

**SECTION 5.0
CONSUMPTIVE USES OF LIVING MARINE RESOURCE PRODUCTS**

This section characterizes the consumable goods and products (i.e., commercial kelp harvest, commercial aquaculture, and commercial fishing) that may be affected by the implementation of the proposed Project Integrated Preferred Alternative (IPA).

5.1 CEQA APPLICATION OF SOCIOECONOMIC FACTORS

The California Environmental Quality Act (CEQA) does not require consideration of direct economic or social factors in its impact analyses. The State CEQA Guidelines (Section 15131(a)) state, “[e]conomic or social effects shall not be treated as significant effects on the environment.” Therefore, no significance criteria for the proposed Project IPA’s socioeconomic consequences on commercial and recreational consumptive uses are established. CEQA directs that economic or social effects be addressed only when they cause a physical effect on the environment. This section discusses possible linkages between potential economic or social changes to commercial consumptive use, and associated indirect consequences that could result from revising existing marine protected areas (MPAs) and establishing new MPAs in the south coast study region (SCSR). Detailed analysis and description of methods used in this Draft Environmental Impact Report (EIR) can be found in the Ecotrust Report, *Summary of Potential Impacts of the Integrated Preferred Alternative and the Round 3 Revised South Coast Regional Stakeholder Group Proposals on Commercial and Recreational Fisheries in the South Coast Study Region* (Scholz et al. 2010).

While State CEQA Guidelines have requirements for discussion of terrestrial agricultural resources, there are no guidelines for assessment of aquaculture. Nonetheless, because these issues are of great importance to stakeholders in the region, the following discussion is presented to facilitate understanding of the potential effects of the MPAs on this issue.

5.2 ACTIVITIES SUPPORTING CONSUMPTIVE DEMAND OF MARINE RESOURCES

5.2.1 Commercial Fishing

Commercial fishing is a consumptive use of marine resources in the SCSR. The California Department of Fish and Game (Department) organizes California’s ports geographically into nine port complexes for the purposes of monitoring and compiling statistics on commercial fishery landings. The SCSR includes Santa Barbara (Santa Barbara and Ventura Counties), Los Angeles (Los Angeles and Orange Counties), and San Diego (San Diego County).

Major commercial fisheries within the SCSR include market squid, sea urchin, California spiny lobster, coastal pelagic finfish, spot prawn, and California halibut. The SCSR also

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includes kelp harvest areas and aquaculture leases. Commercial fishing and fishing vessels in the SCSR have declined from 1998 through 2007 (Department 2009, Culver et. al 2007).

Commercial fishermen in the SCSR deploy a variety of gear types, including round haul nets, hook-and-line, trawl, trap, entangling nets, diver, and hand capture (Department 2009). Fishery profiles including landings by market categories within the SCSR can be found in Appendix D of the *Regional Profile of the South Coast Study Region* (Department 2009), available online at http://www.dfg.ca.gov/mlpa/regionalprofile_sc.asp.

5.2.1.2 Kelp Harvesting and Aquaculture

5.2.1.2.1 Kelp Harvesting. Kelp harvest and aquaculture activities also occur in the SCSR. Administrative kelp bed areas in California waters are numbered, defined by compass bearings from known landmarks, and have applicable commercial regulations pertaining to the harvest of giant kelp and bull kelp (see the California Code of Regulations: CCR, Title 14, §165 and 165.5). The entire California coastline is divided into numbered administrative kelp beds, although not all areas currently contain kelp. Administrative kelp beds are designated as closed, leasable, leased, or open. Closed beds may not be harvested. Leased beds are exclusively harvestable by the lessee. Open beds may be harvested by anyone with a kelp harvesting license. Of the 48 kelp beds in the SCSR, 23 are open, 4 are closed, 20 are leasable, and 1 is currently leased.

Giant kelp is harvested from Imperial Beach in San Diego County, near the California/Mexico border, to Santa Cruz (Santa Cruz County). The Department has managed kelp harvesting since 1917. Regulations currently allow kelp to be cut no deeper than 4 feet beneath the surface. Kelp harvesting licenses are required for commercial-use harvesting, but do not restrict season or limit. In 2009, 33 kelp harvesting licenses existed in the SCSR (Department 2009). The SCSR holds an annual average of 36 licenses, and 30,570 tons of kelp is commercially harvested yearly. A small amount of edible seaweed/agar has been harvested at Santa Cruz Island (Department 2009).

5.2.1.2.2 Aquaculture. All aquaculture facilities in the SCSR occupy private lands or state-leased marine water bottoms (Department 2002). Individual owners must register aquaculture facilities with the Department by March 1 of each year. Land-based aquaculture operations occur at the Santa Barbara Harbor and at Aqua Hedionda Lagoon, and include raising abalone, mussels, keyhole limpets, and fishes (Department 2009).

