



COLLABORATIVE
NETWORK

CLIMATE AND THE COAST MENDOCINO



Mendocino Marine Protected Area Collaborative

Perspectives on climate change, the coast, and
California's Marine Protected Area Network

*A summary of the greatest concerns, needs, and
priorities from a survey and focus group of
Mendocino County residents on climate change, the
coast, and marine protected areas (MPAs).*

www.mpacollaborative.org



EXECUTIVE SUMMARY

This report is a summary of 12 survey respondents and 8 focus group attendees in Mendocino.

Participants discussed climate resiliency and benefits of MPAs, climate change-related risks to MPAs, and avenues for ensuring MPAs continue to promote a healthy ocean.

Recommendations for decision makers can be found on page 3.

Key Takeaways

The following key takeaways are highlighted in further detail throughout the report.

Respondents....

- believe **climate change is negatively impacting MPA effectiveness**, coastal ecosystems, and coastal communities
- are **divided on whether MPAs help to address climate change** impacts on local coastal ecosystems and communities
- believe **marine management is a priority** for addressing climate change (page 9) and **climate action is a high priority** for their community

Some take-aways **specific to Mendocino County** include:

- **MPAs do not seem to protect or recover kelp loss** due to marine heat waves. Some MPAs also prevent restoration activities to address kelp loss.
- **Impacts to tribally important species**, such as abalone, kelp, intertidal species, surf fish, and salmon - and resulting impacts on culture, sustenance, and mental health
- **Impacts to access** due to climate caused erosion and flooding - including closed parks, cancelled education programs
- It is important to **justify and explain the utility of MPAs in the face of climate change**, particularly if they are not protecting keystone species such as kelp

Recommendations

The following recommendations represent the perspectives of respondents and do not necessarily represent the perspectives of the MPA Collaborative Network, which represents many diverse viewpoints.

Develop....

- **outreach and education materials** (messaging) that clearly and succinctly communicates the intersections of climate change and MPAs
- **positions** within each organization/agency/department dedicated to climate change
- **co-management agreements** for MPAs between Tribes and state governing agencies
- **funding streams** towards projects focused explicitly on climate change and MPAs
- **learning opportunities** for partners and the public to learn about the intersections of MPAs and climate change
- **clear communication** to partners and the public about how **adaptive management** will address climate change

Prioritize.....

- **Traditional Ecological Knowledge (TEK)** in management and research practices
- **Protection of blue carbon ecosystems**
- **Research and monitoring** projects focused on MPAs and climate change to inform management decisions

Assess potential positive climate impacts of....

- **allowing for restoration** activities within MPAs
- **expanding protected areas** and **implementing stronger protections**
- additions of **dynamic MPAs** that address changing conditions

Conduct....

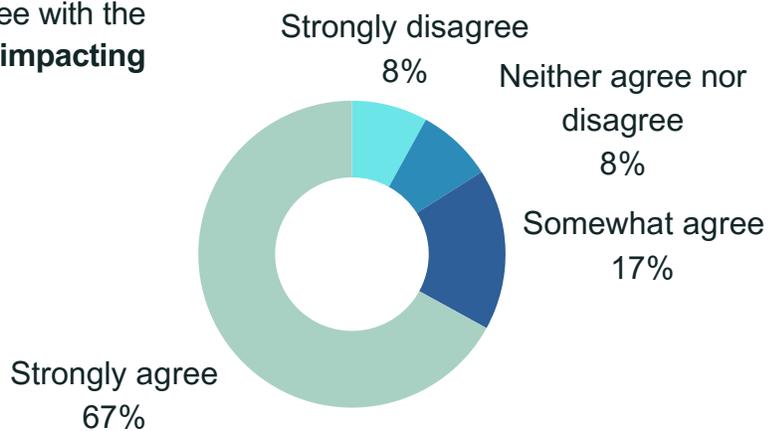
- a **blue carbon inventory** for California's MPAs (either as a whole or individually) that estimates how much blue carbon they sequester, as well as how much greenhouse gases are created through the management program
- **A climate change vulnerability assessment** for California's MPAs (either as a whole or individually)

TAKEAWAY #1

Respondents believe climate change is highly impacting MPA effectiveness and coastal ecosystems

1.1 Indicate how strongly you agree or disagree with the following statement: **Climate change is impacting MPA effectiveness.**

“Climate Change does not stop at MPA boundaries”
- Respondent



1.2 Rank your **biggest concerns about how climate change impacts** your local coastal ecosystems and marine protected areas (MPAs).

