



Photo Credit: Romiro Cardozo

# **Marine Life Management Act (MLMA) Master Plan Implementation Planning Discussion for Interested Stakeholders**

## **Informing the Development of an Online California Fisheries Portal**

Hosted by:

**California Department of Fish and Wildlife & Ocean Protection Council**



Tuesday, May 8, 2018 | 9:30am–12:30pm PST





# Agenda

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- Welcome, Webinar Overview & Purpose
- Learning How You Access Fisheries Information
- Re(Introduction) to the Draft California Fisheries Portal, including Enhanced Status Reports and Their Relationship to the MLMA & Master Plan Amendment Process
- Discussion on Design, Form, and Function of the Draft California Fisheries Portal
- Next Steps & Adjourn



# Introductions

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- Joining us today:
  - CDFW: Craig Shuman, Paul Reilly, Tom Mason
  - OPC: Paige Berube
  - Strategic Earth Consulting: Rachelle Fisher, Sara Shen, Kelly Sayce
  - Our California ocean community
- Welcome!



# Goal

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To engage in a constructive discussion to help inform the California Department of Fish and Wildlife's (CDFW) development of an online, publicly-accessible, and user-friendly "living" library for California's fisheries information.



# Opening Discussion

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- *How do you currently access fisheries information and what is your user experience?*
- *Why are you looking for fisheries information?*
- *How do you use fisheries information?*



# **(Re)Introduction to the Draft California Fisheries Portal, including Enhanced Status Reports and Their Relationship to the MLMA & Master Plan Amendment Process**

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# MLMA Master Plan & Amendment Process

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- Master Plan acts as a roadmap and toolbox for MLMA implementation
  - Amended in 2018 to better meet the specific management objectives of the MLMA and reflect advancements in fisheries management strategies and tools, changing ocean conditions, and evolving stakeholder priorities
  - Currently under review by Fish and Game Commission, with potential adoption in June 2018
  - More information available at [wildlife.ca.gov/Conservation/Marine/MLMA/Master-Plan](http://wildlife.ca.gov/Conservation/Marine/MLMA/Master-Plan)



# Strategies to Achieve MLMA Objectives

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- Principal strategies to achieve objectives include:

- Master Plan (§7073)
- Status of the Fisheries Reports (§7056 and §7066)
- Best-available science (§7050(b)(6))
- Constituent involvement (§7050(b)(7))



**Inform the  
Portal**



# Tribal and Stakeholder Input

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- “Stakeholder discussions”: webinars, workshops, presentations at Marine Resource Committee meetings
  - Explored the idea of an online fisheries resource during February 2017 webinar “Draft Approach to Scaled Management and a Fisheries Web-based Data Portal”
- Review and public comment on initial and revised draft
  - Feedback on ESR content
- Portal concept positively received



## Enhanced Status Reports (ESRs)

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- New approach to and format for Status of the Fisheries Reports
  - More structured, comprehensive, and better demonstrates management's consistency with the goals of the MLMA
- Overview of the target species, fishery, and current management and monitoring efforts
- Easily updated by taking advantage of web-based technology (Portal)

# ESR Table of Contents Draft Portal Content

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## **Fishery-at-a-Glance**

### **The Species**

- Natural History
- Population Status and Dynamics
- Habitat
- Ecosystem Role
- Effects of Changing Oceanic Conditions

### **The Fishery**

- Location of the Fishery
- Fishing Effort
- Landings in the Recreational and Commercial Sectors
- Social and Economic Factors Related to the Fishery

## **Management**

- Past and Current Management Measures
- Overview and Rationale for the Current Management Framework
- Target Species
- Bycatch
- Habitat
- Requirements for Person or Vessel Permits and Reasonable Fees

## **Monitoring and Essential Fishery Information**

- Description of Relevant Essential Fishery Information
- Past and Ongoing Monitoring of the Fishery

## **Future Management Needs and Directions**

- Identification of Information Gaps
- Research and Monitoring
- Recommendations for Any Management Changes
- Climate Readiness



# **Discussion on Design, Form, and Function of the Draft California Fisheries Portal**

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# California Fisheries Portal

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- Online, publicly-accessible, user-friendly “living” library for California’s state-managed fisheries information
- Make more effective use of ESRs by organizing and sharing current information in an accessible form
- Encourage Collaborative Fisheries Research and focus research efforts of undergraduate and graduate students to fill information gaps
- Implement new strategies described in revised draft 2018 Master Plan



# Overview of Draft Portal Layout and Content

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- “Splash page” or homepage with quick access to fisheries’ pages
- Sorting and search functions
- “Quick Links” resource tool
- Individual fishery pages
  - Content from ESRs in the form of tabs
  - Images, figures, tables, maps, etc.



