



**NOAA  
FISHERIES**

National Academies of Sciences  
Committee Meeting #1

NDAA FY2023 - SEC. 11319. (a) Study on Impacts on Shipping and  
Commercial, Tribal, and Recreational Fisheries From Development of  
Renewable Energy on the West Coast

## Study Co-Sponsor Briefing

# NOAA's National Marine Fisheries Service (NMFS)

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NDAA FY2023 - SEC. 11319. (a) STUDY ON IMPACTS ON SHIPPING AND COMMERCIAL, TRIBAL, AND RECREATIONAL FISHERIES FROM DEVELOPMENT OF RENEWABLE ENERGY ON WEST COAST

- (1) .—identify, document, and analyze—
  - (A) historic and current, as of the date of the study, Tribal, commercial, and recreational **fishing grounds**, as well as areas where **fish stocks are likely to shift** in the future in all covered waters;
  - (B) **usual and accustomed fishing areas** in all covered waters;
  - (C) historic, current, and potential future **shipping lanes**, based on projected growth in shipping traffic in all covered waters;
  - (D) current and expected **Coast Guard operations relevant to commercial fishing activities**, including search and rescue, radar, navigation, communications, and safety within and near renewable energy sites; and
  - (E) key **types of data needed to properly site** renewable energy sites on the West Coast, with regard to assessing and mitigating conflicts;
- (2) .—analyze—
  - (A) methods used to **manage fishing, shipping, and other maritime activities**; and
  - (B) potential **future interactions** between such activities and the placement of renewable energy infrastructure and the associated construction, maintenance, and operation of such infrastructure, including **potential benefits and methods of mitigating adverse impacts**; and
- (3) .—review the current **decision-making process for offshore wind** in covered waters, and outline **recommendations** for governmental consideration of all **impacted coastal communities, particularly Tribal governments and fisheries communities**, in the decision-making process for offshore wind in covered waters, including recommendations for—
  - (A) ensuring the appropriate governmental consideration of **potential benefits of offshore wind** in covered waters; and
  - (B) **risk reduction and mitigation** of adverse impacts on **Coast Guard operations** relevant to commercial fishing activities.



# Our Mission

NOAA:  
Science, Service, Stewardship



NMFS:  
Stewardship of the nation's living marine  
resources and their habitat



A fisherman wearing a black hooded jacket and tan pants is standing on the deck of a white boat. He is holding a large, silver fish vertically by its tail. The fish has a dark stripe along its side and a prominent eye. The background shows the side of the boat and the ocean.

**Fisheries**

A sea turtle is swimming in the open ocean. The turtle's head and front flippers are visible above the water's surface, creating a splash. The water is a deep blue with white foam from the waves.

**Protected Species**

An underwater scene showing a dense kelp forest. Sunlight rays penetrate the water from the surface, illuminating the green kelp stalks and leaves. The water has a greenish tint due to the algae.