Concerns ranked from highest to lowest

- 1 Increased ocean temperatures and marine heatwaves
- 2 Climate driven shift in human impacts
- 3 Coastal storms
- 4 Ocean acidification
- 5 Invasive species
- 6 Sea level rise
- 7 Other *
- 8 Wildfire runoff

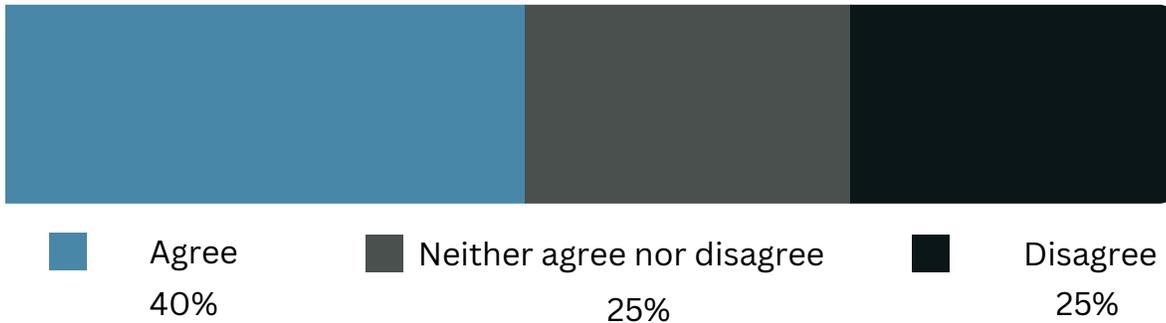
“Warm water periods have had huge impacts in a number of ways... and we aren’t seeing the level of anticipated bounce back of kelp along the North Coast.”
- Participant



TAKEAWAY #2

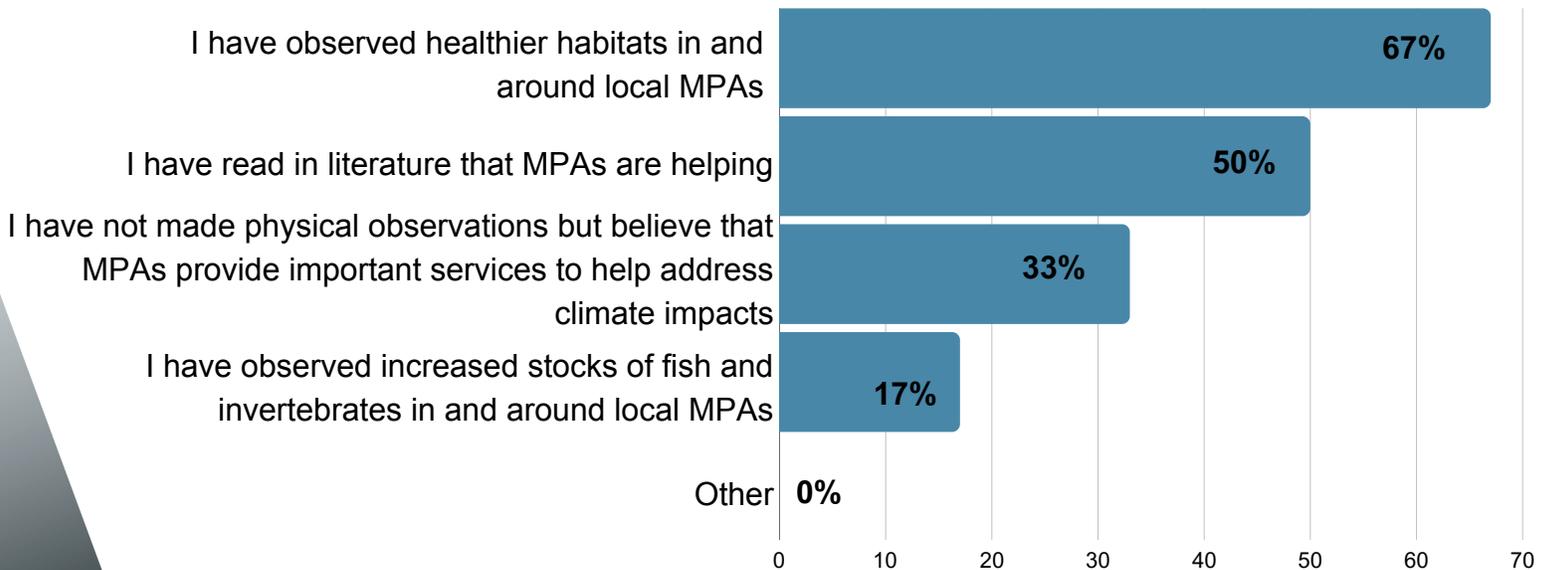
Respondents are divided on whether MPAs help to address climate change impacts on local coastal ecosystems

2. Indicate how strongly you agree or disagree with the following statement:
My local MPAs are offsetting/helping address these impacts to my local coastal ecosystems.



“Our lack of ability to respond [to climate impacts] with restoration efforts in our MPAs is limiting.” - Respondent

Respondents who **agreed** local MPAs are offsetting/helping address impacts to your local coastal ecosystems were asked why.*



*Respondents were allowed to choose more than one answer

TAKEAWAY #3

Respondents are concerned about the impacts of climate change on coastal communities

3. Rank your biggest concerns about how the following **climate impacts affect the health** (ability to function and thrive) **of your community or your community's resilience** (ability to bounce back).

