

Summary of potential impacts of the Channel Islands MPAs on commercial and recreational fisheries in the South Coast Study Region

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1. Introduction

This report presents information on the potential impacts of the Channel Islands network of Marine Protected Areas (MPAs) in the South Coast Study Region (SCSR). It is meant to be read in conjunction with the *Summary of potential impacts on commercial and recreational fisheries in the SCSR* report.

The Channel Islands network, which was established by California Fish and Game Commission (CFGF) in 2002 and expanded by the National Oceanic and Atmospheric Administration (NOAA) in 2006 and 2007, encompasses 241 square nautical miles (or 318 square miles). It consists of 11 marine reserves where all harvest and take is prohibited (Richardson Rock, Harris Point, Carrington Point, Scorpion, Anacapa Island, Footprint, Gulf Island, Skunk Point, South Point, Judith Rock, and Santa Barbara Island) and two marine conservation areas that allow limited take of lobster and/or pelagic fish (Painted Cave and Anacapa Island). It should be noted that our evaluation is not connected in any way with the socioeconomic evaluation done during the establishment of the Channel Islands network, nor should the results presented here be compared to or used in conjunction with that assessment.

The Channel Islands network was originally set to be reconsidered during the marine planning process (i.e., stakeholders would be given the opportunity to propose changes to the siting of the existing MPAs). However, it was later decided that the Channel Islands MPAs would not be changed. Therefore, the potential impacts of the Channel Islands MPAs will be the same under all the alternative MPA proposals and any comparison of the proposals should separate out the impacts of the Channel Island MPAs.

This report evaluates the potential impacts of the Channel Island MPAs on commercial, commercial passenger fishing vessel (CPFV), and recreational fishing grounds in terms of both area and value. It also assesses the reduction in net economic revenue (i.e., profit) and gross economic revenue for the commercial and CPFV fisheries. We report commercial and CPFV results by study region. We report recreational results by user group (i.e., dive, kayak, and private vessel) and by county.

By subtracting the Channel Islands impacts presented in this report from the total impacts in the *Summary of potential impacts on commercial and recreational fisheries in the SCSR* report, stakeholders can more easily compare the alternative MPA proposals. For example, if the total impact of a MPA proposal is a 19% reduction in net economic revenue, but 5% of this reduction comes from the Channel Island MPAs, then stakeholders can only control 14% of the impact (i.e., the minimum impact of their proposal is a 5% reduction in net economic revenue assuming zero impact elsewhere in the SCSR).

The calculations in this analysis are performed the same way as the calculations in the *Summary of potential impacts on commercial and recreational fisheries in the SCSR* report. For detailed information on how the data used in this analysis were collected and/or the analyzed, please see our *Draft survey methods and summary statistics for Ecotrust's South Coast Study Region fishery uses and values project* (presented to the RSG on 3/3/2009). For information on the methods used to evaluate these data, please see Section 12 of the *SAT draft methods used to evaluate marine protected area proposals for the MLPA South Coast Study Region*.

The remaining sections of this document summarize the potential impacts. For more detailed statistics, please see the tables in the Appendix.

In all tables presented, a 'dashed line' represents a fishery that does not occur or a fishery for which insufficient data was collected to merit presentation.

2. Results for Commercial Fisheries

We summarize here our analyses of the potential impacts of the Channel Islands MPAs on the 15 commercial fisheries (i.e., Ca. Halibut (Hook & Line), Ca. Halibut (Trawl), Coastal Pelagics, Lobster, N. Fishery (Hook & Line), N. Fishery (Trap), Rock Crab, Sablefish, Sea Cucumber (Diving), Sea Cucumber (Trawl), Spot Prawn, Squid, Swordfish, Thornyhead, and Urchin). The commercial fisheries results are broken out by port (i.e., Santa Barbara, Ventura, Port Hueneme, San Pedro, Dana Point, Oceanside, and San Diego).

2.1 Potential Impacts on Commercial Fishing Grounds (Area and Value)

As mentioned previously, this report only presents results. Evaluation methods are presented in a separate document. For information on the potential impacts on commercial fishing grounds for the 65 port-fishery combinations considered (both in terms of total area and total value), please see Tables A.1 and A.2 in the Appendix.