# Welcome to the California Fisheries Portal

Information on state-managed fisheries under the Marine Life Management Act



Sort by:



California Spiny Lobster



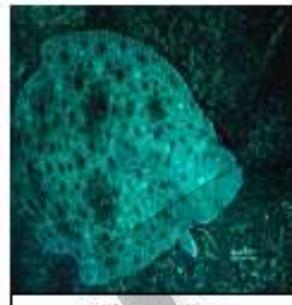
Spot Prawn



Pink Shrimp



Market Squid



California Halibut



White Seabass



Surf Perch



Pacific Hagfish



Warty sea cucumber



Red sea cucumber



Rock crab



Abalone

### Quick Links:

- [Marine Life Management Act](#)
- [Free Guide to the MLMA](#)
- [The Master Plan for Fisheries](#)
- [The "Who Manages What?" management matrix](#)
- [Prioritizing management efforts](#)
- [Research opportunities](#)
- [Partnerships](#)
- [Climate change and fisheries](#)
- [Marine Protected Areas and fisheries](#)

# Navigating by Tabs

- ESR chapters are translated into tabs

## “Fishery-at-a-Glance”

### Pacific Pink Shrimp — Fishery-at-a-Glance



2016 Participation	2016 Commercial Value	2016 Landings
15 active vessels	3.7 million dollars (5 <sup>th</sup> )	8.5 million pounds (4 <sup>th</sup> )

- Fishery-At-a-Glance** (circled)
  - The Species
  - The Fishery
  - Management
- Monitoring and Essential Fishery Information    Future Management Needs and Directions

The pink shrimp is a small shrimp in comparison to many shrimp and prawns seen in supermarkets and restaurants. Pink shrimp are often referred to as "cocktail shrimp", "salad shrimp" or simply "coldwater shrimp", because the major species that are harvested at these small sizes come from cold marine waters.



#### Quick Links:

- Research and partnership opportunities
- Pink MSC certification info
- Full 2016 Status Report
- Shrimp trawl video
- Interactive maps
- Landings and permit data
- Information for fishermen
- News
- Marine Region Home
- Contact

#### Biology

**Scientific name:** *Pandalus jordani*

**Range:** Southeast Alaska to San Diego, California, but only exist in the quantities necessary to support a commercial fishery from Point Arguello to British Columbia

**Size (length and weight):** One-year old shrimp range from 0.5-0.7in (13-17mm) in mean carapace length, two-year old shrimp range from 0.7-1in (18- 25mm), and three-year old shrimp range from 1-1.1in (25-29mm; CDFG 2008).

**Life span:** Up to 5 years

**Habitat:** Pink shrimp generally inhabit deep waters, aggregating near the bottom during the day in well-defined areas of muddy habitat (called beds) and ascending into the water column at night to feed.

**Prey:** Copepods and krill

**Predators:** Shrimp are prey for a number of species of commercial value, including Pacific hake (*Merluccius productus*), arrowtooth flounder (*Atheresthes stomaia*), and sablefish (*Anoploploma fimbria*);

**Reproduction:** Pink shrimp are short lived, fast growing species. Individual growth rates vary by sex, location, year class, and age, and shrimp grow faster in the summer than in the winter. Shrimp generally spend the first year and a half as males, and then transition to females. Mating occurs during September and October. Females carry between 400 and 8,000 eggs each, dependent on their size. Eggs hatch in March, after which there is a two- to three-month pelagic larval phase. Juveniles occupy successively deeper depths as they grow, and



## “The Species”

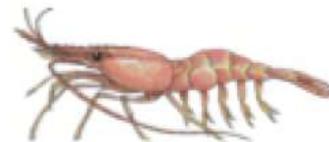
### Pacific Pink Shrimp — The Species



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- Fishery-At-a-Glance
  - The Species** (circled)
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#### Natural history of the species (7080b)



#### Distribution

Pink shrimp are found all along the west coast of North America, from the Aleutian Islands to San Diego. They are thought to be a single genetic stock throughout their entire range (OST, 2014). Pink shrimp are found at depths of 150 to 1200 feet, but tend to be caught between 250 and 750 feet in California. They are concentrated in well-defined muddy benthic habitats called beds, and the majority of beds with commercial concentrations are found off the Oregon Coast.

