

Long-term Marine Protected Areas Socioeconomic Monitoring Program for Commercial
and Commercial Passenger Fishing Vessel (CPFV) Fisheries in the State of California

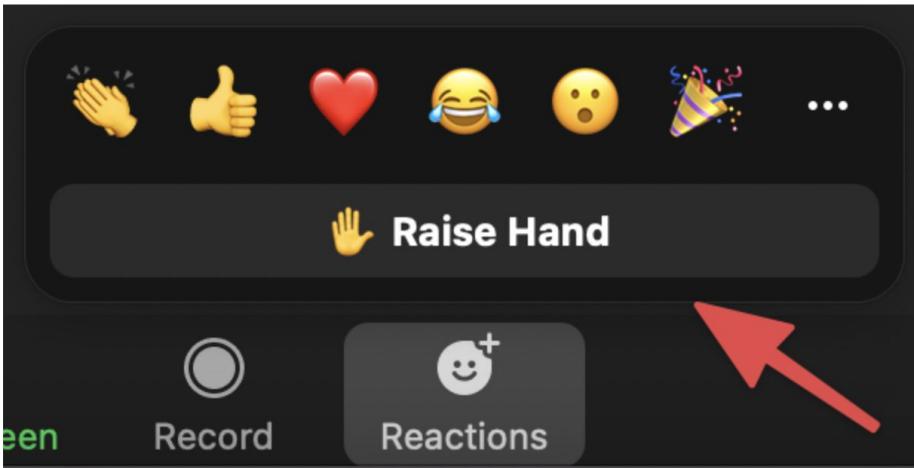
Sharing Final Project Reporting Products Community Webinar

Monday, December 13, 2021
2:00pm - 4:00pm PST

Hosted by Ecotrust, Humboldt State University, and
Strategic Earth Consulting

Technical Assistance

- Zoom Conference (audio and visual):
<https://uso2web.zoom.us/j/85849592976>



- Phone: 669-900-6833 | Code: 858 4959 2976
 - *6 unmute / *9 raise hand

*For troubleshooting support during the webinar, email Jon at
jbonkoski@ecotrust.org*

Introductions

Goal of Today's Webinar

- Share the final reporting products of the socioeconomic monitoring study of California's commercial and CPFV fishing communities in relation to California's marine protected area (MPA) network.

Webinar Agenda

- Welcome & Webinar Goals
- Brief Project Overview
- Final Reporting: Focus Group Perspectives and Key Findings
- Final Reporting: Spatial and Fisheries Data
- Looking Ahead: Statewide MPA Monitoring Reporting and the MPA Decadal Management Review

Anticipated Outcomes

- Shared understanding of the work conducted during this project
- Clarity on the project's key findings and reporting products, that have been shaped and informed by Key Communicator guidance
- Awareness of how this and other information will help inform the state's MPA Decadal Management Review

Anticipated Outputs

- Final report (PDF) due December 31, 2021
- Website, continue to fine-tune through early 2022

Webinar Agreements

- Listen to build mutual understanding
- Be patient when listening to others, do not interrupt
- Openly discuss issues with others, who hold diverse views, respect differences
- Explore ideas with curiosity and creativity
- Speak openly and honestly, keep comments concise and focused
- A collaborative and respectful spirit of learning and brainstorming is encouraged
- Speak from your own perspective, avoid personal attacks or speaking on behalf of other user groups
- Address any concerns about the discussion/meeting with the facilitators

MPA Monitoring and Decadal Management Review

Humboldt State University and Strategic Earth

Human Dimensions of MPAs

- Social, cultural, economic outcomes
- Perceptions as indicators of MPA success
- Governance/legitimacy
- Context/community well-being
- Use patterns
- Application to California MPA context

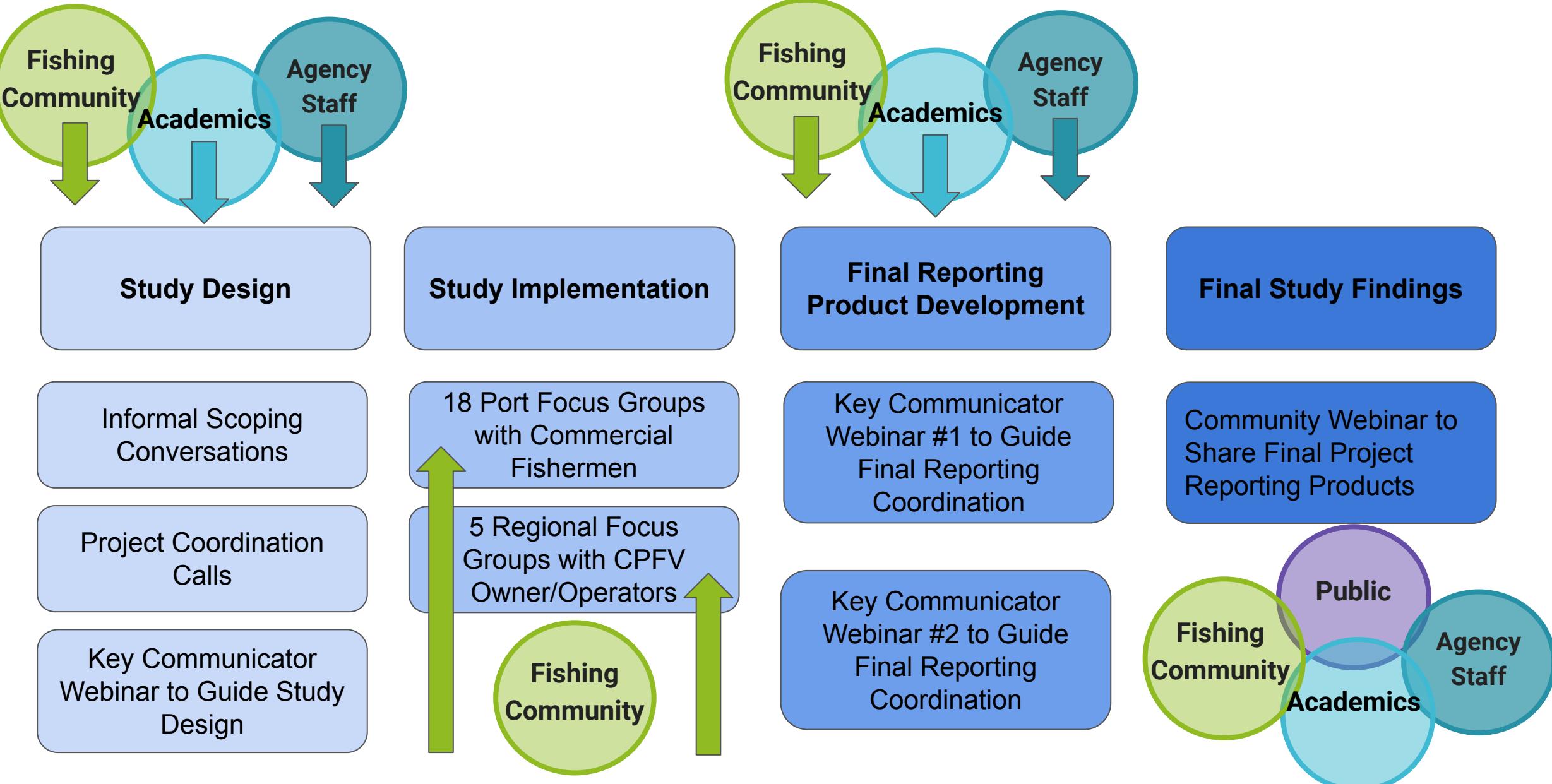
Project Components

- **Engagement:** Engage representatives of commercial fishing communities so they can participate as partners in long-term socioeconomic monitoring efforts related to the MPA network. Also engage managers, agency staff, and researchers in study design and findings.
- **Focus Group Perceptions:** Assess commercial and CPFV fishing community perceptions of the well-being of their port fishing communities and the outcomes from and management of MPAs including how fishermen have been affected by and/or adapted to MPA implementation over time
- **Spatial & Economic Data:** Establish a statewide spatial and economic data sets that maybe used to assess changes in commercial and CPFV fisheries since MPA implementation
- **Develop Recommendations:** Produce recommendations relevant to long term monitoring and management of the MPA network.

Project Component: Engagement

Engage representatives of commercial fishing communities across all major California ports so they can participate as partners in long-term socioeconomic monitoring efforts related to the MPA network

Project Component: Engagement



Outputs, Reports, Products

- Final Static Report with Results
 - Key Findings, Port Perspectives
 - Focus group summaries from each port group/region
 - Data analysis, including major findings
 - Spatial and fisheries data
- Website
 - Key Findings, Port Perspectives
 - Focus group summaries from each port group/region
 - Fisheries Data Explorer, Spatial Data Viewer

Key Findings: Focus Groups

Humboldt State University, Strategic Earth, Ecotrust

Project Component: Focus Group Perceptions

Assess commercial and CPFV fishing community perceptions of the well-being of their port fishing communities and the outcomes from and management of MPAs including how fishermen have been affected by and/or adapted to MPA implementation over time



FOCUS GROUP RESEARCH QUESTIONS

1. How do commercial fishermen and CPFV owner/operators in California perceive the well-being of their port- and region-based fishing communities along environmental, economic, and social factors?
2. What are commercial fishermen's and CPFV owner/operators' perceptions of the environmental, economic, and social outcomes of MPA implementation in state waters?
3. What are the connections between commercial fishermen's and CPFV owner/operators' perceptions of well-being and MPA outcomes?

MPA OUTCOMES AND WELL-BEING

“to identify how people benefit from the marine environment, to establish social baselines and track the social impacts of environmental change or marine conservation over time, and to adapt management efforts and improve social outcomes” (Bennett 2019, p.4)

MPA outcomes and well-being gaps

- “explicit studies on human well-being from MPAs are limited and empirical studies quantifying these relationships are rare”
- “most MPA papers, including those examining MPA effectiveness, focus on just a few aspects of [social/cultural] well-being” (Rasheed 2020, p.1)

DATA COLLECTION

- Virtual quantitative and qualitative focus groups with commercial fishing “community-experts”
- 18 between July 2020 and March 2021
- 3 to 4 hours in length

Port/Port Group	Number of Participants
Crescent City	4
Trinidad	3
Eureka	8
Shelter Cove	4
Fort Bragg/Albion	5
Point Arena	4
Bodega Bay	6
San Francisco Area Ports	4
Princeton - Half Moon Bay	7
Santa Cruz	5
Moss Landing	4
Monterey**	-
Morro Bay - Port San Luis	4
Santa Barbara	4
Ventura/Channel Islands Area Ports	3
Los Angeles/Long Beach Area Ports	6
Orange County Area Ports	6
Oceanside	3
San Diego Area Ports	5
Total	85

**No data

DATA COLLECTION

- Virtual quantitative and qualitative focus groups with CPFV “community-experts”
- 5 between September 2020 and March 2021
- 2.5 to 4 hours in length

Regional CPFV Port Group	Number of Participants
North Coast Area Ports (Point Arena to Crescent City)	4
Bodega Bay Area Ports	4
San Francisco Area Ports	3
Monterey Bay Area Ports**	-
Santa Barbara and Ventura/Channel Islands Area Ports	3
Los Angeles/Long Beach Area Ports**	-
Orange County/San Diego Area Ports	6
Total	20

**No data

FOCUS GROUP STRUCTURE

1. Rate fishing community on 5-point Likert scale
2. Display first set of ratings
3. Discuss ratings to introduce context
4. Re-rate fishing community
5. Display second set of ratings
6. Repeat for all focus group questions

FOCUS GROUP QUESTIONS

Commercial Fishing

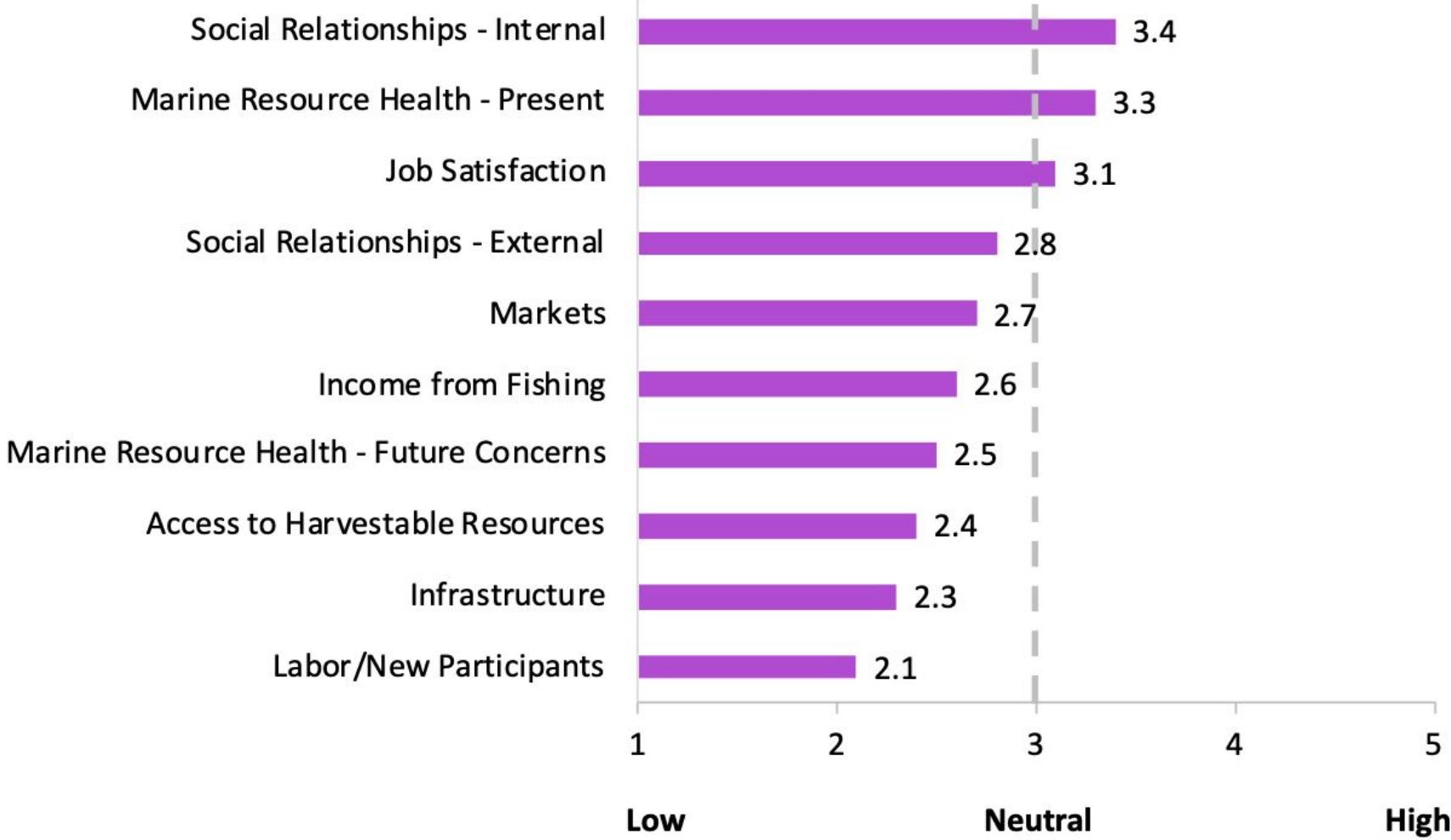
Marine resource health - present
Marine resource health - future concerns
Access to harvestable resources
Income from fishing
Markets
Infrastructure
Labor/new participants
Job satisfaction
Social relationships - internal
Social relationships - external
MPA ecological outcomes
MPA livelihood outcomes
MPA management
MPA monitoring
MPA enforcement

