

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

Perspectives on the Health and Well-being of California's Commercial Fishing Communities in Relation to the MPA Network *Members of Fort Bragg Area's Commercial Fishing Community*

The Marine Protected Area (MPA) Human Uses Project Team¹ anticipates hosting over 25 virtual focus group conversations with fishermen throughout California from July 2020 through Spring 2021.² The information shared during these discussions is a core component of a study to gather and communicate information about the health and well-being of commercial and Commercial Passenger Fishing Vessel (CPFV) fishing communities in California, including impacts from MPAs. A key goal of this study is to convey fishermen's perspectives about the unique challenges and opportunities that fishing communities are facing to managers and decision-makers through a series of summaries and other products. The results of this study will be made available to inform discussions about MPA and fisheries management, including California's 10-year MPA network performance review.

For each focus group, a small number of fishermen representing a range of fishing interests were brought together to:

- provide their perspectives on their fishing community's health and well-being, including environmental conditions, markets, infrastructure, and social and political relationships, including impacts from MPAs; and
- share feedback about their focus group experience to help improve the process for future focus groups.

The focus groups included quantitative questions where fishermen were asked to score their port on various topics, and an open-ended qualitative discussion followed each question. This document summarizes both quantitative and qualitative findings from the focus group. More details about the methods used for each focus group discussion, including questions asked to participants and the approach to recruiting focus group participants, is available on the Project Team's website, <https://mpahumanuses.com/>. The website also hosts focus group conversation summaries and an interactive data explorer, which will be components of the final products developed upon completion of this project in 2021. For questions about this project, including focus group engagement and the content of this document, please contact us at hello@mpahumanuses.com.

Port Group: Fort Bragg Area Ports

Date: Thursday, November 5, 2020

Participants: Harry Barnard, Grant Downie, Larry Knowles, Anna Neumann, Dan Platt

¹ Consisting of Humboldt State University researchers, Ecotrust, and Strategic Earth Consulting

² Previous versions of the summaries from other ports suggest there would be 30 focus groups through February 2021. The project has since evolved based on the needs of the fishing community and is reflected in all summaries moving forward.

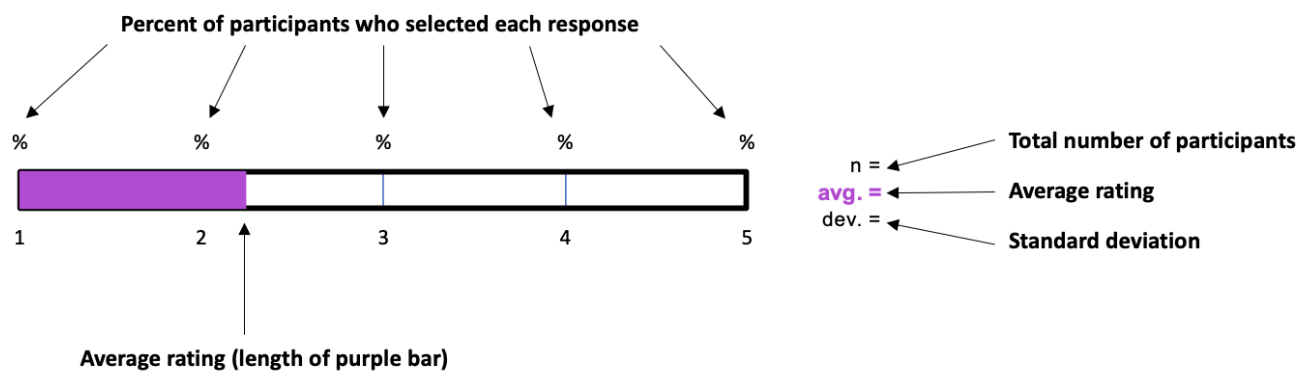
Overview

On November 5, 2020, five members of Fort Bragg area’s commercial fishing community participated in the twelfth focus group conversation. A detailed summary of the conversation is captured below, including:

- the numerical final scores (gathered via Zoom polls) for questions asked within each theme;
- a summary of participants’ perceptions, insights, and perspectives related to each question; and
- direct quotes from participants that help to illustrate sentiments in their own words.

Guidance for Interpreting Figures

There are 17 figures displaying participant responses for questions that had a numerical/quantitative component. In those figures, the percentages located directly above the bar (between 1 (low) and 5 (high)) represent the percent of participants in the focus group who selected that response. The total number of focus group participants is labeled ‘n’ to the right of each figure. The length of the purple bar indicates the average rating for each question, also labeled ‘avg.’ to the right, and ‘dev.’ refers to standard deviation, or the extent to which scores deviated from one another. See below for an example figure. There are also two figures on pages 15 and 25 that display the average responses for each question in the well-being and MPA sections, respectively, from highest to lowest.



In addition to providing feedback to help refine our process and approach for future focus groups, participants requested several resources be shared with them, including:

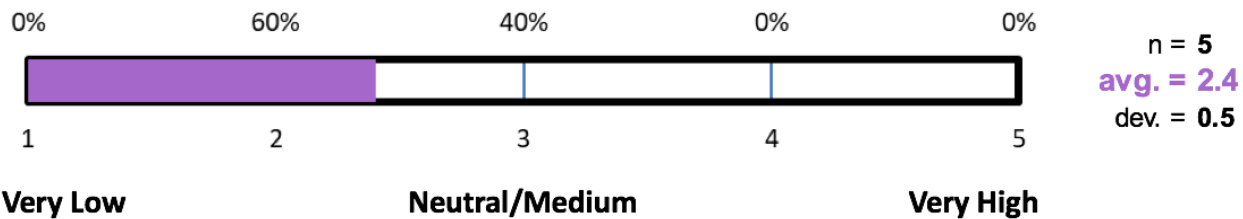
- [California Fisheries Data Explorer](#): This interactive site allows users to visualize commercial landings data (i.e., number of fishermen, pounds of fish landed, and revenue from fish landed) and CPFV logbook data (i.e., number of anglers, vessels, trips, and fish caught from specific fisheries and ports).
- [MPA Baseline Monitoring Program: North Coast](#)
 - [Summary of Findings from Baseline Monitoring of Marine Protected Areas, 2013–2017, North Coast](#)

Our Project Team would like to express our appreciation to the five members of the Fort Bragg area fishing community—Harry Barnard, Grant Downie, Larry Knowles, Anna Neumann, and Dan Platt—for their time and contributions to the focus group conversation.

Perceptions of Fishing Community Well-being

Well-Being, Environmental

1. Marine Resource Health - Present Overall, how would you rate the current health and sustainability of the marine resources on which fishermen from this port rely?



Very Low

Neutral/Medium

Very High

Discussion Summary Participants reported marine resource health varies across species, with some doing better than others. They stated fishermen in the Fort Bragg area tend to shift their target fisheries based on the relative abundance and market quality of the species during a given season, particularly for species like salmon and sea urchin.

- Several participants perceived nearshore and deeper nearshore rockfish to be doing well. One participant noted more permits for these fisheries are becoming available and believed this is an indication of improved species health. Two participants reported seeing an abundance of juvenile rockfish.
- One participant reported catch limits for open access lingcod have been raised, which they attributed to increased species health.
- One participant shared a concern with regard to the health and sustainability of black cod, particularly related to abundance and size.
- Several participants characterized the sea urchin fishery as in collapse. One participant stated the 2019 and 2020 harvests were a fraction of the 2014 harvest. Another participant reported that while there is an abundance of sea urchin, most are not of market quality (i.e., urchin barrens).
- Several participants stated the lack of kelp has affected many fisheries, both commercial and recreational, in the Fort Bragg area.
 - One participant believed that without kelp, rockfish have moved to deeper waters. They stated more fishermen are targeting deeper nearshore species as a result of this movement, but questioned whether this will last given that juvenile rockfish require kelp beds for food and shelter. Another participant stated there is less kelp habitat to support fish development than there used to be.
 - One participant shared they are involved in purple urchin removal to help restore kelp and hopes for more widespread restoration efforts. Another participant discussed a small commercial market for purple urchin for use in fertilizer and ground cover. They mentioned they are attempting to expand the fishery to support the creation of a purple dye for animal-based fibers, though the process to extract the dye has yet to be developed.
- One participant reported intertidal seaweed is doing well overall, though some species like laminaria in the Van Damme area have been affected by sea urchins. They stated that during years when there is sufficient upwelling and cooler ocean temperatures, intertidal seaweed

productivity increases. During ‘blob’ or warm water conditions, they must cover more area during their three-month harvest period to supply their business inventory for the year. They added these warm water events are also felt across fisheries.