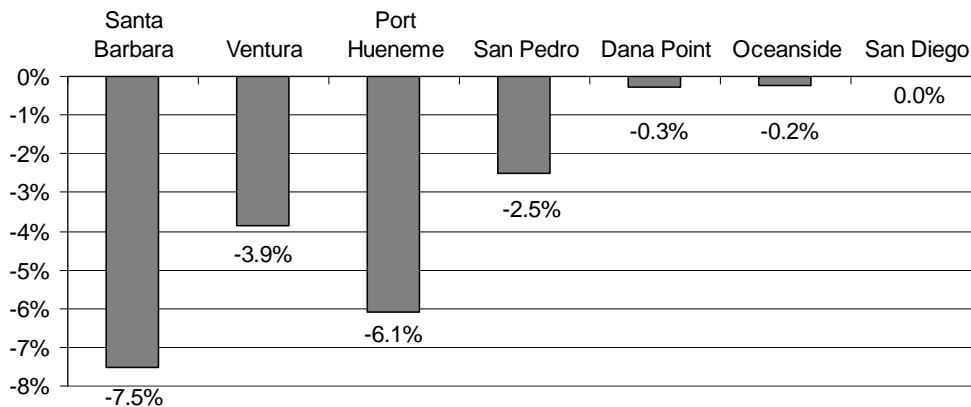
2.2 Potential Net Economic Impacts on Commercial Fisheries

A key assumption of this analysis is that the Channel Island MPAs completely eliminate fishing opportunities in areas closed to specific fisheries and that fishermen are unable to adjust or mitigate in any way. In other words, the analysis assumes that all fishing in an area affected by an MPA is lost completely, when in reality it is more likely that fishermen will shift their efforts areas outside the MPA. The effect of such an assumption is most likely an overestimation of the impacts, or a “worst case scenario.”

The potential annual net economic impacts on SCSR commercial fisheries considered are calculated as a percentage reduction in net economic revenue (i.e., profit). The potential impacts are broken out by port in Table 1 and Figure 1. Santa Barbara is estimated to see the highest potential net economic impact (as a %), while San Diego is estimated to see only minimal impacts. Table 2 shows potential net economic impact by fishery. Sea Cucumber (Diving) is the fishery estimated to see the highest potential net economic impact while Sablefish and Thornyhead are not estimated to see any impacts.

Going forward through subsequent MPA evaluation rounds, the impacts of the Channel Island MPAs will not change; therefore, the net economic impacts in Tables 1–2 and Figure 1 are the minimum possible impacts that any of the alternative MPA proposals could have on the SCSR commercial fisheries.

Figure 1: Estimated Annual Net Economic Impact on Commercial Fisheries by Port (% Reduction in Profit)^{1, 2}



¹ Please note that the y-axis scales for the figures in this report are different from the y-axis scales for the figures in the *Summary of potential impacts on commercial and recreational fisheries in the SCSR* report.

² For all economic impacts, the results are the estimated maximum potential economic impact on average annual net revenue from 2000–07 (in \$2007).

Table 1: Estimated Annual Net Economic Impact on Commercial Fisheries by Port (Reduction in Profit)

Port	Baseline GER	Estimated Costs	Baseline NER (Profit)	\$ Reduction in Profit	Baseline GER	Estimated Costs	Baseline NER (Profit)	% Reduction in Profit
Santa Barbara	\$5,796,804	\$2,761,020	\$3,399,438	\$256,224	100%	48%	52%	7.5%
Ventura	\$5,061,321	\$2,828,803	\$2,232,518	\$86,604	100%	56%	44%	3.9%
Port Hueneme	\$11,061,000	\$6,008,602	\$5,052,398	\$306,853	100%	54%	46%	6.1%
San Pedro	\$20,141,349	\$10,989,464	\$9,151,885	\$227,858	100%	55%	45%	2.5%
Dana Point	\$1,860,091	\$926,136	\$933,955	\$2,458	100%	50%	50%	0.3%
Oceanside	\$987,326	\$481,905	\$505,421	\$1,146	100%	49%	51%	0.2%
San Diego	\$3,093,219	\$1,462,682	\$1,630,538	\$168	100%	47%	53%	0.0%
Study Region	\$48,001,110	\$25,458,611	\$22,906,154	\$881,311	—	—	—	3.8%