#### Predator-prey interactions

Pink shrimp ascend into the water column at night to feed on pelagic organisms, including copepods and krill. Shrimp are prey for a number of species of commercial value, including Pacific hake, arrowtooth flounder, and sablefish.

#### Movement

Pink shrimp may be subject to some level of on-shore/offshore transport due to ocean currents. However, there is no evidence that ocean shrimp exhibit large, coast wide migratory behavior. Though larval transport between beds may occur since young-of-the-year shrimp live in the plankton for up to eight months before settling to the bottom.

#### Reproduction and life cycle

Pink shrimp are short lived, fast growing species. They live approximately five years, but catches are usually dominated by the age-one year class. Individual growth rates vary by sex, location, year class, and age, and shrimp grow faster in the summer than in the winter. Shrimp generally spend the first year and a half as males, and then transition to females. Mating occurs during September and October. Females carry between 400 and 8,000 eggs each, dependent on their size. Eggs hatch in March, after which there is a two- to three-month pelagic larval phase. Juveniles occupy successively deeper depths as they grow, and recruit to the fishery in the late summer, at about 5-6 months of age.



#### Population dynamics, status, and trends (7080a)

#### Quick Links:

- Research and partnership opportunities
- Pink MSC certification info
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## “The Fishery”

### Pacific Pink Shrimp — The Fishery



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#### FISHERY OVERVIEW

#### Location of species and fishery (7080a)

Pink shrimp range from Southeast Alaska to San Diego, California, but only exist in the quantities necessary to support a commercial fishery from Point Arguello to British Columbia. Pink shrimp are most abundant off the coast of Oregon, and since 2007, the majority of landings have been concentrated in the northernmost counties of California. Pink shrimp generally inhabit deep waters, aggregating near the bottom during the day in well-defined areas of muddy habitat (called beds) and ascending into the water column at night to feed. Historically, most fishing occurred in federal waters, and since 2008 trawling for shrimp in state waters has been prohibited. Annual landings for ocean shrimp in California are highly variable and have ranged from 64 metric tons to 8,490 metric tons since the fishery began in 1952.

#### Trends in fishing effort: vessels, participants, days fished (7080a)

The pink shrimp fishery is currently split into a northern region and a southern region, with Point Conception as the dividing line. The number of participants in both the northern and southern regions has declined since 2000. In 2003, a voluntary federal buyout instituted for trawl vessel permits removed almost half the capacity of the west coast trawl fleet. The number of permits purchased has further decreased since that time, stabilizing at around 35 in the northern region and 15 in the southern region (Table 1). Data on how many of these permits have been actively fished is only available through 2006, but suggests that there may be a great deal of latent capacity in the fishery.

Year	Southern Region		Northern Region	
	Permits sold	Active Vessels	Permits Sold	Active Vessels
2002	57	7	80	28
2003	46	4	78	3
2004	38	0	47	7
2005	35	1	42	12
2006	21	1	40	4
2007	21	NA	38	NA
2008	18	NA	38	NA
2009	16	NA	37	NA

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# A Closer Look, “The Species” Tab

## Pacific Pink Shrimp – The Species



2016 Participation

15 active vessels

2016 Commercial Value

3.7 million dollars (5<sup>th</sup>)

2016 Landings

8.5 million pounds (4<sup>th</sup>)

Fishery-At-a-Glance

**The Species**

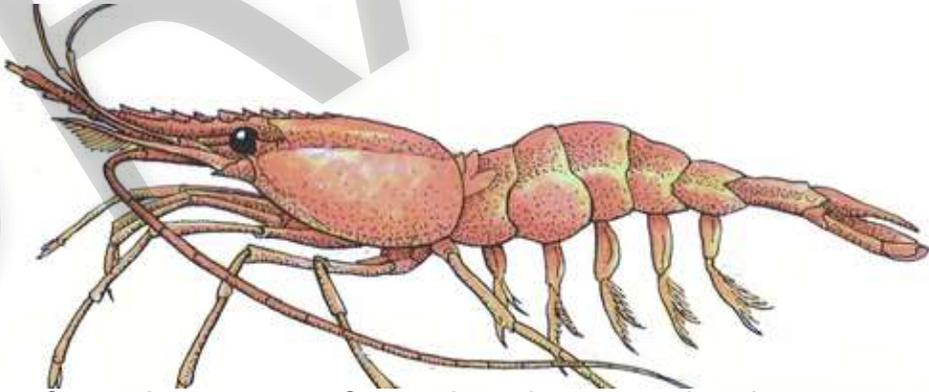
The Fishery

Management

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Pink shrimp are found all along the west coast of North America, from the Aleutian Islands to San Diego. They are thought to be a single genetic stock throughout their entire range (OST, 2014). Pink shrimp are found at depths of 150 to 1200 feet, but tend to be caught between 250 and 750 feet in California. They are concentrated in well-defined muddy benthic habitats called beds, and the majority of beds with commercial concentrations are found off the Oregon Coast.