Participant Quotes

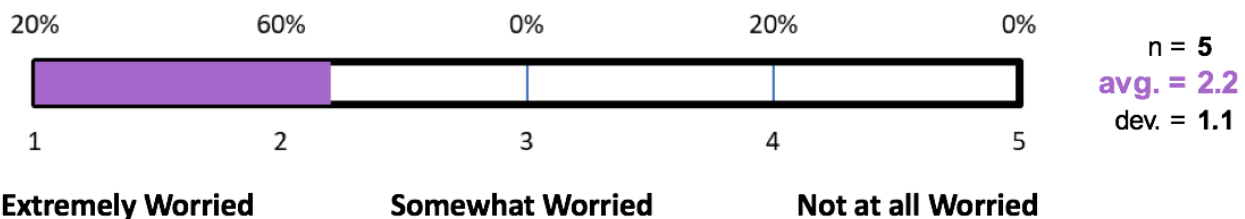
“I have been doing some shallow nearshore fishing and I've actually been encouraged by the fact that I am seeing some undersize rockfish. Which to me is a good sign because some of the other fishermen were really concerned about the kelp not being there for the nursery for the small fish.”

“[For] black cod, [. . .] the size of the fish and the amount of the fish I don't think are as bountiful as they used to be. Some people I know are actually traveling a little bit farther rather than just going straight out to set their gear. So, things unfortunately don't seem to be looking too up, in my opinion.”

“The red urchin industry up here is in complete disaster. Our 2019 harvest for the Fort Bragg area was one percent of what it was in 2014, so that has been a pretty steady decline. So far this year, we're almost to two percent of 2014, so we're doing a little bit better. But that is no comparison to how well things were before this [urchin] disaster.”

“Overall, the intertidal seaweeds are doing well. This year was a really great upwelling year, and because the water temperatures were so cold, there was really great productivity [. . .] When the water temperature is warmer, seaweed productivity even in the intertidal zone diminishes. And when that happens, [you're] covering more territory to get the amount of seaweed that [you] need.”

2. Marine Resource Health - Future Concerns Overall, how worried are fishermen from your port about the future long-term health and sustainability of the marine resource populations on which you rely?



Discussion Summary Several participants expressed worry with regard to declining kelp cover and abundance. They indicated kelp is important throughout the marine ecosystem and, without it, there could be cascading negative effects felt across fisheries in the long-term.

- One participant commented on the resiliency of the ocean and its ability to bounce back after periods of poor resource health. They stated fishermen must be optimistic about the long-term health and sustainability of marine resources given the cyclical nature of the marine environment.

Participant Quotes

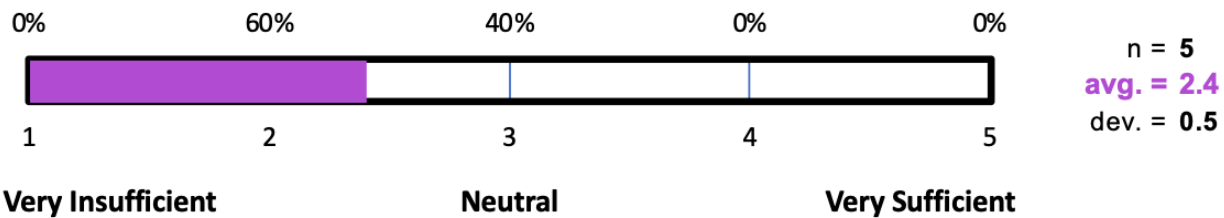
“The fishermen I talked to are moderately worried about what's going on. If we don't get kelp back, it is going to create quite a problem with the ecosystem we have here.”

“The kelp serves as a nursery for a lot of fisheries. So even though some fisheries may still be doing well, I think that if in the long-term the kelp doesn't come back, it'll have more widespread effects.”

“I like to think that the ocean is a lot more resilient than we think and over the years, I've seen an amazing ability of the ocean to repair itself. We definitely had better ocean conditions this year than we have in the last few. I think that's part of being a commercial fisherman: you have to be optimistic.”

Well-Being, Economic

3. Access to Harvestable Resources Overall, how would you rate your port in terms of the level of access that fishermen have to marine resources to support the local fishing fleet?



Very Insufficient

Neutral

Very Sufficient

Discussion Summary Participants indicated it is difficult to access a range of fisheries due to the financial barriers to obtain fishing permits and gear. Participants also identified seasonal restrictions as another limitation to accessing target species.

- Participants reported the ability for fishermen to diversify is insufficient because most fisheries in the Fort Bragg area like nearshore, deeper nearshore, and Dungeness crab require permits and, in some cases, specialized gear, which can be expensive.
- Several participants highlighted the complexities of accessing certain fisheries as a result of management restrictions.
 - One participant discussed the Dungeness crab fishery, which has experienced season delays due to increased levels of domoic acid and the elevated risk of marine life entanglements.
 - One participant attributed the variability of salmon landings in the Fort Bragg area from year to year to seasonal restrictions. Another participant stated salmon fishermen in the Fort Bragg area need to travel south of the port to catch salmon due to seasonal restrictions. They explained for those that do not travel, accessing the resource can be difficult.

Participant Quotes

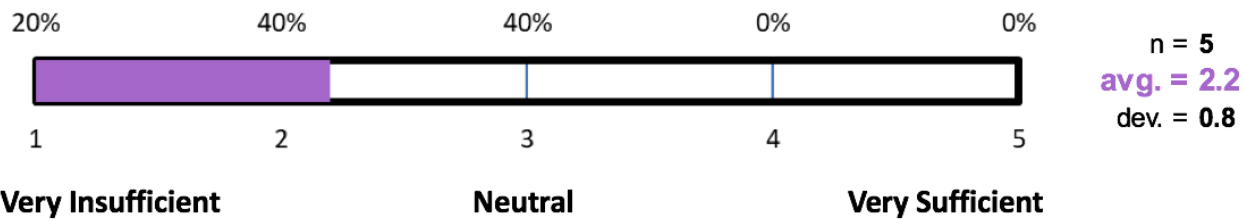
“I think the biggest problem is that if your fishery starts collapsing, it's just not easy to switch into something else. If you're doing urchins, you're not going to be able to switch into crab. You're going to be able to go into rockfish if you can get those permits when they come around but, again, they're expensive. And then you've got to buy your longlining gear and you need a new hauler. And is your boat set up for live fish? It's not an easy switch unless you already have a multi-purpose vessel.”

“As for getting into the nearshore or deeper nearshore or even the crab [fishery], it all just comes down to money: you can recruit yourself into the industry, but you need to have major money somewhere else to get you into it in the beginning. For a deeper nearshore permit, you might be looking at \$20,000, a nearshore is probably going to be around [\$70,000], and I want to say a crab permit is almost up to \$100,000.”

“There are a number of different fisheries that go on in this port [. . .] the focus of the fishermen has definitely changed. Sea urchins were big for a while in the past. 2013 was a big salmon year. So there's been these ups and downs in the different fisheries. We had a really limited season for this area for salmon this year; most of the salmon were landed in ports south of us.”

“There are portions of this fishing fleet that are doing very well. Some of our salmon fleet is a traveling fleet and was able to travel down south and fish salmon and at least a few of those guys ended up having pretty good salmon seasons. But then again, the boats that don't travel or chose not to travel didn't have hardly any fish. The troll fishery, I think, is actually doing pretty well, mainly because of some recent regulations that the [Pacific Fisheries Management Council] has done that kind of freed up their fishing area.”

4. Income from Fishing Overall, how would you rate the income that fishermen from your port earn from fishing in terms of supporting livelihoods?



Discussion Summary Participants reported income from fishing alone is not enough to support fishermen’s livelihoods, especially for those who primarily target sea urchin or are unable to participate in a diversity of fisheries.

- Several participants stated fishermen whose main fishery is sea urchin cannot make a livable income due to the poor quality of the species and, as a result, have had to take on other jobs outside of the fishing industry.
- One participant explained fishermen’s inability to diversify leads to insufficient income from fishing, but that insufficient income also leads to an inability to diversify.
- Another participant indicated it is difficult for someone to harvest seaweed as their only source of income because seaweed harvesters must put in a lot of time and effort to build a business that is able to support a livelihood from seaweed alone.

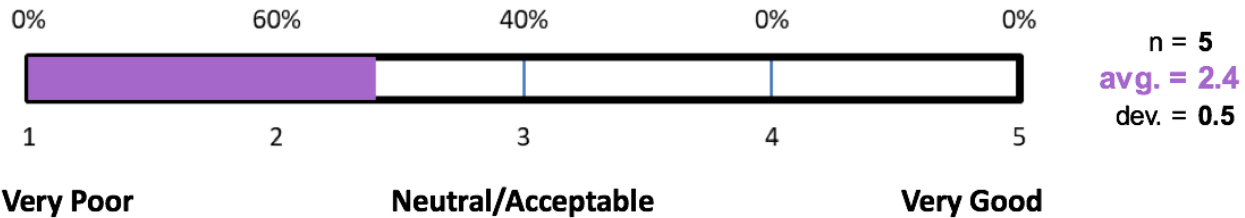
Participant Quotes

“The [sea urchin] industry cannot support the livelihoods of those guys. The ones that didn't diversify by fishing other fisheries, they got land jobs and have been making enough at their land jobs that they don't need to consider coming back to the fishery until it can sustain a paycheck.”

