



COLLABORATIVE
NETWORK

CLIMATE AND THE COAST HUMBOLDT



Humboldt 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
Humboldt residents on climate change, the coast,
and marine protected areas (MPAs).*

www.mpacollaborative.org



EXECUTIVE SUMMARY

This report is a summary of 24 survey respondents and 12 focus group attendees in Humboldt County.

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
- **marine management is a priority** for addressing climate change
- **climate action is a high priority** for their community

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

- **Ecosystem and species concerns:** salmon and river health; loss of habitat for seabirds and marine mammals due to sea level rise (offshore rocks and bluffs) loss of abalone and kelp due to marine heat
- Concerns about **infrastructure impacts** (water treatment, roads, homes) due to sea level rise, coastal storms, and inundation
- **Impacts to coastal research** due to increased intensity of weather patterns

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....

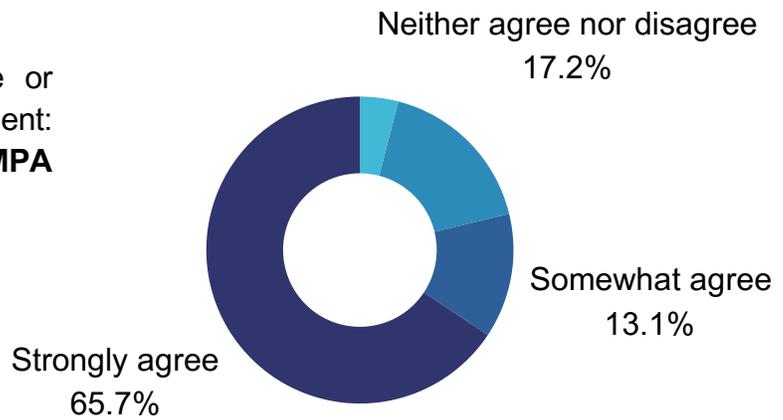
- a **blue carbon inventory** for California's MPAs (either as a whole or individually) that estimates how much blue carbon they sequester, as well as how much greenhouse gases are created through the management program
- a **climate change vulnerability assessment** for California's MPAs (either as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



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 Sea level rise
- 3 Ocean acidification
- 4 Coastal storms
- 5 Invasive species
- 6 Climate driven shift in human impacts
- 7 Wildfire runoff
- 8 Other *



“We must address climate change to keep our planet alive including all species.”
- Respondent

* Concerns mentioned in the “other” section included: biodiversity impacts, extirpation of keystone species, harmful algal blooms, increase in lack of space for affordable housing due to sea level rise, kelp forest decline, loss of intertidal habitat, marine debris, nutrient pollution, plastics, abalone population decline, erosion, general aesthetics of CA coastline

TAKEAWAY #2

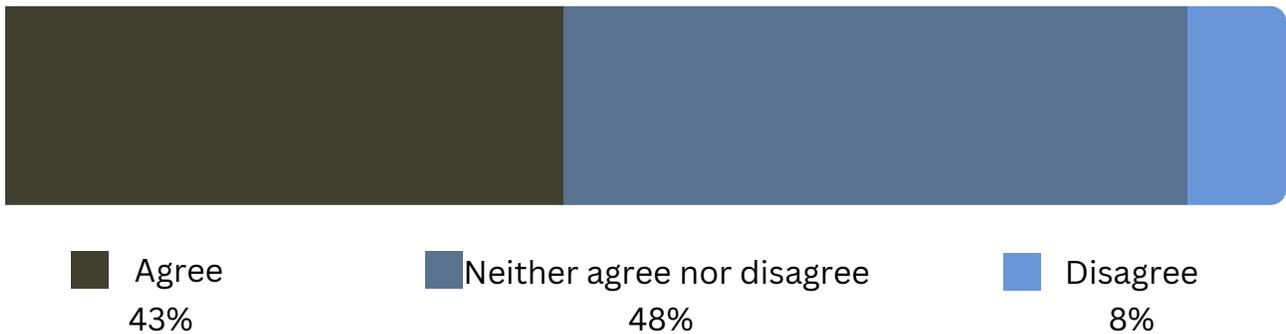
Credit: Angie Edmunds

A majority of respondents are unsure if MPAs are helping address climate change impacts on local coastal ecosystems

