

# Socioeconomic Characterization of West Coast Fisheries in Relation to Offshore Wind Energy Development

NMFS West Coast Regional Office, Northwest Fisheries  
Science Center, Southwest Fisheries Science Center

Oct 2024: Report summary for MPC

This study was funded by the U.S. Department of the Interior, Bureau of Ocean Energy Management (BOEM), Environmental Studies Program, Washington, DC, through Interagency Agreement Number M22PG00032 with the National Oceanic and Atmospheric Administration, concluding 30 September 2023.



**NOAA**  
FISHERIES

# Project Overview

- Funded under BOEM's Environmental Studies Program
  - Oct 2022 to Sept 30, 2023. Report posted: <https://www.boem.gov/boem-2024-054>
- Objective:
  - For BOEM to better understand socioeconomic characteristics of West Coast fisheries in relation to offshore wind (OSW) development
  - Provide additional information to enable BOEM to conduct a more thorough analysis of potential impacts from OSW activities (including siting characterization, leasing, construction and operations, and decommissioning) on fishing sectors and communities.
- Leverage NMFS unique expertise in fisheries socioeconomics
- 4 main sections: Overview of Overview of West Coast Fisheries; Fisheries Socioeconomic Data; Other Coastal Activities; Fisheries Socioeconomic Impact Assessment and Methods

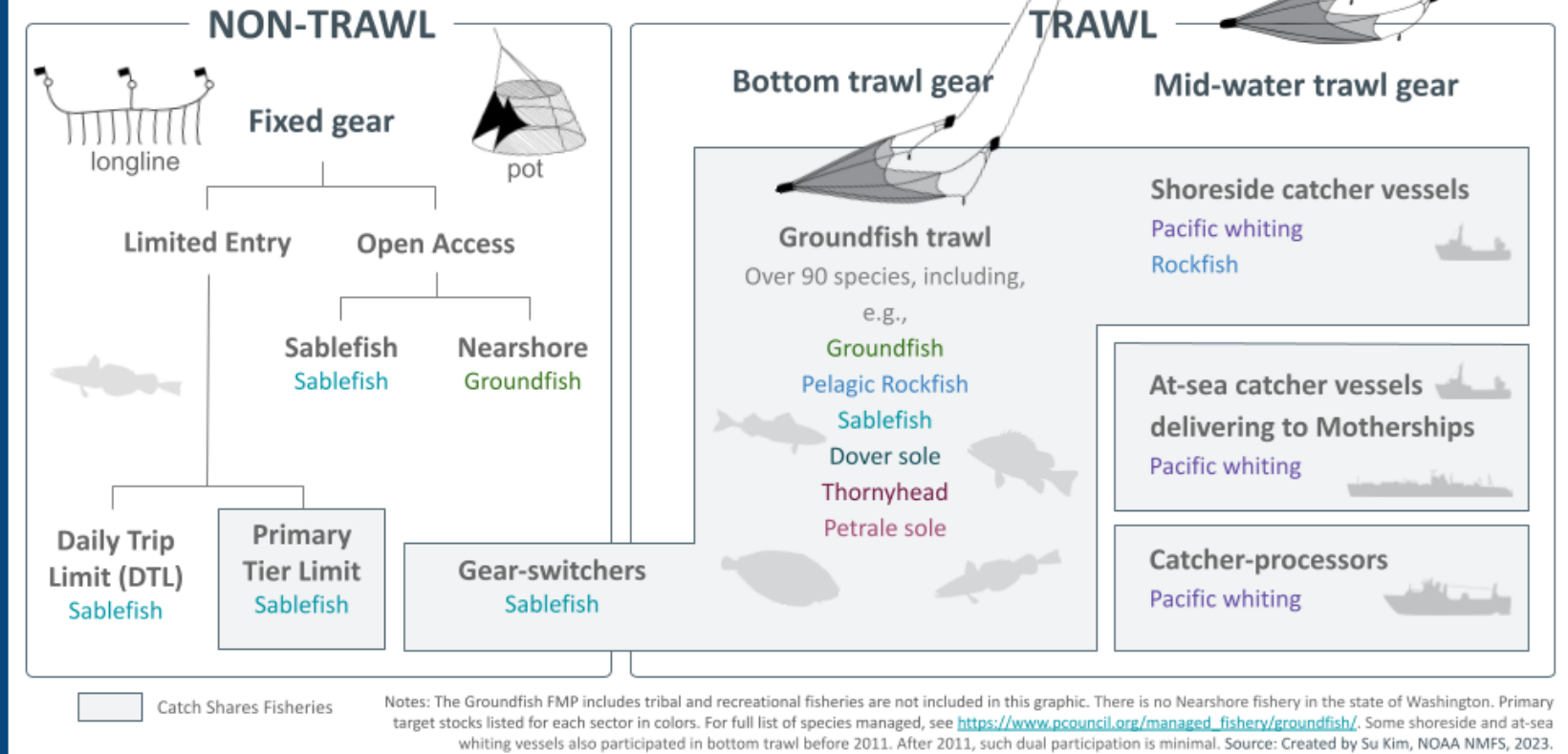
# Section 2: Overview of West Coast Fisheries