**Habitat**

**Management & Stock Assessments:**

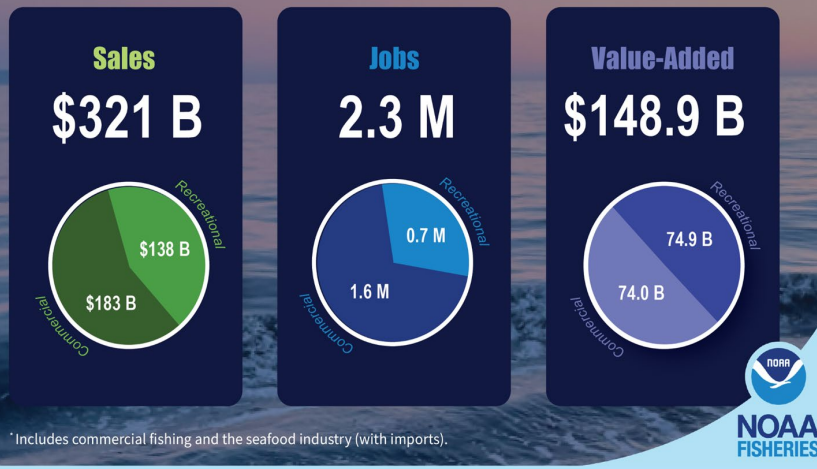
**500** Fish Stocks & Stock Complexes

**120** Marine Mammal Species

**163** Threatened & Endangered Species

# U.S. Commercial and Recreational Fisheries

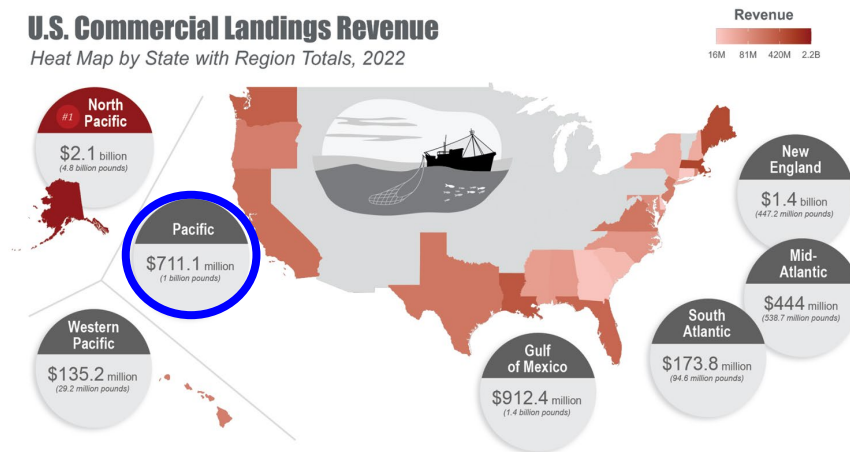
## U.S. Commercial and Recreational Fisheries Economic Impacts, 2022



## Fisheries Economics of the United States, NMFS, 2022

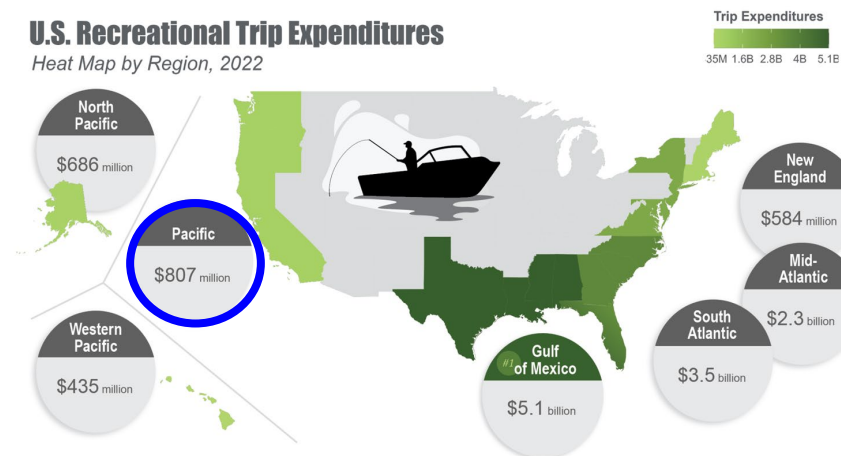
## U.S. Commercial Landings Revenue

Heat Map by State with Region Totals, 2022



## U.S. Recreational Trip Expenditures

Heat Map by Region, 2022





# Magnuson-Stevens Fisheries Conservation and Management Act of 1976 (MSA)

- Primary law governing marine fisheries management in U.S. federal waters. Key objectives:
  - Prevent overfishing
  - Rebuild overfished stocks
  - Ensure long-term economic and social benefits to the nation of recreational and commercial fisheries
- Established U.S. fishery jurisdiction from **3-200nm**, i.e., Exclusive Economic Zone (EEZ)
- NMFS is charged with carrying out the MSA