Concerns ranked from biggest to smallest:

- 1 Warming and changing oceans further accelerating and exacerbating climate change on a larger scale
- 2 Impacts to culturally important species
- 3 Loss of aesthetically, culturally, and/or spiritually important sites
- 4 Impacts to species used for sustenance
- 5 Widening of existing social inequalities
- 6 Loss of economic resources or opportunities
- 7 Impacts to infrastructure
- 8 Loss of recreational opportunities
- 9 Other *

“MPAs are offsetting/ helping address climate impacts that affect health of my community and it's resilience by protecting the areas where we recreate and gather food sustenance.” - Respondent

“Increasing fish stocks helps the local fishing community... Supporting the way they help create local business gives the economic capital to help our community to bounce back from coastal storms and other climate change driven weather events.” - Respondent



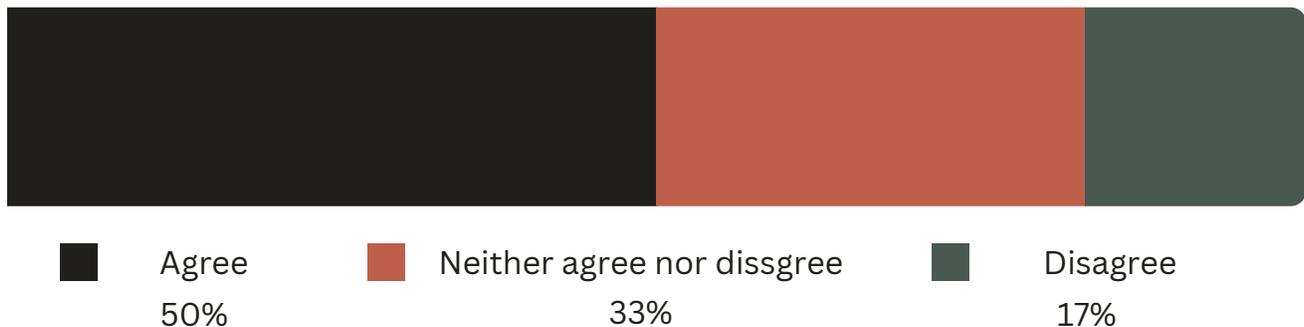
Credit: Anna Neumann

TAKEAWAY #4

Respondents believe MPAs are helping address climate impacts on communities

4. Indicate how strongly you agree or disagree with the following statement:

My local MPAs are offsetting/helping address climate impacts that affect the health (ability to function and thrive) of my community or my community's resilience (ability to bounce back)



Respondents that **agreed** were asked to explain their answer. A thematic analysis of responses revealed the most frequently mentioned topics:

- By protecting areas for recreation and food sustenance
- Hopeful human
- MPA monitoring efforts have also been utilized to better understand possible remedies to mediate help ecosystem health declines
- MPAs provide sanctuary for species
- Protecting and acknowledging change in our natural ecosystems, diversity and resiliency
- Supporting MPAs and the way they help create local business gives the economic capital to help our community to bounce back from climate change driven events

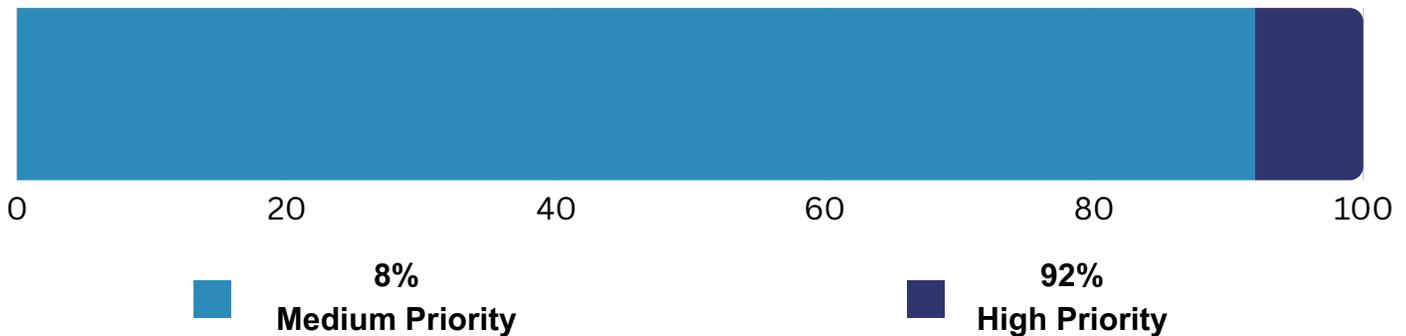
Respondents that **disagreed** were also given a chance to explain their answer.

- No evidence of offsets to climate driven impacts
- Lack of long term data and monitoring
- MPAs limit restoration efforts to combat climate driven changes to habitats

TAKEAWAY #5

Respondents believe marine management is a priority for addressing climate change

5.1 How would you **prioritize marine management alongside other climate change solutions** (such as renewable energy and carbon sequestration)?



5.2 Rank what you believe are the **most important priorities for adaptively managing MPAs** specifically in the face of climate change.