- Four Federal fishery management plans (FMPs) developed by the PFMF and are implemented by NMFS
- NMFS is responsible for maintaining the United States' international obligations under treaties and agreements, and as parties to commissions, for salmon, tuna, Pacific halibut, and Pacific whiting (hake).
- Overview of the general legal and management context for tribal fisheries, noting that individual tribes should be engaged directly about their fisheries and potential impacts from offshore wind energy development.



**NOAA**  
**FISHERIES**

# GROUNDFISH FISHERIES MANAGEMENT PLAN



**Figure 9. Sectors within the Groundfish Fishery Management Plan. Page 25.**

Source: Su Kim [graphic design], NWFSC/NOAA 2023.

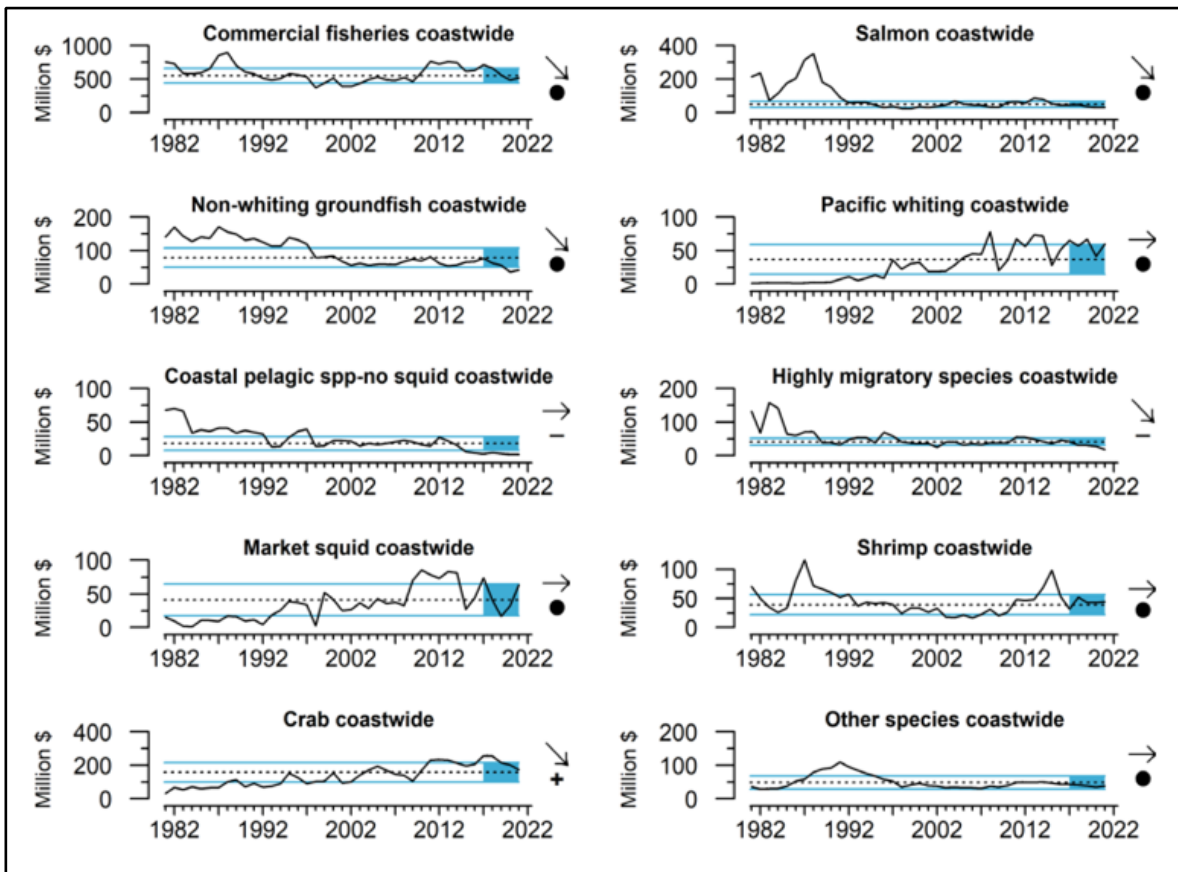
# Section 3: Fisheries socio-economic data