The Department funds a marine hatchery through its Ocean Resources and Enhancement and Hatchery program. The primary function of the program is to provide juvenile white sea bass-rearing pens. These pens are located in Oxnard, San Diego, Mission Bay, Dana Point, Newport Beach, Huntington Harbor, Alamitos Bay, Santa Catalina Island, King Harbor, Marina Del Rey, Port Hueneme, and Santa Barbara (Department 2009).

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State Water Bottom Leases. Santa Barbara County has three active shellfish aquaculture leases. These sites grow oysters, clams, mussels, scallops, and abalone for commercial sale. Shellfish aquaculture operations with active state water bottom leases cover 106.7 acres within the SCSR (Department 2009).

An active water bottom lease must have time remaining on the lease period, currently meet planting and harvesting requirements as set forth in 14 CCR 237(i) and (j), and be approved by the California Fish and Game Commission (Commission). The boundary and acreage of a specified state water bottom parcel are defined in a lease, as well as the terms and conditions of usage of that area for a specified time. The annual cost is based on a rate per acre as a result of competitive bidding in a lease auction. The Commission must approve any changes to terms or conditions in the lease (Department 2009).

Thirty-six of the 106.7 acres leased are in use. Santa Barbara Mariculture Company uses 36 of 71.7 leased acres for farming rock, speckled, and Japanese scallops; manila clams; Pacific and Kumamoto oysters; and Mediterranean mussels. Culture practices include longline, rafts, rack and bag, longline on stakes, rack and tray, groundline and bag, bottom culture, and floats. Neushul Mariculture, Inc. uses 1 of 25 leased acres for algae cultivation. Eaglenet Sea Farms, Inc. uses none of the 10 leased acres for red abalone cultivation by anchored ocean habitats (Department 2009).

5.3 CONSEQUENCES FOR AQUACULTURE, KELP HARVEST, AND COMMERCIAL FISHING RESOURCE AVAILABILITY

Adaptive management is a part of the MLPA. The MLPA requires monitoring to determine whether its goals are being met. If the goals of the MLPA (see Section 3.2) are not being met, then either regulatory or management changes could occur to try and meet the goals.

5.3.1 Commercial Fisheries Displacement

Commercial fisheries that have the greatest potential to be affected by the proposed Project are those that occur primarily or significantly within the SCSR and target primarily resident, nonmigratory species, or species that are highly mobile but spawn and are harvested in nearshore waters. The nearshore waters along the coast contain large rocky reefs, kelp beds, and expanses of soft bottom that provide habitats for numerous species. These may include nearshore and shelf rockfishes, lingcod, cabezon, kelp greenling, California halibut, butterfish, jacksmelt, surfperches, squid, Dungeness crab, and rock crab (Department 2009).

The Ecotrust Report characterizes the spatial extent and relative importance of fishing grounds for 15 commercial fisheries in the SCSR including: California halibut (hook and line, and trawl); pelagics (northern anchovy and Pacific sardine); California spiny lobster; Cabezon, greenling, and rockfish (nearshore fishery hook and line); rock crab (nearshore fishery trap); sablefish (blackcod); sea cucumber (diving and trawl); spot prawn; market

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squid; swordfish; thornyhead; and red sea urchin. The Ecotrust Report collected spatial information in the summer and fall of 2008 from representative ports of call within the SCSR. The data was used to evaluate the potential socioeconomic consequences on the commercial fishing grounds under the proposed Project IPA, and is presented in Table 5-1. The proposed Project IPA identifies a maximum potential displacement of important commercial fisheries by area, from 47 percent (for both sablefish [blackcod] and thornyhead in San Pedro/Terminal Island, Dana Point, and Oceanside) to 0 percent (for spot prawn in Ventura). Maximum potential displacement of important commercial fisheries by value would vary from 44.9 percent (for thornyhead in Dana Point) to 0 percent (for nearshore fishery trap and spot prawn in Ventura, and rock crab in Port Hueneme and San Pedro). The proposed Project IPA would potentially affect 8.3 percent (by area) and 8 percent (by value) of the important fishing grounds in the SCSR.

Existing MPAs surrounding the northern Channel Islands and Santa Barbara Island, in the southern Channel Islands, would be retained without modification under the proposed Project IPA. No change in the existing status of fishing available areas would occur in that portion of the SCSR.

Some commercial fisheries may be disproportionately affected¹ by the proposed Project IPA (see Table 5-2). The disproportionate effects over-estimate the socioeconomic consequences, because the report does not account for the existing MPAs within the SCSR.

The data indicates that the nearshore trap fishery in Dana Point would be disproportionately affected in the proposed Project IPA.