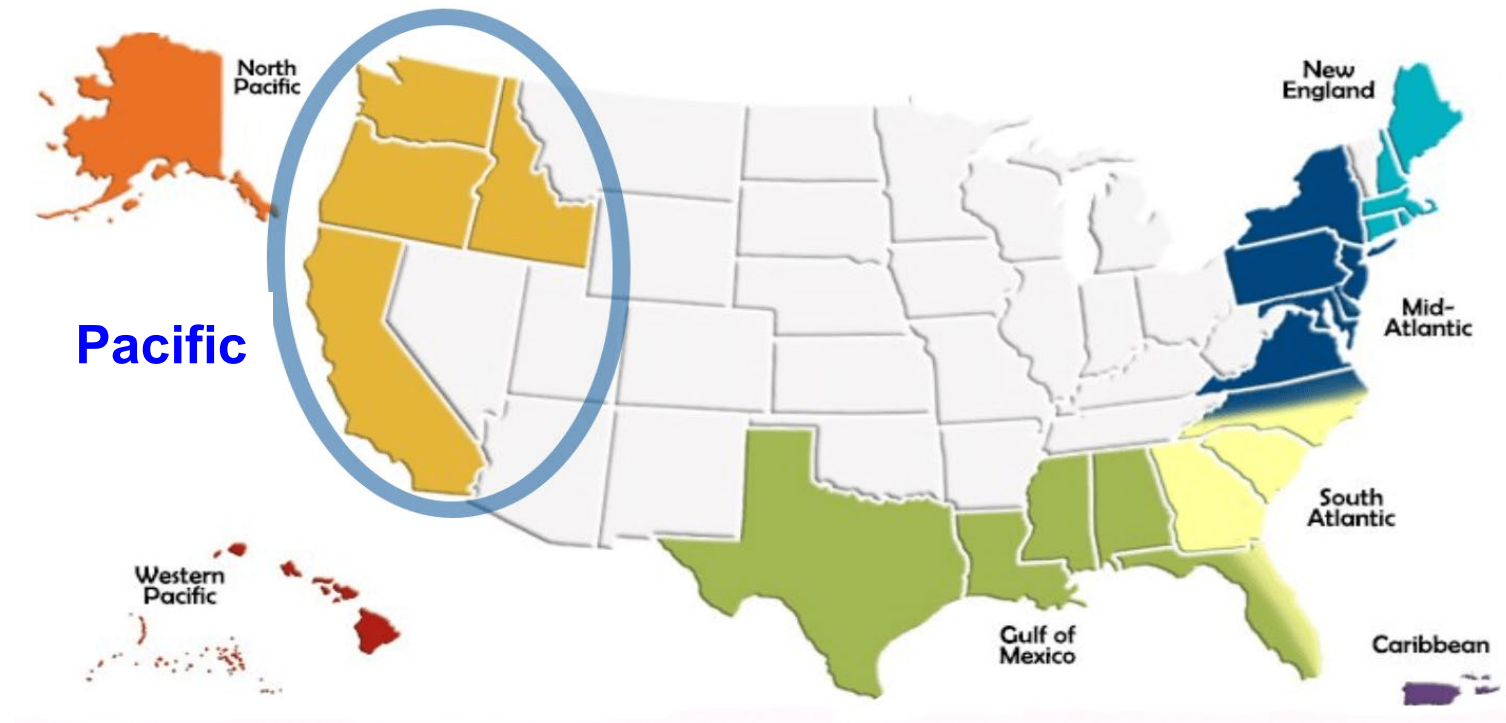
# Magnuson-Stevens Act, MSA - 10 National Standards

**Must be followed in any fishery management plan (FMP), amendment, or regulation:**

- (1) Achieve optimum yield (OY) and prevent overfishing
- (2) Based upon best available scientific information
- (3) Manage stocks as a unit
- (4) Allocations fair and equitable, promote conservation, and prevent excessive shares
- (5) Consider efficiency in utilization; not have economic allocation as sole purpose
- (6) Allow for variations and contingencies in fisheries, fishery resources, and catches
- (7) Minimize costs, avoid unnecessary duplication
- (8) Consider fishing communities to provide for their sustained participation and to minimize adverse economic impacts on such communities**
- (9) Minimize bycatch, and bycatch mortality
- (10) Promote safety of human life at sea**

# Regional Fishery Management Councils

Represent commercial and recreational fishing sectors in addition to environmental, academic, and government interests.