#### Quick Links:

- [Research and partnership opportunities](#)
- [Full 2016 Status Report](#)
- [Interactive maps](#)
- [Landings and permit data](#)



## Discussion

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- *What fisheries information are stakeholders interested in gaining access to and/or learning about, and how might this be expected to change over time?*
- *Does the draft Portal web page layout provide sufficient (more/less) information based on these needs?*
- *Could the visual layout and navigability of the draft Portal web page layout be improved?*



## Discussion

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- *What are some successful examples of agencies, organizations, or others sharing fisheries information with the public?*



## Example Websites Informing Draft Portal Outline

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- NOAA Fisheries: <https://www.fisheries.noaa.gov/find-species>
- Australian Government, Australian Fisheries Management Authority: <http://www.afma.gov.au/fisheries/>
- Oceanspaces: <http://oceanspaces.org/fisheries-data-explorer>

# NOAA Fisheries

The image displays three overlapping screenshots of the NOAA Fisheries website. The top-left screenshot shows the 'Find a Species' landing page with a navigation menu and a grid of species categories: Fish & Sharks, Sea Turtles, Whales, Highly Migratory Species, Seals & Sea Lions, and Dolphins & Porpoises. A blue arrow points from this page to the top-right screenshot, which shows the 'Fish & Sharks' section with a search filter for 'Acadian Redfish'. A second blue arrow points from this search result to the bottom-right screenshot, which shows the detailed page for 'Acadian Redfish'. This page includes an overview, a large underwater photograph of the fish, and status indicators for Population Level (Above target population level) and Fishing Status (At recommended level). A 'Read More' button is visible at the bottom of the page.

# Australian Fisheries Management Authority

Contact AFMA 1300 723 621 CRIMFISH hotline - report illegal fishing 1800 274 634



**Australian Government**  
**Australian Fisheries Management Authority**

Efficient & sustainable management of Commonwealth fish resources

- Home
- About
- Services
- Fisheries**
- Species & gear
- News
- Contact

Fisheries

## Fisheries

Fisheries	Research	Environment	Monitoring & enforcement
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- Bass Strait Central Zone Scallop
- Christmas Island and Cocos (Keeling) Islands
- CCAMLR new and exploratory fisheries
- Coral Sea Fishery
- Eastern Tuna and Billfish Fishery
- Heard Island and McDonald Island Fishery
- Macquarie Island Fishery
- High Seas Permits
- Norfolk Island Fishery
- North West Slope Trawl Fishery
- Northern Prawn Fishery
- Skipjack Tuna Fishery
- Small Pelagic Fishery**
- Southern and Eastern Scalefish and Shark Fishery
- Southern Bluefin Tuna Fishery
- Southern Squid Jig Fishery
- South Tasman Rise
- Torres Strait fisheries
- Western Deepwater Trawl Fishery
- Western Tuna and Billfish Fishery

## Target species

The species targeted by commercial fishers in the Small Pelagic Fishery are:

- Australian sardine (*Sardinops sagax*)
- Blue mackerel (*Scomber australasicus*)
- Jack mackerel (*Trachurus declivis, T. murphyi*)
- Redbait (*Emmelichthys nitidus*)

### AUSTRALIAN SARDINE

Sustainable

### BLUE MACKEREL

Sustainable

### JACK MACKEREL

Sustainable

### REDBAIT (EAST)

Sustainable

### REDBAIT (WEST)

Sustainable

## About the fishery

Fishery facts	The commercial fishery	Environmental impacts	Fishery rules
Stakeholder engagement	Fishery publications	Fishery map	Compliance & monitoring

## Catch allowance

Species	2015-16 total allowable catch (tonnes)	2016-17 total allowable catch (tonnes)	2017-18 total allowable catch (tonnes)
Australian sardine	1880	1880	9550
Blue mackerel - eastern sub-area	2630	2630	12090
Blue mackerel - western sub-area	6200	6200	3230
Jack mackerel (eastern sub-area)	18670	18670	18880
Jack mackerel (western sub-area)	3600	3600	920
Redbait - eastern sub-area	3310	3310	3410
Redbait - western sub-area	2880	2880	820