“There's not enough money coming into our port because fishermen can get stuck in one fishery where they can't diversify into something else because the permits are so expensive.”

“Few people [can make their] sole living off of [a] seaweed business. [Those that do] work it so hard and have employees.”

5. Markets Overall, how would you rate the quality of the markets to which fishermen from your port are able to sell their catch?



Discussion Summary Participants indicated fishermen in the Fort Bragg area rely on a few buyers, including a select number of small, local direct-to-consumer markets. They reported the markets for more common types of fish (e.g., salmon) are relatively stable, and the sea urchin market is dependent on the quality of the harvest.

- One participant identified three main fish buyers in the Fort Bragg area. They believed one buyer gets a good amount of business from local fishermen while another has experienced a drop in the number of staff and is down to about two employees due primarily to the declining sea urchin fishery.
- One participant identified a local, direct-to-consumer seafood market in Fort Bragg that moves around 500 pounds of rockfish, 300 pounds of lingcod, and 150 pounds of black cod/sablefish during the summer months. They acknowledged this is not a high volume compared to other markets since it is mainly serving the local community. Another participant added this is an important retail market for the port.
 - One participant explained customers are more likely to purchase fish they recognize like salmon or lingcod as opposed to black cod/sablefish. They stated customers can usually be encouraged to buy black cod after they are told more about it, including how to cook it.
- One participant explained that, in recent years, the number of buyer/processors for sea urchin in the Fort Bragg area has decreased from over four down to two. They stated when urchin are of market quality, there is strong demand by Fort Bragg buyers. However, under these prime market conditions, they reported the two remaining buyer/processors have been unable to accommodate everyone who is bringing sea urchin to market. They also added most sea urchin is currently staying domestic because of the low volume being harvested due to the poor fishery conditions detailed on page 3 (i.e., urchin barrens, low kelp abundance).

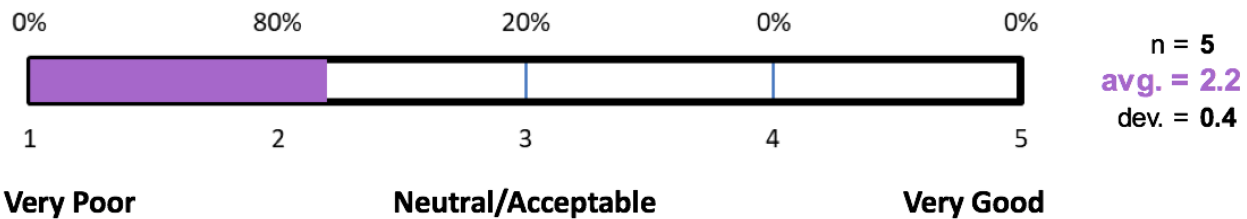
Participant Quotes

“I really see three main fish buyers [. . .] in the river. [. . .] I know [that one of the buyers has] dropped in the number of staff that they have, it used to be a booming plant and now it's just [two employees].”

“Usually if we can talk to someone about fish, like if a customer comes up and they don't know what to buy, you can sell them [black cod] nine times out of ten. [. . .] They have no idea what it is... they've never heard of it. They've never had it before. But once you give them the spiel on how great it can be, then they'll buy it. But there's just no [local] market for it.”

“Speaking for the urchin industry, we have two buyer/processors in the river. Years back, we had three. Years before that, four, and so on and so on. It's just kind of trickled down to the two now. So there is a good market to get rid of our product, if there is good product. But at the same time, when it was a boom and there were a lot of people doing urchins, just the two processors couldn't keep everybody going 100 percent and did have to limit some guys.”

6. Infrastructure Overall, how would you rate the state of infrastructure and services that support commercial fishing in your port?



Very Poor

Neutral/Acceptable

Very Good

Discussion Summary Participants indicated infrastructure and services that support commercial fishing operations in the Fort Bragg area are poor due to lack of available, reliable, and well-maintained key infrastructure like hoists, haulers, and fuel.

- One participant reported there is no public hoist available, though fishermen can sometimes access a hoist through a buyer or processor. However, they explained buyers and processors will often expect a percentage of earnings in return for the use of their hoist. Another participant identified a hoist and related infrastructure in the harbor that is poorly maintained.
- One participant stated a new hauler has become available for smaller boats.
- One participant stated access to the fuel dock is limited and the price for fuel tends to be high. When purchased at a gas station, fishermen must pay a road tax even though it does not apply to boats.
- One participant stated mechanics are very limited and there is only one mobile boat mechanic in the area.

Participant Quotes

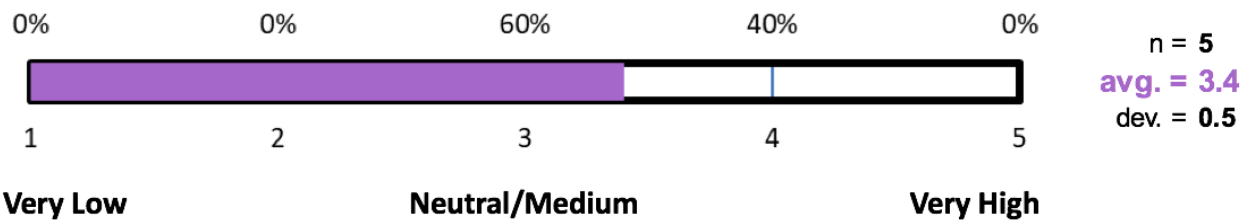
“We don't have a public hoist for fishermen to do direct or wholesale, or anything like that. If you want to use a hoist, you need to go through a buyer or processor, someone that owns a dock, and then usually they want a cut off the top. The fuel dock is just one fuel dock - the tide can affect you; the price of the fuel affects a lot of people. [. . .] So, infrastructure-wise, I think we're kind of hurting.”

“There was a gentleman [. . .] who was a big player in the harbor, and he owned the building the [hoist] was connected to. He died [around] a year and a half ago, and the [hoist] after that really fell out. [. . .] It was just a shaky infrastructure to start with and then when he passed away, no one really took over that whole building in that area. It's kind of sinking into the harbor itself.”

“[The price of fuel] is high. I'm a gasoline vessel, so it's a dollar more a gallon. And when you're buying it from the gas station, you're paying road tax... we're not driving on any roads, so a little bit of a monopoly there.”

“Mechanics in our port are few and far between. We have one local mobile mechanic and that's about it.”

7. COVID-19 Impacts How disruptive do you think COVID-19 has been to your port's fishing operations?



Discussion Summary Participants indicated some fishermen in the Fort Bragg area have experienced moderate impacts as a result of the COVID-19 pandemic. Several participants reported a drop in overseas market demand for species like black cod, while others discussed shifting market structures for sea urchin and increased demand for seaweed.

- One participant shared how one local, direct-to-consumer seafood market experienced a significant increase in sales following a sharp drop at the beginning of the pandemic. They stated current sales are comparable to, even surpassing, those of previous years.
- Several participants described the poor export markets for dead black cod/sablefish due to COVID-19 restrictions. They believed low prices have led many fishermen to drop out of that fishery even though it was once among the main fisheries in the Fort Bragg area.
 - One participant added the local, direct-to-consumer seafood market is one of the only markets they can sell dead nearshore species to, but volume is limited given that it is a relatively small market. In addition, they reported there has not been much of a market for deeper nearshore species.
- One participant noted a shift in the markets to which their sea urchin processor sells, from sushi bar distributors to wholesale and retail markets (i.e., grocery stores). They believed this shift is due to people making sushi at home since restaurants are closed because of the pandemic.
- Similarly, another participant reported an increase in seaweed sales following the issuance of stay-at-home orders.

Participant Quotes

“Everything kind of crashed right around the start of COVID. And then after that, it's just been absolutely slammed. We're at numbers selling fish that we were at last year, if not surpassing in these past couple of months on what we're selling. We thought it was going to be really slow, and we can barely keep up.”

“The price for dead black cod has been really low for quite a while now and it's not looking like it's going to go up any time soon. And [this] was a pretty big fishery before the price on it crashed for Fort Bragg [. . .] There's some fishermen that just completely dropped out of [the black cod] fishery [. . .] The global market is export to Japan and that, for various reasons, has

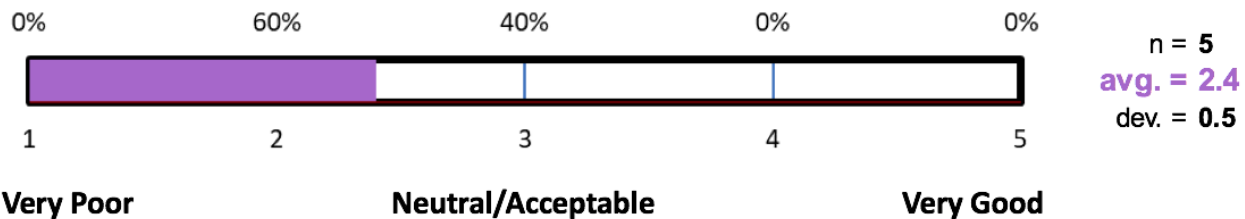
been really weak [due to COVID-19 restrictions], and the domestic market is pretty limited, so [those dropping out of the fishery are] mainly because the exports aren't happening.”