¹ Disproportionately effected commercial fisheries were assessed in the Ecotrust Report by using a box plot analysis to identify outliers within each fishery (calculated using estimated effect on stated value of total fishing grounds minus the Channel Islands data). In a box plot analysis, outliers are defined as extreme values that deviate significantly from the rest of the sample.

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**TABLE 5-1
PERCENTAGE AREA AND VALUE OF TOTAL COMMERCIAL FISHING
GROUNDS AFFECTED, BY PORT**

Port/Fishery	Proposed Project IPA		Existing Condition (Alternative 0)	
	Area	Value	Area	Value
Santa Barbara				
California Halibut (Hook & Line)	9.1%	15.1%	3.7%	5.6%
California Halibut (Trawl)	3.1%	6.3%	0.0%	0.0%
Coastal Pelagics	NA	NA	NA	NA
Live Bait	NA	NA	NA	NA
California Spiny Lobster	9.8	9.7	5.8	3.4
N. Fishery (Hook & Line)	14.4	13.0	9.8	9.4
N. Fishery (Trap)	7.7	9.3	1.6	4.3
Rock Crab	9.5	10.2	3.9	4.0
Sablefish (blackcod)	NA	NA	NA	NA
Sea Cucumber (Dive)	15.9	12.6	10.4	9.9
Sea Cucumber (Trawl)	2.0	3.0	0.0	0.0
Spot Prawn	12.9	12.6	0.0	0.0
Market Squid	NA	NA	NA	NA
Swordfish	NA	NA	NA	NA
Thornyhead	NA	NA	NA	NA
Red Sea Urchin	13.3	8.1	7.2	6.6
Ventura				
California Halibut (Hook & Line)	14.0	9.6	9.2	7.0
California Halibut (Trawl)	NA	NA	NA	NA
Coastal Pelagics	NA	NA	NA	NA
Live Bait	NA	NA	NA	NA
California Spiny Lobster	1.8	1.3	0.1	0.0
N. Fishery (Hook & Line)	NA	NA	NA	NA
N. Fishery (Trap)	12.8	0.0	10.5	0.0
Rock Crab	1.8	3.5	1.8	3.5
Sablefish (blackcod)	NA	NA	NA	NA
Sea Cucumber (Dive)	14.6	14.5	11.7	0.3
Sea Cucumber (Trawl)	NA	NA	NA	NA
Spot Prawn	0.0	0.0	0.0	0.0
Market Squid	7.7	4.4	3.1	3.0

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**TABLE 5-1 (CONTINUED)
PERCENTAGE AREA AND VALUE OF TOTAL COMMERCIAL FISHING
GROUNDS AFFECTED, BY PORT**

Port/Fishery	Proposed Project IPA		Existing Condition (Alternative 0)	
	Area	Value	Area	Value
Swordfish	NA	NA	NA	NA
Thornyhead	NA	NA	NA	NA
Red Sea Urchin	NA	NA	NA	NA
Port Hueneme				
California Halibut (Hook & Line)	12.4	8.5	7.1	6.2
California Halibut (Trawl)	NA	NA	NA	NA
Coastal Pelagics	7.2	3.5	3.8	0.8
Live Bait	NA	NA	NA	NA
California Spiny Lobster	3.5	4.7	1.0	3.1
N. Fishery (Hook & Line)	15.7	20.8	7.0	0.2
N. Fishery (Trap)	6.3	1.3	0.0	0.0
Rock Crab	1.3	0.0	0.0	0.0
Sablefish (blackcod)	NA	NA	NA	NA
Sea Cucumber (Dive)	15.8	16.9	9.5	14.2
Sea Cucumber (Trawl)	NA	NA	NA	NA
Spot Prawn	25.6	26.1	25.6	26.1
Market Squid	9.4	5.3	4.0	2.9
Swordfish	NA	NA	NA	NA
Thornyhead	NA	NA	NA	NA
Red Sea Urchin	7.5	7.8	5.5	3.4
San Pedro/Terminal Island				
California Halibut (Hook & Line)	NA	NA	NA	NA
California Halibut (Trawl)	NA	NA	NA	NA
Coastal Pelagics	7.4	4.1	3.0	0.5
Live Bait	2.5	1.2	0.0	0.0
California Spiny Lobster	5.9	6.0	0.4	0.1
N. Fishery (Hook & Line)	14.6	12.7	8.6	6.7
N. Fishery (Trap)	5.9	7.2	0.0	0.0
Rock Crab	1.5	0.0	0.0	0.0
Sablefish (blackcod)	47.0	28.0	0.0	0.0
Sea Cucumber (Dive)	15.1	10.1	7.1	1.8