CPFV

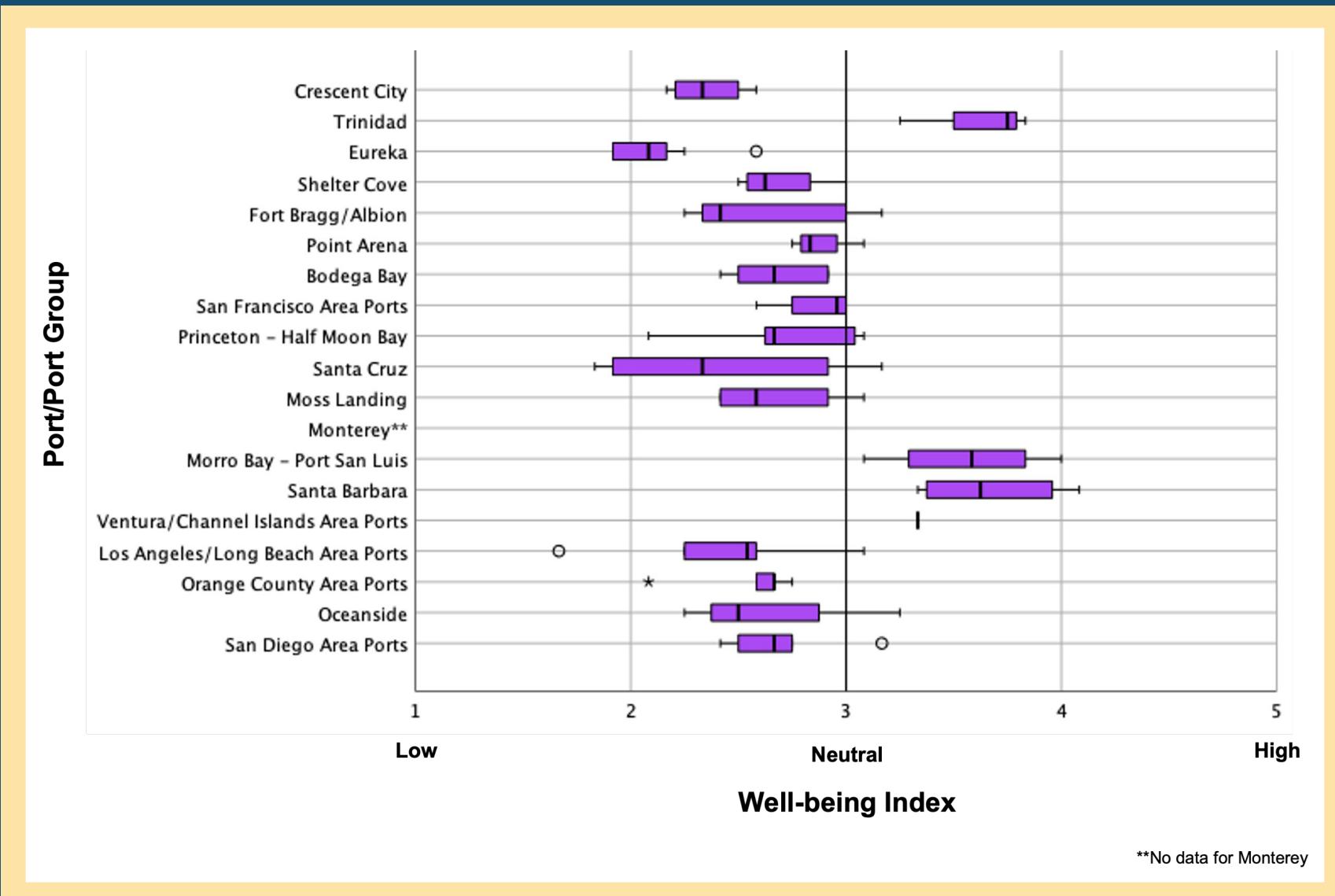
Marine resources - present state
Marine resources - future concerns
Income from fishing
Allocation of resources
Job satisfaction
Social relationships - internal
Social relationships - external
MPA ecological outcomes
MPA livelihood outcomes
MPA management
MPA monitoring
MPA enforcement

COMMERCIAL FISHING FOCUS GROUP FINDINGS

OVERALL COMMERCIAL FISHERMEN PERCEPTIONS OF FISHING COMMUNITY WELL-BEING

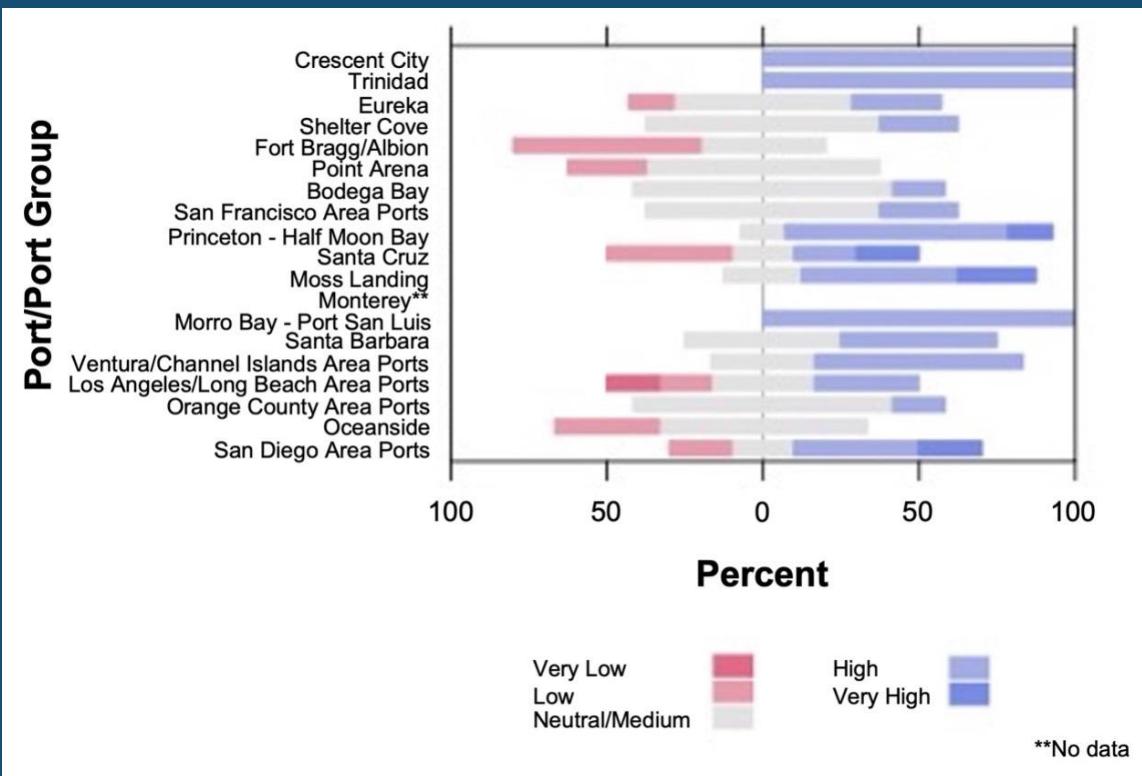


OVERALL COMMERCIAL FISHERMEN PERCEPTIONS OF FISHING COMMUNITY WELL-BEING

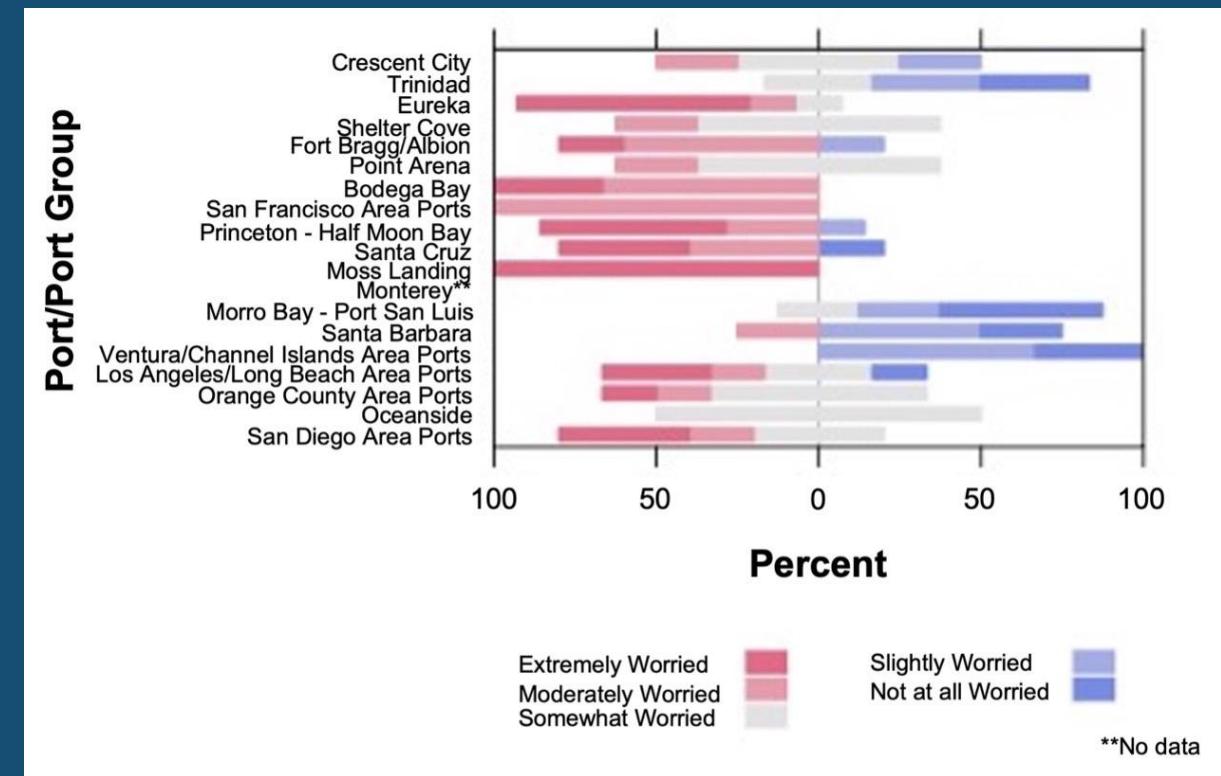


COMMERCIAL FISHERMEN PERCEPTIONS OF ENVIRONMENTAL WELL-BEING

Marine resource health - present



Marine resource health - future concerns



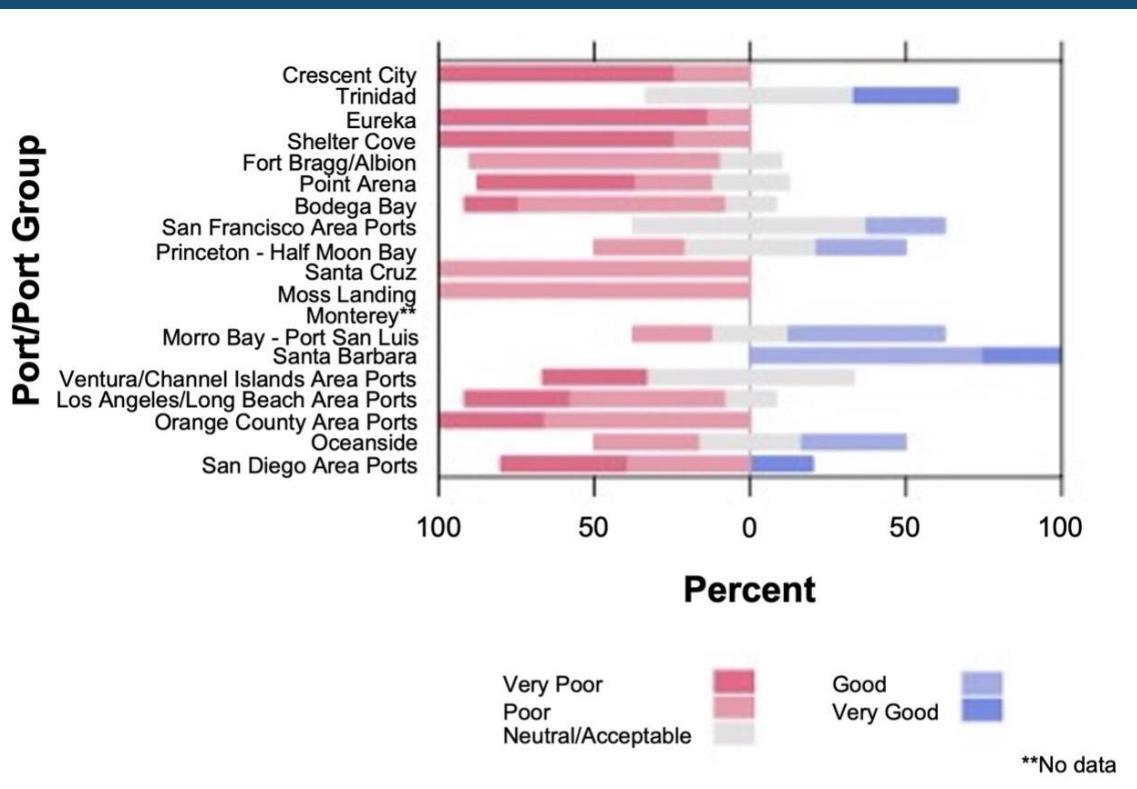
"it depends which resource you're talking about. Some species have been quite good, but others we are pretty worried about"
(Oceanside commercial fisherman, 2021)

"I'm concerned about [. . .] ocean or climate change"
(Ventura/Channel Islands area commercial fisherman, 2020)

"the political environment is by far more scary"
(San Diego area commercial fisherman, 2021)

COMMERCIAL FISHERMEN PERCEPTIONS OF ECONOMIC WELL-BEING

Infrastructure



- Ice, fuel, haul-out facilities, processors, hoists, piers, gear storage
- Desire for greater funding and support for infrastructure development, maintenance



COMMERCIAL FISHERMEN PERCEPTIONS OF ECONOMIC WELL-BEING

Access to harvestable resources

- 60% “Insufficient” or “Very Insufficient”
- Permits, seasons, area/depth closures, catch limits
- “*you just can't live on one fishery alone*”
(Bodega Bay commercial fisherman, 2020)

Markets

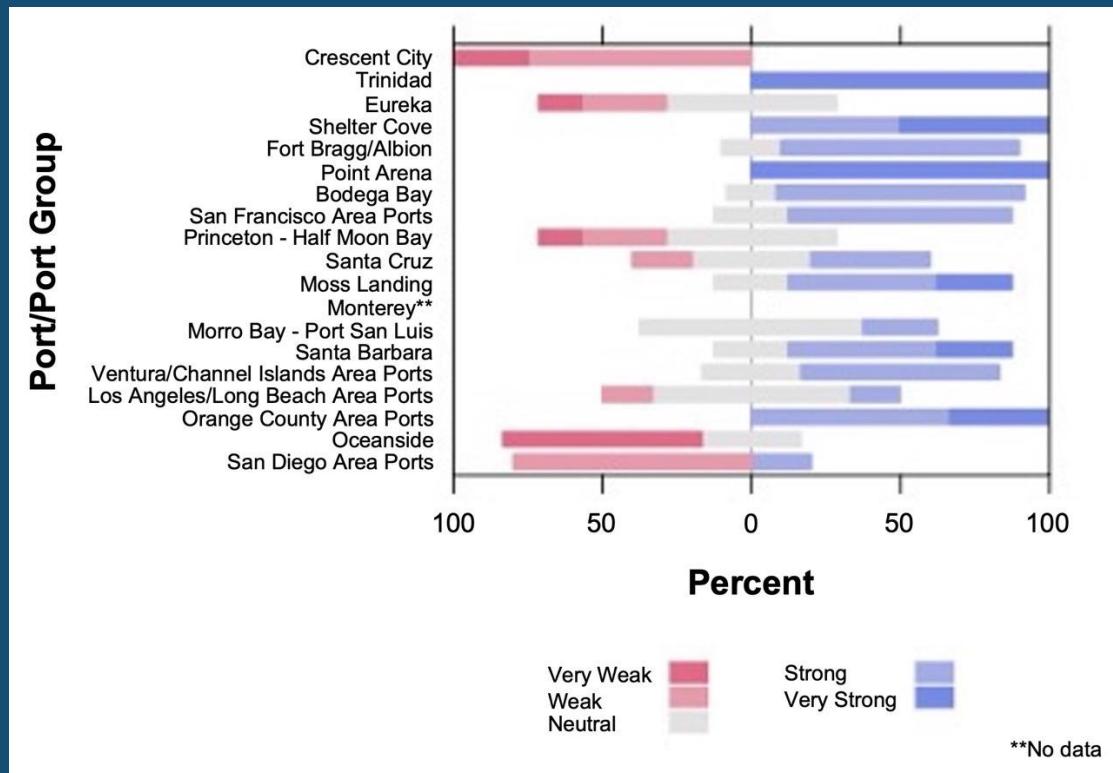
- Lack of consistent, diverse, local markets
- “*the vast majority [of us] has to succumb to what the bigger processors are willing to pay*”
(Eureka commercial fisherman, 2020)
- Desire to build, expand direct-to-consumer markets