[Download raw data on annual catches from AFMA catch disposal records and AFMA daily fishing logbooks.](#)

# Oceanspaces

## California Fisheries Data Explorer



### Explore California's State Fisheries

This interactive Fisheries Data Explorer allows you to visualize data from commercial fisheries and commercial passenger fishing vessels, across the State. Using data collected and managed by the California Department of Fish and Wildlife (CDFW), the Explorer lets you dynamically view summarized data from the commercial fishing sector (i.e., number of fishermen, pounds of fish landed, and revenue from fish landed) and from the commercial passenger fishing sector (i.e., the number of anglers, vessels, trips, and fish caught from specific fisheries and ports).

Funded by the California Ocean Protection Council, and developed in partnership with CDFW and the California Ocean Science Trust, the Explorer was developed through the California's Marine Protected Area Monitoring Program, to ensure that the State's decision-makers, stakeholders, and the public have ready access to data and information that support the health and management of California's ocean.

[Learn more about confidentiality and the process of collecting.](#)

[Key Terms & Information](#)

[Full Data & Methods Package](#)



**Commercial Fishing**



**Commercial Passenger Fishing**

Fisheries Mapped by Port Group

Port Group Summary

How Fisheries Compare

How Port Groups Compare

## How Fisheries Compare

Select Port Group

All Port Groups

Select Fisheries

Select All

Clear All

- California Halibut HOOK-LINE
- Dungeness Crab TRAP
- Nearshore Finfish HOOK-LINE
- Nearshore Finfish LONGLINE - LIVE
- Salmon TROLL
- Shelf-Slope Rockfish LONGLINE

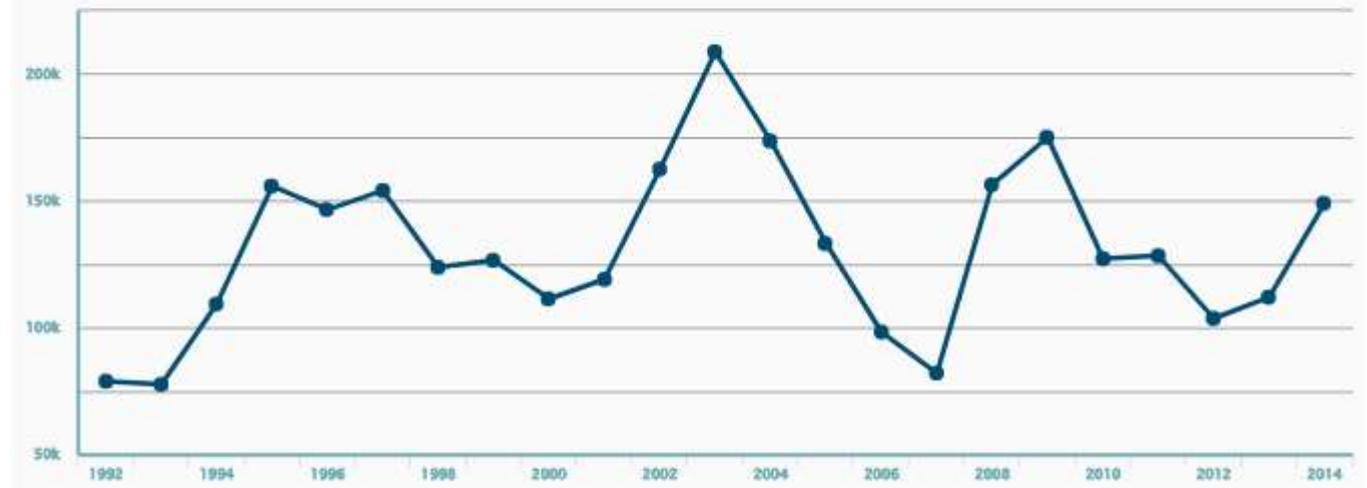
- California Halibut LONGLINE
- Lobster TRAP
- Nearshore Finfish HOOK-LINE - DEAD
- Nearshore Finfish TRAP - LIVE
- Sea Cucumber BOTTOM TRAWL
- Shelf-Slope Rockfish TRAP