# Pacific Fishery Management Council (PFMC)



## Voting members (14)

- 1 principal representative from each state (CA, OR, WA, and ID) with fisheries management authority
- 1 representative for NMFS West Coast Regional Office
- 1 Obligatory Appointment from each state (CA, OR, WA, and ID)
- At-Large Appointments
- **1 representative for West Coast tribes**
  - filled by “an Indian tribe with federally recognized fishing rights from CA, OR, WA, or ID in accordance with Section 302(b)(5) of the Magnuson-Stevens Act.” (see <https://www.pcouncil.org/fishing-communities/tribes/>)
  - Only FMC to have a tribal seat

## Non-voting members (5)

- Pacific States Marine Fisheries Commission (PSMFC)
- U.S. Fish and Wildlife Service
- U.S. Coast Guard
- State of Alaska Department of Fish and Game
- U.S. Department of State



# International Obligations / Regional Fishery Management Organizations

## NMFS is responsible for maintaining U.S. obligations under:

- Pacific Salmon Treaty
- Halibut Convention and Northern Pacific Halibut Act
- Pacific Whiting Agreement, including implementing the Pacific Whiting Act
- Inter-American Tropical Tuna Commission (IATTC), including implementing the Tunas Conventions Act, Agreement on the International Dolphin Conservation Program (AIDCP), and the U.S.-Canada Albacore Treaty
  - Coordination with U.S. Delegations to other Pacific RFMOs (e.g., Western and Central Pacific Fisheries Commission (WCPFC) and Joint WCPFC-IATTC Working Group on Pacific Bluefin Tuna)



# Pacific States Marine Fisheries Commission (PSMFC)

- Includes CA, OR, WA, ID, and AK
- Important role in federal and state fisheries data management
  - Pacific Fisheries Information Network (PacFIN)
  - Pacific Coast Recreational Fisheries Information Network (RecFIN)
- Dungeness Crab Tri-State Process
  - Managed by WA, OR, and CA in state and federal waters
  - Dungeness Crab Tri-State Process through PSMFC



Source:  
ODFW

# West Coast Fisheries

Federal Fishery Management Plans (FMPs) -  
PFMC (commercial, recreational, tribal)

- **Groundfish**
  - Tribal allocations for whiting and sablefish
- **Salmon**
  - Tribal allocations for various stocks
- **Highly Migratory Species (HMS)**
- **Coastal Pelagic Species (CPS)**
  - Tribal allocations for sardine
- **Pacific Coast Fishery Ecosystem Plan (FEP)**

Other commercial and recreational fisheries (CA, OR, WA) most likely affected by offshore energy infrastructure, including but not limited to:

- **Dungeness Crab**
- **Pink shrimp**
- **Pacific halibut**

Tribal fisheries

- Discuss with tribes' fisheries department directors



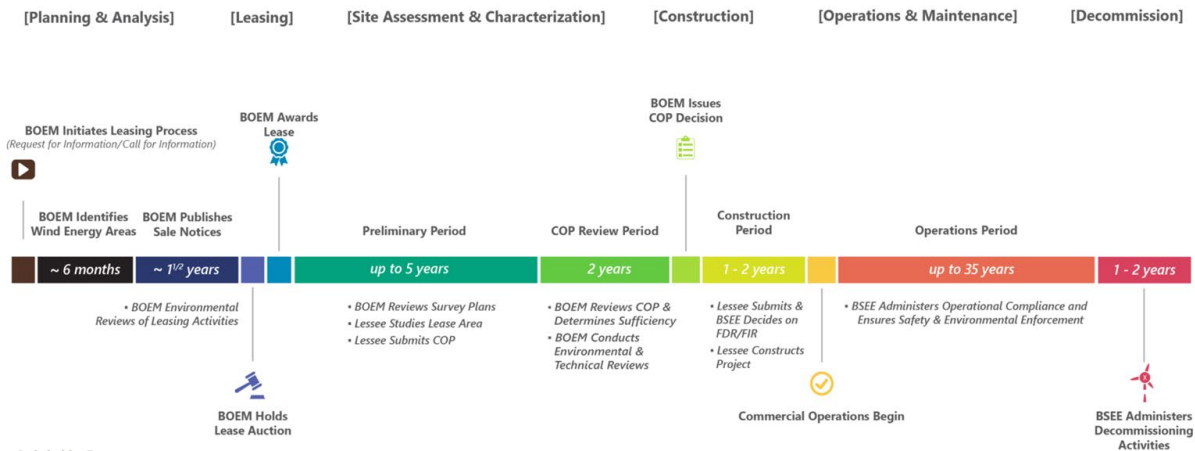
# NMFS' Involvement in BOEM's OWE Process