Table 2: Estimated Annual Net Economic Impact on Commercial Fisheries (Reduction in Profit)

Fishery	Baseline GER	Estimated Costs	Baseline NER (Profit)	\$ Reduction in Profit	Baseline GER	Estimated Costs	Baseline NER (Profit)	% Reduction in Profit
Ca. Halibut (Hook & Line)	\$108,209	\$56,702	\$51,508	\$4,794	100%	52%	48%	9.3%
Ca. Halibut (Trawl)	—	—	—	—	—	—	—	—
Coastal Pelagics	\$5,889,196	\$3,275,865	\$2,613,331	\$21,043	100%	56%	44%	0.8%
Lobster	\$6,360,856	\$2,921,739	\$3,439,117	\$55,518	100%	46%	54%	1.6%
N. Fishery (Hook & Line)	\$217,200	\$112,075	\$105,125	\$11,668	100%	52%	48%	11.1%
N. Fishery (Trap)	\$372,719	\$190,306	\$182,413	\$1,266	100%	51%	49%	0.7%
Rock Crab	\$1,469,292	\$688,818	\$780,474	\$31,005	100%	47%	53%	4.0%
Sablefish	\$286,809	\$161,330	\$125,479	\$0	100%	56%	44%	0.0%
Sea Cucumber (Diving)	\$500,296	\$248,147	\$252,149	\$32,868	100%	50%	50%	13.0%
Sea Cucumber (Trawl)	—	—	—	—	—	—	—	—
Spot Prawn	\$1,741,435	\$848,554	\$892,881	\$88,006	100%	49%	51%	9.9%
Squid	\$22,459,304	\$12,870,158	\$9,589,146	\$357,317	100%	57%	43%	3.7%
Swordfish	\$366,725	\$242,956	\$123,770	\$2,626	100%	66%	34%	2.1%
Thornyhead	\$648,920	\$335,275	\$313,645	\$0	100%	52%	48%	0.0%
Urchin	\$7,580,148	\$3,400,730	\$4,179,418	\$275,201	100%	45%	55%	6.6%
All Fisheries³	\$48,001,110	\$25,352,655	\$22,648,455	\$881,311	—	—	—	3.9%

³ Santa Barbara Ca. Halibut (Trawl) and Sea Cucumber (Trawl) are not included in this total.

2.3 Potential Gross Economic Impacts on Commercial Fisheries

A key assumption of this analysis is that each of the MPA proposals completely eliminates fishing opportunities in areas closed to specific fisheries and that fishermen are unable to adjust or mitigate in any way. The effect of such an assumption is most likely an overestimation of the impacts, or a “worst case scenario.”

Unlike net economic impact, the calculation of potential gross economic impact does not account for fishermen’s operating costs. Therefore, the percentage reduction in gross economic revenue (2.5%) on SCSR commercial fisheries considered is less than the percentage reduction in net economic revenue (3.9%); however, the dollar reduction in gross economic revenue (\$1,222,527) is greater than the dollar reduction in net economic revenue (\$881,311).

The potential impacts are broken down by port in Table 3 and Figure 2. Table 4 shows potential impacts by fishery. Going forward through subsequent MPA evaluation rounds, the impacts of the Channel Island MPAs will not change; therefore, the gross economic impacts in Tables 3–4 and Figure 2 are the minimum possible impacts that any of the alternative MPA proposals could have on the SCSR commercial fisheries.

Figure 2: Estimated Annual Gross Economic Impact on Commercial Fisheries by Port (% Reduction in Profit)