- Coastal Pelagics BRAIL/DIP NET
- Market Squid BRAIL/DIP NET
- Nearshore Finfish HOOK-LINE - LIVE
- Red Urchin DIVING
- Sea Cucumber DIVING
- Spot Prawn BOTTOM TRAWL

- Coastal Pelagics SEINE/NET
- Market Squid SEINE/NET
- Nearshore Finfish LONGLINE - DEAD
- Rock Crab TRAP
- Shelf-Slope Rockfish HOOK-LINE
- Spot Prawn TRAP

Pounds Landed

Number of Fishers



[Download Visualization](#)



# Additional Functionality

- Data querying and mapping
- Additional information
  - Relevant law and policies
  - Chapters/sections of the revised draft 2018 Master Plan
- Other?



[Magnuson-Stevens Act](#) [Endangered Species Act](#) [Marine Mammal Protection Act](#) [National Environmental Policy Act](#) [More Laws](#) [Policies](#)

### Magnuson-Stevens Act

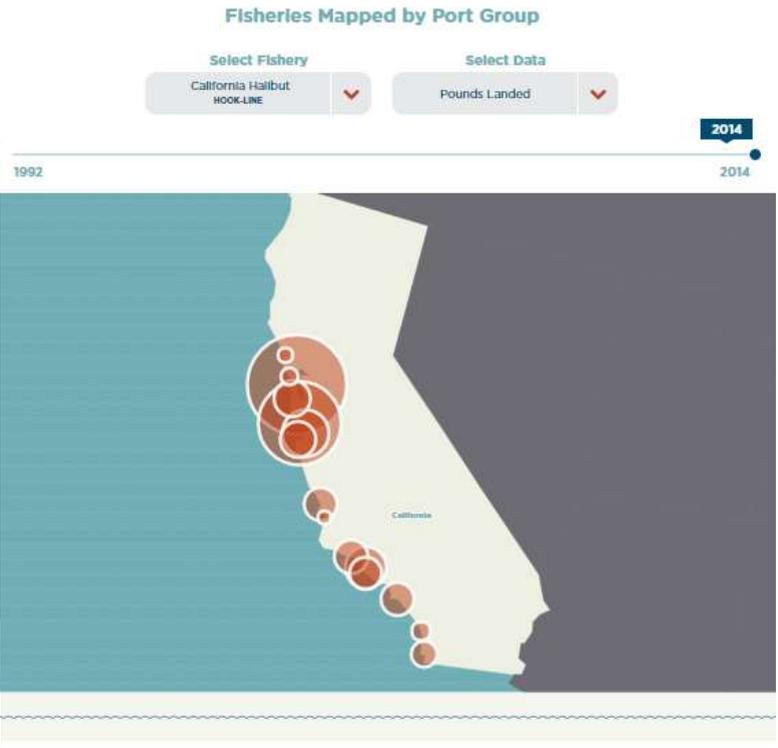
The Magnuson-Stevens Fishery Conservation and Management Act is the primary law governing marine fisheries management in U.S. federal waters. First passed in 1976, the MSA fosters long-term biological and economic sustainability of our nation's marine fisheries. Key objectives of the MSA are to:

- Prevent overfishing.
- Rebuild overfished stocks.
- Increase long-term economic and social benefits.
- Ensure a safe and sustainable supply of seafood.

[Read the Magnuson-Stevens Fishery Conservation and Management Act >](#)

**MORE INFORMATION //**

- > [Understanding Fisheries Management](#)
- > [National Standard Guidelines](#)
- > [NEPA Procedures for MSA](#)
- > [Commercial Fishing](#)
- > [Recreational Fishing](#)



← **MLMA?**

← **2018 Master Plan?**



## Discussion

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- *What functions would stakeholders like to see the Portal have (e.g., data visualization and analysis tools to query data and create graphs and maps, relevant marine policy information, etc.)?*



## Next Steps, Capturing Today's Discussion

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- Key Themes Summary- *Coming in June/July 2018!*
  - Overview of discussion topics: feedback received and next steps
  - Resources and Department contacts
- Department and web development team to consider feedback



## **Anticipated Next Steps, ESR & Portal Development**

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- Continue developing ESRs for interim list of priority fisheries
- Continue to receive feedback to inform Portal functionality and design



**Thank You!**

**Questions or comments?**

Email us at [MLMA@wildlife.ca.gov](mailto:MLMA@wildlife.ca.gov) or contact  
Tom Mason at [Tom.Mason@wildlife.ca.gov](mailto:Tom.Mason@wildlife.ca.gov)