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

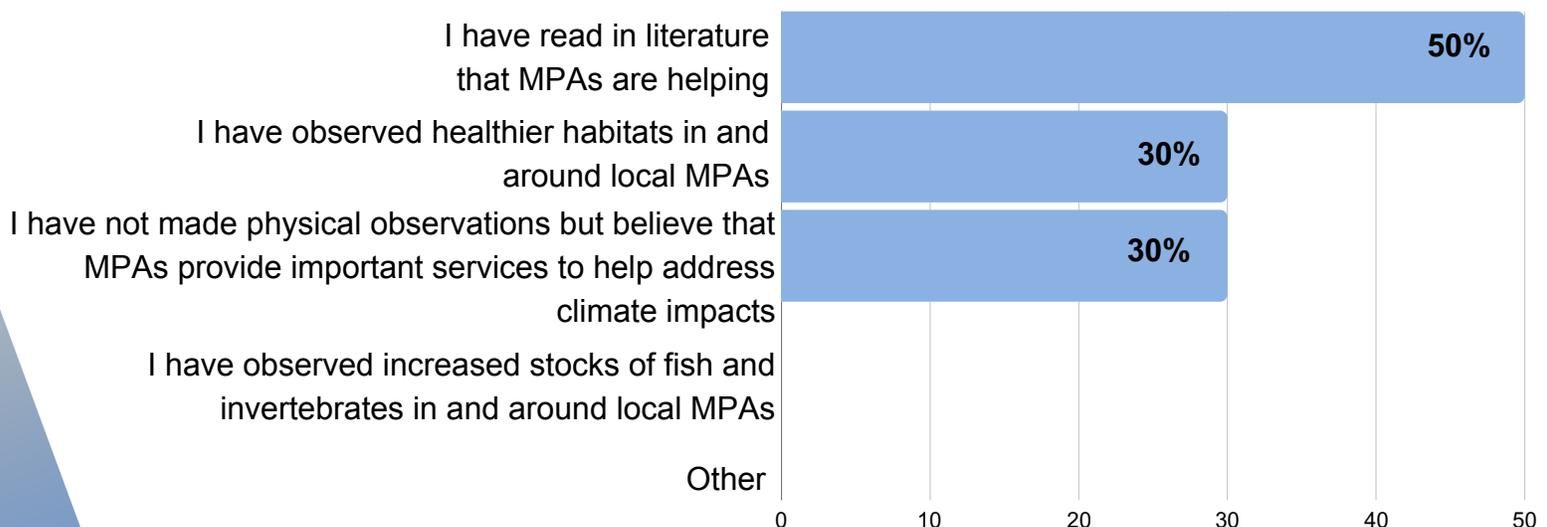
My local MPAs are offsetting/helping address these impacts to my local coastal ecosystems.

43% of respondents felt that their local MPAs are offsetting/ helping address impacts to local coastal ecosystems.



“[MPAs provide] a space for species abundance which may offset species declines outside of the MPA during impactful events such as heat waves.” - 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 Impacts to species used for sustenance
- 4 Impacts to infrastructure
- 5 Widening of existing social inequalities
- 6 Loss of economic resources or opportunities
- 7 Loss of aesthetically, culturally, and/or spiritually important sites
- 8 Diversion of resources that could be used for other community programs/priorities
- 9 Other *

“Climate Change exacerbates socioeconomic, demographic, and political impacts.”
- Respondent

“Climate Change cannot be addressed without also addressing inequities in our community. It is paramount that we recognize the connections of all these issues.” - Respondent