Income from fishing

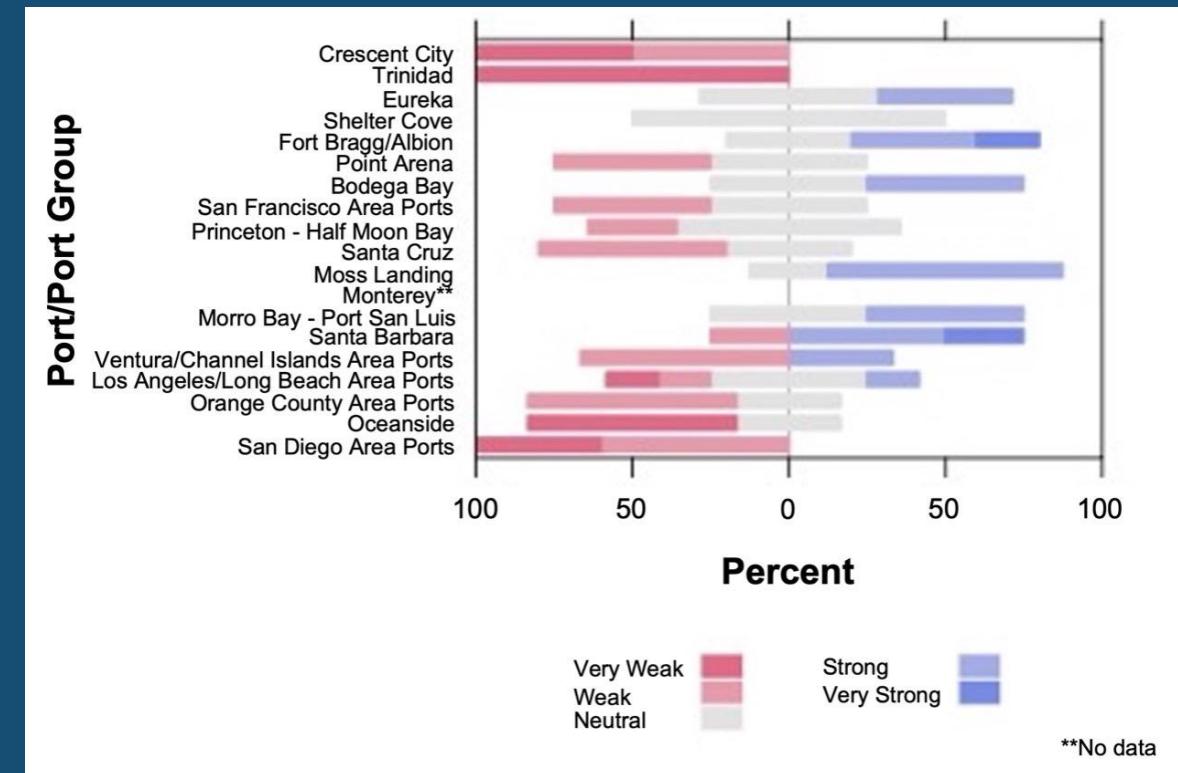
- Insufficient to support livelihoods
- “*I have a second source of income. [. . .] if I didn't have that job, I probably wouldn't have been able to get into the fishery*”
(Los Angeles/Long Beach area commercial fisherman, 2020)

COMMERCIAL FISHERMEN PERCEPTIONS OF SOCIAL WELL-BEING

Social relationships - internal



Social relationships - external



- 50% “Strong” or “Very Strong”
- “*pretty strongly bonded*”
(Bodega Bay commercial fisherman, 2020)

- 23% “Strong” or “Very Strong”
- “*hard to educate them about how important the commercial fishery is*”
(San Francisco area commercial fisherman, 2020)

COMMERCIAL FISHERMEN PERCEPTIONS OF SOCIAL WELL-BEING

Job satisfaction

- Sense of fulfillment
- Independence
- Ability to work closely with nature
- Regulatory burdens, financial stress

Labor/new participants

- 69% “Poor” or “Very Poor”
- High start-up costs, limited entry permit fees
- Graying of the fleet
- Difficulty finding, maintaining crew



“There's three or four boats that are going to retire this year because of old age. They're done doing it [. . .]. To be honest, you got to be almost crazy to get into this industry right now. It's financially irresponsible. [. . .] You can make good money, but there's a possibility that you're going to be spending a lot of money and not making nothing and be left high and dry without anything. You're gambling, big time.”

(Trinidad commercial fisherman, 2020)

COMMERCIAL FISHERMEN PERCEPTIONS OF SOCIAL WELL-BEING

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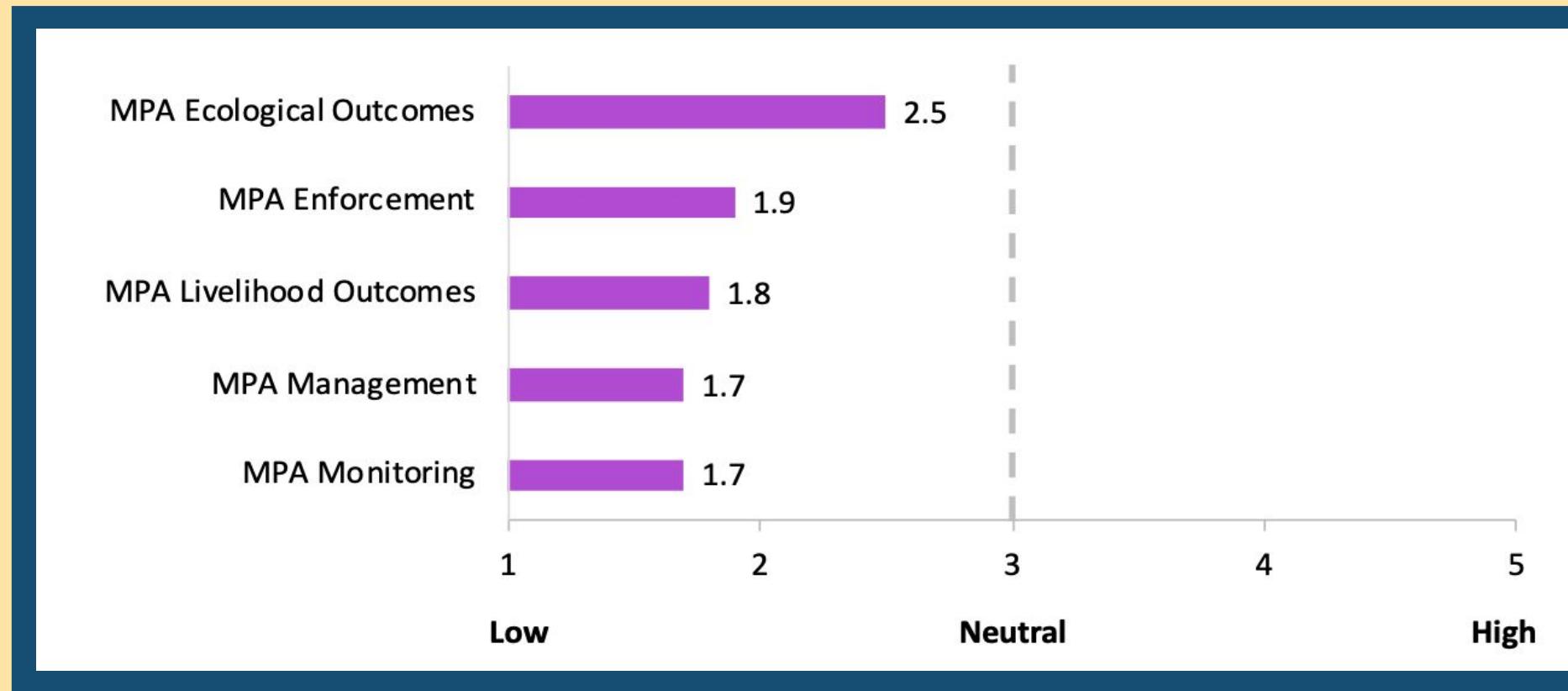
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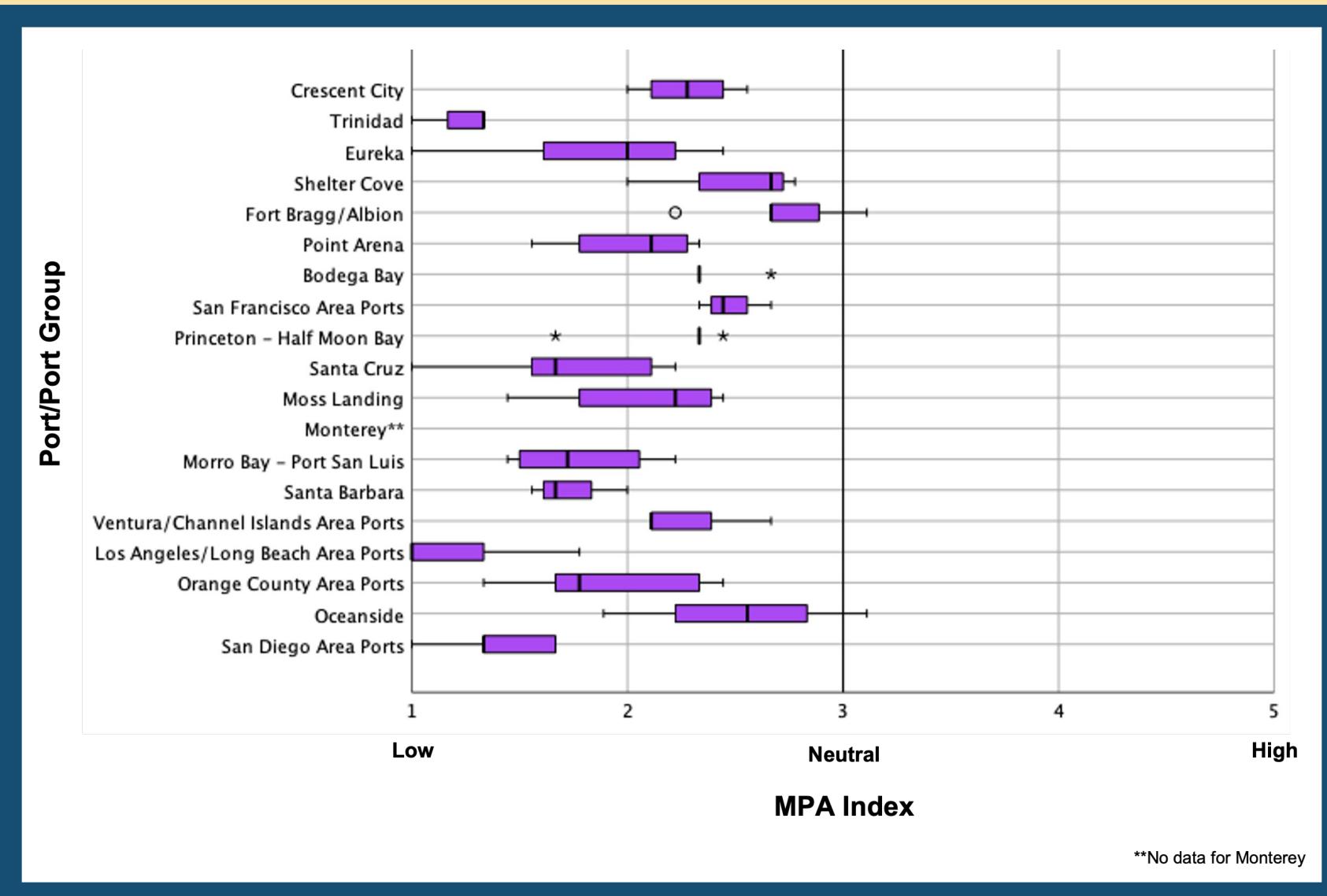
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(Trinidad commercial fisherman, 2020)

OVERALL COMMERCIAL FISHERMEN PERCEPTIONS OF OUTCOMES FROM THE MPA NETWORK

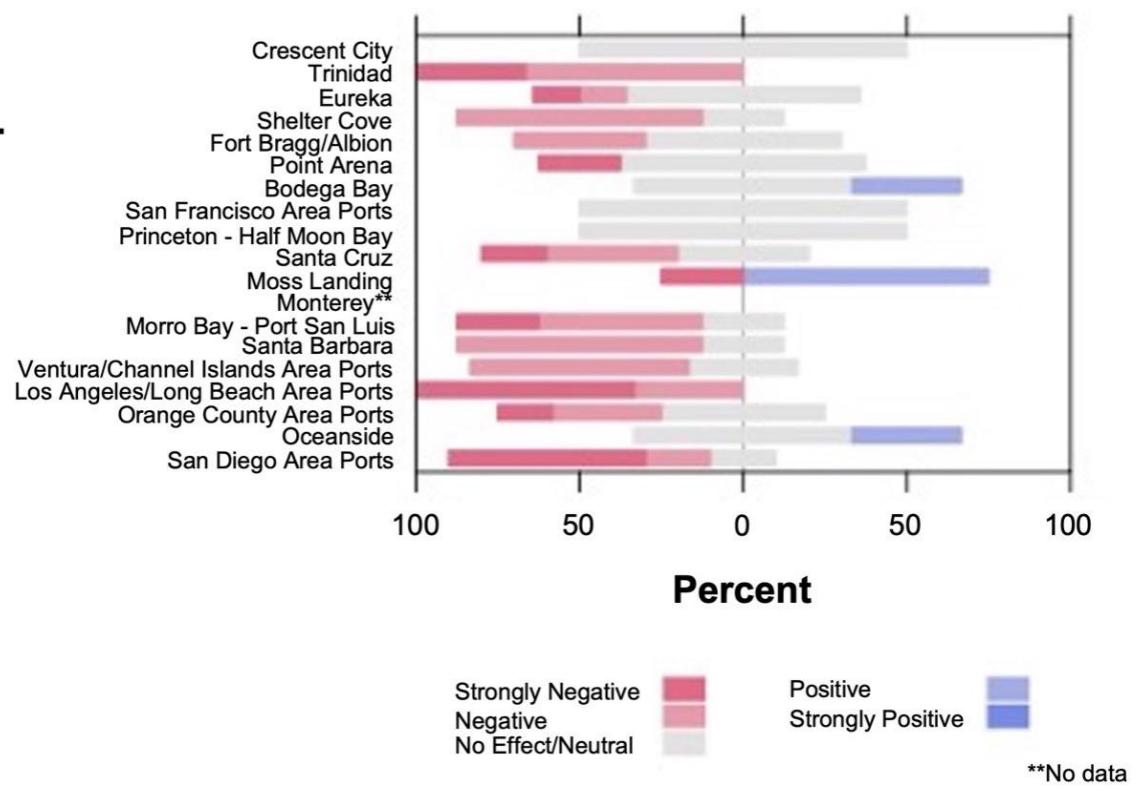


OVERALL COMMERCIAL FISHERMEN PERCEPTIONS OF OUTCOMES FROM THE MPA NETWORK



COMMERCIAL FISHERMEN PERCEPTIONS OF ECOLOGICAL OUTCOMES FROM THE MPA NETWORK

Port/Port Group



Negative/Strongly Negative

- Displaced fishing effort, localized depletions
- Urchin harvesting restrictions, kelp declines

No Effect/Neutral

- Not enough information
- MPAs exposed to impacts beyond fishing
- No sign of spillover
- Minimal protection for mobile species

Positive

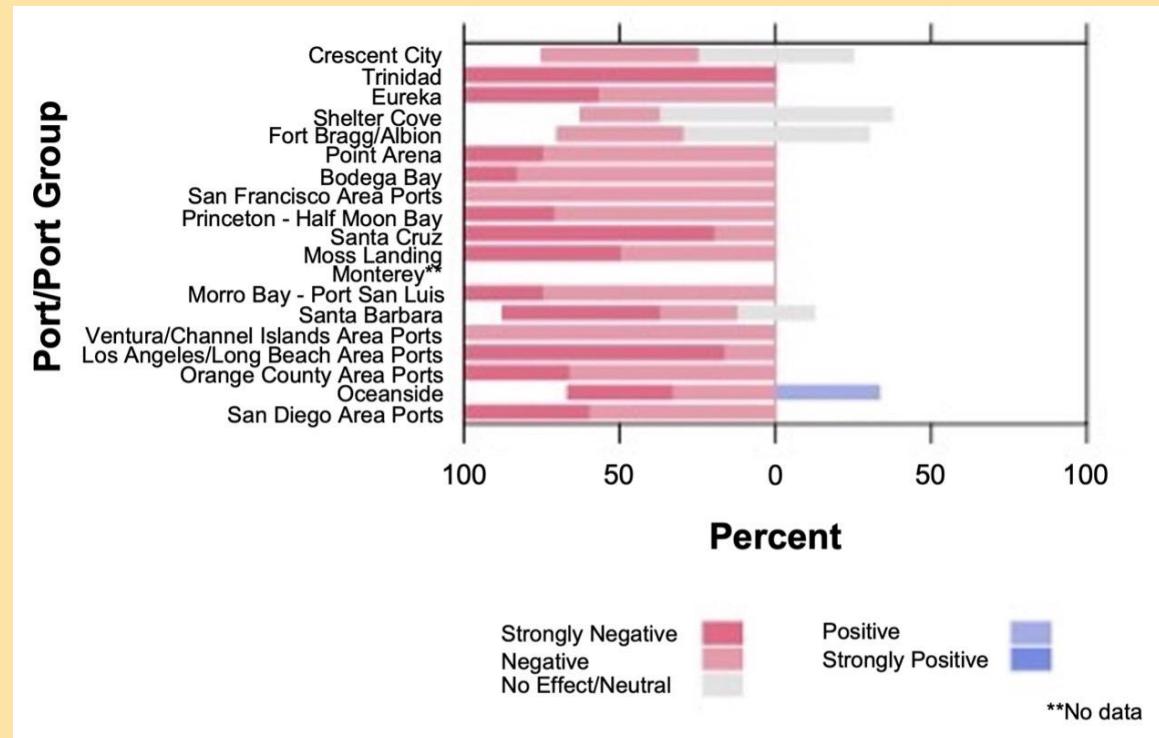
- Increased species abundance, size

COMMERCIAL FISHERMEN PERCEPTIONS OF LIVELIHOOD OUTCOMES FROM THE MPA NETWORK

“loss of fishing area is a major factor. [. . .] My income was reduced by one third when [the MPAs were] put into place.”
(Oceanside commercial fisherman, 2021)

