

# Chapter B3: Commercial Fishing Valuation

## INTRODUCTION

This chapter presents the results of the commercial fishing benefits analysis for the California region. Section B3-1 details the estimated losses under current, or baseline, conditions. Section B3-2 presents the expected benefits in the region attributable to the rule. Chapter A10 details the methods used in this analysis. All results are for Northern California and Southern California combined.

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Note that all results have been sample weighted in this version. In the final revision results will be reported unweighted.

## B3-1 BASELINE LOSSES

Table B3-1 provides EPA's estimate of the value of gross revenues lost in commercial fisheries resulting from the impingement of aquatic species at facilities in the California region. Table B3-2 displays this information for entrainment. Total annual revenue losses are approximately \$6.1 million, assuming a 3 percent discount rate.

Species	Estimated Pounds of Harvest Lost	Estimated Value of Harvest Lost (in 2002 dollars)		
		Undiscounted	Discounted Using 3% Discount Rate	Discounted Using 7% Discount Rate
Anchovies	3,756	223	214	204
Cabezon	612	2,265	1,941	1,607
California halibut	2,515	6,700	5,213	3,814
Flounders	5,631	2,173	2,082	1,971
Rockfishes	18,877	9,882	7,778	5,787
Sculpins	406	1,037	1,007	971
Smelts	778	209	198	186
Surfperches	3,412	5,475	5,071	4,602
American shad	3	5	4	4
Crabs (commercial)	20	23	21	19
Drums and croakers	6,553	6,621	5,745	4,815
Dungeness crab	2,807	4,711	4,446	4,129
Other (commercial)	179	9	9	8
Shrimp (commercial)	1	1	1	1
California scorpionfish	217	397	325	256
Other (rec. and com.)	2,136	541	509	471
Sea basses (commercial)	2	3	2	2
Other unidentified species (from forage losses)	4,342	1,177	1,059	932
<b>TOTAL</b>	<b>52,248</b>	<b>41,453</b>	<b>35,627</b>	<b>29,778</b>

**Table B3-2: Annual Commercial Fishing Gross Revenues Lost Due to Entrainment at Facilities in the California Region**

Species	Estimated Pounds of Harvest Lost	Estimated Value of Harvest Lost (in 2002 dollars)		
		Undiscounted	Discounted Using 3% Discount Rate	Discounted Using 7% Discount Rate
Anchovies	442	26	24	22
Cabezon	456,096	1,686,720	1,403,524	1,118,679
California halibut	316,710	843,802	637,356	448,884
Flounders	11,970	4,620	4,297	3,915
Rockfishes	9,874,518	5,169,293	3,950,073	2,829,210
Sculpins	16,828	42,994	40,552	37,627
Smelts	36	10	9	8
Crabs (commercial)	12,990	15,009	13,235	11,257
Drums and croakers	57,141	57,733	48,636	39,239
Dungeness crab	33,051	55,465	50,821	45,439
Other (commercial)	8,621	436	399	355
Northern anchovy	128	7	7	6
Shrimp (commercial)	138	137	133	128
Other unidentified species (from forage losses)	614,088	166,453	149,827	131,852
<b>TOTAL</b>	<b>11,402,757</b>	<b>8,042,706</b>	<b>6,298,892</b>	<b>4,666,621</b>

## B3-2 BENEFITS

As described in Chapter A10, EPA estimates that 0 to 40 percent of the gross revenue losses represent surplus losses to producers, assuming no change in prices or fishing costs. The 0 percent estimate, of course, results in loss estimates of \$0. The 40 percent estimates, as presented in the Table B3-3, total approximately \$2.5 million when a 3 percent discount rate is assumed.

The expected reductions in I&E attributable to changes at facilities required by the rule are 30.9 percent for impingement and 21.0 percent for entrainment. Total annual benefits are estimated by applying these estimated reductions to the annual producer surplus loss. As presented in Table B3-3, this results in total annual benefits of \$0.5 million, assuming a 3 percent discount rate.

<b>Table B3-3: Annual Commercial Fishing Benefits Attributable to Phase II Rule at Facilities in the California Region (million 2002\$), Assumes Compliance in 2005</b>			
	<b>Impingement</b>	<b>Entrainment</b>	<b>Total</b>
<b>Baseline loss - gross revenue</b>			
Undiscounted	\$0.04	\$8.04	\$8.08
3% discount rate	\$0.03	\$6.11	\$6.14
7% discount rate	\$0.03	\$4.34	\$4.37
<b>Producer Surplus Lost - Low</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Producer Surplus Lost - High (gross revenue * 0.4)</b>			
Undiscounted	\$0.02	\$3.22	\$3.23
3% discount rate	\$0.01	\$2.44	\$2.46
7% discount rate	\$0.01	\$1.74	\$1.75
<b>Expected reduction due to rule<sup>a</sup></b>	30.9%	21.0%	---
<b>Benefits attributable to rule - Low</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Benefits attributable to rule - High</b>			
Undiscounted	\$0.01	\$0.68	\$0.68
3% discount rate	\$0.00	\$0.51	\$0.52
7% discount rate	\$0.00	\$0.37	\$0.37

<sup>a</sup> Estimated based on EPA's assumptions. EPA's assumption about the amount of electricity that will be produced in the future differs very slightly from DOE's. Using DOE's assumptions, the expected reductions would be 31.4 percent for impingement and 22.9 percent for entrainment.