“COVID has changed the markets that our processor’s selling [sea urchin] to. Instead of going through distributors that would sell to sushi bars, he's been selling more to wholesale units and supermarket-style things. I think a lot of the people have shifted to just buying uni trays and making sushi at home compared to going out to a sushi bar.”

“People have more time to cook. And so basically, as soon as shelter-in-place hit, [seaweed] sales went up about ten percent, and it's maintained that.”

Well-Being, Social/Political

8. Labor/New Participants Overall, how would you rate your port in terms of being able to recruit new entrants to the industry and being able to retain current participants?



Discussion Summary Participants indicated there are significant financial barriers to entering and remaining in the fishing industry as a captain. They reported finding good crew members is hard primarily due to low wages.

- Several participants reported it is difficult to recruit new entrants/captains into the fishing industry because of the high costs associated with having to purchase a boat, fishing license, and permits, especially for the nearshore, deeper nearshore, and Dungeness crab fisheries. One participant was encouraged to see younger people who are able to put in the time and effort entering and remaining in the industry. In contrast, they have noticed older fishermen retiring or leaving the industry due to the complexities of management restrictions.
- One participant identified non-transferable permits in the sea urchin fishery as a barrier to recruiting new entrants. They also noted many divers have dropped out of the fishery because it is not viable due to the poor market quality of sea urchins in the Fort Bragg area.
- Several participants reported that while many fishermen are no longer fishing black cod/sablefish, most have remained in the industry and have turned to other fisheries. One participant was unsure whether those who decided to leave the fishing industry altogether have taken other jobs or have left the Fort Bragg area.
- One participant believed entrance into some fisheries can be difficult because fishermen must be willing to create a business and put in the time to market and sell their product. They stated some businesses are run by older individuals who have spent years building and maintaining their companies, but believed they would be able to find someone to take over their own business if they choose to retire.

- Regarding crew, one participant believed the ability for deckhands to find jobs in the fishing industry is relatively easy but added they do not earn enough to purchase permits and become captains themselves.
 - Several participants indicated recruiting good, competent crew members is difficult for longer than one fishing season. Another participant added working on a boat is not like a typical 9 to 5 job due to the nature of the work and hours required.
 - One participant mentioned they are encouraged by the number of younger crew members entering the deeper nearshore fishery.

Participant Quotes

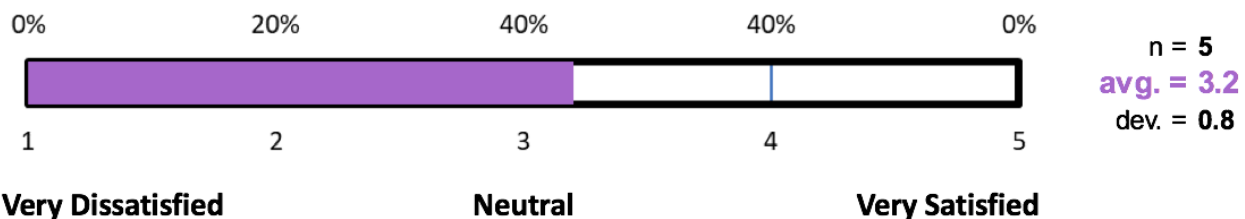
“I have actually been kind of encouraged that there are [young] people entering the fishing business in Fort Bragg who are coming in and purchasing boats. For the most part, they've been pretty successful because they're young and hard working people. There are also a lot of the older fishermen that are retiring or just disgusted with the whole thing and doing something else.”

“For a long time, there have been 300 [sea urchin] permits for California - it's a non-transferable permit and to get a permit, your name was put into a lottery [which] has now become ten to one: so ten permits need to retire for one to go out. So that is making it kind of hard to get into the fishery as a new diver. The average age of the urchin diver is about 60 years old. Of the 300 permits, I think there's about 30 that are of the younger age.”

“[There are] a lot of businesses [with] older people who have been in it for a long time. But I think the [. . .] industry has always been very limited because everybody has to really be willing to establish a business and have a viable business and then harvest year after year to sustain that business or to manage the inventory needs for that business.”

“[Deckhands do] not make enough to get into [their] own vessel, and then if [they] leave the captain that [they are] with, who else is going to hire [them]? What is the season going to be like? [Will they] have to travel fish? Do [they] have the ability to travel fish as a person? The idea of travel fishing means that it's not sustainable in this port because then [the deckhand is] actively leaving to go to a different port.”

9. Job Satisfaction Overall, how satisfied do you think fishermen from the port are with their jobs in the fishing industry?



Discussion Summary Participants indicated that generally, the positives of working as a commercial fisherman outweigh the negatives, though there is a lesser sense of job satisfaction and security among crew members.

- Several participants shared the perspective that fishermen tend to enjoy what they do despite the day-to-day uncertainties. One participant believed being a fisherman is better than having an office job.
- One participant mentioned that job satisfaction for a deckhand is connected to being able to work on a boat while making enough money to support a livelihood. They reported the level of stress for crew can be high due to management decisions that affect their ability to work (e.g., delays in the Dungeness crab fishery).
- Reflecting on their experience with other crew members, one participant stated deckhands are often not satisfied with their jobs in the fishing industry because it is a highly demanding work environment (i.e., long days on the water, heavy workload, investment of time and energy does not reflect amount of income).

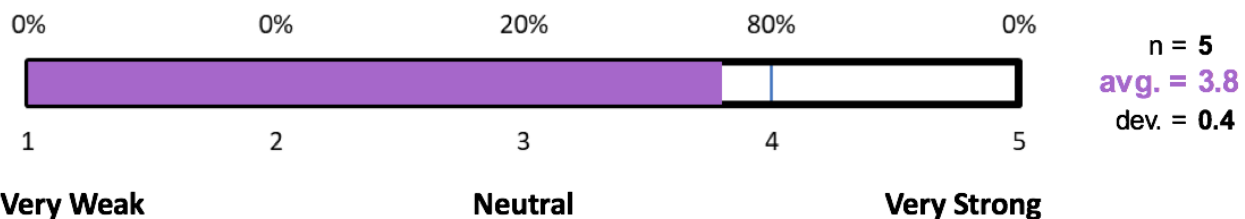
Participant Quotes

“I look at fishing, and I know a lot of other people do too, as a lifestyle; it's not so much of a job. So even if we aren't doing good and the industry isn't the best, we're still happy with what we do [. . .] The stress might be high: we don't know how well the next day out is going to be when you go fishing. But we're fishermen, that's what we are.”

“A day on the ocean is better than a day in a cubicle.”

“I put ‘Dissatisfied,’ and this just goes back to the ability to get on a boat that's going to make [crew members] a lot of money or even a fair amount of money in a fairly short season. The level of stress is pretty high, mainly [for] fisheries [that] are based around [Dungeness] crab. So if it's going to open, when it's going to open, how long the season is going to be, what the price is going to be - all of that.”

10. Social Relationships - Internal Overall, how would you rate the strength of social relationships (or social capital) within your port?



Discussion Summary Participants felt social relationships among fishermen in the Fort Bragg area were strong due to fishermen’s ability to work together and their readiness to communicate and engage with each other.

- Several participants reported there is shared camaraderie and empathy among fishermen, which is built on the understanding that some fisheries will do better than others from time to time but, at the end of the day, they are all in the fishing industry together.
- Participants stated fishermen are willing to help each other through information sharing and problem solving. One participant shared the example of fishermen who are involved in policy processes updating others on management decisions and developments. Another participant added they are appreciative that local fishermen are community-minded and see value in communicating with those involved in other fisheries.

- Several participants indicated the local fishing community is a friendly environment. One participant who did not come from a fishing background stated they felt welcomed entering the port community.

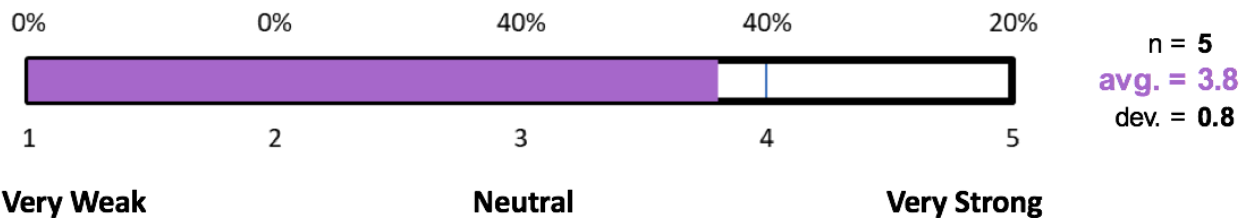
Participant Quotes

“Socially-wise in the port between fishermen, I think it's better now than it's ever been. Every fishery that is in our harbor has had really good years and has had really bad years, now including the urchin industry. So in a sick fate, it's created pretty good camaraderie between the guys because we all realize that nothing's perfect in any of the fisheries that we have.”