In establishing the MSA, Congress found that collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States.

The MSA requires that fisheries conservation and management measures be based on the *best scientific information available*.

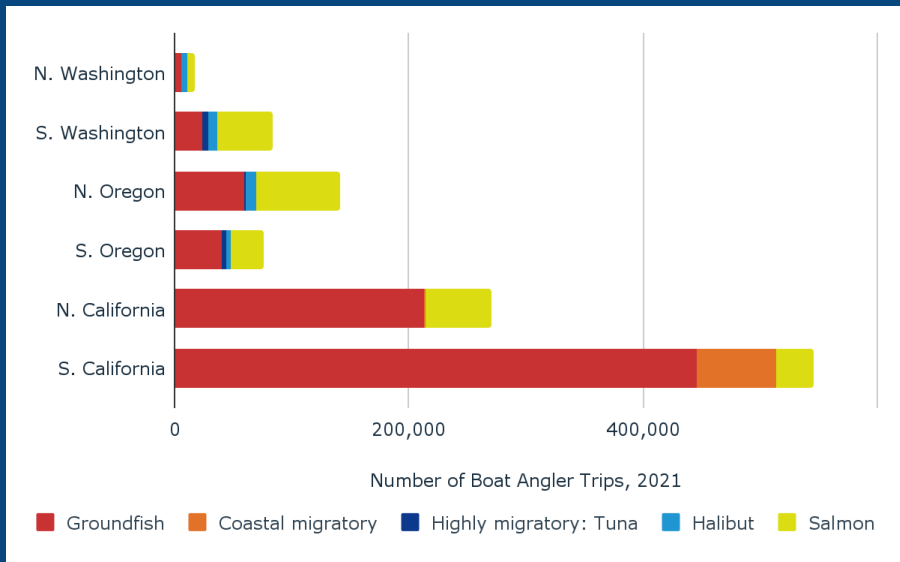
NMFS and state agencies collect large amounts of data from fishing participants to meet both federal and state goals for sustainable fisheries management under the MSA and other applicable state and federal laws.

This led to the creation of the Pacific States Marine Fisheries Commission, and later PacFIN and RecFIN databases.



**Figure 8. Annual ex-vessel value of west coast commercial fisheries, 1982-2021 (\$2021). Page 22.**

Source: NOAA 2022c (Figure O.2.1. Created using PacFIN, which provides data from 1980 to current year, by state and species, accessible using a query tool <https://pacfin.psmfc.org/home/> ).



**Figure 21. Recreational boat angler fishing trips, by trip type (target species management group) and state subregion, 2021. Pg 48.**

Sources: PFMC 2022i; PFMC 2023; RecFIN 2023b

Note: Pacific halibut target trip data not available for California.

**Figure 15. West Coast recreational fishing  
Recreational anglers, fishing effort, catch, target  
species, and trip spending. Pg 43.**

Source: Su Kim [graphic design], NWFSC/NOAA 2023.

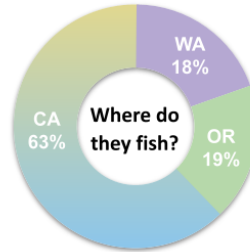
## WEST COAST RECREATIONAL FISHING

### The anglers

15% of U.S. saltwater anglers fish on the West Coast.



65% of anglers live in West Coast counties.



Sources: NOAA 2023 Fisheries Economics of the US 2020 (U.S. residents from in/out-of-state, 2018); Outdoor Foundation and Recreational Boating & Fishing Foundation 2022 (2022 Special Report on Fishing)

### The effort

Each dot represents about 60,000 boat angler trips in 2021.

