quarters (BEQs). Visitor facilities are limited to 20 individuals. No children live on SCI. Military support facilities are staffed by civilian and Navy personnel on temporary assignments who are not recorded as residents during census counts. While the number of personnel on SCI varies based on mission needs, the constant population is approximately 500 (consisting of Navy personnel, civil service employees, and contractors). During major training exercises, the on-island number of personnel can exceed 1,000 or more for short periods. The primary socioeconomic impact of this workforce is on San Diego County, where most of these personnel have their residences.

3.14.1.2.2 Current Mitigation Measures

There are no populations located on SCI. Therefore, mitigation measures related to the socioeconomic effects on SCI are not necessary.

3.14.2 Environmental Consequences

3.14.2.1 Approach to Analysis

This analysis investigates the potential for activities associated with the considered alternatives to noticeably affect (either adversely or beneficially) socioeconomic and recreational activities on SCI or within the SOCAL OPAREAs. Typical socioeconomic analysis considerations include an action's impacts on employment, population, income, economic growth, and associated effects such as the need for schools, roads, or other infrastructure improvements. Such changes, if they occur, have the potential to affect the local or regional environment. Potentially affected socioeconomic activities specific to the SOCAL OPAREAs and San Diego and Orange counties include commercial sea and air transport, commercial and sport fishing, recreational diving, and other ocean-based tourism.

Within the boundaries of the SOCAL Range Complex, all military and civilian activities and their potential socioeconomic impacts are considered. All activities onshore on SCI are military in nature; therefore the action alternatives will not influence existing or future population or activities associated with the human environment. Routine public access onshore is not permitted, and this situation would not change under any of the alternatives considered. Therefore, on-island public access is not a socioeconomic consideration. Also, the Proposed Action primarily involves training activities; it does not involve major construction projects.

When considering affects to recreational activities, both the economic impact associated with revenue from recreational tourism and the societal benefit of the public being able to enjoy recreational activities in Southern California are considered.

Implementation of any of the alternatives, including the Proposed Action, would not produce a direct increase in personnel or employment opportunities within the SOCAL Range Complex or at SCI. However, any indirect socioeconomic impacts attributable to proposed activities must also be considered. Potential effects on socioeconomic and recreational activities within the SOCAL Range Complex area are addressed for each alternative.

3.14.2.2 No Action Alternative

3.14.2.2.1 SOCAL Operating Areas

Civilian activities currently conducted in the SOCAL OPAREAs include commercial shipping, commercial fishing, sport fishing/diving, and tourism-related activities. These activities make an appreciable contribution to the overall economy of Southern California. Temporary range clearance procedures for safety purposes do not adversely affect these economic activities because displacement is of short duration. The Navy has performed military operations within this region in the past and has only temporarily limited fishing or recreational uses in the SOCAL OPAREAs. When range clearance is required it is posted on the SCI website (www.scisland.org), and the public is notified via a NOTMAR. These measures provide mariners with Navy use areas in advance, which allows nonparticipants to select an alternate destination without appreciable affect to their activities. To help manage competing demands and maintain public access in the SOCAL OPAREAs, the Navy conducts its offshore operations in a manner that minimizes restrictions to commercial fisherman (DoN 2007). Only specific areas around SCI have been deemed an Exclusive Use Zone, a Security Zone, or a Restricted Area. (See Table 3.16-1 in Section 3.16, Public Safety).

Many different types of commercial fishing gear are used in the SOCAL Range Complex: drift gillnets, longline gear, troll gear, trawls, seining, and traps or pots. Damage to fishing gear from Navy mine warfare operations in the Kingfisher Range or hydrophones in Southern California Anti-Submarine Warfare (ASW) Range (SOAR) are rare. Trawling or trolling is used for flatfish

and demersal species which account for only 1 percent of the fishing in the entire SOCAL Range Complex.