Priorities ranked from most to least important

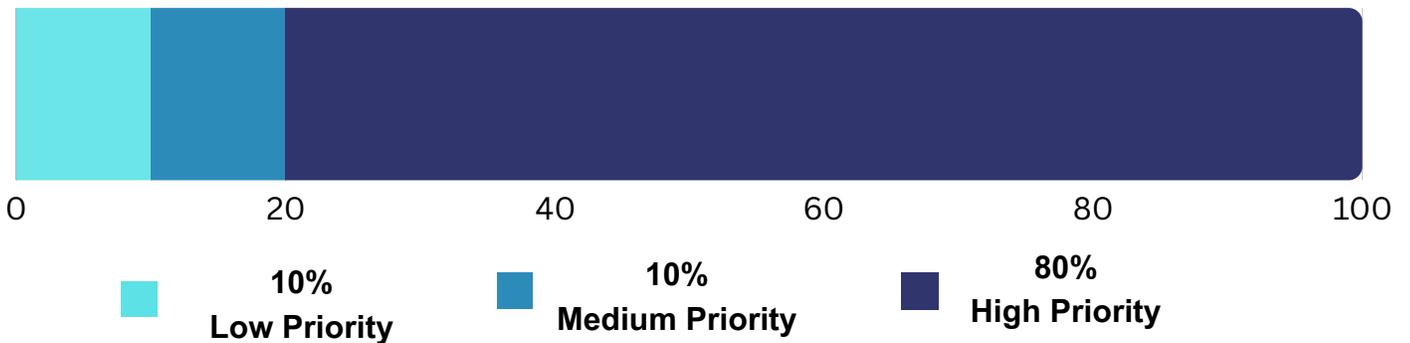
- 1 Protection of blue carbon ecosystems (kelp, seagrasses)
- 2 Research and monitoring projects to collect more data to inform decisions
- 3 Co-management of MPAs between tribes and state governing agencies
- 4 Integration of Traditional Ecological Knowledge (TEK) into MPA management and research
- 5 Expansion of protected areas and stronger protections
- 6 Allow for restoration activities within MPAs
- 7 Take necessary management action to allow for landward migration of submerged aquatic habitats
- 8 Consider addition of dynamic MPAs that address conditions impacting California currents



TAKEAWAY #6

Respondents believe climate action is a high priority for their community

6. How would you prioritize climate change alongside other drivers of political, demographic, and/or socioeconomic change impacting your community?



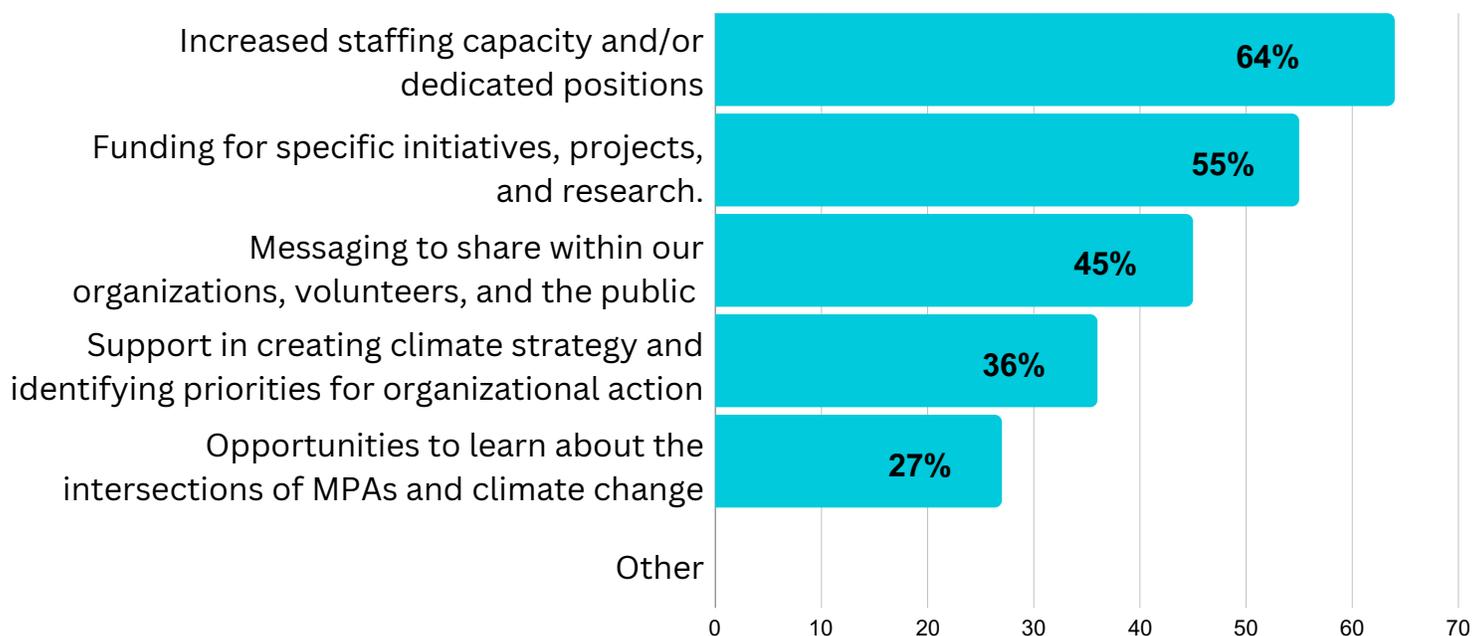
Respondents had the option to mention the most important general climate change solution along the coast (i.e. offshore wind, managed retreat, return of coastal land to tribal management, etc.)?