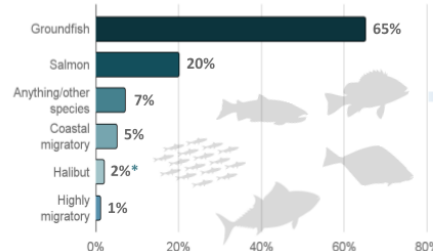
10 out of 20 boat angler trips are off southern California.

### The catch

Almost 6.9 million fish in 2021 caught from boats.

### The target

Percentage of boat angler trips per target management group.



Source: RecFIN, PFMCx  
\*CA halibut effort is not available

### The spend

Total trip spending by anglers: At least \$762 million in 2019 for fuel, bait, ice, charter or guide fees, etc. (2021 dollars)

Source: NOAA 2022x Fisheries Economics of the US 2021 (S2021)  
Does not include spending by anglers fishing off the shores of Washington and Oregon (data unavailable)

Source: RecFIN, PFMCx (not spatially explicit beyond WA, OR, northern and southern CA subregions)



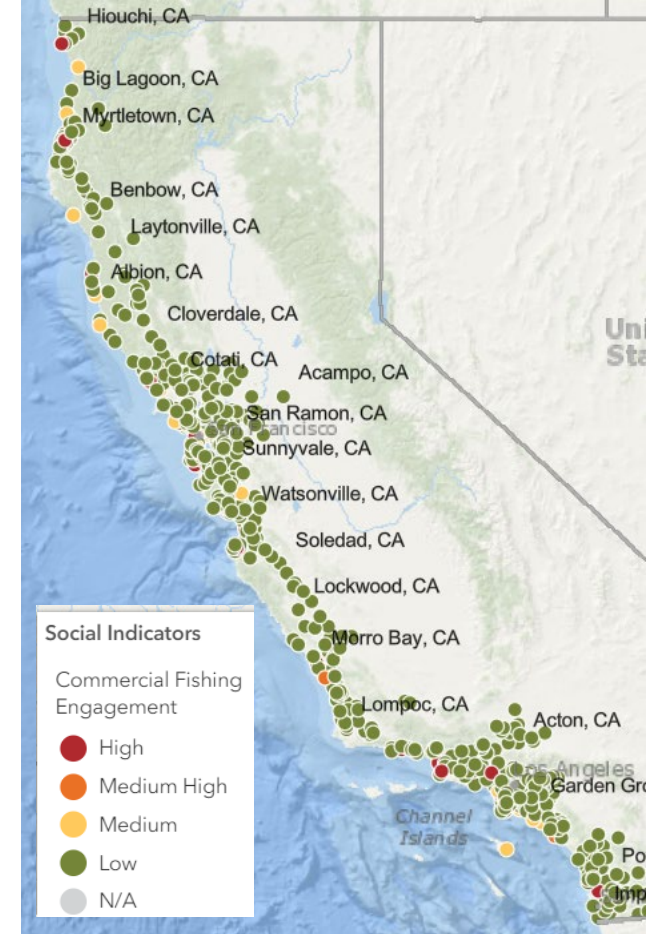
# NMFS' Coastal Community Social Vulnerability Indicators

- Fishing Engagement and Reliance
- Environmental Justice
- Climate Change
- Economics
- Gentrification

**Figure 12. Commercial fishing engagement, CA, 2019**

Source: NMFS <https://www.st.nmfs.noaa.gov/data-and-tools/social-indicators/>

Note: Commercial fishing reliance is also available.