“You can't talk about MPA impacts without talking about all closure impacts [. . .] we're forced into smaller and smaller areas” (Eureka commercial fisherman, 2020)

“It takes longer [to fill quotas]: more fuel to burn, more time on the ocean... you're [. . .] spending a lot more going.” (Morro Bay - Port San Luis commercial fisherman, 2020)



COMMERCIAL FISHERMEN PERCEPTIONS OF MANAGEMENT OUTCOMES FROM THE MPA NETWORK

- 86% “Dissatisfied” or “Very Dissatisfied” with the management of the MPA network

MPA implementation

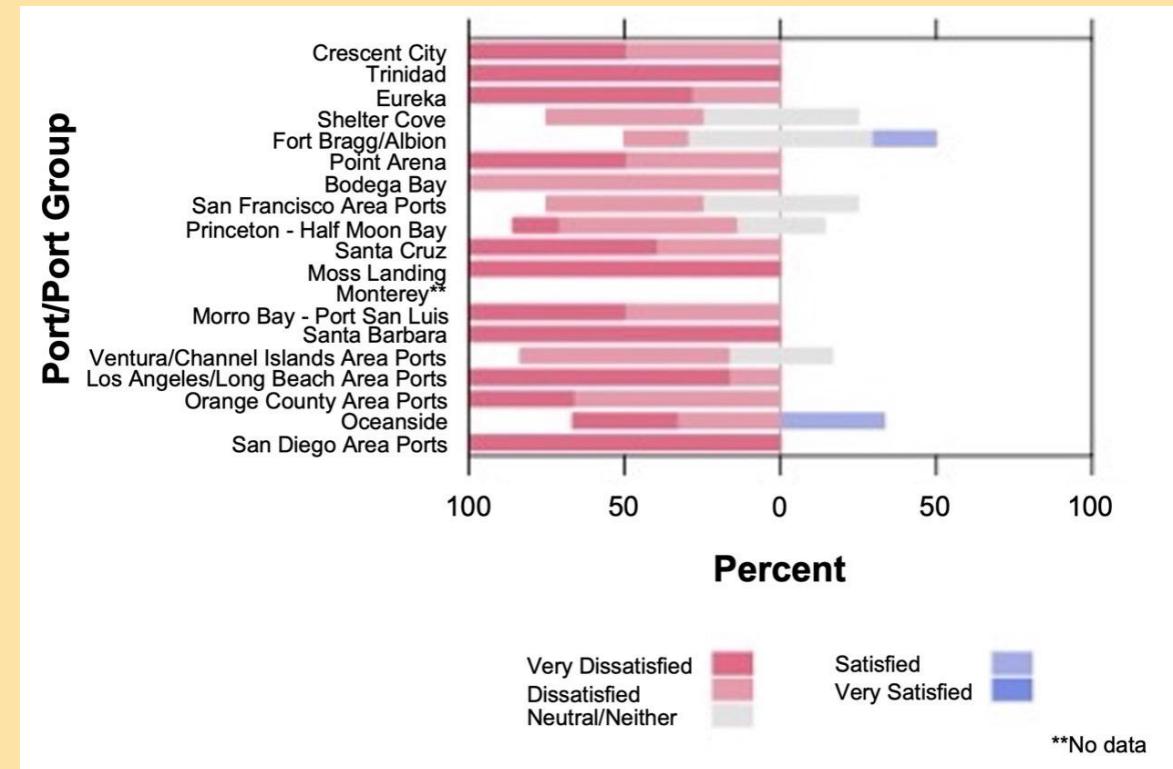


- Strong, lasting feelings of betrayal
- Driven by politics, special interests
- Fishermen’s needs not genuinely considered
- Priority fishing grounds designated as MPAs

Current MPA management



- Lack of clear MPA goals
- Poor communication of information, decisions
- Insufficient opportunities for fishermen involvement



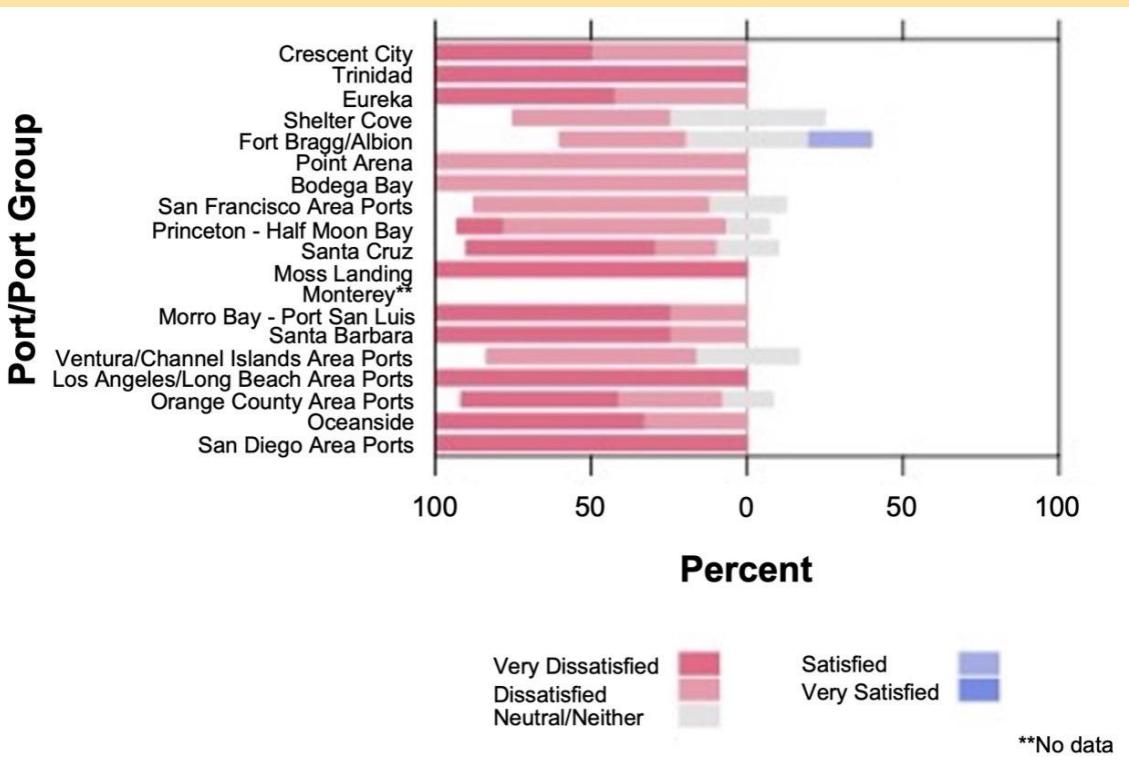
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Very Dissatisfied
Dissatisfied
Neutral/Neither

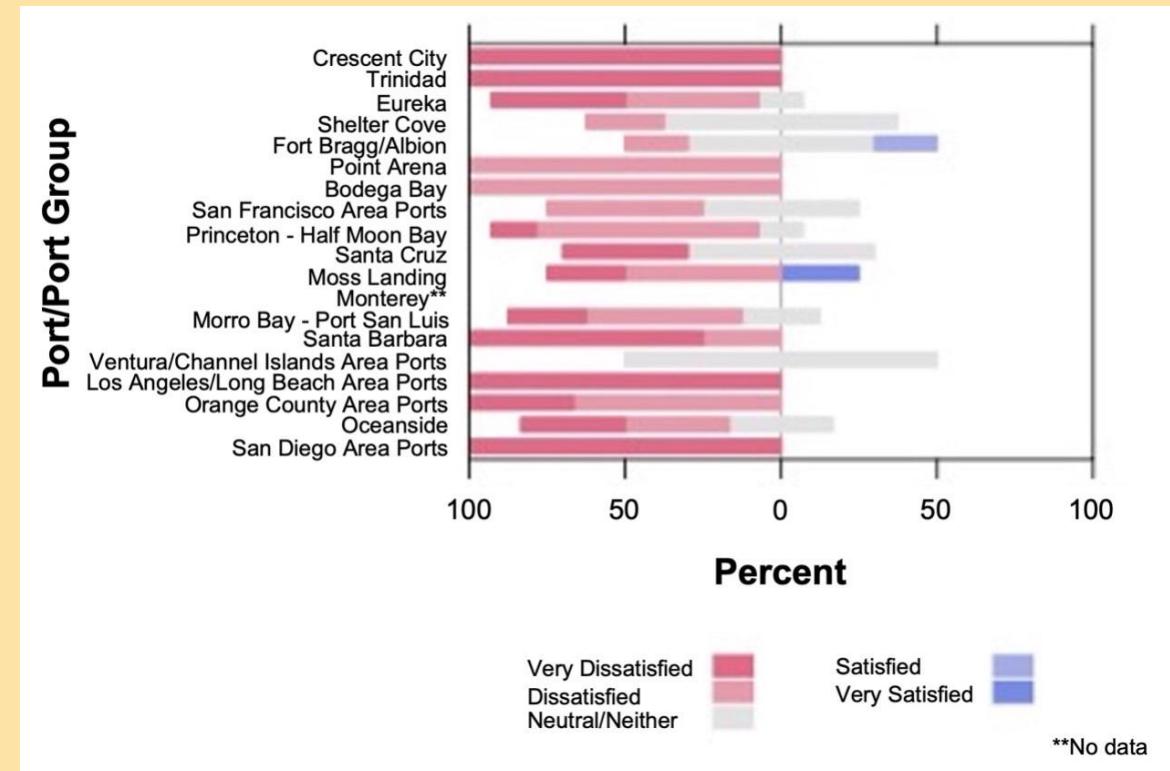
Satisfied
Very Satisfied

COMMERCIAL FISHERMEN PERCEPTIONS OF MANAGEMENT OUTCOMES FROM THE MPA NETWORK

MPA monitoring



MPA enforcement

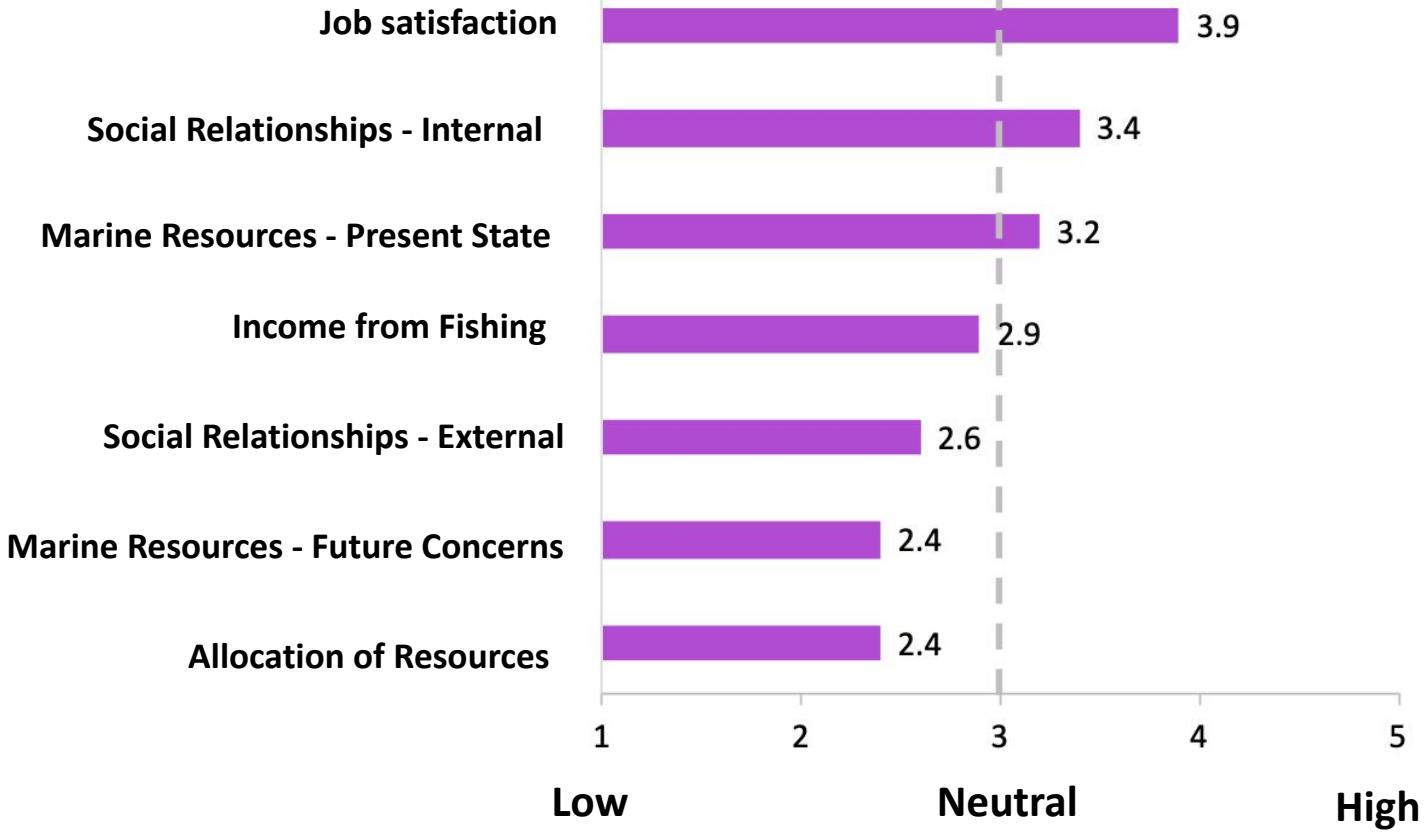


- Unaware, lack of communication
- “*I wish [the results were] more accessible*”
(Fort Bragg/Albion commercial fisherman, 2020)

- Inconsistent, unfair, ineffective
- “*the reality is that there's no enforcement*”
(San Diego area commercial fisherman, 2021)

CPFV
FOCUS GROUP FINDINGS

CPFV/CHARTER BOAT PERCEPTIONS OF WELL-BEING



CPFV/CHARTER BOAT PERCEPTIONS OF WELL-BEING

Social Well-being

"I think everyone is satisfied. [...] There are some questions with job security, [...] who knows where we're going to be in 20 years? [...] It's stressful, that's part of the job. [...] But I think, certainly, the positives outweigh the negatives.

-Orange County/San Diego Region CPFV Operator

Economic Well-being

"[Resource allocation for us is] insufficient. [...] the bottom line is the more restrictive [CDFW regulations are,]... the harder it is to make a profit [...] and the more pressure [is] put in smaller areas."

-Ventura/Santa Barbara Region CPFV Operator

Environmental Well-being

"[It's a] combo of worry about management and future ocean change."

-San Francisco Bay Area Region CPFV Operator

Environmental Well-being

"When you look at things like decreasing kelp forests, increasing pressure on some species [...] It matters what species we're talking about. But in general, I think we're looking at decreasing and changing habitats with increasing pressure, [...]it] is a worry for me."