Concerns about Navy activities affecting the viewshed of coastal Southern California can be analyzed in terms of which Navy activities can be seen from shore. In general, Navy training and RDT&E activities fall into two categories: aircraft activities and ship activities. It should also be noted that although some training activities can be seen from shore, many people do not consider it a negative impact on the viewshed. Many people enjoy seeing ships on the horizon and aircraft flying off into the distance.

Aircraft Activities. Aircraft can frequently be seen transiting from shore to the OPAREA, but are soon out of sight. Most fixed-wing aircraft operations take place well out of sight of coastal Southern California and except for transit from shore, have no impact to the viewshed. Helicopter activities in SOCAL OPAREAs originate and terminate from a ship and are never seen from shore, or they arrive or depart from shore and are visible during transit. Among those helicopter activities in SOCAL OPAREAs are some that take place in the Helicopter Offshore Training Area (HCOTA) (Figure 3.14-2). Operating at an altitude of 50 to 200 feet (ft) (15 to 60 meters [m]), activities in areas Alpha and Bravo could be viewable from shore.

Ship Activities. Ships, like aircraft, can be seen transiting out of San Diego Bay into the SOCAL OPAREAs. As a ship proceeds away from shore, it eventually disappears below the horizon due to the curvature of the earth. Assuming a nominal ship height above water of 55 ft (17 m), ships 8 nautical miles (nm) (14 km) or further from shore will not be visible. Even with an eye-point 150 ft (46 m) above sea level at the shoreline, Navy ships will descend below the horizon at approximately 28 nm (51 km). Except for limited activities off the coast of Coronado, nearly all ship activities take place far from shore and well beyond the visible horizon.

3.14.2.2.2 San Clemente Island

All training on SCI only affects military personnel; as a result, socioeconomic impacts do not and will not occur.

3.14.2.3 Alternative 1

3.14.2.3.1 SOCAL Operating Areas

The increase in operations from the No Action Alternative over the SOCAL OPAREAs amounts to 24 percent in the offshore areas. The increased training tempo associated with increase in range clearance will not cause a considerable impact due to advanced public notification and primarily short-term duration of military activities. For example, commercial fishermen will know in advance about potential closures in a specific area. This notification will prevent them from wasting their time and fuel transiting to a closed location and they can plan for an alternate location instead. Upon completion of training, the range would be reopened and fishermen would be able to return to fish in the previously closed area. To minimize potential military/civilian interactions, the Navy will continue to publish scheduled operation times and locations up to 6 months in advance. This ensures that commercial and recreational users are aware of the Navy's plans, and allows users to plan their activities to avoid the scheduled activity (DoN 2007).

The increase in offshore training will not limit access to surf breaks or beaches on the mainland, Catalina Island, or Santa Barbara Island. Other than training at the Camp Pendleton Amphibious Assault Area (CPAAA), Navy training does not occur close enough to shore to limit access to beaches or surf breaks. Public access has not historically been available at CPAAA; therefore, this does not constitute a change in access. Access to surf breaks surrounding SCI and at Cortes Bank may be temporarily limited during training; however, users will be forewarned, the duration of closure is limited, and the number of users is limited.