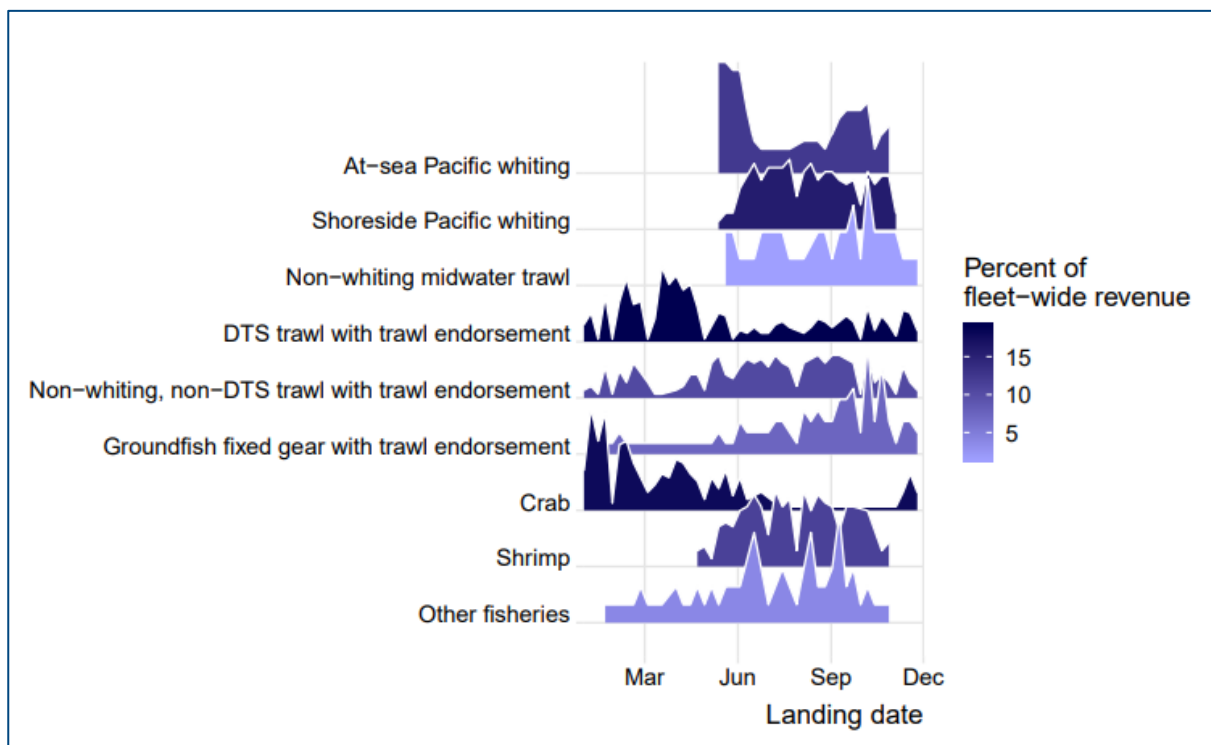


**NOAA**  
FISHERIES



# Section 5: Fisheries Socioeconomic Impact Assessment and Methods

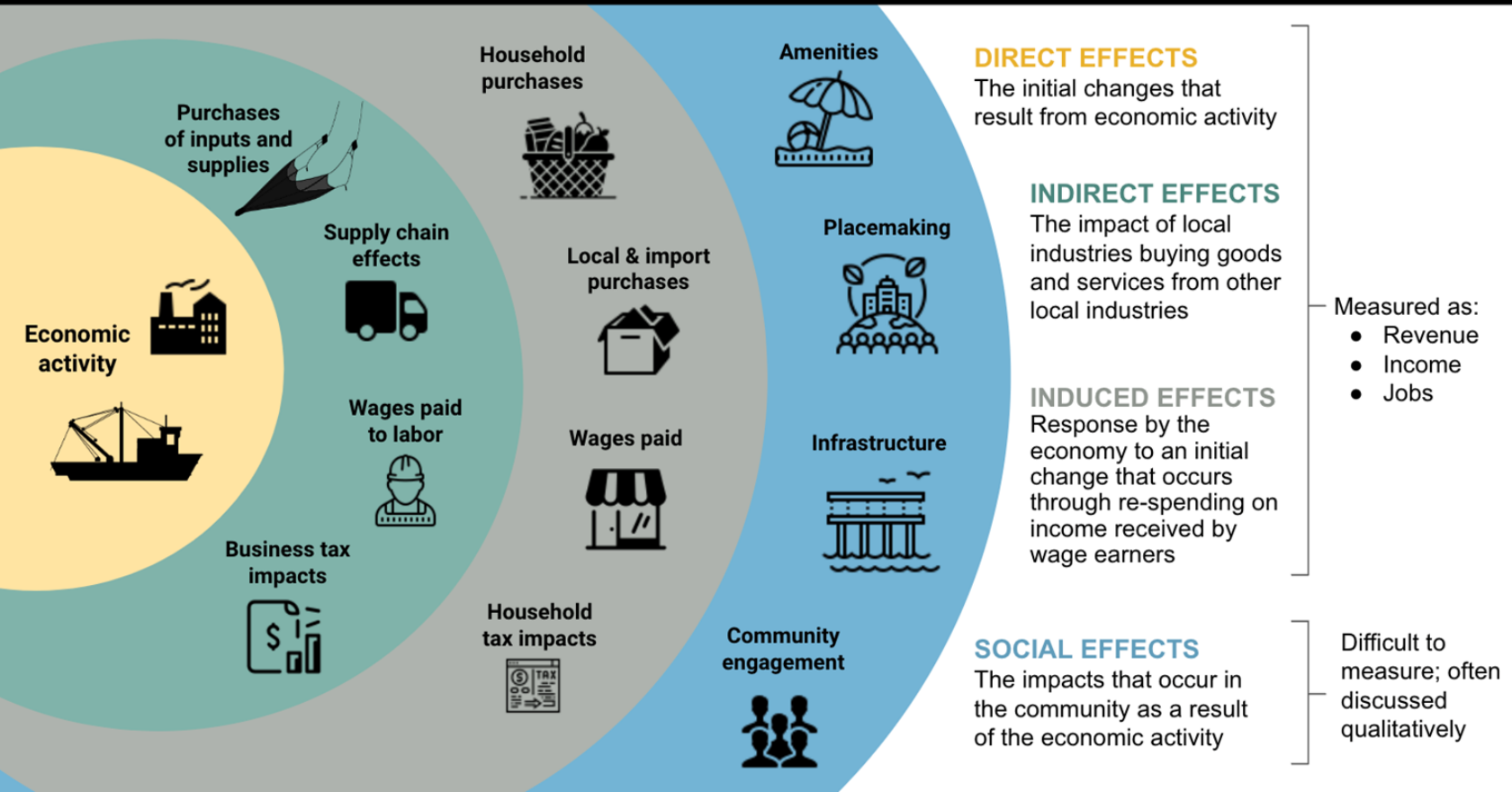
- Fisheries data are collected for fisheries management
- Fisheries socioeconomic analyses conducted by NMFS are required to support NEPA, RIR, RFA, and to varying degrees under the MSA, NEPA, ESA, and other applicable laws



**Figure 29. Proportion of trips by week within each fishery that also participates in the groundfish catch share program, 2016. Pg 75.**

Darker blue indicates a higher proportion of fleet-wide revenue and lighter blue indicates a lower proportion of revenue.  
Source: Reprinted from Steiner 2019.

# HOW DOES THE EFFECT OF AN ECONOMIC ACTIVITY GET TRANSMITTED THROUGH THE ECONOMY?



**Figure 32.  
Pg 79.**

Source:  
[NWFSC/  
NMFS] Su Kim  
[graphic  
design];  
adapted from  
Implan



**NOAA  
FISHERIES**

**Table 29. Comparison of socioeconomic analyses in two proposed fisheries management actions. Pg 82.**

	Groundfish Essential Habitat	Yelloweye Rockfish Management
<b>Type of Analyses</b>	Primarily qualitative due to limited data; likely direction and magnitude of effects [4.1.2.1]	Quantitative and qualitative
<b>Fisheries</b>	Commercial, tribal [p. 4-12]	Commercial, recreational, tribal
<b>Metrics</b>	Commercial effort (hours), landings, ex-vessel revenue	Commercial ex-vessel revenue, income and employment impacts (by community*); recreational effort, income and employment impacts (by community group); tribal landings
<b>Data Sources</b>	PacFIN, vessel logbooks	PacFIN, RecFIN, vessel cost earnings surveys, recreational expenditure
<b>Models Used</b>	None	PFMC Groundfish Management Team commercial catch and recreational fishing effort (angler trips) projection models, landings distribution model, IOPAC

# Additional data needs to support OSW analyses:

## Data likely needed but is not currently in a publicly available form:

- number and location (port) of commercial fishing vessels
- commercial fishing vessel lengths
- location of offshore commercial fishing effort
- number and location of fish buyers
- revenue of fish buyers

## Data likely needed but new data collections would need to be designed:

- number and location (port) of recreational fishing vessels
- location of offshore recreational fishing effort
- characteristics of recreational fishing vessels
- number of land-based (shore/jetty) recreational fishing trips in Oregon and Washington
- operational costs for non-groundfish fisheries
- number, location, and characteristics of fish processing facilities



**NOAA**  
FISHERIES