-Bodega Bay Region CPFV Operator

CPFV/CHARTER BOAT PERCEPTIONS OF MPA OUTCOMES

MPA Livelihood Outcomes:

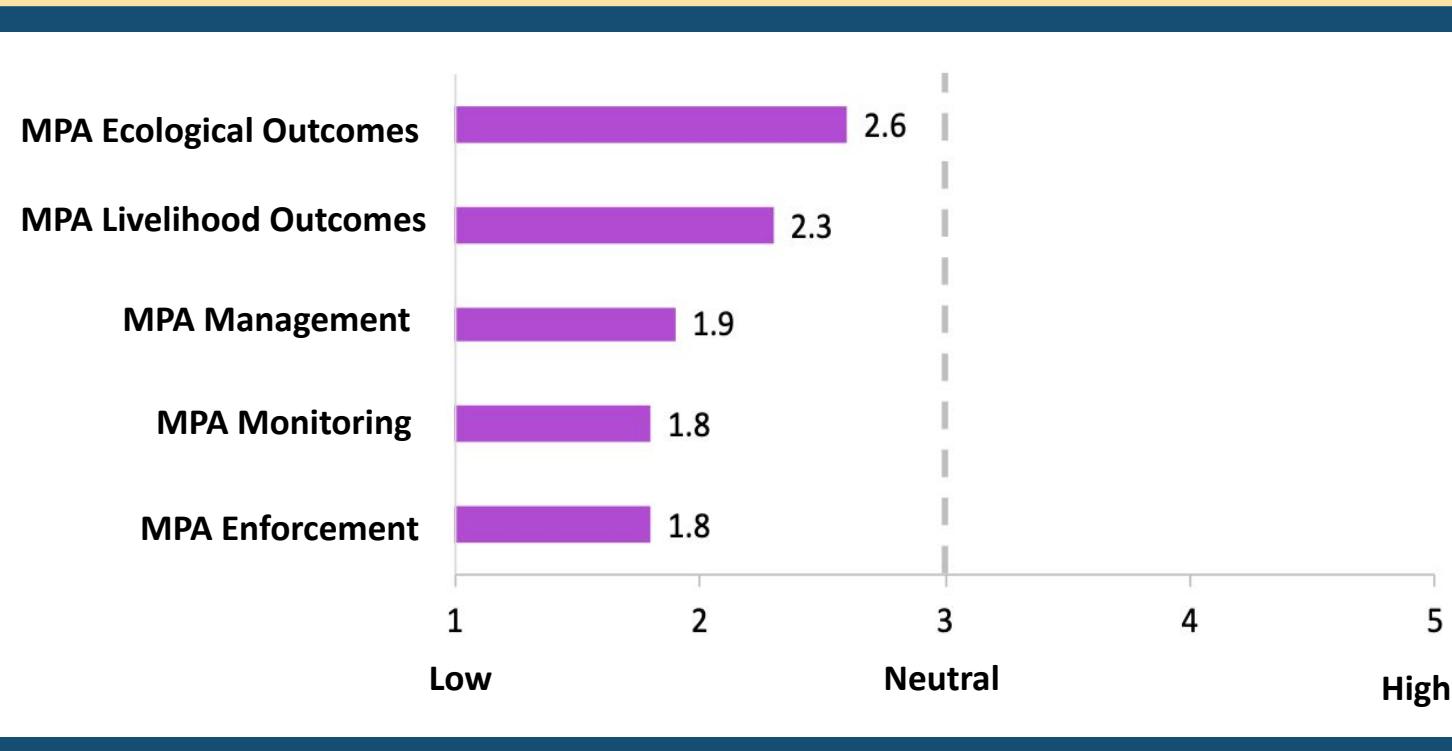
“You've got to drive around the [MPAs] so that you can fish. [...More] fuel, you know, [means] less profit.”

(Bodega Bay Region CPFV Operator, 2021)

MPA Management Outcomes:

“There's been no communication [...about] what has been going on with the MPAs. There's been no fishermen involvement that I've seen”

(San Francisco Region CPFV Operator, 2021)



MPA Ecological Outcomes:

“[MPAs] have had a positive effect on the fisheries [as] nursery [...] for fish species here. The negative aspect [is that MPAs have] limited [the] areas where we can fish [...] we're having to fish in a smaller area”

(San Francisco Region CPFV Operator, 2021)

OVERARCHING TAKEAWAYS

Well-being

- Challenges in environmental, economic, social domains

MPAs

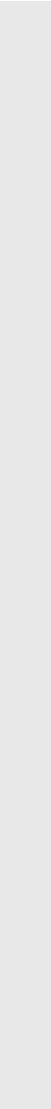
- Negative views of outcomes from the MPA network
- Often driven by lack of clear goals, poor communication
- Lack of opportunities for inclusion of fishermen knowledge, participation

Interconnections between well-being and MPAs

- MPAs not the only cause of well-being challenges
- Interacted with, exacerbated pre-existing well-being conditions



Questions?



Draft Website Sneak Peak

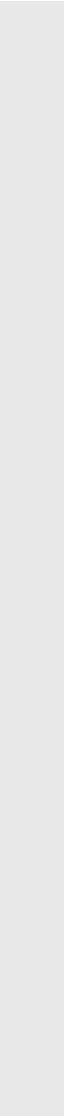
In Development

Ecotrust



Final Reporting: Spatial and Fisheries Data

Ecotrust

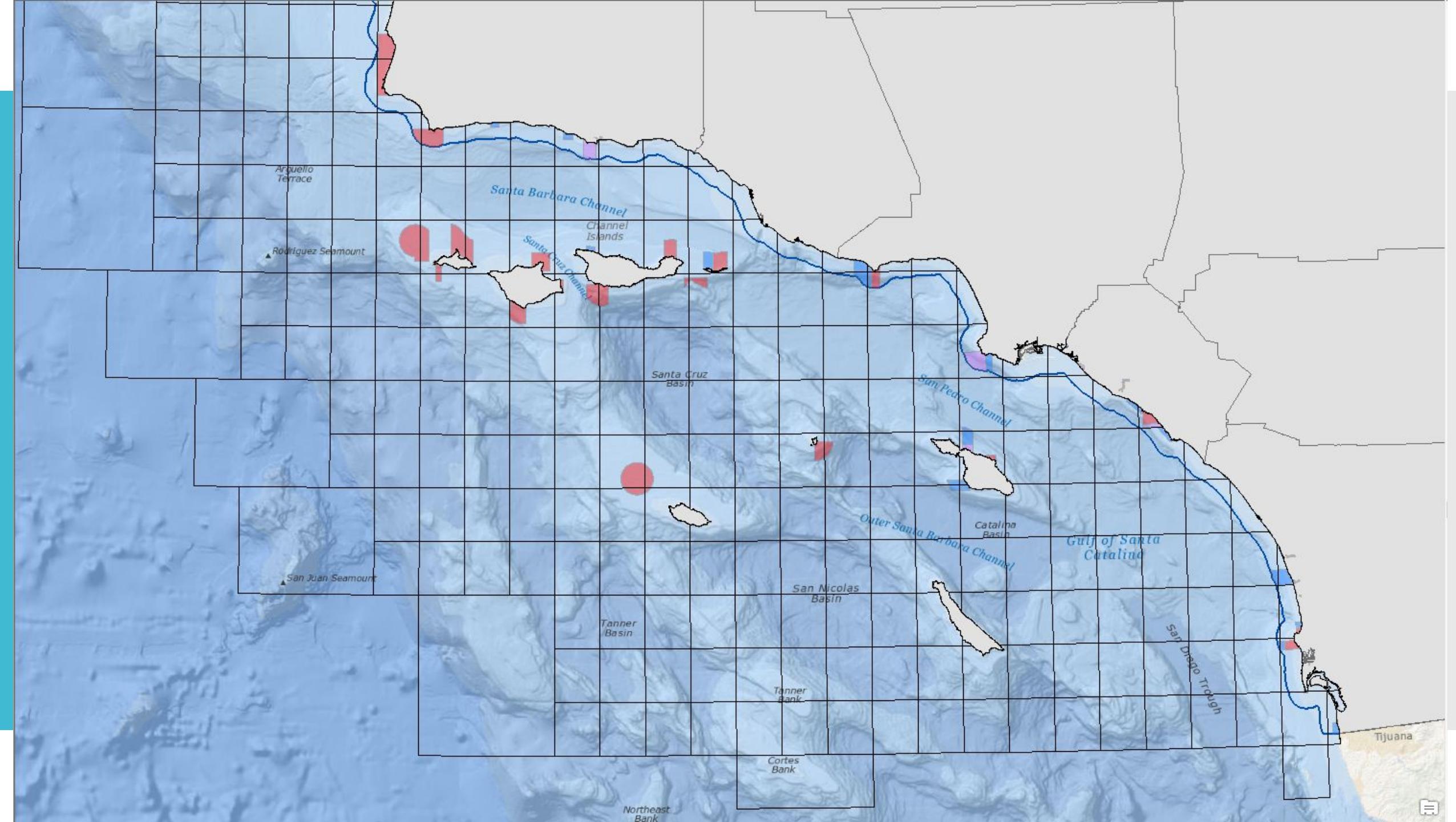


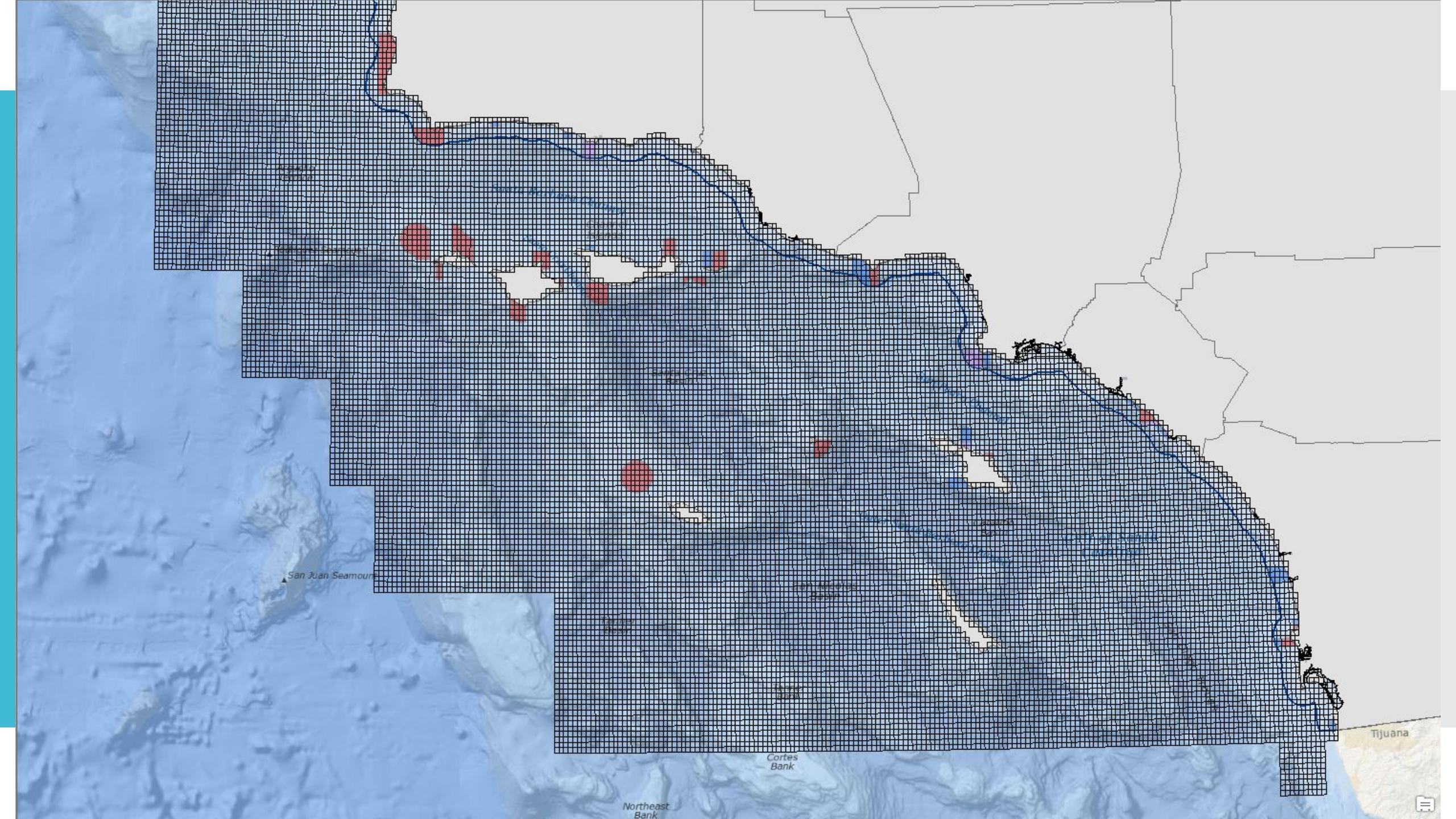
Project Component: Spatial & Economic Data

Establish a statewide spatial and economic data sets that maybe used to assess changes in commercial fisheries since MPA implementation

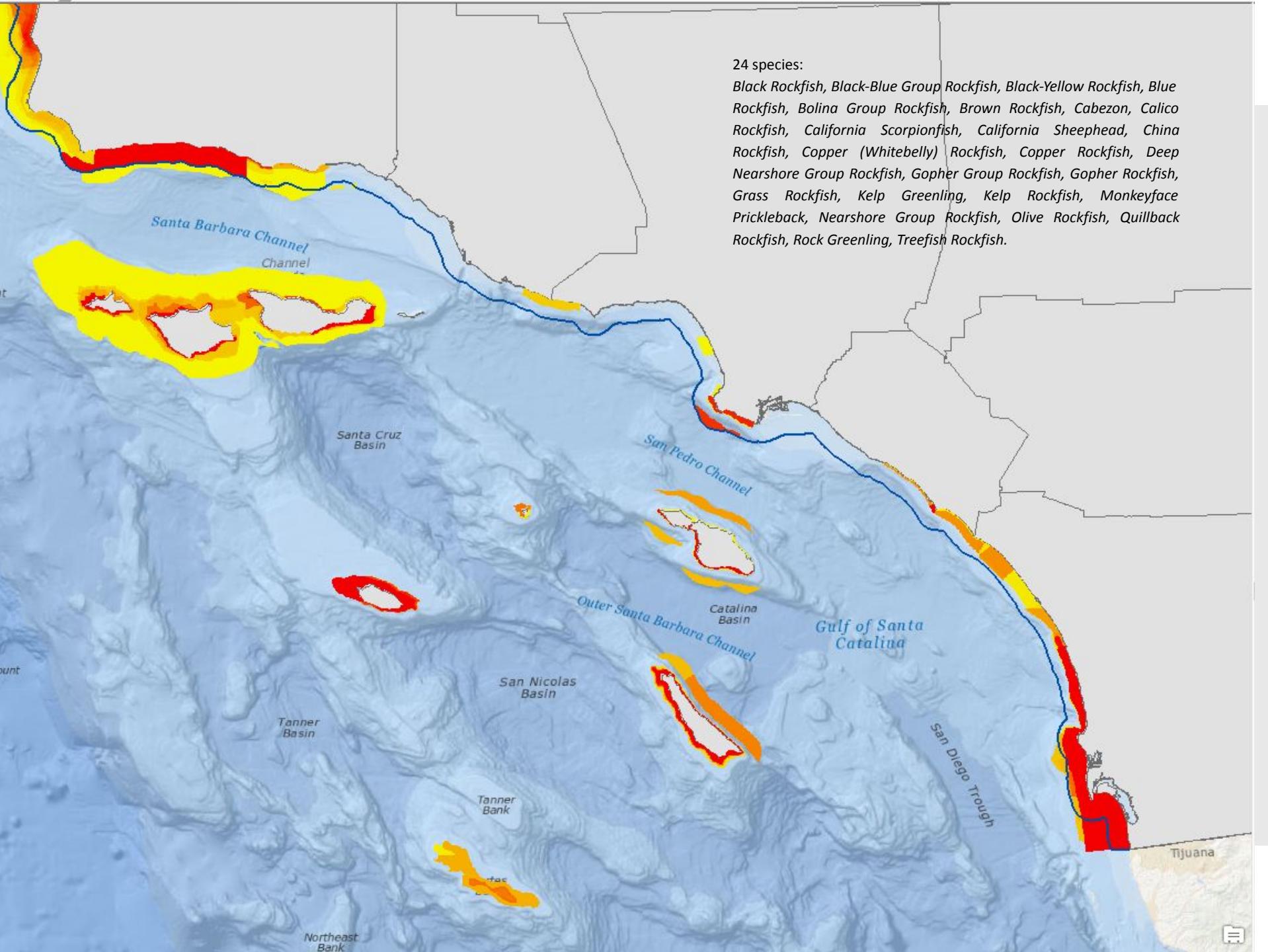
Spatial Data Viewer

1. We developed a spatial model to refine California commercial fishing data from 10×10 nautical mile area to 1×1 nautical mile area using best-available data.
2. We applied our model methodology to the California Spiny lobster, red sea urchin, and nearshore finfish fisheries and found our model to be useful.
3. Although our modeling approach achieved what we aimed for, we recommended establishing methods and programs to gather fine-scale spatial and temporal scale human use data