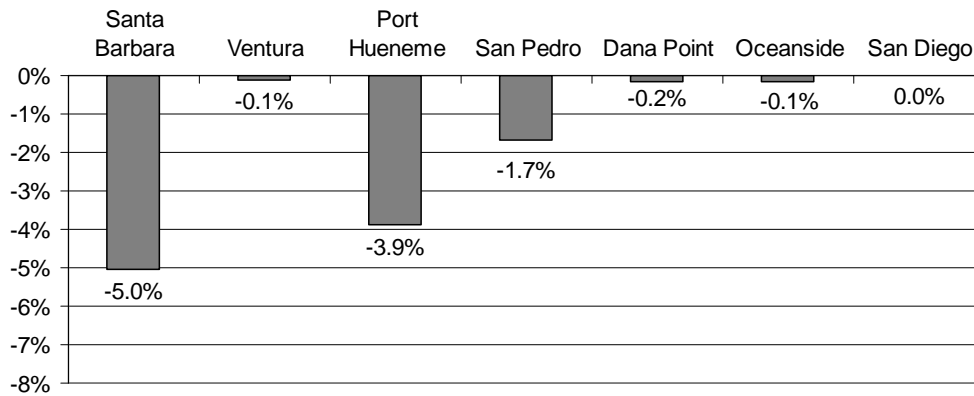


Table 3: Estimated Annual Gross Economic Impact on Commercial Fisheries by Port (Reduction in Profit)

Port	Baseline GER	\$ Reduction in Profit	% Reduction in Profit
Santa Barbara	\$5,796,804	\$310,585	5.0%
Ventura	\$5,061,321	\$5,854	0.1%
Port Hueneme	\$11,061,000	\$431,308	3.9%
San Pedro	\$20,141,349	\$338,475	1.7%
Dana Point	\$1,860,091	\$3,227	0.2%
Oceanside	\$987,326	\$1,402	0.1%
San Diego	\$3,093,219	\$221	0.0%
Study Region	\$48,001,110	\$1,091,072	2.3%

Table 4: Estimated Annual Gross Economic Impact on Commercial Fisheries (Reduction in Profit)

Fishery	Baseline GER	\$ Reduction in Profit	% Reduction in Profit
Ca. Halibut (Hook & Line)	\$108,209	\$6,399	5.9%
Ca. Halibut (Trawl)	—	—	—
Coastal Pelagics	\$5,889,196	\$33,056	0.6%
Lobster	\$6,360,856	\$67,941	1.1%
N. Fishery (Hook & Line)	\$217,200	\$15,114	7.0%
N. Fishery (Trap)	\$372,719	\$1,679	0.5%
Rock Crab	\$1,469,292	\$37,818	2.6%
Sablefish	\$286,809	\$0	0.0%
Sea Cucumber (Diving)	\$500,296	\$41,825	8.4%
Sea Cucumber (Trawl)	—	—	—
Spot Prawn	\$1,741,435	\$111,726	6.4%
Squid	\$22,459,304	\$573,528	2.6%
Swordfish	\$366,725	\$3,448	0.9%
Thornyhead	\$648,920	\$0	0.0%
Urchin	\$7,580,148	\$329,993	4.4%
All Fisheries⁴	\$48,001,110	\$1,222,527	2.5%

⁴ Santa Barbara Ca. Halibut (Trawl) and Sea Cucumber (Trawl) are not included in this total.

3. Results for Commercial Passenger Fishing Vessels (CPFV)

We summarize here our analyses of the potential impacts of the Channel Islands MPAs on the 10 CPFV fisheries (i.e., Barracuda, Ca. Halibut, Calico Bass, Lingcod, Rockfish, Ca. Scorpionfish, Ca. Sheephead, Sand Bass, Whitefish, and White Seabass). The results for CPFV fisheries are broken out by port (i.e., Santa Barbara, Port Hueneme/Channel Islands Harbor, Santa Monica, San Pedro/Long Beach, Newport Beach, Dana Point, Oceanside, and San Diego).

3.1 Potential Impacts on CPFV Fishing Grounds (Area and Value)

For information on the potential impacts on CPFV fishing grounds for the 80 port-fishery combinations considered in this analysis (both in terms of total area and total value), please see Tables A.3 and A.4 in the Appendix.