TAKEAWAY #7

Highest needs of respondents

7. What are the **needs of your organization/agency/tribe/business/community** in relation to MPAs and climate change?*



Respondents expressed a need for funding to support their work, specifically:

- Consultations with tribes
- Restoration opportunities within MPAs
- Institute a managed retreat strategy.
- Research and then action to act on ways preserving what remains
- Patrolling (Fish and wildlife wardens)
- Building local capacity to address climate driven impacts to our nearshore habitats and fisheries Purple urchin aquaculture, red abalone brood stock, sunflower sea star recovery, etc.
- Lack of evidential support does not facilitate public funding support. It's a vicious cycle. We need capital for projects up front.

Those who selected other were asked for more information. Responses included:

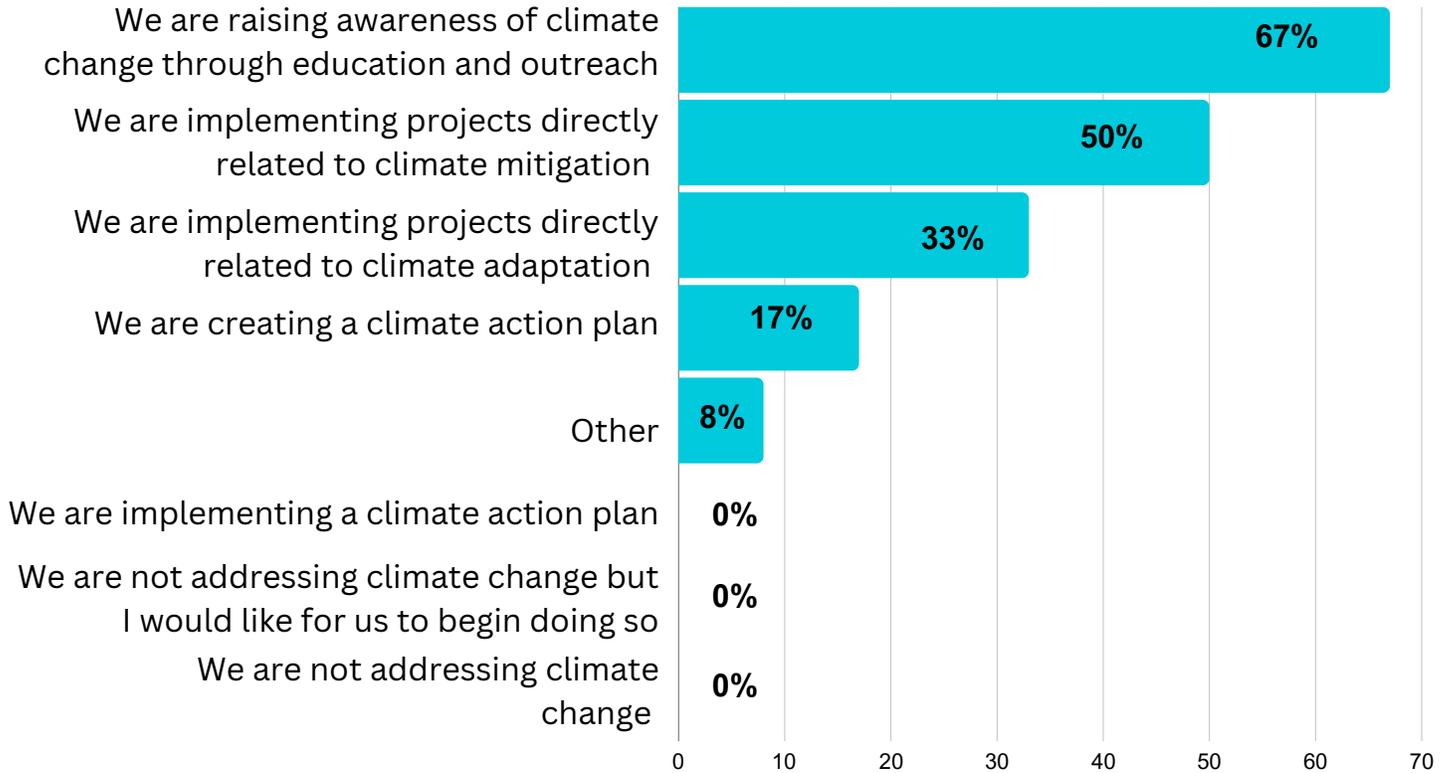
- Education of agency staff about MPAs
- Oversight of agency science