“In terms of fishermen talking to each other and communicating with each other, I feel like it's pretty good in our port. A lot of the fishermen will come to me with questions about management [. . .] I feel like it's a pretty friendly port. If somebody needs some help, they'll get it.”

“The port in general is a really great community to be in to just problem solve and get involved or just be open to what's going on in other fisheries. People are very community-minded as far as sharing information [about other fisheries] and I'm always interested in what's going on in the others. So I feel I'm always grateful for that eagerness.”

11. Social Relationships - External Overall, how would you rate the strength of the port’s relationship with external groups who could help support community needs?



Discussion Summary Participants reported relationships with external groups range from neutral to very strong. They stated support for the fishing community varies by type of external group and across fisheries. Participants indicated some fishermen are more involved in policy processes than others.

- Several participants were frustrated about the relationship between the fishing community and external groups like environmental non-governmental organizations (NGOs) and government agencies (e.g., California Department of Fish and Wildlife (CDFW)). One participant identified a sense of mistrust between fishermen and environmental NGOs due to the marine life entanglement and crab gear issue. Another participant stated there is a misunderstanding among fishermen of how fisheries management works. Through their involvement in the Pacific Fishery Management Council, they try to share their knowledge of management and policy with other fishermen.
- One participant reported management agencies and NGOs have become more involved in the sea urchin fishery due to the sea urchin/kelp disaster. They added divers are more willing to collaborate with outside entities in an effort to work toward a solution to reverse sea urchin decline in the Fort Bragg area.

- One participant indicated fishermen in the Fort Bragg area are willing to engage with people (e.g., academics) from outside the fishing community.
- One participant shared there is participation in policy processes among certain fisheries to help inform and adapt existing regulations and guidelines to fit the changing industry. However, they expressed frustration with the lack of direct response from CDFW and the California Fish and Game Commission.

Participant Quotes

“It's my sense that there's a lot of distrust [in environmental] NGOs [. . .] in the Dungeness [crab] fishery right now because of the whole whale issue [. . .] And the thing with the management is more of a misunderstanding [among fishermen] about how it works. So I try to share with people how it actually works, but they [environmental NGOs and CDFW] can both be very frustrating.”

“As for relationships with nonprofits and government, I voted ‘Strong’: with this whole kelp disaster and [the urchin] fishery being in a disaster, [the] fishery has been getting more attention than it ever has. And the commercial urchin industry and the divers in it are more willing to share their experiences and work together with other groups now more than ever.”

“The [. . .] broader group that I'm involved with is looking at management and policy statewide [. . .] so we have a strong policy group happening. And so I'm feeling good about that and I'm feeling good overall about the relationships between the main [fishery] businesses here on the coast. But as far as relationships with the agencies, I did ‘Neutral’ [. . .] Right now, we're in the process of dealing with some kind of interim stuff with [CDFW] and with the [California Fish and Game] Commission. And so far, we've had to do lots of banging on doors, like reminders.”

Well-Being, Overall/Additional Comments

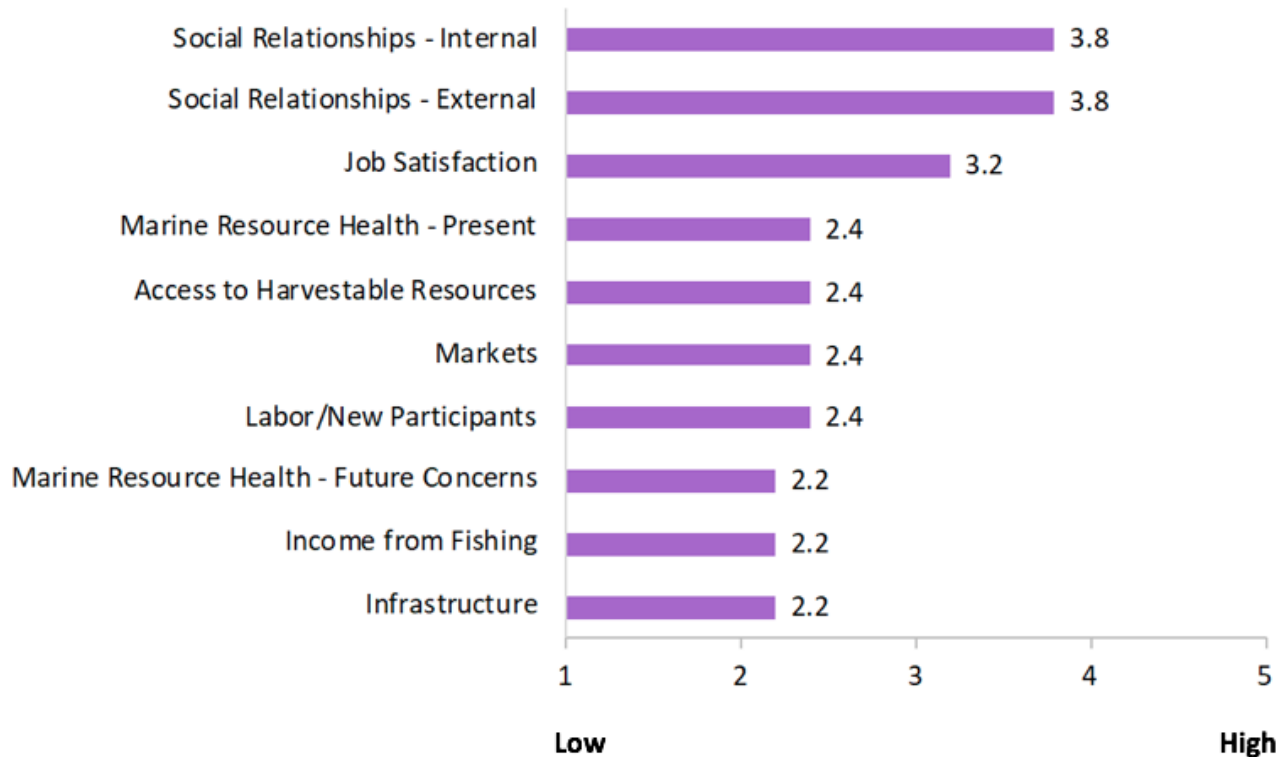
12. Overall/Open-ended *Is there anything not captured above that you would like managers and other readers to know about your fishing community/industry?*

- *What do you think federal and state managers could do to better support California's fishing communities?*
- *What do you think members of your fishing industry could do to support the well-being or sustainability of your fishing community?*

Discussion Summary (Due to time constraints during the focus group, participants were not asked these questions, and so did not discuss their responses.)

Perceptions of Fishing Community Well-being, Average Responses for Questions 1-6, 8-11

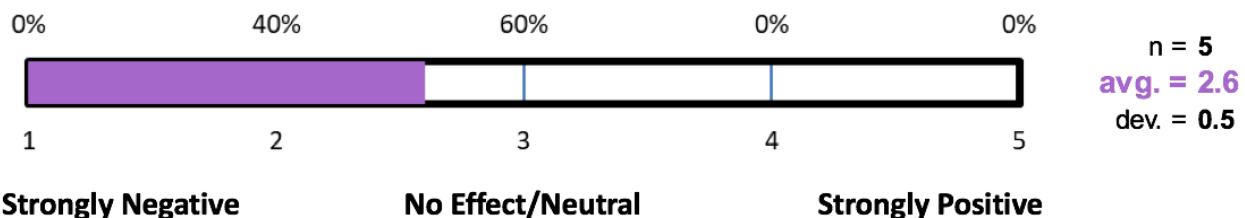
(Note: The following figure does not include the average rating for question 7. COVID-19 Impacts.)



Perceptions of MPAs

MPAs, Outcomes/Effects

13. *MPA Ecological Outcomes Overall, how would you rate the effect that the California MPA network has had on marine resource health in your area?*



Strongly Negative

No Effect/Neutral

Strongly Positive

Discussion Summary Participants indicated MPAs have had no effect on migratory species like rockfish. However, they believed MPAs have negatively affected kelp abundance due to restrictions on commercial sea urchin harvesting in the closures, which have led to urchin barrens.

- One participant reported MPAs have not had any effect, positive or negative, on rockfish size or abundance because rockfish do not remain in the MPAs. Rather, they swim both inside and outside MPAs, whether that be toward food sources or away from predation.

- Several participants discussed the loss of kelp in the Fort Bragg area as a result of MPA restrictions on commercial sea urchin harvesting.
 - One participant emphasized this loss of kelp productivity outweighs any ecological benefit the MPAs could provide.
 - Another participant believed resource managers do not consider the role humans can play in maintaining healthy marine ecosystems. They recounted an instance when a sea urchin diver explained that kelp recruitment benefited by divers harvesting sea urchin, and stressed the importance of human activity for supporting kelp growth and abundance.
 - Another participant expressed concerns about the limited available habitat for harvestable red sea urchin (i.e., further offshore), which are relying on barnacle blooms for food due to the unavailability of kelp.
 - One participant suggested kelp enhancement techniques should be implemented to reverse the urchin barrens, either through sea urchin removal or relocation of urchin to healthy kelp beds in other areas.