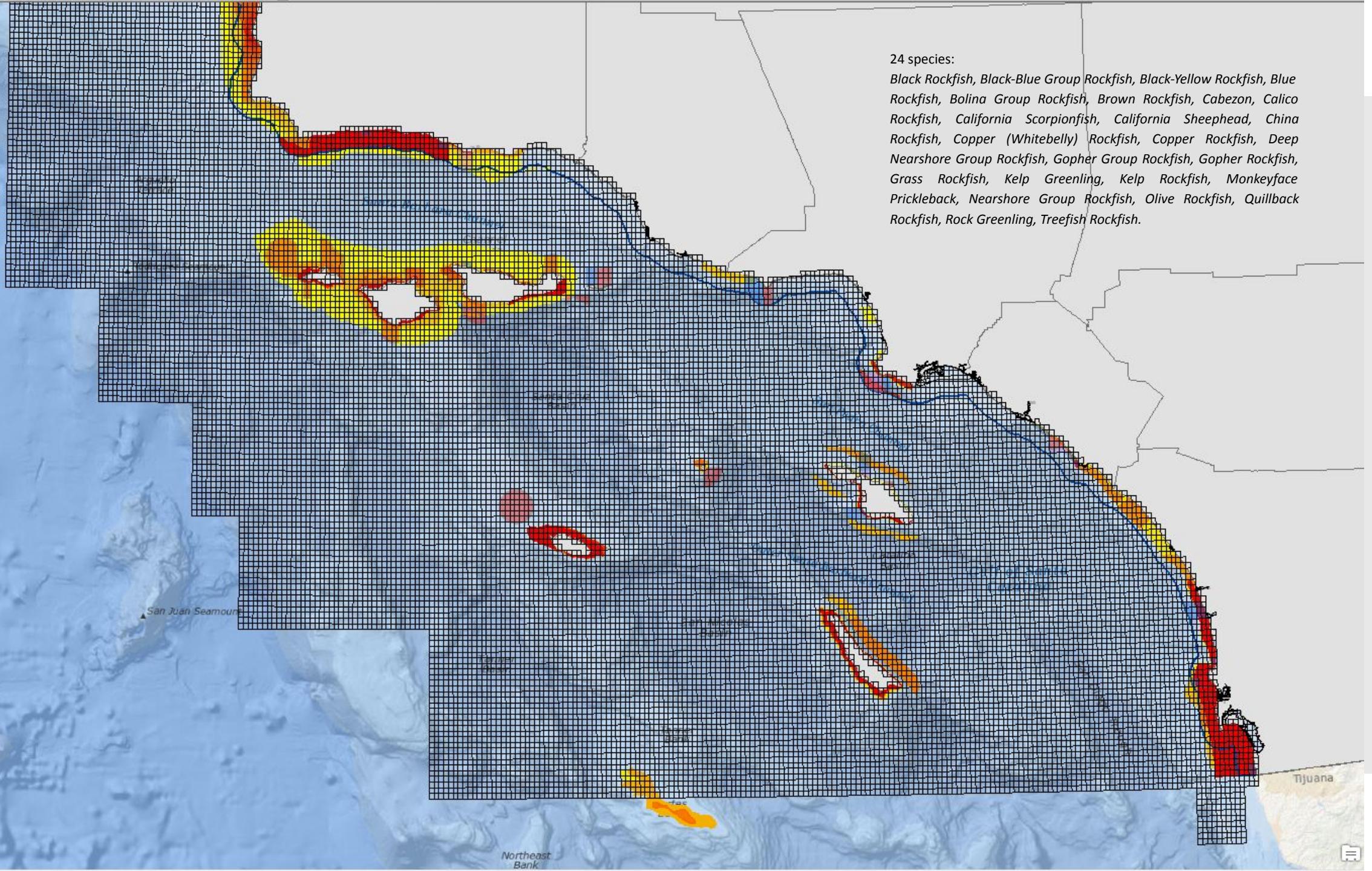


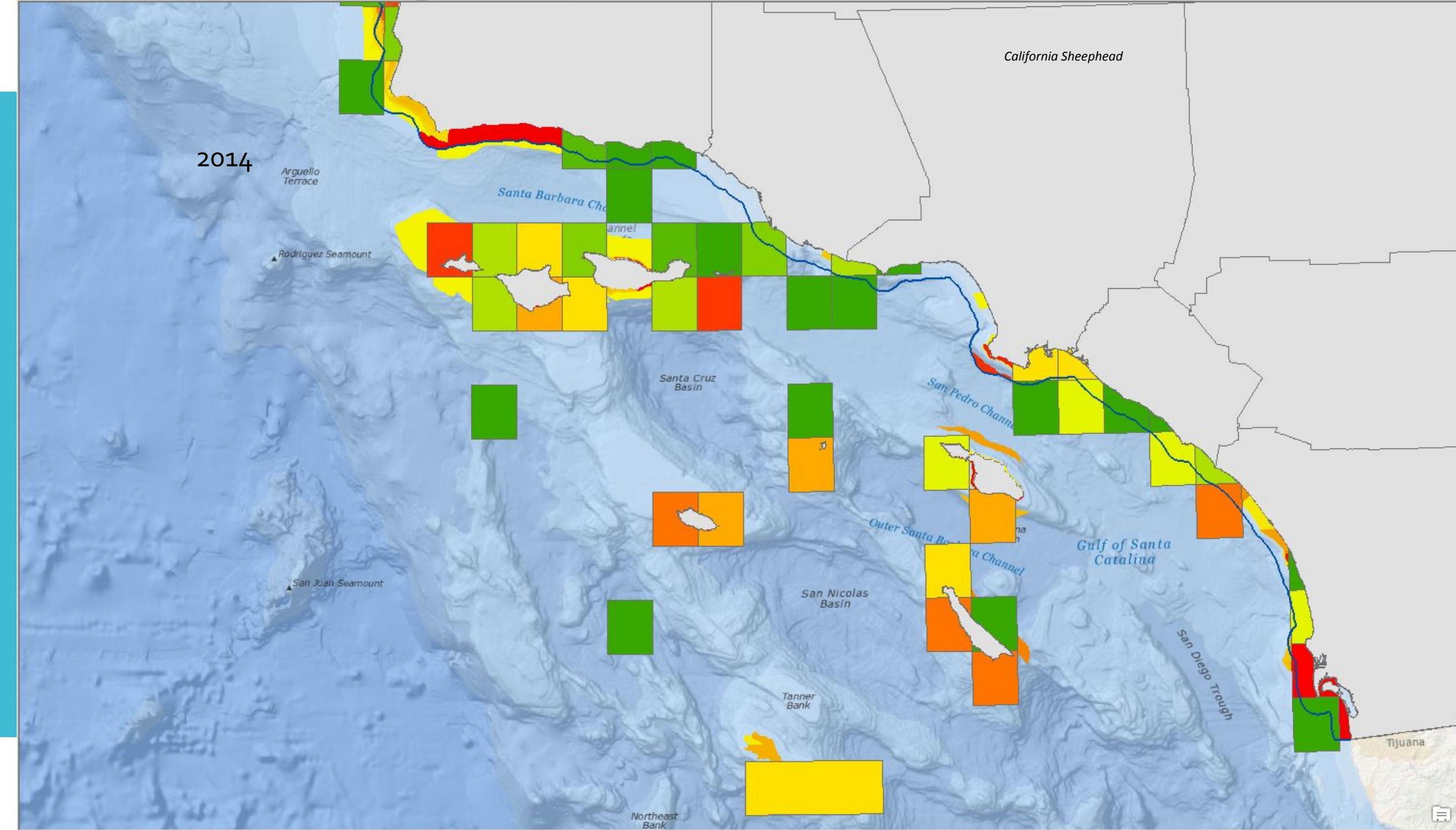
pre-MPA,
Arguello
Terrace
2005-2010

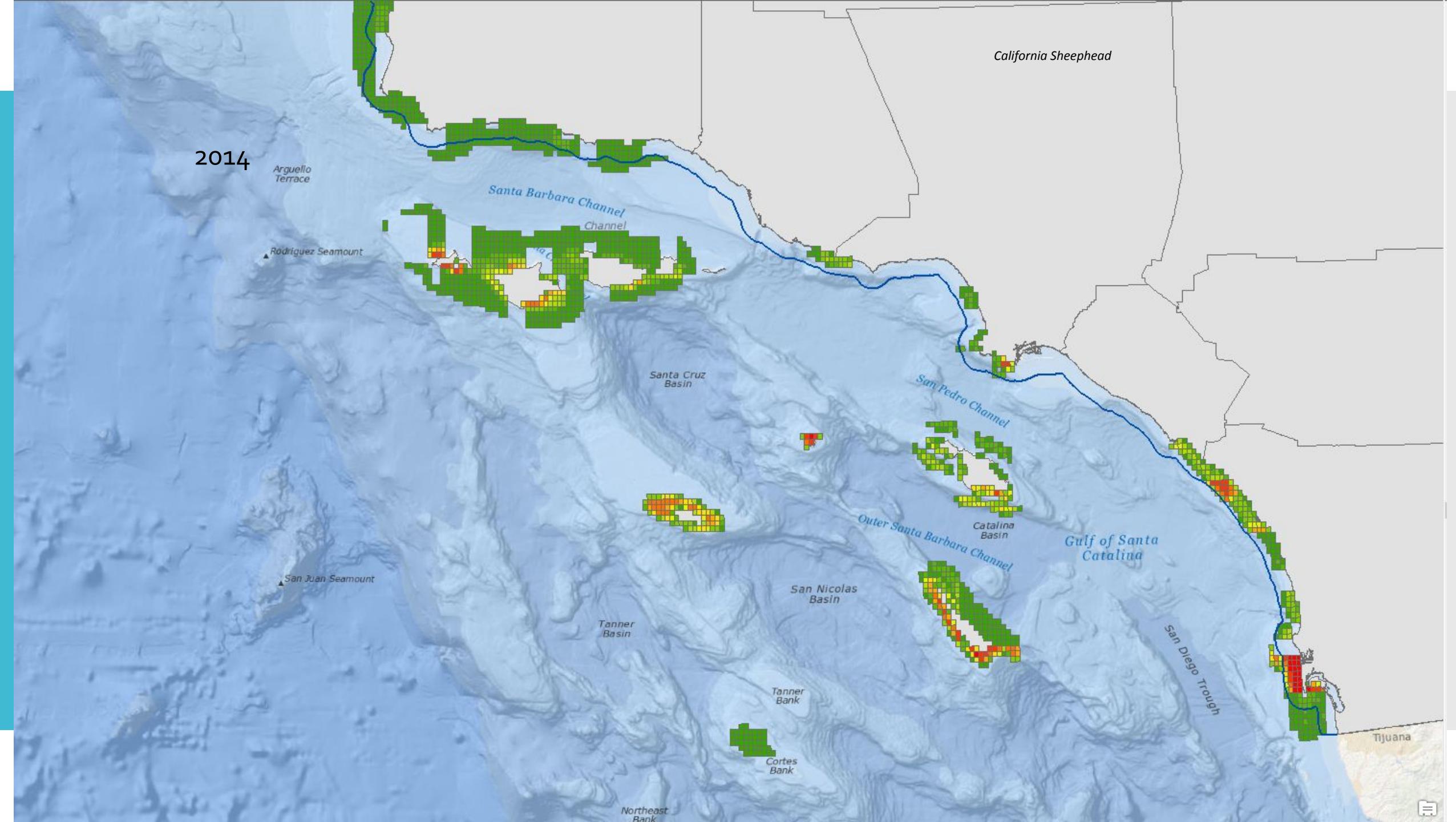


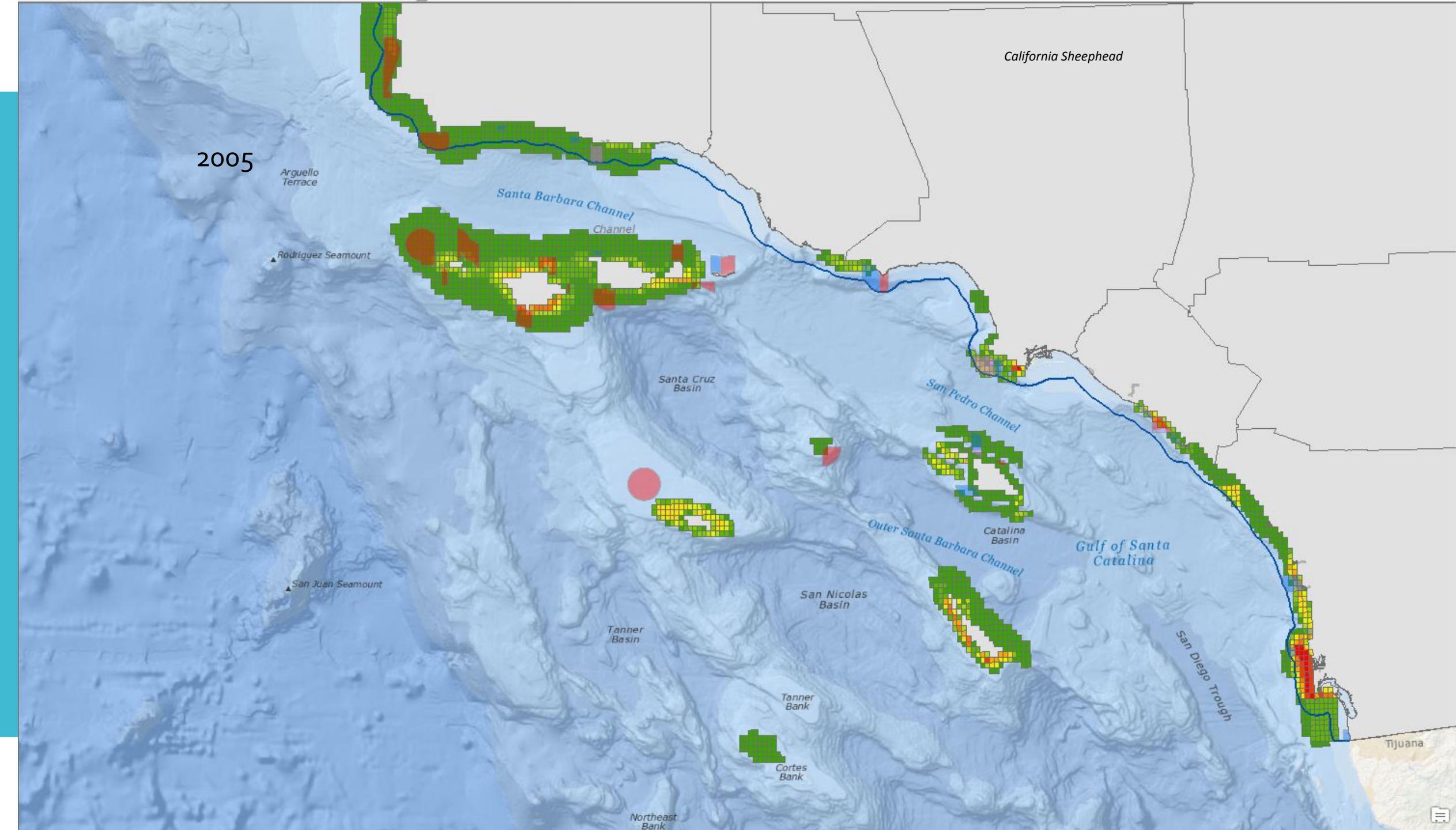
24 species:

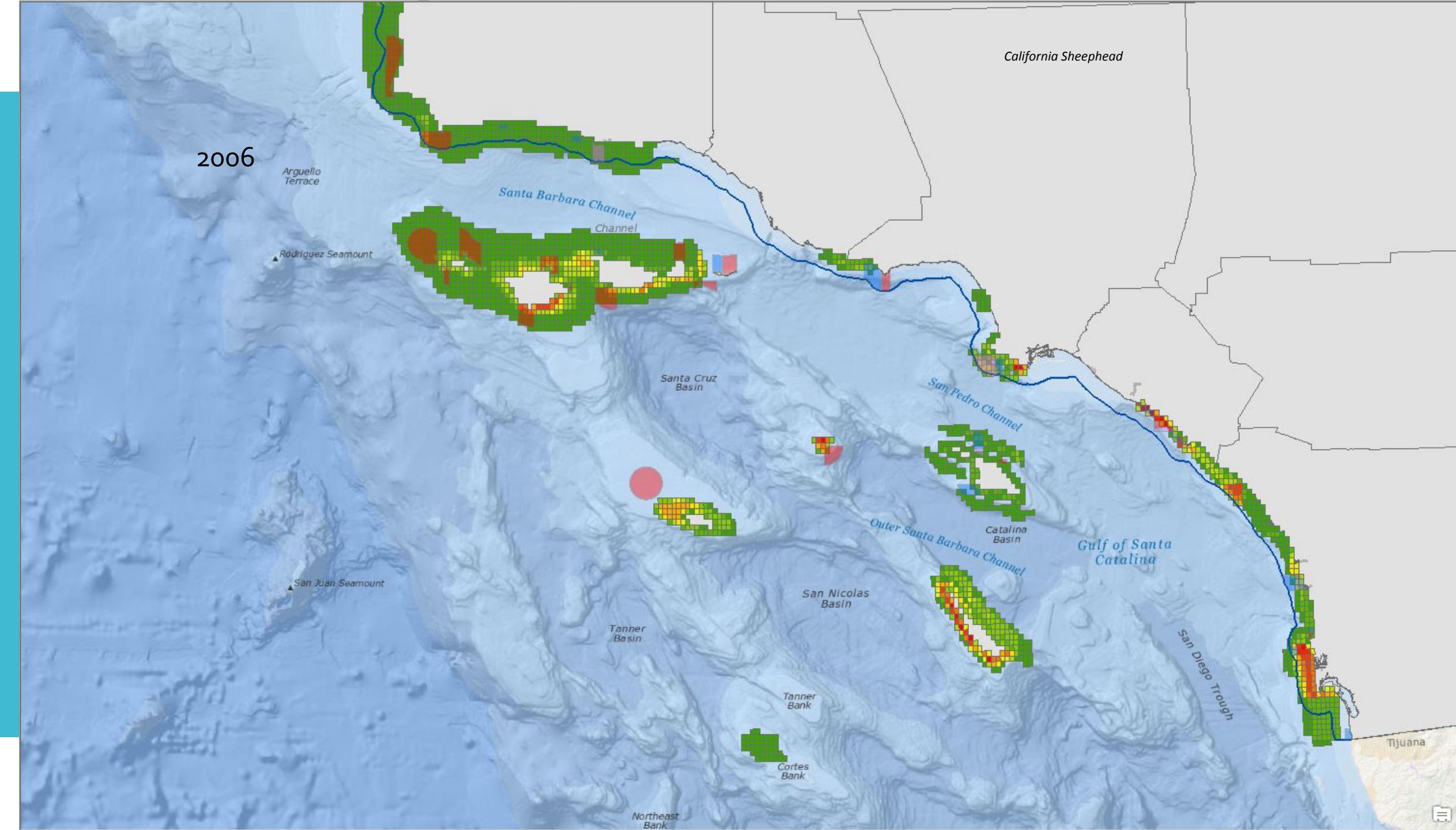
Black Rockfish, Black-Blue Group Rockfish, Black-Yellow Rockfish, Blue Rockfish, Bolina Group Rockfish, Brown Rockfish, Cabezon, Calico Rockfish, California Scorpionfish, California Sheephead, China Rockfish, Copper (Whitebelly) Rockfish, Copper Rockfish, Deep Nearshore Group Rockfish, Gopher Group Rockfish, Gopher Rockfish, Grass Rockfish, Kelp Greenling, Kelp Rockfish, Monkeyface Prickleback, Nearshore Group Rockfish, Olive Rockfish, Quillback Rockfish, Rock Greenling, Treefish Rockfish.

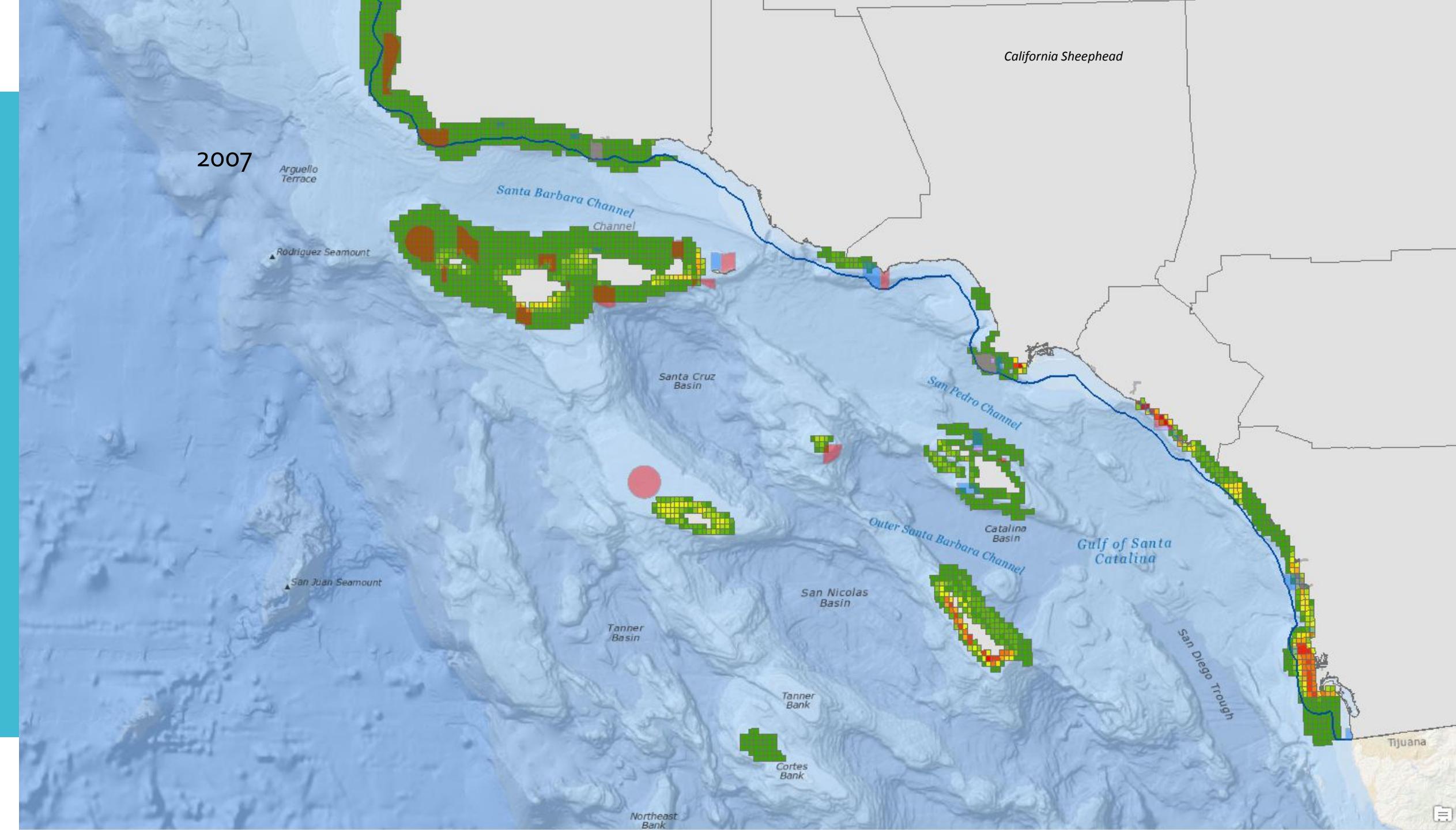


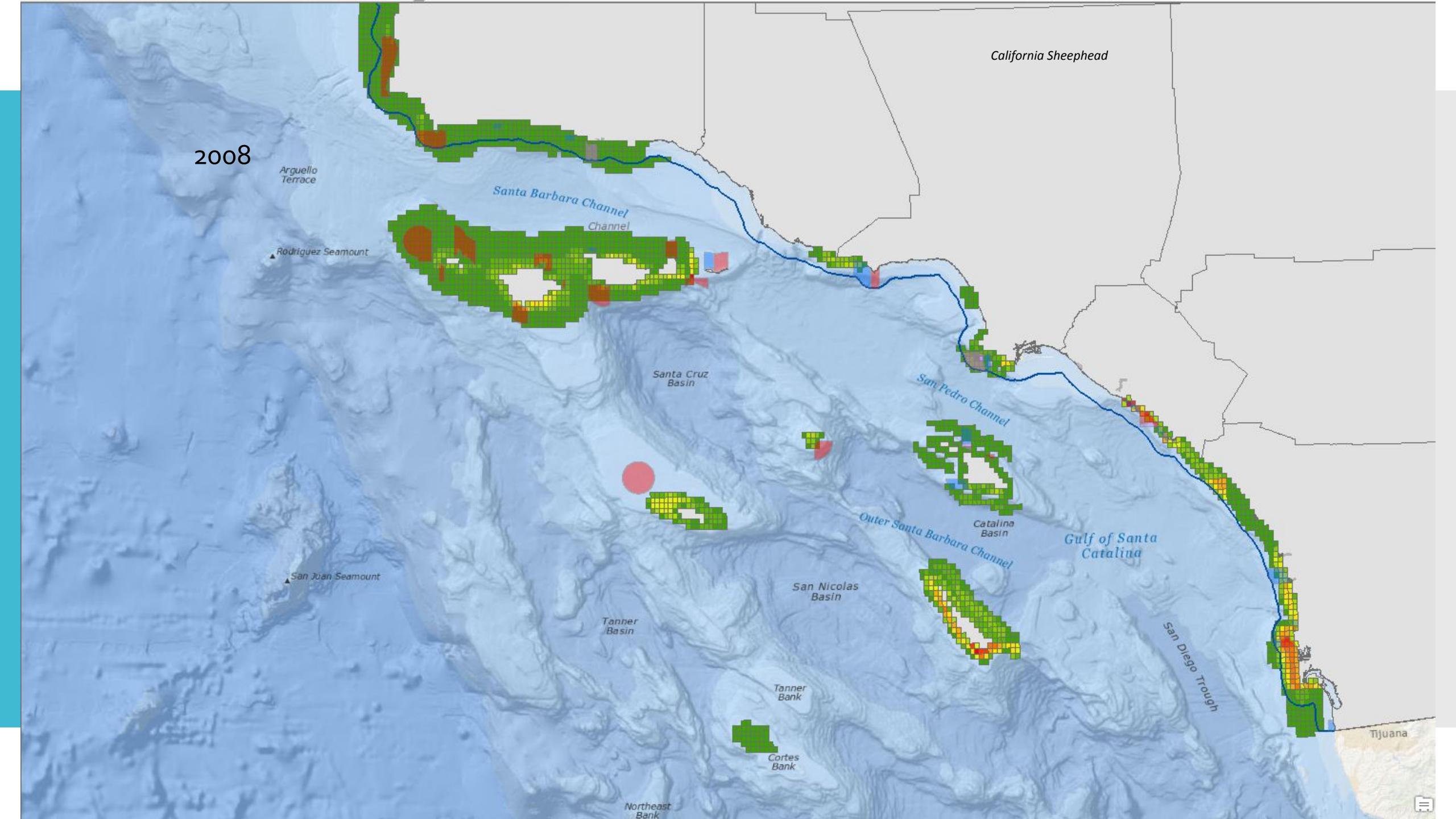


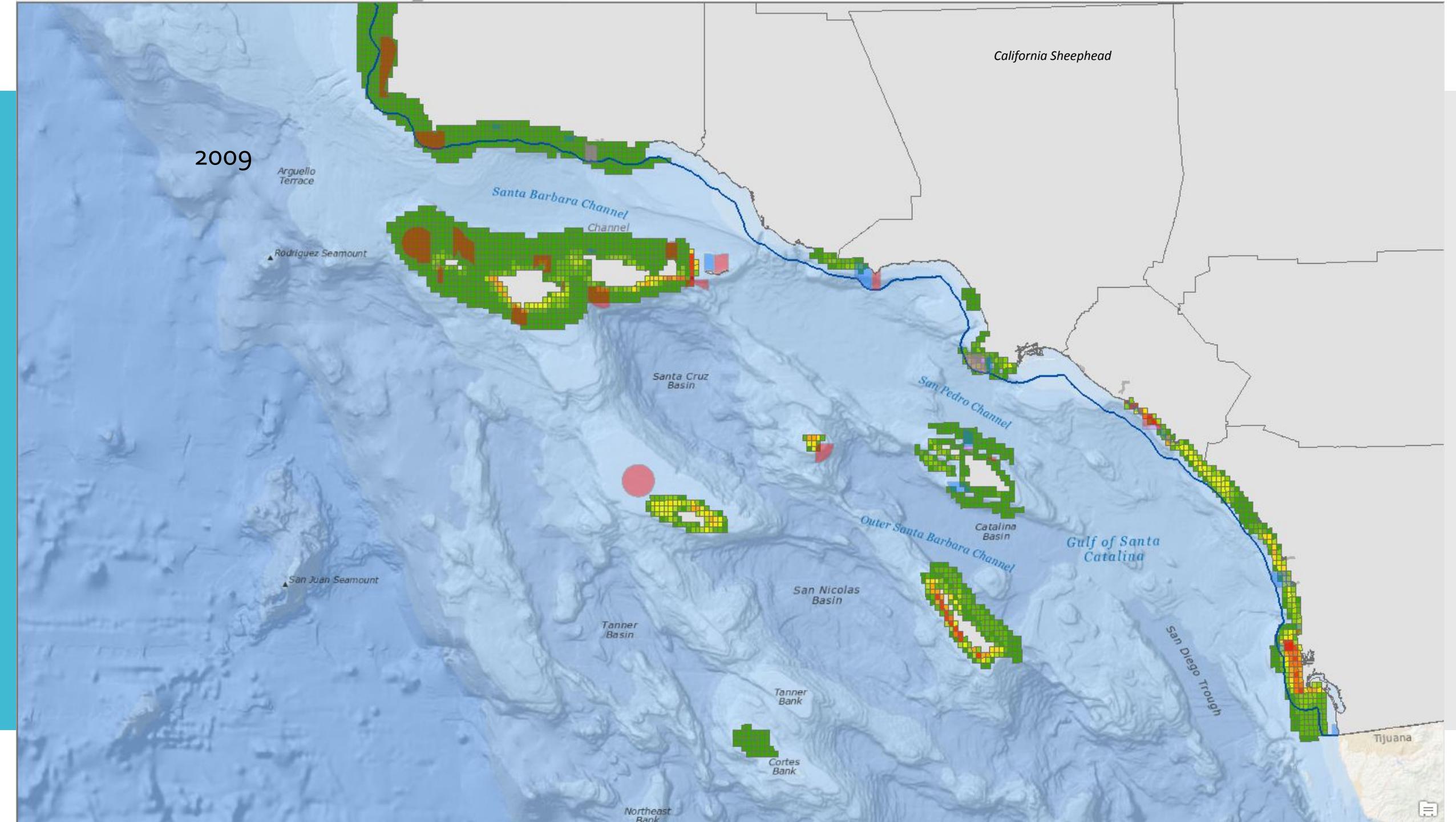


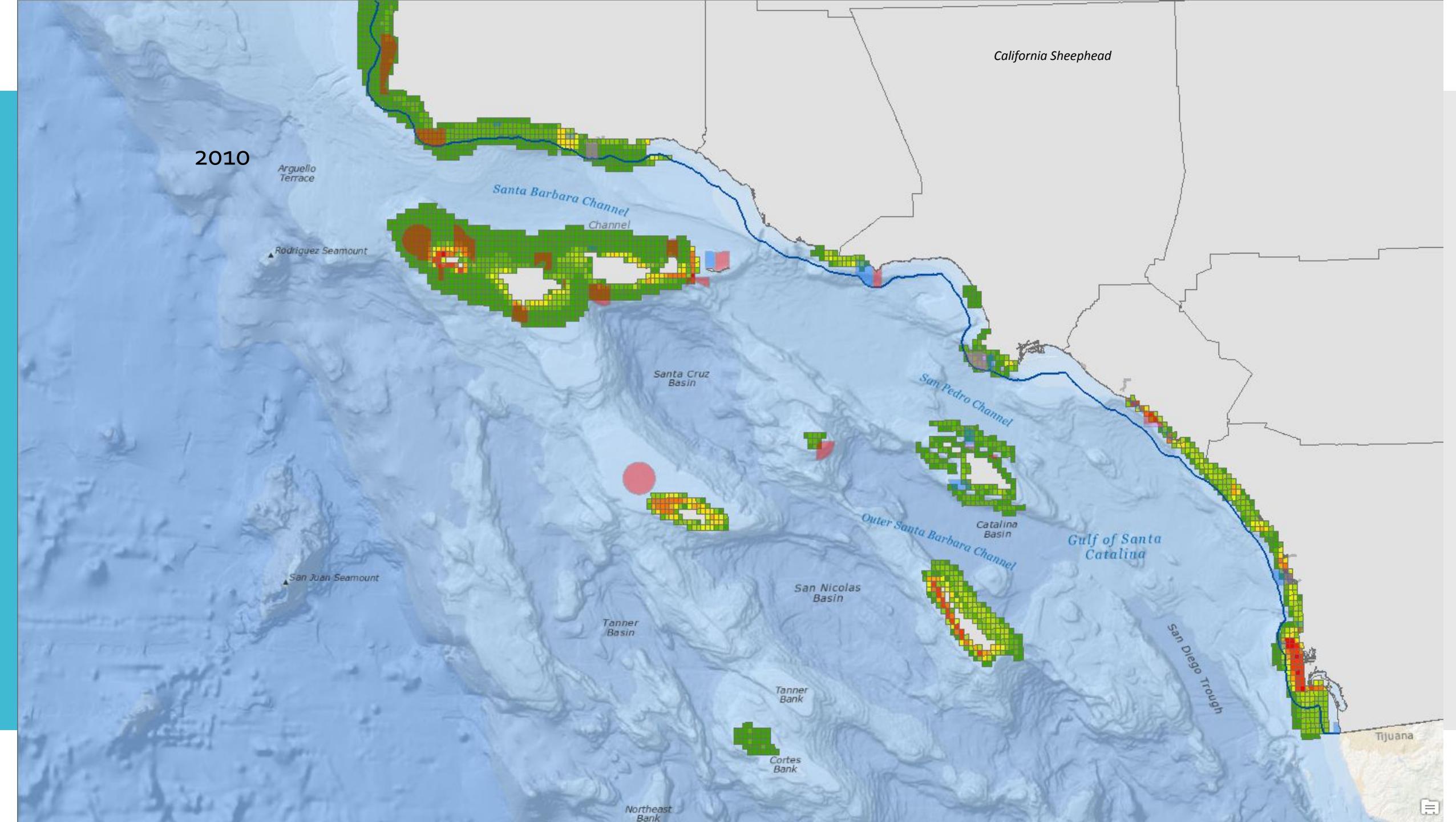












Fisheries Data Explorer

1. A dynamic interface intended to promote exploration into specific ports/fisheries and comparisons across ports/ fisheries
2. Visualize changes, trends, and patterns over time
1992-2020
3. Intended to be easily shareable and visually engaging