3.2 Potential Economic Impacts on CPFV Fisheries

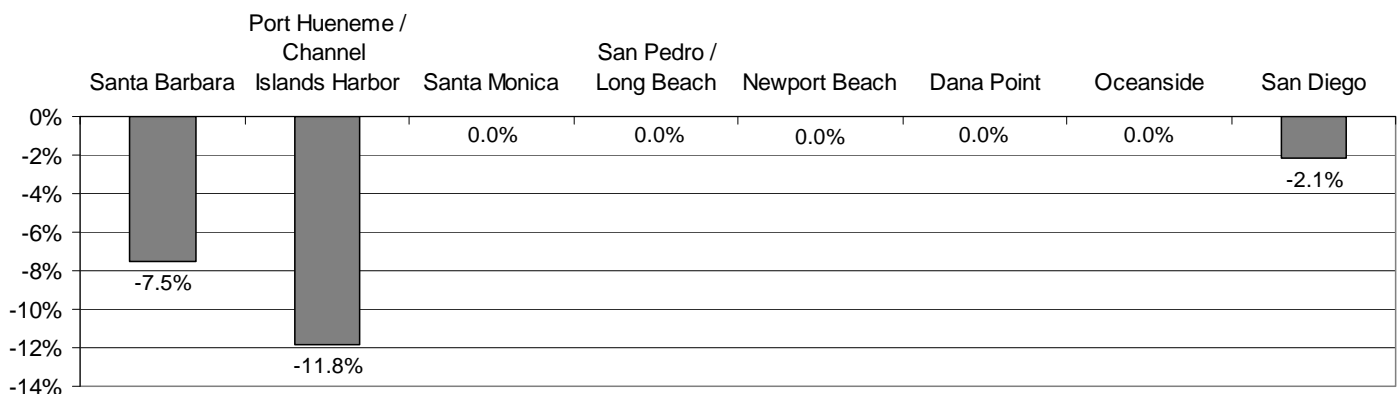
Similar to our analysis of the commercial fisheries, we calculate the potential net economic impact for the CPFV fisheries as the average (i.e., for all 10 species considered) percentage reduction in net economic revenue (i.e., profit). The potential impacts are broken down by port in Table 5 and Figure 3. Port Hueneme/Channel Islands Harbor is estimated to see the highest potential net impacts (as a %), while Santa Monica, San Pedro/Long Beach, Newport Beach, Dana Point, and Oceanside are not estimated to see any impacts.

Going forward through the subsequent MPA evaluation rounds, the impacts of the Channel Island MPAs will not change; therefore, the net economic impacts in Table 5 are the minimum possible impacts that any of the alternative MPA proposals could have on the SCSR CPFV fisheries.

Table 5: Estimated Annual Net Economic Impact on CPFV Fisheries by Port (Reduction in Profit)

Fishery	Baseline GER	Estimated Costs	Baseline NER (Profit)	% Reduction in Profit
Santa Barbara	100%	67%	33%	7.5%
Port Hueneme / Channel Islands Harbor	100%	61%	39%	11.8%
Santa Monica	100%	74%	26%	0.0%
San Pedro / Long Beach	100%	65%	35%	0.0%
Newport Beach	100%	62%	38%	0.0%
Dana Point	100%	79%	21%	0.0%
Oceanside	100%	62%	38%	0.0%
San Diego	100%	82%	18%	2.1%
Study Region	—	—	—	3.0%

Figure 3: Estimated Annual Net Economic Impact on CPFV Fisheries by Port (% Reduction in Profit)



4. Results for Recreational Fisheries

We summarize here our analyses of the potential impacts of the Channel Islands MPAs on the 17 recreational fisheries (i.e., Barracuda, Bonito, Ca. Halibut, Calico Bass, Croaker, Lobster, Mackerels, Rockfish, Rock Crab, Scallops, Sheephead, Sand Bass, Squid, Surf Perch, Thresher Shark, White Seabass, and Yellowtail). The results for recreational fisheries are broken out by user group (i.e., dive, kayak, and private vessel) and by county (i.e., Santa Barbara, Ventura, Los Angeles, Orange, and San Diego).

4.1 Potential Impacts on Recreational Fishing Grounds (Area and Value)

Due to the large number of fisheries, user groups, and counties considered, we present potential impacts on total recreational fishing grounds (both in terms of total area and total value) in Tables A.5–A.6 in the Appendix.