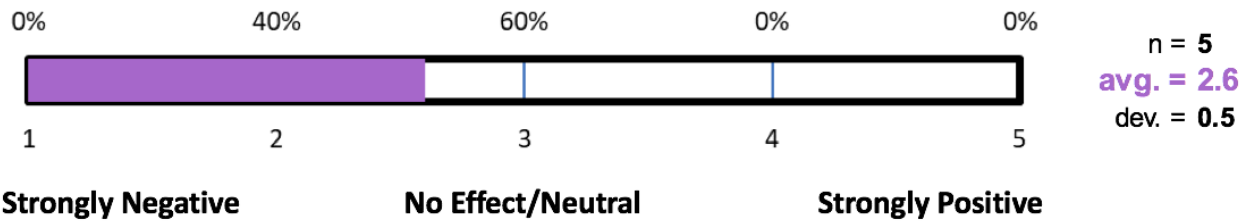
Participant Quotes

“When we were having discussions about MPAs before they were ever put in place, one of the things that [fishery managers] were promoting was that rockfish stocks are going to get bigger and more abundant. And I never did believe any of that back then, and I still don't believe it. All those fish have fins, they all swim. And just because you put an MPA doesn't mean that they're going to stay in that MPA. They're going to go where the feed is... the little ones are going to hide from the lingcod.”

“The loss of productivity from urchins in these no-take zones outweighs any effect of the MPA itself. In the early 80s when the urchin divers started to come in, I was talking to one of the oldest survey divers in the industry and they were seeing double recruitment of nereocystis [kelp] after the urchin divers came into an area and took urchin. And that happened year after year: it was a sustained increase of productivity as a result of urchin divers being in there. And the resource managers were not acknowledging that important benefit that urchin divers were giving. [Humans are important] for the health of the whole ecosystem here because we don't have a keystone predator, meaning the sea otter, and humans are the next best thing. And of course, the pycnopodia sea star is no longer present for predating purple urchins now.”

“I was one of the guys that did a survey with [names redacted]. We did some transects in Caspar, and it's an urchin barren. What needs to be done [is] kelp enhancement, and ways to do that could be translocation to healthier beds, if there were healthy beds but, at present, there really aren't. In the interim, it would be removal.”

14a. MPA Livelihood Outcomes Overall, how would you rate the effect that the MPA network has had on the ability for fishermen from your port to earn a living/gain income from fishing?



Discussion Summary Please see the **Discussion Summary** following question 14b. *MPA Effects - Overall* which summarizes the conversations related to questions 14a and 14b.

14b. MPA Effects - Overall What other types of effects or impacts have fishermen from your port experienced from MPA implementation?

Discussion Summary When discussing MPA livelihood impacts, participants reported sea urchin divers were more negatively affected compared to nearshore fishermen and seaweed harvesters.

- Several participants stated nearshore fishermen and seaweed harvesters in the Fort Bragg area were not heavily affected by the MPA network due to the placement of local MPAs, which were designed to avoid areas in close proximity to ports and harbors. Participants noted historical fishing grounds and seaweed beds near the port generally remain accessible to Fort Bragg area fishermen, unlike in Southern California where many primary fishing grounds were designated as MPAs.
 - One participant shared this is important particularly for fishermen who operate smaller boats who would not otherwise be able to travel to fishing grounds far from port, especially in inclement weather.
 - Another participant added negative livelihood effects were mitigated as a result of fishermen who were part of the North Coast Regional Stakeholder Group (NCRSG) during the MPA implementation process and who lobbied to keep important fishing grounds from being designated as MPAs.
- Participants expressed different views with regard to MPA impacts on sea urchin divers. One participant felt the MPAs have had minimal effect on fishermen due to the current state of the fishery, while other participants expressed concerns about the concentration of fishing effort in limited areas, the increased costs to travel further to suitable habitat, and the decline of sea urchin quality and adverse impacts on price per pound.
 - One participant noted some sea urchin divers had left the Fort Bragg area and moved to Southern California ports due to the compounding issues facing the local sea urchin industry.
 - Another participant highlighted the loss of a majority of fishing grounds for sea urchin divers in the Bodega Bay area as a result of the MPAs.
- One participant expressed the sentiment that when natural resources are regulated as they were during the MPA process, it seems inevitable that there will be adverse impacts for people whose livelihoods depend on those resources, like fishermen.

Participant Quotes

“In terms of the nearshore fishery, I felt like we did a lot better than some of the more south areas where the MPA [network] was implemented, especially Southern California, and one of the reasons was that during the process here, there were a couple of fishermen that were really vocal about the importance of leaving the areas close to port free, in other words not closing those areas, at least for the nearshore fishery and where I fish: I'm fishing a 17-foot Whaler, I'm not going to go 30 miles from port, especially in the wintertime because weather can change so quickly. But in that sense, I felt like we did pretty well for this area.”

“It might have had more effect if the red urchin fishery was active and I was wanting to get into an area by the winery - that's part of the MPAs which we've all fished before - but it's not that big a stretch of the coast and that industry isn't really active now anyway.”

“The habitat of the closures north of us is the same habitat that we're finding our good quality in for red sea urchins right now. So without the ability to go to those zones, we are forced to go back through the same deeper shelf we've already been hitting the last three years. So it's been an increased pressure on the spots that we can go to. It's a lower income and it's not as supportive for as many divers, which is why there's only about four of us now.”

“[Traveling to rocky structure has] increased gas for our trips up north. You're going past a huge area where if you don't find the urchins up north, you can't jump your way back to the harbor. You just have to drive it all back.”

“I feel like any time policymakers and fishermen get together, there's always a give and a take and I feel like it always ends in hard feelings, whether that be from the fishermen or from the policymakers, because you're having to compromise on something that is a livelihood which is hard to find a compromise about. [. . .] When we have to give up areas of the ocean, we have to undergo new policy regulations; there is going to be a feeling of hardship and mistrust because things are being taken away and it's directly affecting our livelihood. It's directly affecting our ability to make money, and I think that's just the nature of the beast when you have to start regulating things like marine resources.”

MPAs, Discussion of Specific MPAs

15. MPA Effects - MPA Specific Which MPAs have had the most impact (positive or negative) on fishermen from your port and why?

Discussion Summary Participants identified several MPAs that have negatively affected Fort Bragg area fishermen, particularly sea urchin divers. They also identified MPAs that have affected fishermen in nearby ports or inhibited good spots for kelp restoration. Several participants reiterated that Fort Bragg area MPAs were strategically placed and did not severely affect historically important fishing grounds. They believed local fishermen fared better than Southern California fishermen who lost significant fishing area.

- *Ten Mile State Marine Reserve (SMR)*: One participant reported this MPA has resulted in significant loss of productive fishing grounds for local sea urchin divers. Another participant

stated the northern end of the Ten Mile SMR houses one of the few areas with good kelp habitat and quality sea urchin in the Fort Bragg area. One participant recounted how salmon fishermen are affected by this MPA as they are no longer able to follow a school of salmon through/beyond the MPA.

- *Russian Gulch State Marine Conservation Area (SMCA) and Van Damme SMCA*: One participant stated while fishermen are able to commercially fish in these MPAs, MPA regulations prevent these areas to be included as sites for kelp restoration.
- *Mackerricher SMCA*: One participant noted the Mackerricher SMCA was an MPA before the MPA network was established, and the MPA implementation process only updated the regulations for this MPA but did not reduce access for fisheries that are allowed in this and other SMCA's.
- *Point Arena SMCA and Point Arena SMR*: One participant reported Point Arena fishermen were heavily negatively affected by these MPAs, particularly sea urchin divers who used to harvest these areas because they were productive fishing grounds for red sea urchin.

Participant Quotes

"I would say the Ten Mile SMR [which] has Kibesillah rock in the center of it. That would be the biggest hurt to the urchin fishery. It doesn't seem like a big area, but we did lose a lot of ground there."

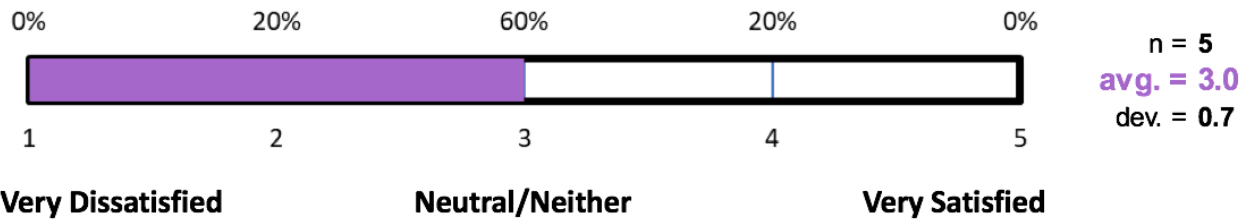
"[Ten Mile SMR], that's also a good area for urchin diving, especially with the diving that we've been doing. So it wasn't always a good kelp bed up there, but the offshore reef and the bottom substrate with sand and reefs inside the sand, that's kind of where we're finding our quality today."