*Respondents were allowed to select more than one answer

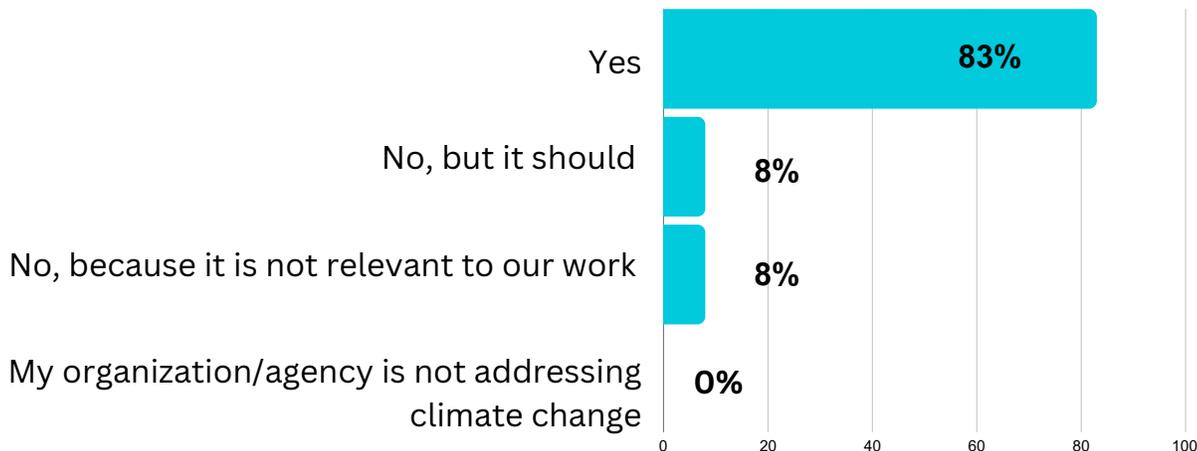
APPENDIX A

Community Work

How is your organization/agency/tribe/business/community addressing climate change?*



Do the climate actions of your organization/agency/tribe/business/community incorporate or consider MPAs?*



*Respondents were allowed to select more than one answer

APPENDIX A

Community Work and Resources

The following information/resources were provided by participants in regards to the work that is already occurring within Mendocino and relevant community resources.

What is currently being done to address climate change:

- Cal Trans got funding to model how extreme storms will impact infrastructure in Mendocino and Lake Counties
- [Potter Valley Tribe](#) is doing climate change planning efforts and mitigation
 - Several parcels above the Eel River, heavily forested, and thinning areas in there
 - Biochar workshop and demonstrations (produces much less emissions and charcoal left over can be soil supplement)
 - Wildfire emergency preparedness working with local agencies
 - Working with tribal members on evacuation notices and alerts to inform communities of disasters
 - Storm events in winter- Tribe making effort to be proactive so community has contacts and resources to plan for these events
 - Have prioritized keeping water in the river (benefit for aquatic life and systems), more quality, not quantity.
 - Campfire events with zero waste focus trying to educate youth
 - Concern for the mental health of community members due to CC impacts- trying to foster more discussion around this.
- The Marine Mammal Center made a video with students and they really connect: ["A Word with Dr. Whizzlepuff: Climate Change"](#)
- Round Valley Indian Tribe is working on fire resiliency, forestry management and Eel River Restoration.
- McKerricher State Park is creating new programs that integrate climate change
- [UC Davis Climate Stewards certification](#)
- [Climate Change Vulnerability Assessment](#) for the California Coastal National Monument: Trinidad and Point Arena-Stornetta Units - BLM and USGS
- [Hubs and Routes](#): Readiness Tools for the Mendocino Coast

Resources

For resources on Climate Change and MPAs, as well as resources specific to your region, [visit our resources document \(click on this link or scan QR code\)](#).