## Environmental Review & Regulatory Processes

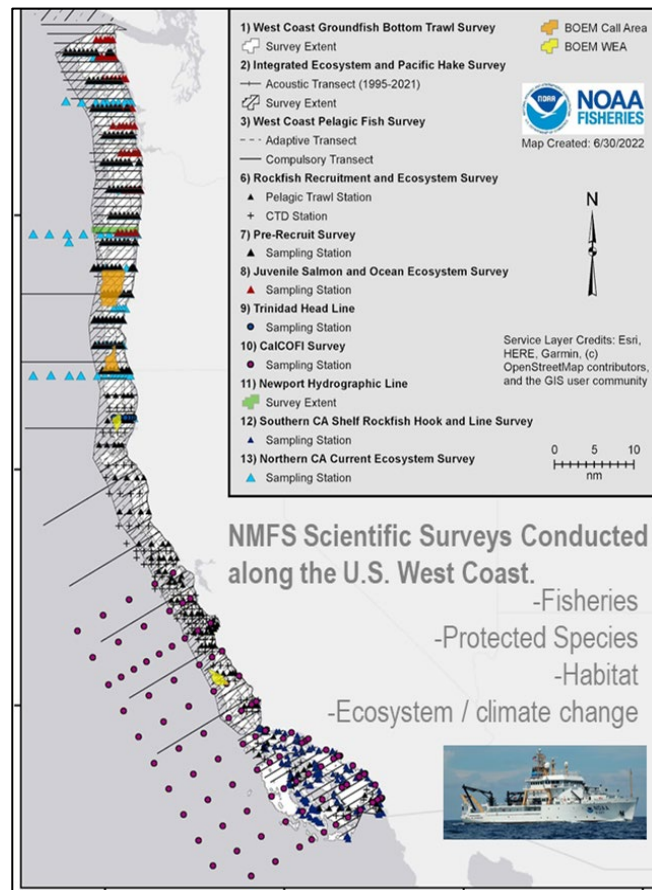
- Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA), Magnuson-Stevens Act (MSA) (Essential Fish Habitat), National Environmental Policy Act (NEPA)

## Science support during environmental review

## Science to understand impacts



	Survey	Year Started	Informs Mandated Activities under
1	<a href="#">West Coast Groundfish Bottom Trawl Survey (website)</a>	1998	<b>MSA</b> <b>ESA</b>
2	<a href="#">Integrated Ecosystem and Pacific Hake Survey</a>	1977	<b>MSA</b>
3	<a href="#">West Coast Pelagic Fish Survey</a>	2006	<b>MSA</b>
4	<a href="#">West Coast Marine Mammal Survey</a>	1991	<b>MMPA</b> <b>ESA</b>
5	<a href="#">Pacific Orcinus Distribution Surveys</a>	2015	<b>MMPA</b> <b>ESA</b>
6	<a href="#">Rockfish Recruitment and Ecosystem Survey</a>	1983	<b>MSA</b>
7	<a href="#">Pre-Recruit Survey</a>	2011	<b>MSA</b>
8	<a href="#">Juvenile Salmon and Ocean Ecosystem Survey</a>	1998	<b>MSA</b> <b>ESA</b>
9	<a href="#">Trinidad Head Line</a>	2007	<b>MSA</b> <b>ESA</b>
10	<a href="#">CalCOFI Survey</a>	1949	<b>MSA</b> <b>ESA</b>
11	<a href="#">Newport Hydrographic Line</a>	1996	<b>MSA</b> <b>ESA</b>
12	<a href="#">S. California Shelf Rockfish Hook and Line Survey</a>	2003	<b>MSA</b>
13	<a href="#">Northern California Current Ecosystem Survey</a>	1996	<b>MSA</b>