"That one [Ten Mile SMR], when we were salmon fishing, [we'd] follow a school of salmon up the coast, and as soon as we got to the Ten Mile SMR, then we would have to tack out and go around that SMR. And it seemed like the salmon would not come out the other end, even though they had been traveling north, so it was almost like they seemed to know that they were OK in there."

"The Russian Gulch [SMCA] and the Van Damme SMCA aren't necessarily a problem because we can commercially harvest in those areas. But in building this kelp restoration project that we're working on now, there was some sort of language that they didn't want mitigation or restoration done in those zones. So that shut out a couple good protected coves that could have been eligible for kelp restoration."

MPAs, Management

16. MPA Management Overall, how satisfied do you think fishermen from your port are with the management of the MPA network?



Discussion Summary Participants indicated there is an absence of information regarding MPAs and MPA management being made available to fishermen. As a result, fishermen are not aware of or do not understand MPA management. Some participants knew more about MPA management than others because of their involvement in policy processes, suggesting there are inconsistent lines of communication about MPA management between decision-makers and the fishing industry.

- One participant acknowledged efforts being made by groups like the MPA Collaborative Network to share MPA information and resources. However, they did not believe information about MPA management is successfully reaching fishermen, which then leads fishermen to believe there is no information available. Another participant believed one reason for the lack of communication is the collapse of local news organizations that used to disseminate information about MPAs.
 - One participant commented that fishermen turnout at MPA meetings is poor, presumably because they do not feel welcome in a room where most people represent the interests of environmental NGOs and other environmental groups. Another participant added MPA and fisheries-related meetings in general should be brought to the fishermen and held on boats or docks.
 - A participant reported they were satisfied with MPA management and efforts being made by resources managers to work with fishermen, but acknowledged this was due to their involvement in fisheries management discussions and processes.
- One participant indicated there are limited opportunities for fishermen involvement in MPA management and fisheries management more broadly. They shared concerns that fishermen's knowledge is not valued or seen as a credible source of information by agencies. While there has been a slight shift toward utilizing fishermen's knowledge, there continues to be a disconnect between CDFW staff and fishermen.
 - Several participants highlighted the lack of attention fishermen's knowledge received during NCRSG discussions. One participant felt the process failed to consider the essential role humans play in maintaining healthy marine ecosystem function (i.e., trophic cascade). For the participant, this reinforced the lack of active adaptive management occurring within the MPA network.
- One participant shared how the people who run the Point Cabrillo Lighthouse, located adjacent to the Point Cabrillo SMR, help to educate the general public about MPA and marine resource management.

Participant Quotes

“When it comes to management now, I don't see anything changing. From the fisherman's point of view, [it's like] ‘here is your MPA. Here's where it's going to be. It's closed. So now it's just kind of done.’ I mean, as a fisherman, we don't know that there's management going on, [whether] laws are changing or anything like that.”

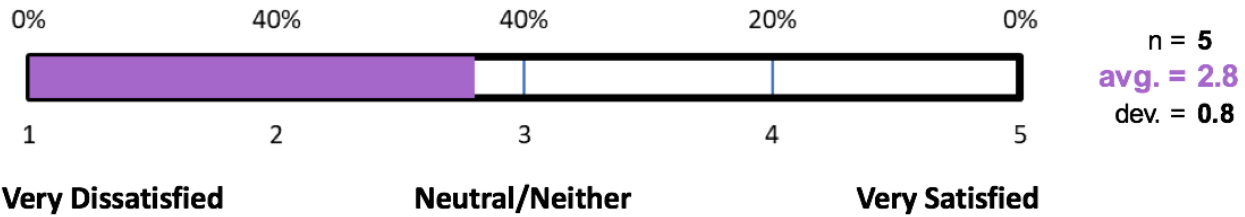
“Maybe there just wasn't enough communication afterwards about the monitoring that's going on within [MPAs], the programs that are happening, the resources that fishermen have, everything. [Including] the MPA Collaborative Network, [which] just hosted a community outreach forum for MPA enforcement and it was poorly attended... there's only so many folks that keep showing up to these things. And we seem [to be] failing to reach the broader group of fishermen in what is going on with our MPAs and the management and how we're adapting, if we're adapting, what that adaptation looks like.”

“It's important for managers to get down to the docks and not always request that the fishermen come to the uncomfortable meetings. [. . .] It would be amazing to have these meetings on the back deck of boats and on docks. In my experience, where I've learned the most is not in a classroom or in a formal setting. It's literally in a dive bar over beers, speaking to [fishermen] about the things that they know of... [for example, name redacted] has got more time around this ocean than I could ever dream of.”

“There's a real problem with communication between resource management/white collar folks and fisheries folks. And so I've seen, especially in the case of people who are in the agencies, a skepticism [about the] knowledge that fishermen or anybody doing any kind of harvest work can bring to the table. [. . .] But even now, for instance, [. . .] it's clear that the agency isn't recognizing the historical body of knowledge of people who have been [fishing] here in the same [areas] for the last 20 or 30 years.”

“During the MPA process, [name redacted] was trying to get the Science Advisory Team out to check the longest running [pre-existing] MPA that was [closed to urchin harvesting]. For about a year and a half into the process, nobody was biting, and then finally some people went out into this area and they were shocked at the urchin barren... and it was good habitat, it was adjacent to some fabulous kelp beds. And it was almost like a line that you could see from where the urchin divers were able to maintain smaller populations of urchin and where the urchins were just barren. And so that's really a function of MPAs in our area [. . .] urchin divers were really not recognized as serving a really important ecological function [. . .] The acknowledgement of humans as replacing the sea otter as a keystone predator wasn't in that conversation.”

17. MPA Monitoring Overall, how satisfied do you think fishermen from your port are with the monitoring of the MPA network?



Discussion Summary Participants shared a range of perspectives, from dissatisfied to satisfied, when considering the monitoring of the MPA network.

- Several participants shared their dissatisfaction with the poor dissemination of MPA monitoring study information, while another participant was aware of the MPA studies being conducted.
- Several participants stated they only know of MPA monitoring through personal communication with people involved in MPA research. They have not received any other correspondence regarding MPA monitoring studies or results from those studies from CDFW or other agency leads.
 - A participant suggested MPA study results be more accessible and better communicated to fishermen.

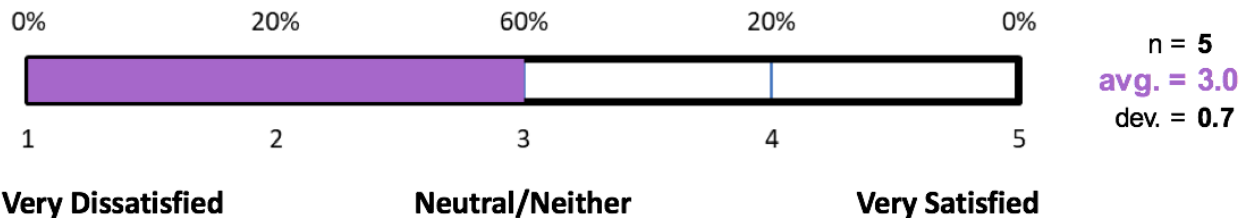
Participant Quotes

“The only reason I know there's monitoring going on is because I see the divers going out in their Boston Whaler. Otherwise, it's not posted [saying] ‘hey, they did a survey dive this weekend and they saw this many more fish than ever before.’ That's not public knowledge, I don't think.”

“I wish it was more open - the data that's collected from the monitoring. I might be naive, it might be public knowledge, but I wish it was more accessible to maybe fish stock numbers inside the MPAs, urchin population numbers, kelp and algal growth, things like that.”

“I just know all of the monitoring efforts that are going on and how much work is being put into it. And I'm personally satisfied with it, but it makes me sad to see that it's neutral and dissatisfied [across the board].”

18. MPA Enforcement Overall, how satisfied do you think fishermen from your port are with the enforcement of MPAs?



Discussion Summary Participants were generally neutral with MPA enforcement due to being unaware of enforcement activities.

- One participant reported seeing illegal fishing in the Point Cabrillo SMR and long-term campers and illegal dumping in the area around the Big River Estuary SMCA. They believed CDFW does not have the capacity to enforce each MPA, but added illegal fishing occurs outside the MPAs as well.
 - Another participant commented they were not aware of the occurrence of illegal fishing in the MPAs or the lack of MPA enforcement.
- One participant thought fishermen are responsible for enforcing the MPAs rather than CDFW wardens. They shared how fishermen from out of the area will ask local fishermen for information about the MPAs to orient themselves with the location of MPA boundaries in the Fort Bragg area.