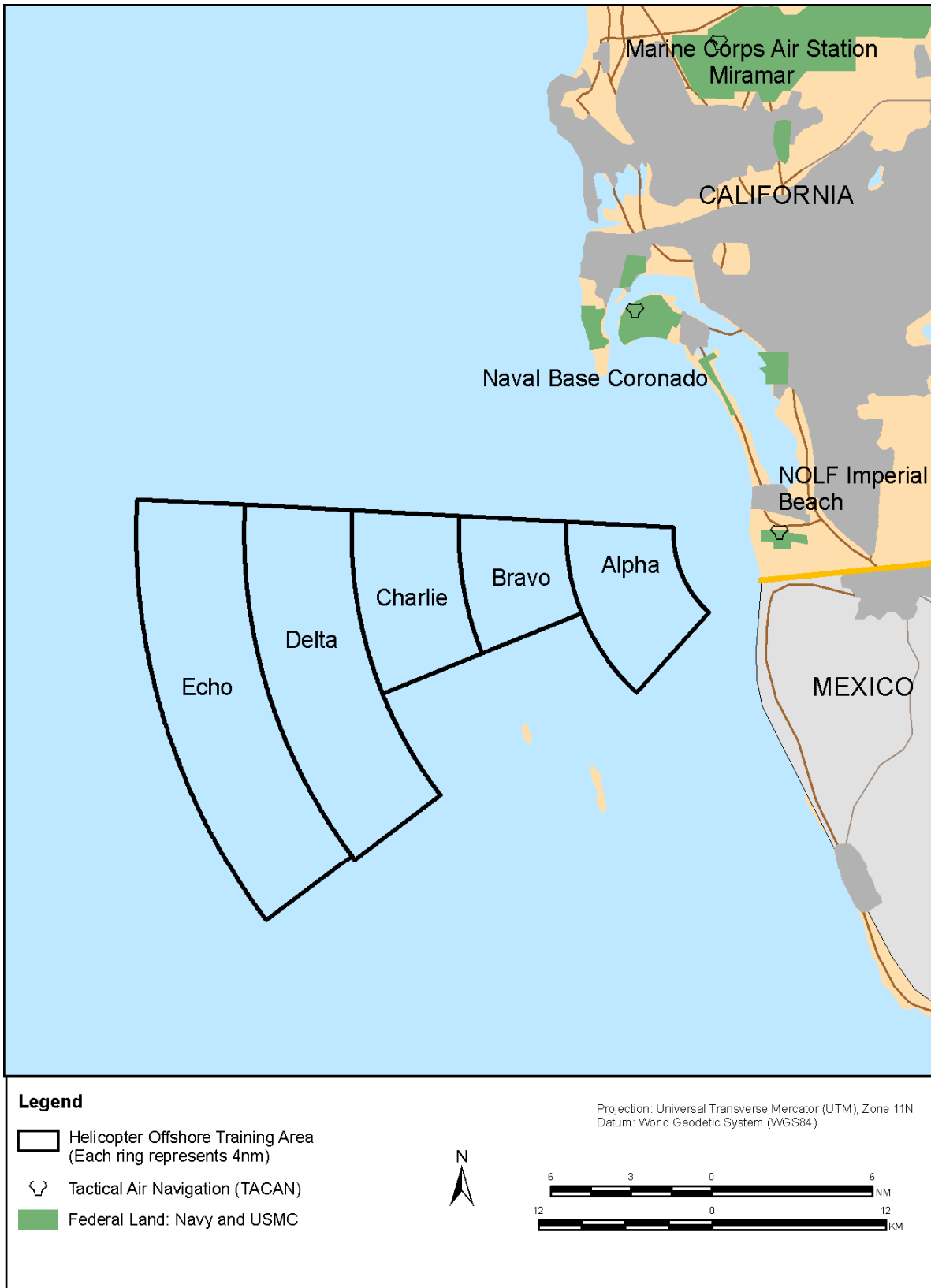


Figure 3.14-2. Helicopter Operating Areas

Impacts to the viewshed from coastal Southern California may change slightly in relation to the baseline No Action Alternative; however, most would take place well beyond shore, and out of sight. Therefore the change is not considered substantial.

3.14.2.3.2 San Clemente Island

Operations on SCI will increase by 45 percent relative to the No Action Alternative. All training on SCI only affects military personnel; as a result socioeconomic impacts do not and will not occur as a result of the Proposed Action.

3.14.2.4 Alternative 2

3.14.2.4.1 SOCAL Operating Areas

The increase in operations from Alternative 2 over the SOCAL OPAREAs amounts to 26 percent of all operations in the offshore areas. The increased training tempo associated with range clearance will not cause a considerable impact due to advanced public notification and primarily short-term duration of military activities. As described above under the Alternative 1 discussion, commercial fishermen and other users can more efficiently plan their trips into the SOCAL Range Complex. To minimize potential military/civilian interactions, the Navy will continue to publish scheduled operation times and locations up to 6 months in advance. This ensures that commercial and recreational users are aware of the Navy's plans, and allows users to plan their activities to avoid the scheduled activity (DoN 2007).