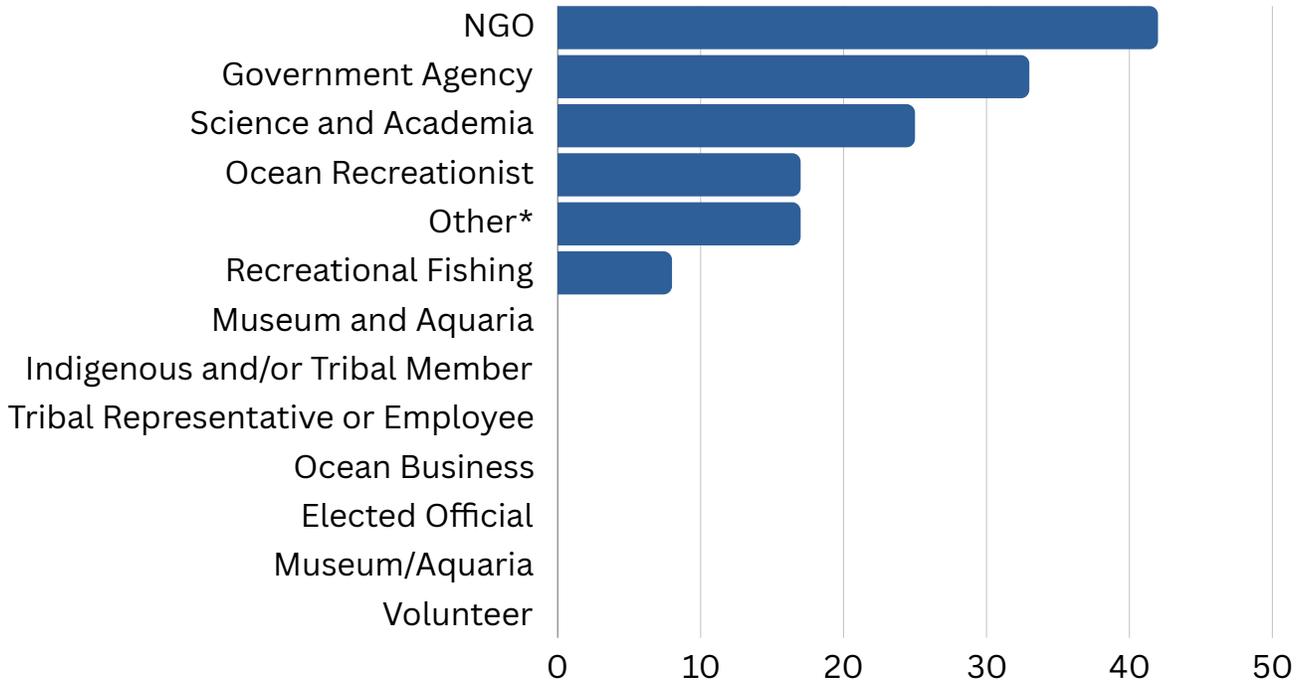


Resources

APPENDIX B

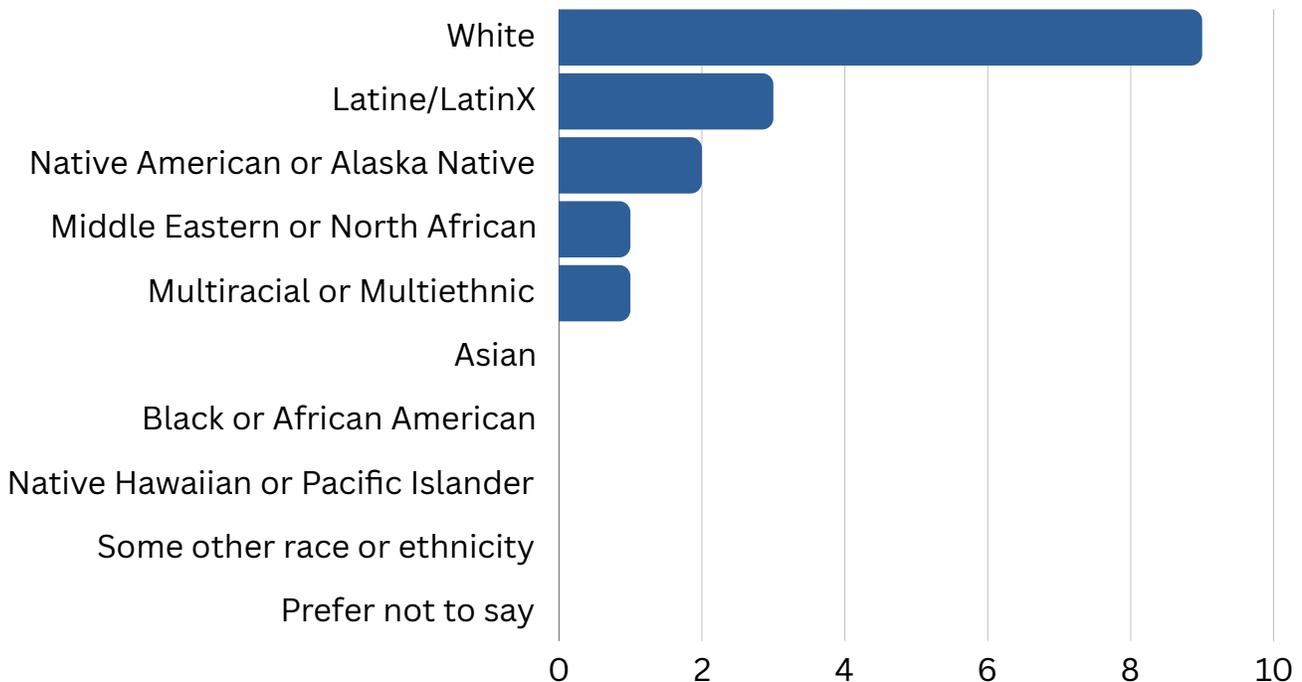
Demographics of survey respondents

Sector Affiliation (%)



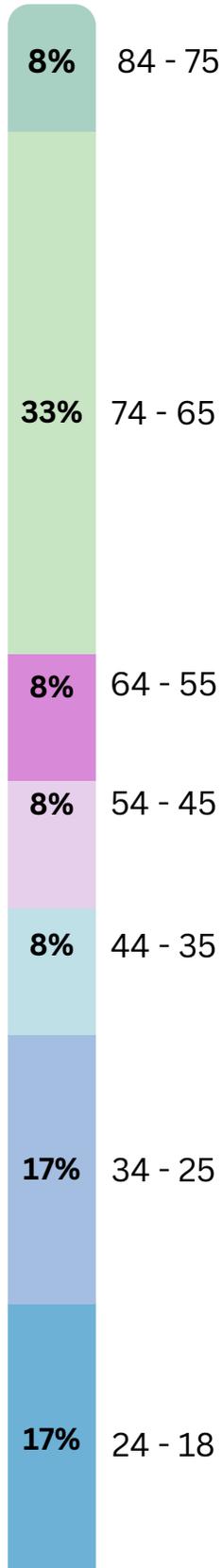
* Respondents that answered 'other' were given the opportunity to state their affiliation. Responses included "land trust" and "harbor master"

Which race, ethnicity and/or origin categories describe you? (%)



APPENDIX B

Age Groups



Gender Identity



42% of respondents selected “**male**” as their gender identity.