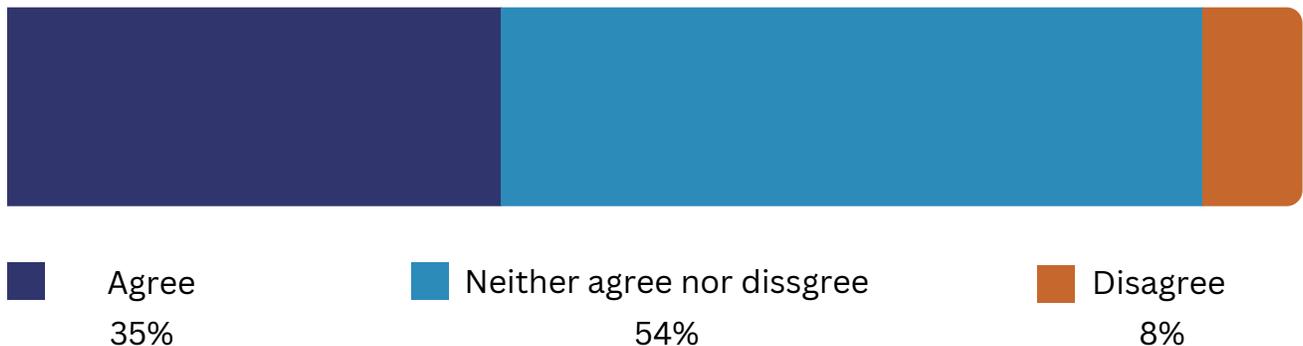
“Responses to climate issues affect all sectors (intersectionality) - especially marginalized and underrepresented groups. Our community (Humboldt) is generally well informed and not quite as clear about actions/plans/options.”
- Respondent

TAKEAWAY #4

A majority of respondents are unsure if 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:

- MPAs provide sanctuary for species
- MPA's allow ecosystems to thrive without human impacts
- MPAs protect species that are culturally important, economically important, and used for sustenance
- By protecting the diversity of habitats and species, MPAs are more resilient
- General community awareness
- MPAs serve as a space for ocean ecosystems to heal following extreme climate events

Respondents that **disagreed** were also given a chance to explain their answer. **Only one response was submitted**, stating "There is no possible connection between reefs and climate status. Reefs are too small in comparison to the entire ocean."



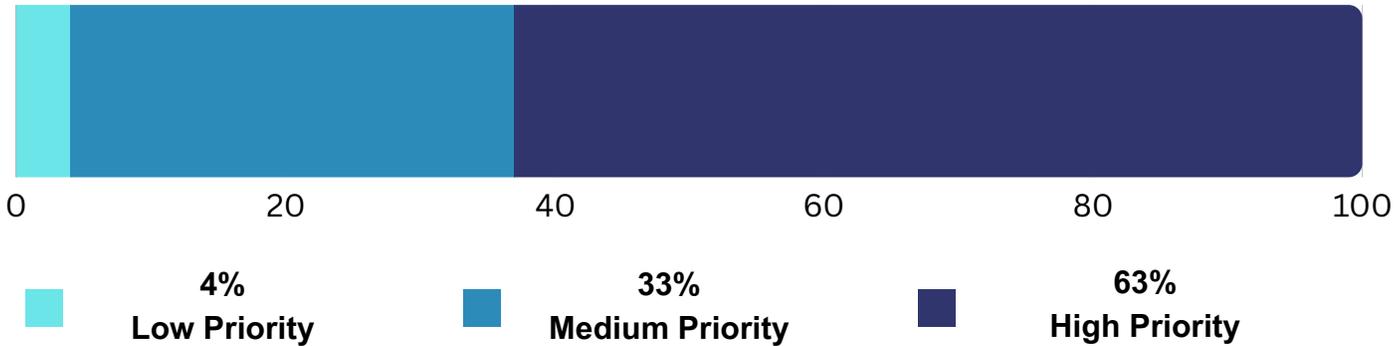
"Protecting species that are culturally important, economically important, and used for sustenance..... For those that rely on the ocean for spiritual/cultural purposes, protection of these species and places is of huge value for continuation of culture." - Respondent

TAKEAWAY #5

Credit: Angie Edmunds

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 fro most to least important