The increase in offshore training will not limit access to surf breaks or beaches on the mainland, Catalina Island, or Santa Barbara Island. Other than training at the CPAAA, Navy training does not occur close enough to shore to limit access to beaches or surf breaks. Public access has not historically been available at CPAAA; therefore, this does not constitute a change in access. Access to surf breaks surrounding SCI and at Cortes Bank may be temporarily limited during training; however, users will be forewarned, the duration of closure is limited, and the number of users is limited.

Impacts to the viewshed from coastal Southern California may change slightly in relation to the baseline No Action Alternative; however, most would take place well beyond shore, and out of sight. Therefore the change is not considered substantial.

The Navy's proposed mine training range is proposed for Tanner Bank. The minefield would be a maximum of 3 by 3 nm. Due to the small size of the minefield and the limited use of trawling and trolling in the SOCAL Range Complex, effects are expected to be minimal.

Shallow Water Training Range (SWTR) installation is not expected to affect fishing interests in the SOCAL Range Complex because areas with known fishing activity will have an additional protective device installed surrounding or overlaying a sensor. These mechanical protective devices would be 3 to 4 ft (0.9 to 1.2 m) in diameter or rectangular with a shallow height. This would ensure that minimal effects are encountered due to Navy operations.

3.14.2.4.2 San Clemente Island

Operations on SCI will increase by 62 percent. All training on SCI only affects military personnel; as a result socioeconomic impacts do not and will not occur as a result of the Proposed Action.

3.14.3 Mitigation Measures

Current mitigation measures are discussed under Sections 3.14.1.1.2 and 3.14.1.2.2. In addition, the Navy plans to use protective devices surrounding and/or overlaying equipment placed on the ocean bottom. These devices serve both to protect the equipment and prevent entanglement with fishing gear.

3.14.4 Unavoidable Adverse Environmental Effects

The Proposed Action could result in periodic shifts in the locations that civilian users could access. However, due to mitigation measures the Navy does not foresee unavoidable adverse effects.

3.14.5 Summary of Effects by Alternative

Table 3.14-2 summarizes the effects and mitigation measures related to socioeconomics for the No Action Alternative, Alternative 1, and Alternative 2.

Table 3.14-2: Summary of Socioeconomic Effects

Alternative	NEPA (On-Land and U.S. Territorial Waters)	EO 12114 (Non-U.S. Territorial Waters)
No Action Alternative	<ul style="list-style-type: none"> • Only military populations are found at SCI; socioeconomic effects would not have any impact on population centers. • Activities would have no impact on jobs, housing, infrastructure, recreation, or commercial needs at SCI. • No adverse socioeconomic impacts would occur as a result of continuing present operations. 	<ul style="list-style-type: none"> • No adverse socioeconomic impacts would occur as a result of the No Action Alternative.
Alternative 1	<ul style="list-style-type: none"> • Only military populations are found at SCI; socioeconomic effects would not have any impact on population centers. • Activities would have no impact on jobs, housing, infrastructure, recreation, or commercial needs at SCI. • Activities may temporarily impact recreational and/or commercial users; however, notices will be posted and alternative locations will be available, which limits long-term effects. • No adverse socioeconomic impacts would occur as a result of implementation of the proposed action. 	<ul style="list-style-type: none"> • Effects are generally the same as described for the No Action Alternative.
Alternative 2 (Preferred Alternative)	<ul style="list-style-type: none"> • Effects are generally the same as described for Alternative 1. 	<ul style="list-style-type: none"> • Effects are generally the same as described for the No Action Alternative. • No adverse socioeconomic impacts would occur as a result of implementation.
Mitigation Measures	<ul style="list-style-type: none"> • NOTAMs and NOTMARs are published with the appropriate agencies. • SWTR installation will include protective covers in areas where commercial fishing is present. 	<ul style="list-style-type: none"> • All NOTAMs and NOTMARs are published with the appropriate agencies. • SWTR installation will include protective covers in areas where commercial fishing is present.