Appendix A: Summary tables of potential impacts

Table A.1 Percentage Area of Total Commercial Fishing Grounds Affected by Port

Fishery	Port						
	Santa Barbara	Ventura	Port Hueneme / Oxnard	San Pedro / Terminal Island / Redondo	Dana Point / Newport	Oceanside	San Diego
Ca. Halibut (Hook & Line)	3.7%	9.2%	7.1%	—	—	—	—
Ca. Halibut (Trawl)	0.0%	—	—	—	—	—	—
Coastal Pelagics	—	—	3.8%	3.0%	—	—	—
Lobster	5.8%	0.1%	1.0%	0.4%	0.0%	0.5%	0.0%
N. Fishery (Hook & Line)	9.8%	—	7.0%	8.6%	—	—	0.0%
N. Fishery (Trap)	1.6%	10.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Rock Crab	3.9%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Sablefish	—	—	—	0.0%	0.0%	0.0%	—
Sea Cucumber (Diving)	10.4%	11.7%	9.5%	7.1%	—	—	0.0%
Sea Cucumber (Trawl)	0.0%	—	—	—	—	—	—
Spot Prawn	0.0%	0.0%	25.6%	0.0%	0.0%	0.0%	0.0%
Squid	—	3.1%	4.0%	3.6%	—	—	—
Swordfish	—	—	—	—	0.9%	—	0.1%
Thornyhead	—	—	—	0.0%	0.0%	0.0%	—
Urchin	7.2%	—	5.5%	5.9%	0.0%	0.0%	0.0%

Table A.2: Percentage Value of Total Commercial Fishing Grounds Affected by Port

Fishery	Port						
	Santa Barbara	Ventura	Port Hueneme / Oxnard	San Pedro / Terminal Island / Redondo	Dana Point / Newport	Oceanside	San Diego
Ca. Halibut (Hook & Line)	5.6%	7.0%	6.2%	—	—	—	—
Ca. Halibut (Trawl)	0.0%	—	—	—	—	—	—
Coastal Pelagics	—	—	0.8%	0.5%	—	—	—
Lobster	3.4%	0.0%	3.1%	0.1%	0.0%	0.4%	0.0%
N. Fishery (Hook & Line)	9.4%	—	0.2%	6.7%	—	—	0.0%
N. Fishery (Trap)	4.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rock Crab	4.0%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Sablefish	—	—	—	0.0%	0.0%	0.0%	—
Sea Cucumber (Diving)	9.9%	0.3%	14.2%	1.8%	—	—	0.0%
Sea Cucumber (Trawl)	0.0%	—	—	—	—	—	—
Spot Prawn	0.0%	0.0%	26.1%	0.0%	0.0%	0.0%	0.0%
Squid	—	3.0%	2.9%	2.2%	—	—	—
Swordfish	—	—	—	—	1.6%	—	0.1%
Thornyhead	—	—	—	0.0%	0.0%	0.0%	—
Urchin	6.6%	—	3.4%	3.4%	0.0%	0.0%	0.0%

Table A.3: Percentage Area of Total CPFV Fishing Grounds Affected by Port

Fishery	Port							
	Santa Barbara	Port Hueneme / Channel Islands	Santa Monica	San Pedro / Long Beach	Newport Beach	Dana Point	Oceanside	San Diego
Barracuda	8.3%	5.9%	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%
Ca. Halibut	9.5%	14.6%	0.0%	0.0%	0.0%	0.0%	0.0%	1.5%
Calico Bass	9.3%	4.5%	0.0%	0.6%	0.0%	0.0%	0.0%	0.2%
Lingcod	7.1%	10.4%	0.0%	0.4%	0.0%	0.0%	0.0%	8.7%
Rockfish	7.2%	11.6%	0.0%	0.3%	0.0%	0.0%	0.0%	9.6%
Ca. Scorpionfish	8.5%	6.9%	0.0%	0.2%	0.0%	0.0%	0.0%	1.2%
Ca. Sheephead	6.6%	5.4%	0.0%	0.1%	0.0%	0.0%	0.0%	1.3%
Sand Bass	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whitefish	9.2%	10.8%	0.0%	0.2%	0.0%	0.0%	0.0%	3.0%
White Seabass	8.1%	10.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%