NWFSC Data Warehouse:



# Fisheries Dependent Data



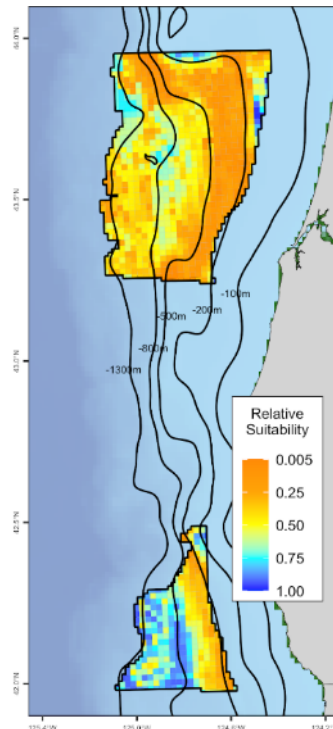
- **Fish tickets (PacFIN)**
  - Commercial landings & revenue
  - Species, Gear type and Port-specific data
- **Recreational landings (RecFIN)**
- **West Coast Region, NWFSC and At-Sea Hake Observer Programs**
- **Vessel logbooks (state and federal)**
  - Fishing locations and duration
  - Can be matched to fish ticket data
- **Vessel Monitoring System (VMS)**
  - NOAA's Office of Law Enforcement
  - Satellite locations
  - Lots of variation in vessel requirements



Source: CDFW. Salmon troller.

# Spatial Data Available -- Commercial and Recreational

- NMFS, CDFW, ODFW, WDFW, and PSMFC maintain confidential fisheries data sets
- Non-confidential fisheries spatial data portals
  - NMFS [Distribution Mapping and Analysis Portal](#)
  - Oregon Offshore Wind Mapping Tool (OROWindMap)
  - California Offshore Wind Gateway
  - WA Marine Spatial Planning Application
- NWFSC Observer Program Technical Memos (e.g. Somers et al 2022, 2022, 2023)
- NCCOS modeling report for OR WEAs -- Fisheries Appendix (provided by NMFS and ODFW)
- Recreational fisheries' spatial data has very low resolution



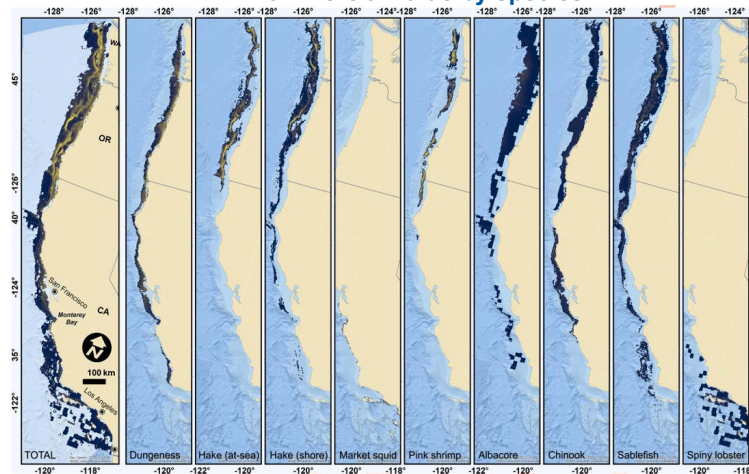
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# Examples of Fisheries Distribution and Species' Shifts Publications

- Fishing effort for state and federal fisheries (Anderson et al 2024 ODFW, Wang et al. 2024 PLOS One)
- Species' projections, fishing adaptation and fisheries footprints for groundfish species (Liu et al. 2023 Science Advances, Samhouri et al. 2024 PLOS Climate, Warlick et al. In Review PLOS Climate)
- Value of commercial species (Feist et al. 2025 PLOS One)