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**TABLE 5-1 (CONTINUED)
PERCENTAGE AREA AND VALUE OF TOTAL COMMERCIAL FISHING
GROUNDS AFFECTED, BY PORT**

Port/Fishery	Proposed Project IPA		Existing Condition (Alternative 0)	
	Area	Value	Area	Value
Sea Cucumber (Trawl)	NA	NA	NA	NA
Spot Prawn	4.2	1.3	0.0	0.0
Market Squid	8.3	4.4	3.6	2.2
Swordfish	NA	NA	NA	NA
Thornyhead	47.0	40.9	0.0	0.0
Red Sea Urchin	8.8	9.7	5.9	3.4
Dana Point				
California Halibut (Hook & Line)	NA	NA	NA	NA
California Halibut (Trawl)	NA	NA	NA	NA
Coastal Pelagics	NA	NA	NA	NA
Live Bait	5.1	6.3	0.0	0.0
California Spiny Lobster	4.6	8.5	0.0	0.0
N. Fishery (Hook & Line)	NA	NA	NA	NA
N. Fishery (Trap)	14.1	28.0	0.0	0.0
Rock Crab	10.8	9.7	0.0	0.0
Sablefish (blackcod)	47.0	28.0	0.0	0.0
Sea Cucumber (Dive)	NA	NA	NA	NA
Sea Cucumber (Trawl)	NA	NA	NA	NA
Spot Prawn	9.6	6.8	0.0	0.0
Market Squid	NA	NA	NA	NA
Swordfish	1.7	8.2	0.9	1.6
Thornyhead	47.0	44.9	0.0	0.0
Red Sea Urchin	4.3	3.0	0.0	0.0
Oceanside				
California Halibut (Hook & Line)	NA	NA	NA	NA
California Halibut (Trawl)	NA	NA	NA	NA
Coastal Pelagics	NA	NA	NA	NA
Live Bait	3.0	0.3	0.0	0.0
California Spiny Lobster	7.3	9.5	0.5	0.4
N. Fishery (Hook & Line)	NA	NA	NA	NA
N. Fishery (Trap)	7.1	2.2	0.0	0.0

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**TABLE 5-1 (CONTINUED)
PERCENTAGE AREA AND VALUE OF TOTAL COMMERCIAL FISHING
GROUNDS AFFECTED, BY PORT**

Port/Fishery	Proposed Project IPA		Existing Condition (Alternative 0)	
	Area	Value	Area	Value
Rock Crab	4.5	0.1	0.0	0.0
Sablefish (blackcod)	47.0	28.0	0.0	0.0
Sea Cucumber (Dive)	NA	NA	NA	NA
Sea Cucumber (Trawl)	NA	NA	NA	NA
Spot Prawn	8.5	12.9	0.0	0.0
Market Squid	NA	NA	NA	NA
Swordfish	NA	NA	NA	NA
Thornyhead	47.0	43.9	0.0	0.0
Red Sea Urchin	19.3	5.2	0.0	0.0
San Diego				
California Halibut (Hook & Line)	NA	NA	NA	NA
California Halibut (Trawl)	NA	NA	NA	NA
Coastal Pelagics	NA	NA	NA	NA
Live Bait	2.5	2.7	0.0	0.0
California Spiny Lobster	5.9	12.1	0.0	0.0
N. Fishery (Hook & Line)	4.8	8.0	0.0	0.0
N. Fishery (Trap)	5.9	12.1	0.0	0.0
Rock Crab	8.3	3.1	0.0	0.0
Sablefish (blackcod)	NA	NA	NA	NA
Sea Cucumber (Dive)	6.4	2.9	0.0	0.0
Sea Cucumber (Trawl)	NA	NA	NA	NA
Spot Prawn	12.2	12.7	0.0	0.0
Market Squid	NA	NA	NA	NA
Swordfish	0.8	0.8	0.1	0.1
Thornyhead	NA	NA	NA	NA
Red Sea Urchin	13.2	8.0	0.0	0.0

Source: Ecotrust, Scholz et al. 2010.

NOTE: NA = data not available.

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**TABLE 5-2
DISPROPORTIONATELY AFFECTED COMMERCIAL FISHERIES**

Port	Fishery	Estimated Effect on Stated Value of Total Fishing Grounds
Proposed Project IPA		
Dana Point	N. Fishery (Trap)	28.00%
Alternative 1		
Dana Point	N. Fishery (Trap)	29.30%
Oceanside	Red Sea Urchin	60.90%
Alternative 2		
Oceanside	Red Sea Urchin	38.70%
Alternative 3		
Dana Point	N. Fishery (Trap)	29.50%
Santa Barbara	California Halibut (Hook & Line)	16.20%

Source: Scholz et al. 2010.