Table A.4: Percentage Value of Total CPFV Fishing Grounds Affected by Port

Fishery	Port							
	Santa Barbara	Port Hueneme / Channel Islands	Santa Monica	San Pedro / Long Beach	Newport Beach	Dana Point	Oceanside	San Diego
Barracuda	2.7%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%
Ca. Halibut	5.5%	12.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Calico Bass	1.2%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Lingcod	4.8%	10.6%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%
Rockfish	3.7%	12.1%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%
Ca. Scorpionfish	3.7%	4.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%
Ca. Sheephead	5.3%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Sand Bass	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whitefish	8.2%	5.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%
White Seabass	3.6%	6.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%

Table A.5: Percentage Area of Total Recreational Fishing Grounds Affected by County

		Fishery																
County	Sector	Barracuda	Bonito	Ca. Halibut	Calico Bass	Croaker	Lobster	Mackerels	Rockfish	Rock Crab	Scallops	Sheephead	Sand Bass	Squid	Surf Perch	Thresher Shark	White Seabass	Yellowtail
Santa Barbara	Dive			0.2%	0.0%	0.0%	3.4%		2.8%		1.6%						5.4%	3.7%
	Kayak			0.0%	0.0%		0.0%						0.0%			0.0%		
	Private Vessel	0.0%		1.2%	0.0%		0.0%		10.3%				0.0%			0.2%	0.6%	0.0%
Ventura	Dive	0.0%		14.9%	13.6%		7.2%		0.0%		14.2%	0.0%	0.0%				9.1%	13.3%
	Kayak	0.0%		0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
	Private Vessel	6.3%	11.9%	7.9%	3.4%	0.0%	7.5%	0.0%	1.6%							0.0%	6.1%	4.7%
Los Angeles	Dive	0.0%	0.0%	0.6%	0.1%	0.0%	0.6%		0.0%		0.0%	0.0%	0.0%				4.4%	1.7%
	Kayak	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	4.8%	0.0%
	Private Vessel	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.6%			0.5%	0.0%		0.0%	0.0%	0.4%	0.4%
Orange	Dive		0.0%	0.0%	0.0%	0.0%	0.0%		0.0%		0.0%	0.0%	0.0%				0.0%	0.0%
	Kayak	0.0%	0.0%	0.1%	0.0%		0.0%	0.0%	0.0%			0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
	Private Vessel	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%		0.0%	0.0%	0.5%	0.0%
San Diego	Dive	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%		0.0%	0.0%	0.0%				0.0%	0.0%
	Kayak	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
	Private Vessel	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%		0.0%	0.0%	0.0%	0.0%

Table A.6: Percentage Value of Total Recreational Fishing Grounds Affected by County

		Fishery																
County	Sector	Barracuda	Bonito	Ca. Halibut	Calico Bass	Croaker	Lobster	Mackerels	Rockfish	Rock Crab	Scallops	Sheephead	Sand Bass	Squid	Surf Perch	Thresher Shark	White Seabass	Yellowtail
Santa Barbara	Dive			0.0%	0.0%	0.0%	0.4%		0.7%		4.3%						0.9%	0.6%
	Kayak			0.0%	0.0%		0.0%						0.0%			0.0%		
	Private Vessel	0.0%		0.4%	0.0%		0.0%		6.7%				0.0%			0.1%	0.2%	0.0%
Ventura	Dive	0.0%		0.2%	0.2%		1.5%		0.0%		3.7%	0.0%	0.0%				1.1%	12.0%
	Kayak	0.0%		0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
	Private Vessel	6.2%	1.2%	1.0%	2.6%	0.0%	4.6%	0.0%	4.4%							0.0%	2.3%	11.0%
Los Angeles	Dive	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%		0.0%		0.0%	0.0%	0.0%				0.6%	1.0%
	Kayak	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	1.5%	0.0%
	Private Vessel	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%			0.4%	0.0%		0.0%	0.0%	0.1%	0.1%
Orange	Dive		0.0%	0.0%	0.0%	0.0%	0.0%		0.0%		0.0%	0.0%	0.0%				0.0%	0.0%
	Kayak	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%			0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
	Private Vessel	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%		0.0%	0.0%	0.1%	0.0%
San Diego	Dive	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		0.0%		0.0%	0.0%	0.0%				0.0%	0.0%
	Kayak	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	0.0%	0.0%
	Private Vessel	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			0.0%	0.0%		0.0%	0.0%	0.0%	0.0%