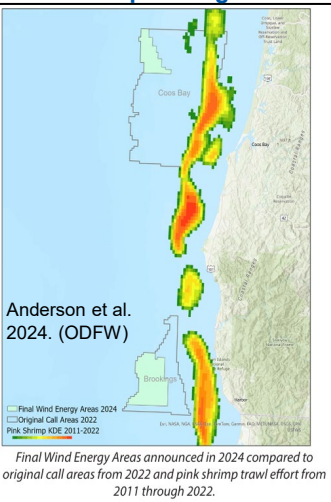
Commercial value by species



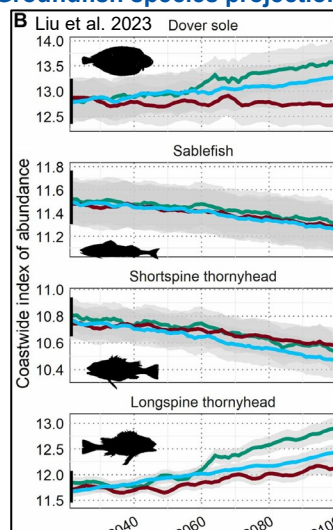
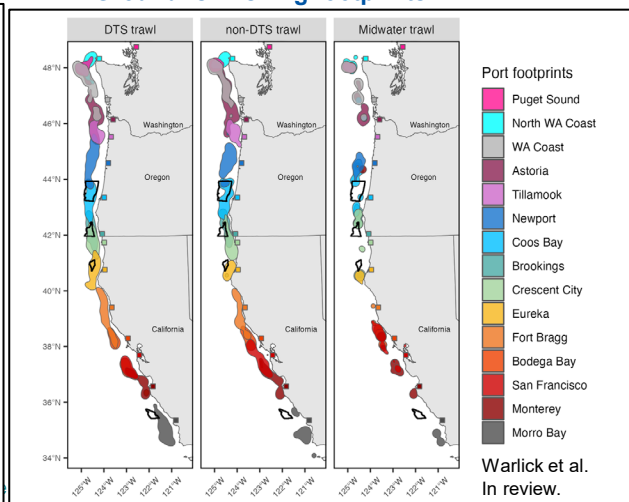
Feist et al. 2025