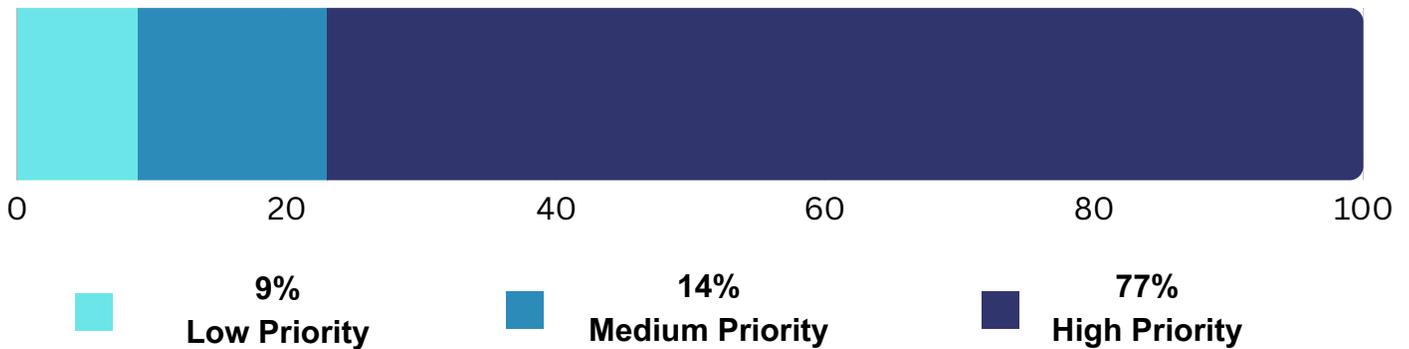
- 1 Expansion of protected areas and stronger protections
- 2 Protection of blue carbon ecosystems (kelp, seagrasses)
- 3 Research and monitoring projects to collect more data to inform decisions
- 4 Integration of Traditional Ecological Knowledge (TEK) into MPA management and research
- 5 Co-management of MPAs between tribes and state governing agencies
- 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?



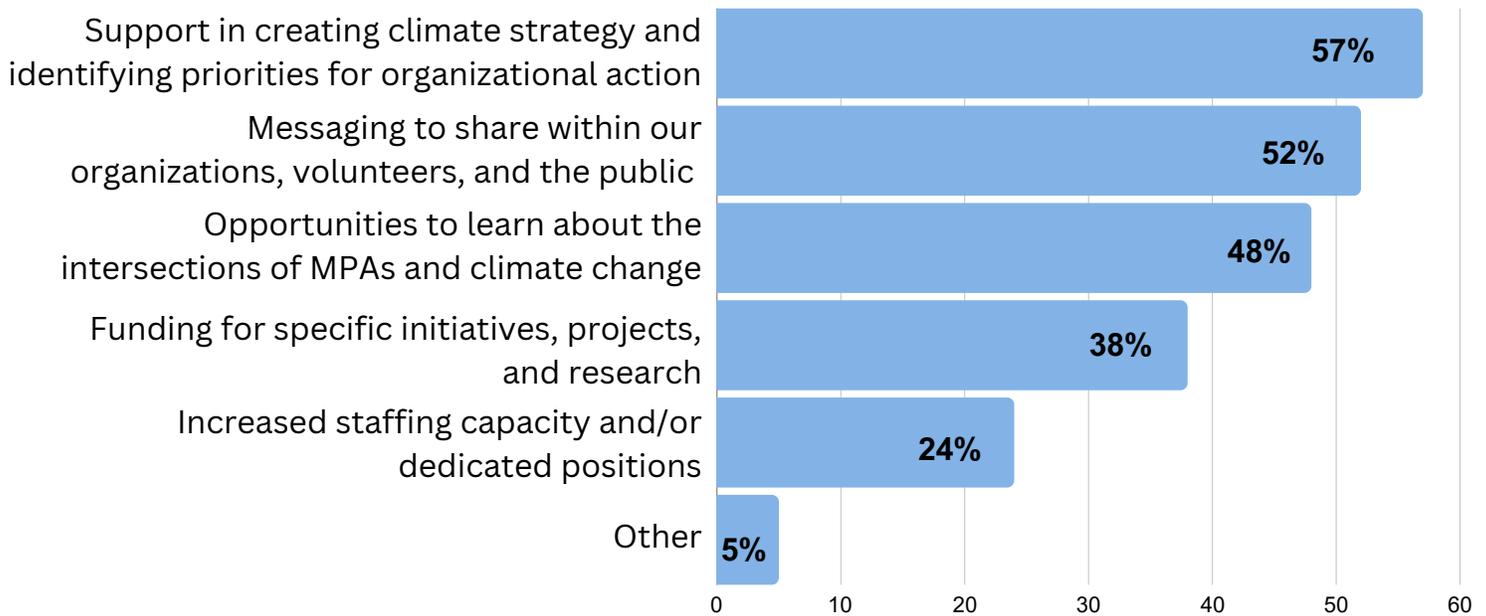
Respondents had the option to mention the **most important general climate change solution along the coast** (i.e. offshore wind, managed retreat, return of coastal land to tribal management, etc.)?