Participant Quotes

“As far as enforcement of MPA regulations, I'm dissatisfied with them. I see poaching time and time again in the Point Cabrillo [SMR], I see issues with the Big River [Estuary SMCA] all the time. I'm down there on the weekends swimming and it's just a free for all. We've been on calls with State Parks, and State Parks is just so fed up with it that they're just not enforcing it at this point.”

“I think it's hard to put more [responsibilities] on [CDFW]. We've got a huge area that the wardens cover here. And for them to only focus on these small MPAs where people should know better to stay out of, it would take away from them looking everywhere else. I've seen poaching in the MPAs, just people fishing, not knowing or blatantly not caring. But then I've seen poaching out of the MPAs, so it's all down to the person themselves.”

“I thought the fishermen themselves were enforcing [MPA rules]. If they saw somebody fishing in the MPA, then they would let the guy know ‘hey, you're not supposed to be there.’ The fishermen that I've talked to from out of the area have actually come to me and asked if there were maps: they wanted to know where they were so they didn't have to fish in there.”

19. MPA Overall *Any additional comments or concerns about the MPAs and MPA management you would like to communicate?*

Discussion Summary Participants shared final thoughts regarding the MPAs, including better communication of information and collaboration with fishermen, suggestions for MPA enforcement, and recommendations for adaptive management.

- One participant asked that MPA-related information, including results from monitoring studies and notice of upcoming MPA meetings, be better communicated to fishermen via email.
- Another participant suggested MPA boundaries have visual markers to help with enforcement since not all boats have GPS, and those that do may not include MPA locations.
- Several participants supported the idea of fishery managers and sea urchin divers collaborating to help address the sea urchin grazing issue in MPAs.
 - One participant recommended divers be allowed to harvest sea urchin in MPAs following completion of a sea urchin quality survey. They believed this would help relieve sea urchin grazing pressure on kelp and promote a more balanced marine ecosystem.

- Another participant suggested relocation of sea urchin from the MPAs to areas outside the closures since there is likely poor quality sea urchin in the MPAs currently.
- One participant shared there was a great deal of discussion about invasive species and seaweed during the MPA planning process. They felt adaptive management should be in place to allow people to harvest invasive, overpopulated species from the MPAs.
 - Another participant suggested CDFW could work with an environmental NGO like Reef Check to support the removal of invasive species (e.g., purple urchin, seaweed) in partnership with fishermen and citizen scientists.

Participant Quotes

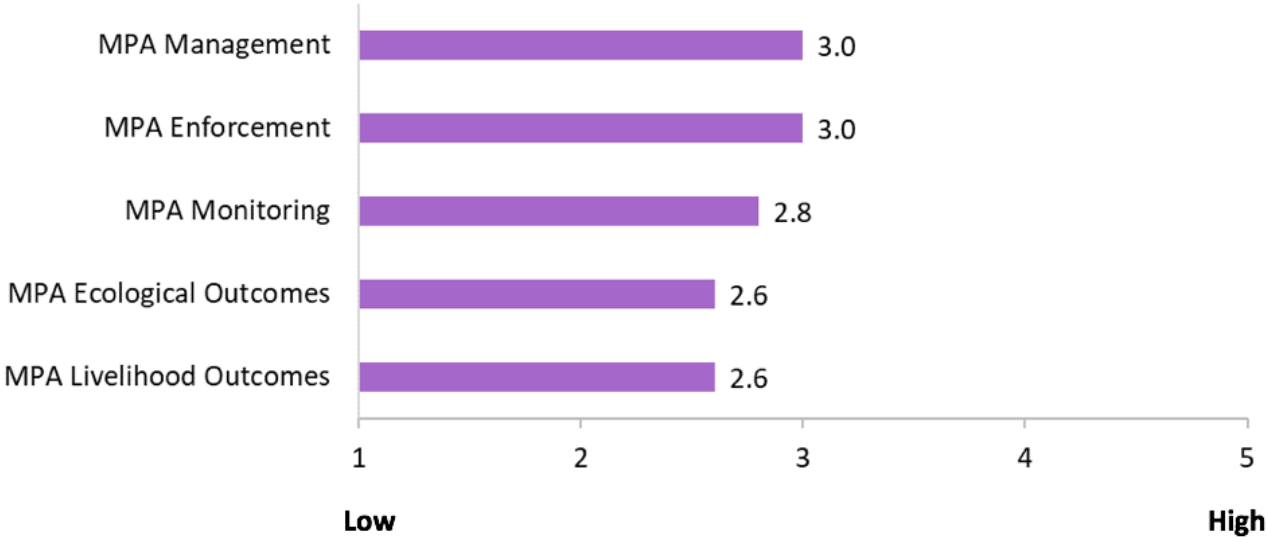
“We'd really like to know or have access to the results from the monitoring that's going on. If [CDFW and the MPA Collaboratives] can send me an email when these meetings are happening - I haven't been getting notice of those - then I might attend some of those meetings.”

“I mentioned this at the last enforcement meeting that I went to, the Mendocino MPA Collaborative meeting: I think visual boundary markers are necessary. Not all vessels have a GPS. Not all vessels have an updated chart plotter that shows you the boundary lines. Kayak fishermen don't always have that. So to help with enforcement, if there were visual boundary markers on the MPAs that you could see from the ocean, I think that would help a little bit.”

“Hopefully MPA management can work together with the commercial urchin industry and by going off of quantity of urchin populations in the MPAs, we can open the area and allow a sustainable harvest after a quality survey is done. So once quantity is known to be high of the urchins and the quality is established to be a good product, we can open an area and let the urchin industry in to reduce the grazing pressure on the MPA and keep it more of a balanced ecosystem.”

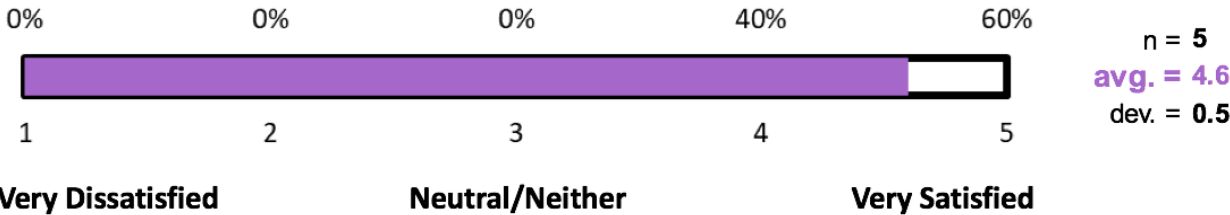
“I think that translocation [of sea urchins] should be considered from the MPAs to other areas. [. . .] I know that there was quite a lot of talk when the North Coast region was in process about this topic. And it's, in fact, a topic right now with invasives because there's not really an easy way for management agencies to come up with a way that somebody can go in and actually make money off of a species that's overpopulated or invasive. They haven't come up with a way to make that co-exist because they see that group as being an interest group that then wants to continue to do a certain level of harvest. And there's not an easy way to make this kind of adaptive management shift that I've seen.”

Perceptions of MPAs, Average Responses for Questions 13-14a, 16-18



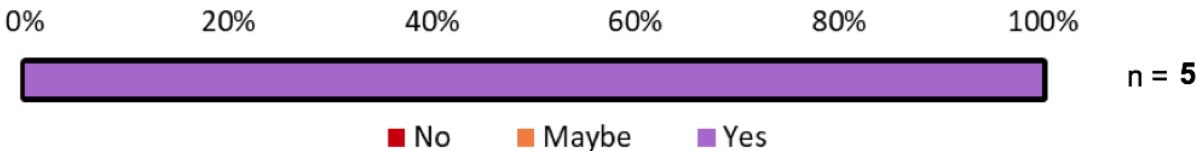
Feedback on Virtual Process

20a. Satisfaction with the Virtual Process Overall, how satisfied were you with your experience participating in this virtual focus group?



20b. Willingness to Participate in Virtual Process in Future Would you be open to participating in a virtual focus group or meeting like this in the future?

(Note: For the following figure, the length of the purple bar indicates the percent of participants who responded 'Yes' to question 20b. If participants responded 'No' or 'Maybe,' a red or orange bar would appear, respectively.)



20c. Process Open-ended *Can you share any additional comments about your experience in this virtual focus group? What do you think are some of the pros and cons of having a conversation like this online rather than in-person?*

Discussion Summary Participants were satisfied with the focus group process and indicated they had a positive experience during the virtual meeting.

- One participant appreciated how there was not much lag or other technological disruptions among focus group participants.
- Another participant found the technology training at the start of the meeting helpful. They stated it helped orient them with Zoom functions.
- One participant found the Project Team’s facilitation of the focus group satisfactory.

Participant Quotes

“This was a pretty great group for this, not a lot of people talking over each other, not a lot of people with bad connections. It went very smooth.”

“I really appreciated the Zoom tutorial because there are little things that I tend to forget, like the raise hand [function]. So it was really great that you did that whole tutorial and walked us through that.”

“Great job in facilitating this kind of interaction.”