Groundfish species projections

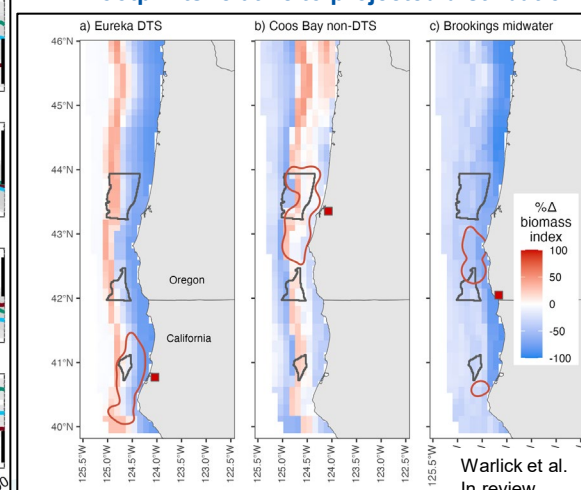
Pink shrimp fishing effort



Groundfish fishing footprints



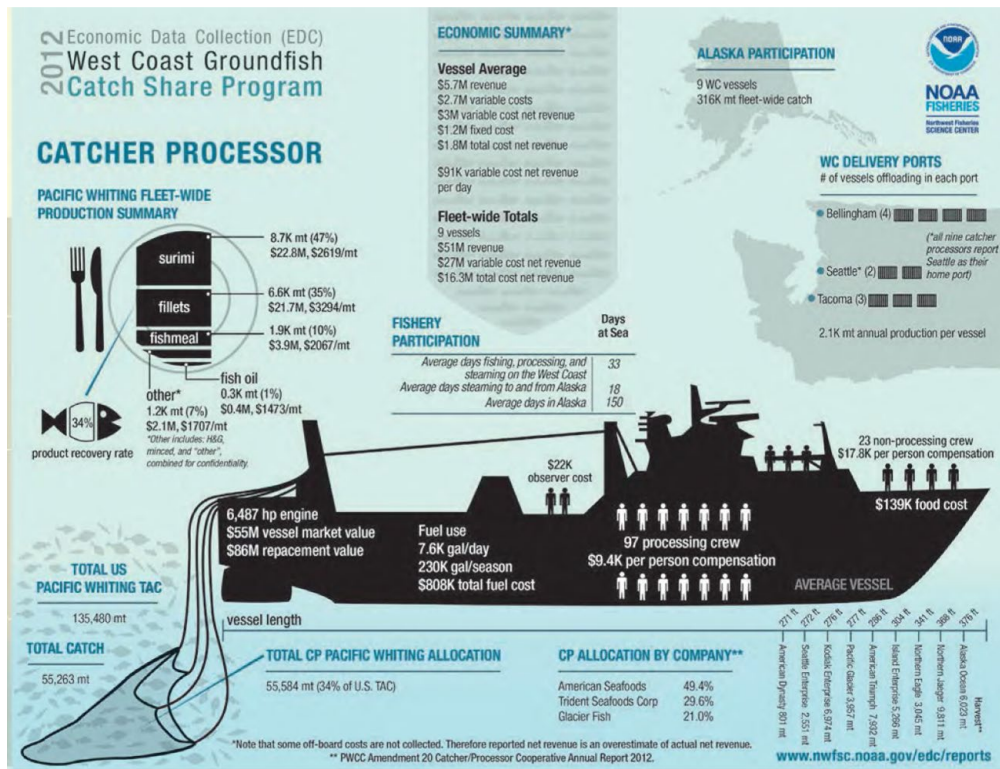
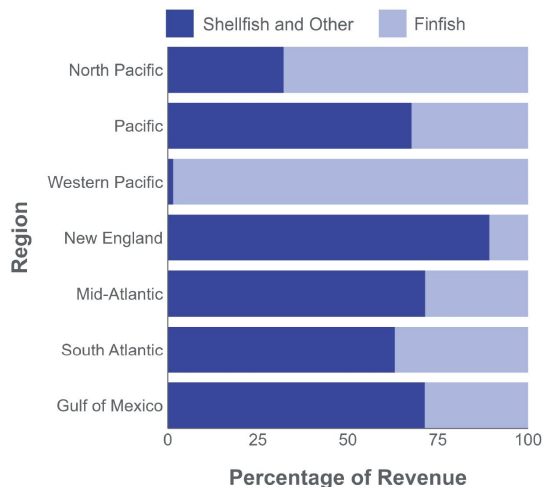
Footprints relative to projected distributions



# Commercial and Recreational Fisheries Socioeconomic Data

- Office of Science and Technology
- Northwest Fisheries Science Center
- Southwest Fisheries Science Center

**Revenue Percentage of Species Categories by Region, 2022**



# Fishing Communities Data

NOAA Technical Memorandum NMFS-NWFSC-85



## Community Profiles for West Coast and North Pacific Fisheries

Washington, Oregon, California,  
and other U.S. States



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

OCS Study  
BOEM 2024-054

August 2024

Principal Authors:

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Prepared under Interagency Agreement Number M22PG00032

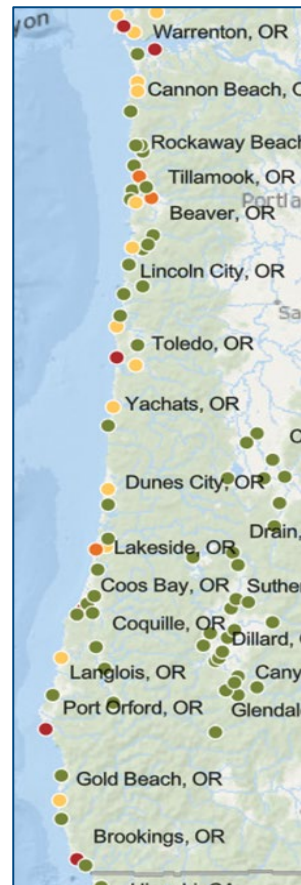
By  
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U.S. Department of the Interior  
Bureau of Ocean Energy Management  
Pacific Regional Office, Camarillo, CA



Commercial Fishing  
Engagement



Example: Oregon  
coast



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# Tribal Fisheries

## Terminology

Tribes with Explicit Rights to Fish

Stevens Treaty Tribes

Usual and Accustomed

Boldt Decision





Thank you.