50% of respondents selected “**female**” as their gender identity.



8% of respondents selected “prefer not to say”



0% of respondents selected any of the following gender identities: “Non-binary”, “Transgender”, “Not listed/Option to specify”

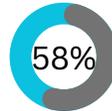
Highest level of education



8% Some college, but no degree



33% Bachelor’s degree

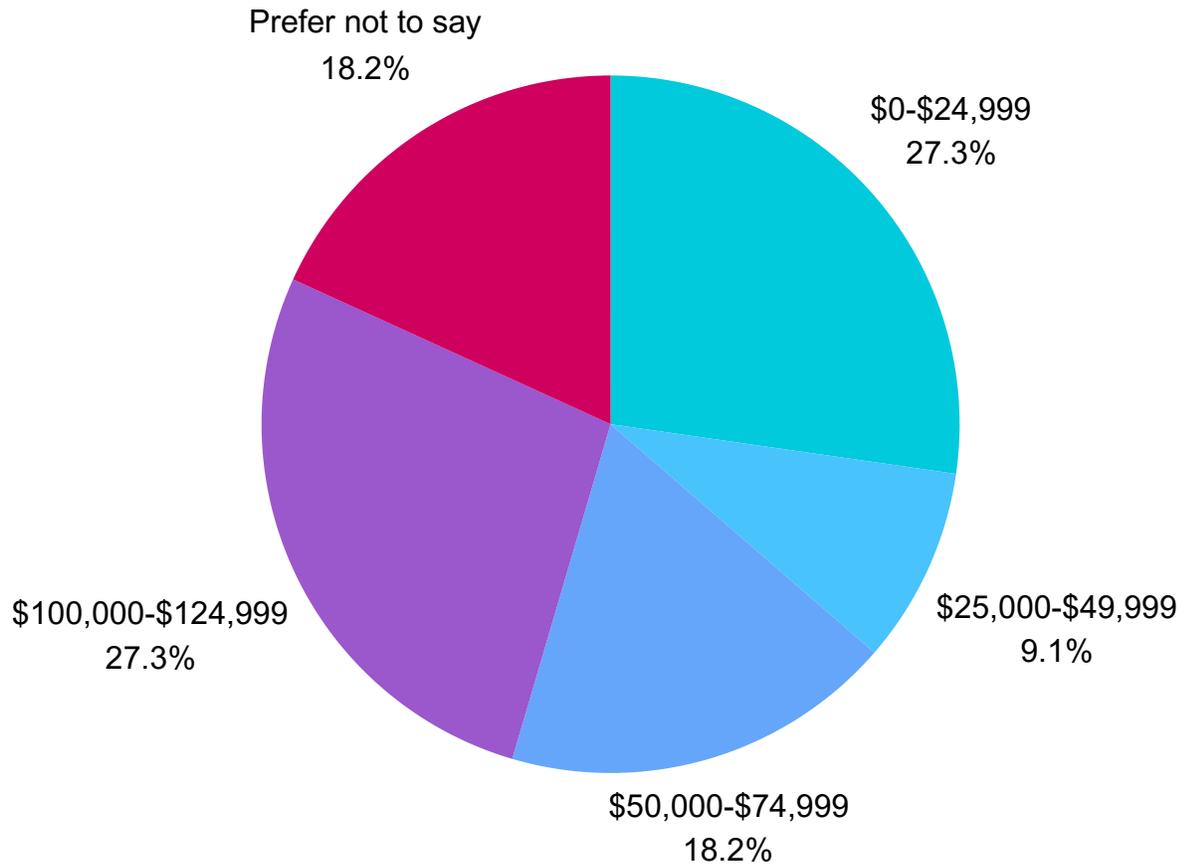


58% Graduate or professional degree

0% of respondents selected any of the following: some high school or less”; “high school graduate or GED”; or “associate’s or technical degree:

APPENDIX B

Annual household income (before taxes) in 2022





ABOUT THE MPA COLLABORATIVE NETWORK

The MPA Collaborative Network (CN) ensures that MPAs are effective by providing a robust structure for civic engagement in MPA management. The CN's 14 county-based volunteer groups (collaboratives) bring together over 1,700 members representing hundreds of distinct and diverse Californian organizations, agencies, Tribes, individuals, interests, and backgrounds for a more comprehensive and localized approach to resource management.

Learn more as well as join your collaborative:

www.mpacollaborative.org

For more information on MPAs:

<https://wildlife.ca.gov/Conservation/Marine/MPAs>