Recommendations

Ecotrust, Strategic Earth, and Humboldt State University

Project Component: Recommendations

Produce recommendations as to how the state of California can most effectively design and implement a long-term program to monitor the socioeconomic health of commercial and CPFV fisheries.

Project Team Recommendations

- Explicitly identify and provide sustained funding for full spectrum of human dimensions research
 - Long-term socioeconomic monitoring program commercial and CPFV fisheries
- Establish methods and programs to gather fine-scale spatial and temporal scale human use data
- Initiate and integrate collaboration across the human and ecological dimensions

Project Team Recommendations

- Build communication channels that are reflective of the needs of target audience
 - Inclusive, adaptive to audience needs
 - Two-way information exchange
 - Co-create processes and products
 - Address inequity and burnout
 - Neutral facilitation
- Be accountable and transparent about opportunities for adaptive management and potential expansion of protected areas
 - Consistent and timely messaging
 - Fisherman advisory body
 - Opportunities for fishermen to collaborate in long-term monitoring and research.

Project Team Recommendations

- Invest in California fishing community well-being

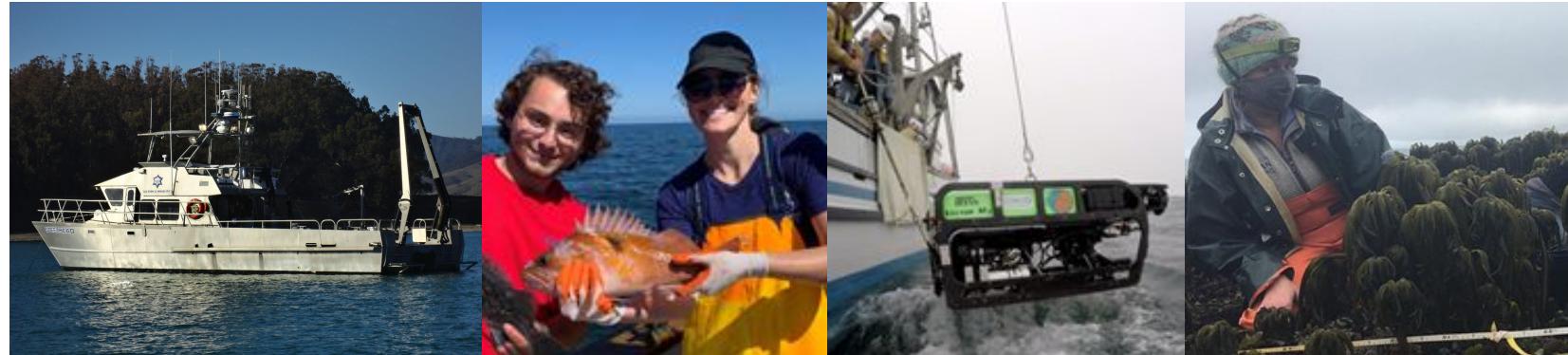


Looking Ahead: Statewide MPA Monitoring Reporting and MPA Decadal Management Review

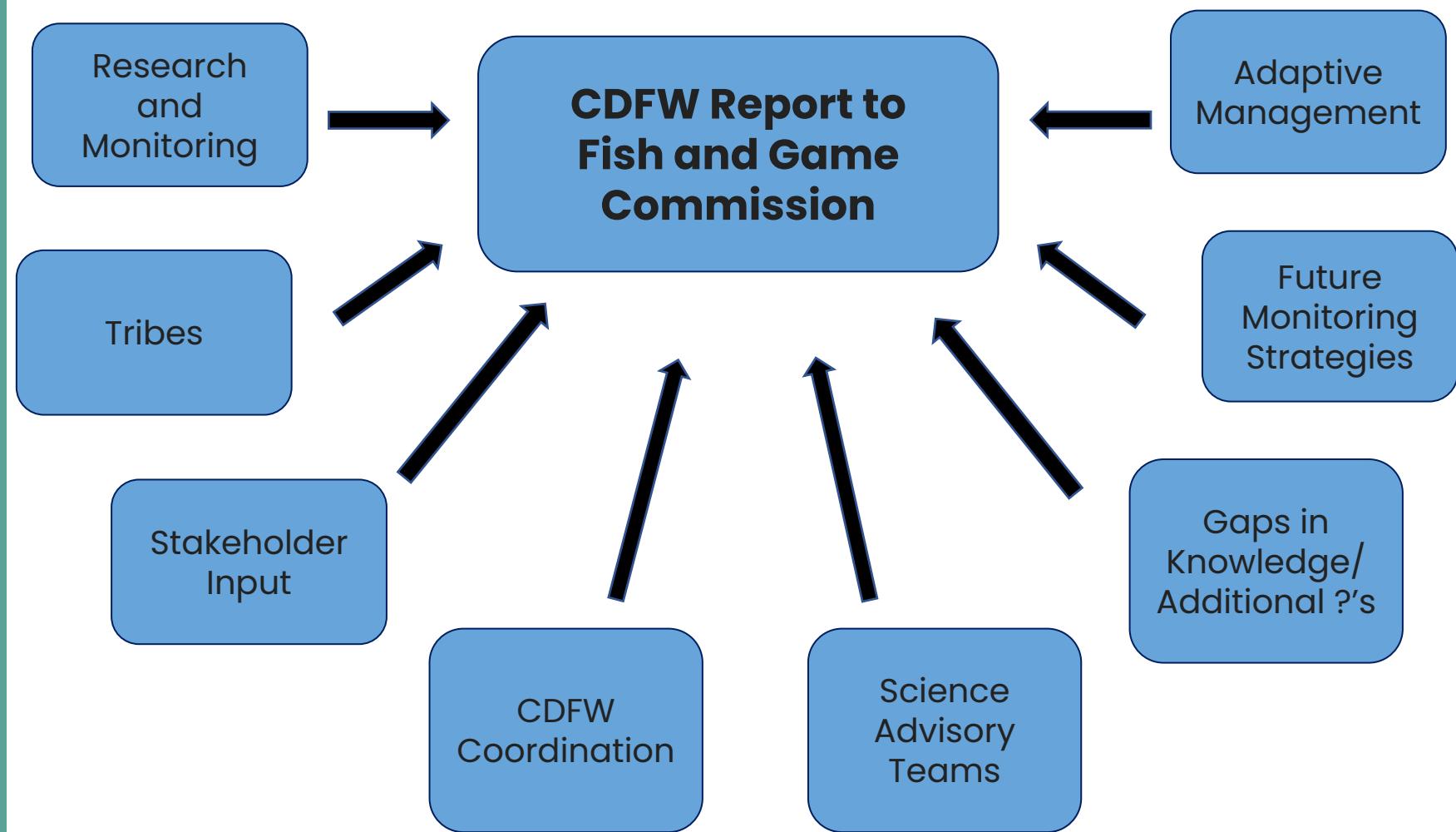
Strategic Earth

KEY DATA SOURCES

- Baseline Monitoring data (2007-2018)
- Long-term Monitoring data (2016-present)
- Network connectivity model
- Law enforcement data
- MPA Management Program partner reports



DECadal MANAGEMENT REVIEW COMPONENTS - WRITTEN REPORT



ENGAGEMENT OPPORTUNITIES & ANTICIPATED TIMELINE*

Questions and comments can be submitted anytime to:

MPAManagementReview@wildlife.ca.gov



Fall 2021

- Oct-Nov: Community Meetings
- Nov. 9: Marine Resource Committee Meeting, CDFW Decadal Management Review update

Late 2021-Early 2022

- Decadal Management Review Tribal Community Meeting
- Receive reports from Long-Term Monitoring Projects, information from partners involved in MPA Management Program activities since 2012

2022

- Develop Decadal Management Review report
- Exploring feasibility of webinars on the long term monitoring reports
- Updates for the Fish and Game Commission and their sub-committees

Late 2022-Early 2023

- CDFW to present final Decadal Management Review report to Fish and Game Commission

2023

- Fish and Game Commission to consider findings and recommendations, direct CDFW actions, public Symposium and comment opportunity

LEARN MORE



- Receive updates, and view informational materials
<https://wildlife.ca.gov/Conservation/Marine/MPAs/Management/Decadal-Review>
- Questions and comments can be submitted to
MPAManagementReview@wildlife.ca.gov

Looking Ahead

- Final report (PDF) due December 31, 2021
 - Website live by end of year
 - Today's webinar slide deck and recording available via project website
- Additional MPA monitoring projects
 - Request from stakeholders, updates/presentations on key findings
 - CDFW considering brown bag events with researchers

With Gratitude

Deeply appreciative to everyone who has taken the time to contribute to the design of this project

- California's Commercial and CPFV fishing communities

Thank you!

Commercial Species in Spatial Data Viewer

Species Name

Black Rockfish

Bolina Group Rockfish

Brown Rockfish

Blue Rockfish

Black-Yellow Rockfish

California Scorpionfish

Cabezon

China Rockfish

Copper Rockfish

California Sheephead

Gopher Rockfish

Grass Rockfish

Kelp Greenling

Kelp Rockfish

Monkeyface

Pickleback

Olive Rockfish

Quillback Rockfish

Treefish Rockfish

Urchin

Lobster

CPFV Spatial Data Viewer

Species maps Summarized to CDFW 10' blocks

- Number of fish per block
- number of anglers per block

Project Team

For additional information about this project visit
mpahumanuses.com or email the Project Team:

Jon Bonkoski, jbonkoski@ecotrust.org

Cheryl Chen, cheryl.ty.chen@gmail.com

Laurie Richmond, laurie.richmond@humboldt.edu

Kelly Sayce, kelly@strategicearth.com

Research/ Data Collection Activities

- Complete Focus Groups
 - Commercial - 19 port groups (18 completed)
 - CPFV - 7 regional groups (5 completed)
- Compile existing socioeconomic fisheries data
 - CDFW commercial landings data (1992-2020)
 - CDFW CPFV logbook data (1992-2020: spatially referenced 10 x 10 nm)
 - Interview-based spatial fishing data (gathered as stated value)
 - Ecotrust Pre-MPA spatial fishing data (2006- 2009)
 - Ecotrust Post-MPA spatial fishing data (2010-2013)



Well-being and MPA Index Creation Methods

Question topic

Marine resource health – present

Marine resource health – future concerns

Access to harvestable resources

Income from fishing

Markets

Infrastructure

Labor/new participants

Job satisfaction

Social relationships – internal

Social relationships – external

MPA ecological outcomes

MPA livelihood outcomes

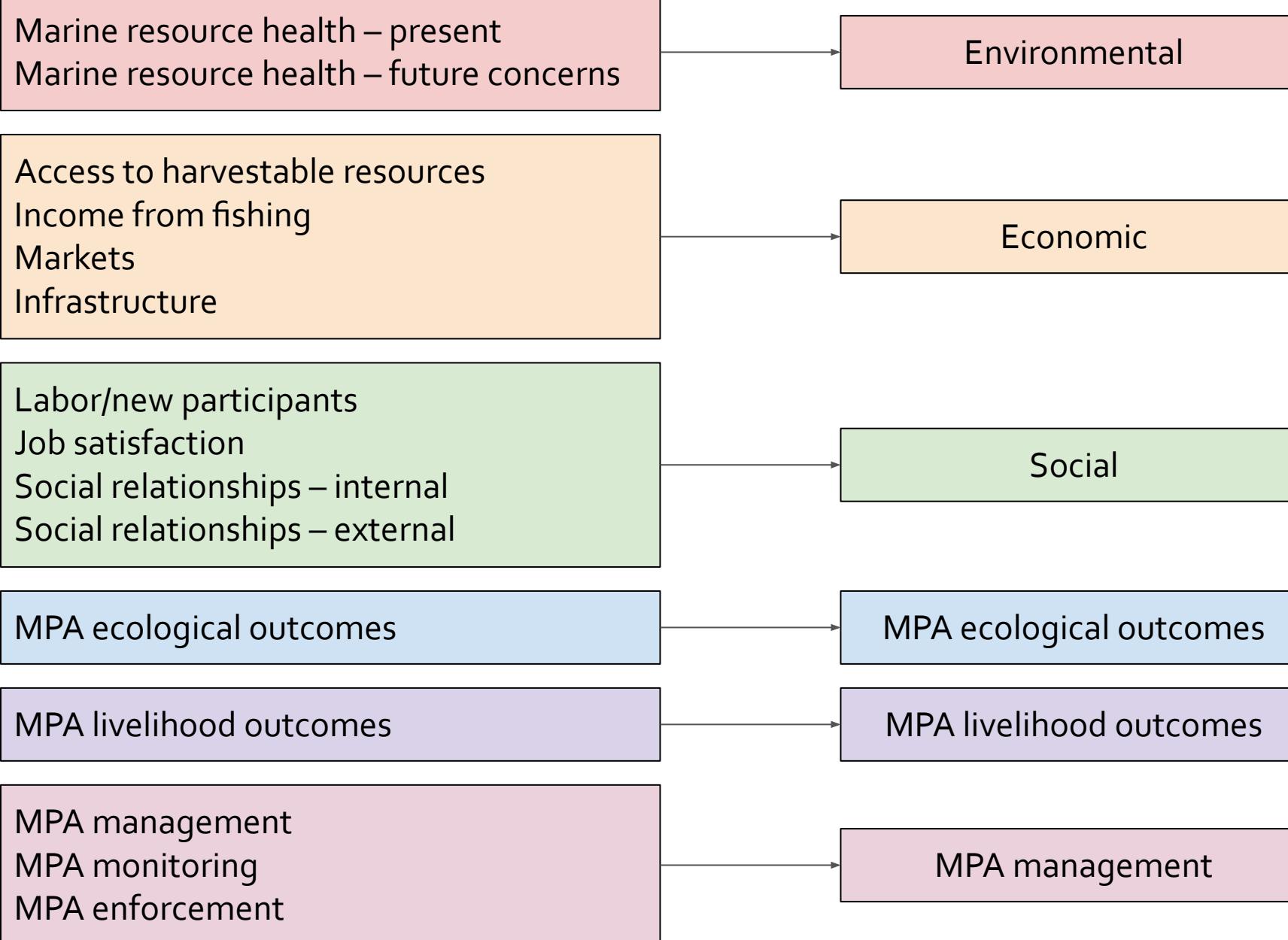
MPA management

MPA monitoring

MPA enforcement

Question topic

Sub-index



Question topic

Sub-index

Index

