

Cordell Bank National Marine Sanctuary

Commercial Fisheries- Economic Summary

Economic Impact of the Commercial Fisheries on Local County Economies from Catch in the Cordell Bank National Marine Sanctuary, 2010, 2011 and 2012



Map: Tony Reyer

Map of the CBNMS, California Department of Fish and Wildlife blocks and counties in the study area.



Photo: CBNMS

A fishing vessel departs with pots and traps in the CBNMS.

Introduction

This report estimated the economic impact of commercial fishing within the Cordell Bank National Marine Sanctuary (CBNMS) according to the California Ocean Fish Harvester Economic Model (COFHE). Estimates of harvest revenue (what the fishermen receive when they land their catch at various California ports) were converted to estimates of total output, value added, income and employment (measured in number of full and part-time jobs) using the multipliers in the COFHE Model for each county. Results are presented for years 2010, 2011, 2012 and the three-year average.

Results

Results are estimated for seven counties. Analysis covered 2010, 2011, 2012 and a three-year average. This was done due to volatile fluctuation in some fisheries from year to year.

All indicators for economic impact showed a steady decline over the study

period. From 2010 to 2012, harvest revenue declined by almost 48%, output decreased by almost 49%, value added declined by 53%, total income declined by almost 54% and employment decreased by almost 41%.

According to the three-year average, commercial fishing in the CBNMS earned almost \$993 thousand in harvest revenue, which generated almost \$1.7 million in output, over \$1 million in value added, \$929 thousand in total income and 48 full-time and part-time jobs.

The majority of this economic impact was concentrated in San Francisco and Sonoma counties. For the three-year average, Sonoma County accounted for over 58% of harvest revenue, 61% of output, 59% of value added, 59% of income and 64% of employment. San Francisco County accounted for 23% of harvest revenue, 22% of output, 24% of value added, 24% of income and 13% of employment. Combined the two counties accounted for 96% of harvest revenue, output and value added; 95% of income and 98% of employment.

Definitions of Key Terms (adapted from Hackett et al 2009)

Harvest Revenue: What fishermen receive when they land their catch at various CA ports.

Output: Total industry production, equal to shipments plus net additions to inventory.

Value Added: The value added during production to all purchased intermediate goods and services. This is equal to employee compensation plus proprietor's income plus other property income plus indirect business taxes.

Total Income: Sum of employee compensation, proprietor's income, corporate income, rental income, interest and corporate transfer payments.

Employment: Full- and part-time jobs.

Summary Table of Results, 2010, 2011, 2012 and 3-year Average (2013 \$)

	2010	2011	2012	3-year Average
Harvest Revenue	\$1,444,174	\$777,194	\$757,258	\$992,875
Output	\$2,449,871	\$1,298,182	\$1,259,344	\$1,669,133
Value Added	\$1,593,857	\$780,793	\$745,832	\$1,040,160
Total Income	\$1,431,643	\$695,075	\$660,350	\$929,023
Employment	62	45	36	48

Local County Dependence on Commercial Fish Catch in the CBNMS

Dependence on commercial fish catch in the CBNMS was calculated as the percent of total income by place of residence and by place of work from commercial fishing. In addition, dependence was calculated as the percent of total employment in the study area from commercial fishing. Due to data limitations this analysis could only be completed for year 2010 and 2011.

In 2010, the commercial fisheries directly (and indirectly through the multiplier process) accounted for 0.001% of total income by place of work, 0.001% of the total income by place of residence and 0.003% of all jobs. In 2011, the commercial fisheries accounted for 0.0003% of total income by place of work and 0.0002% of total income by place of residence and 0.002% of jobs in the seven-county study area.

The percent of income by place of residence from commercial fishing in the CBNMS ranged from a high of .005% in Mendocino County in 2011 to a low of 0% in Contra Costa County in 2010. As a percent of total income by place of work, commercial fishing ranged from a high of .01% in Mendocino (2011) and Sonoma (2010) counties to a low of 0% in Contra Costa County in 2010. Employment accounted for from commercial fishing in the CBNMS ranged from a high of .02% in Sonoma County in 2010 to a low of 0% in Contra Costa in 2010.

Methods

For commercial fishing data, the California Department of Fish and Wildlife (CDFW) California Fishing Information System (CFIS) landings receipts database was used for years 2000 through 2012 (CDFW-CFIS 2013). The CDFW-CFIS contains daily landings by CDFW 10-minute by 10-minute blocks where the catch was made and by port and county where landed. Pounds and value of catch (revenue

received by the fishermen) are also reported by species, gear used, and condition of catch when landed (e.g. live, dressed heads off, etc.).

For the economic model, the California Ocean Fish Harvester Economic (COEFH) Model (Hackett et al 2009) was used. This model is based on a survey of the commercial fishing industry to obtain cost-and-earnings by 20 "Operational Categories" or OCs. The OCs are key to the economic impact analyses. OCs are combinations of species, gear type, catch condition, and vessel length. Each OC has its own cost function and multipliers derived from the IMPLAN Input-Output Model.

More Information

The full report can be accessed online at:

http://sanctuaries.noaa.gov/science/conservation/pdfs/cbnms_fishing_report.pdf

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Photo: Cordell Bank Expeditions

A rosy rockfish rests near yellow sponges and strawberry anemones at Cordell Bank.



Photo: GFNMS

A Dungeness crab, the predominant species caught in the CBNMS.