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?*



Those who selected funding for specific projects, initiatives, and research were asked to explain. Responses included:

- Funding to implement enhancement plans
- Implementation
- Native Plant Buffer zone studies
- Research
- To support existing programs

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

- Public Education



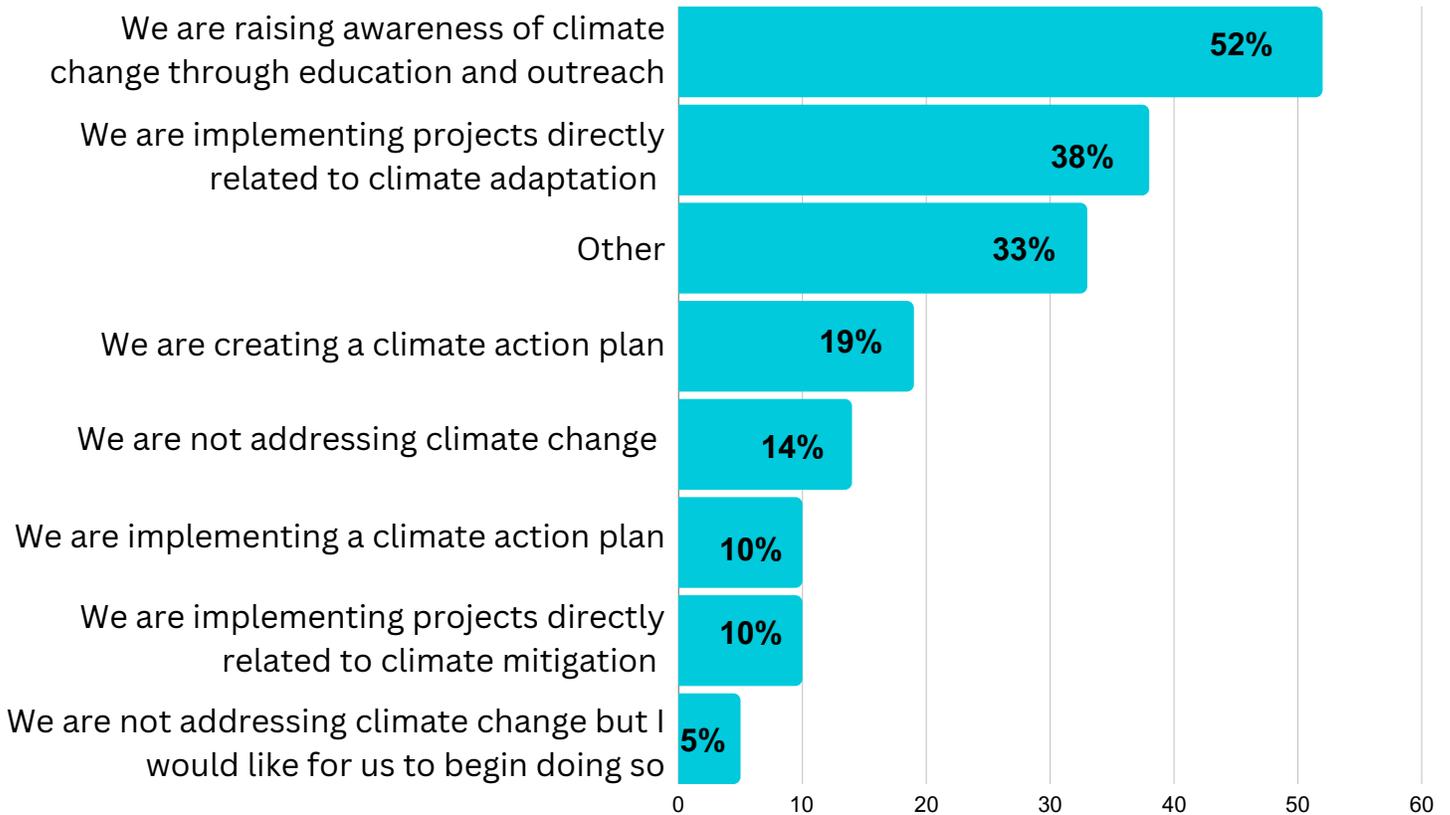
“CDFW and other management agencies should have dedicated personnel focused on climate change. We cannot wait to have "all of the data" before taking action.” - Respondent

*Respondents were allowed to choose more than one answer

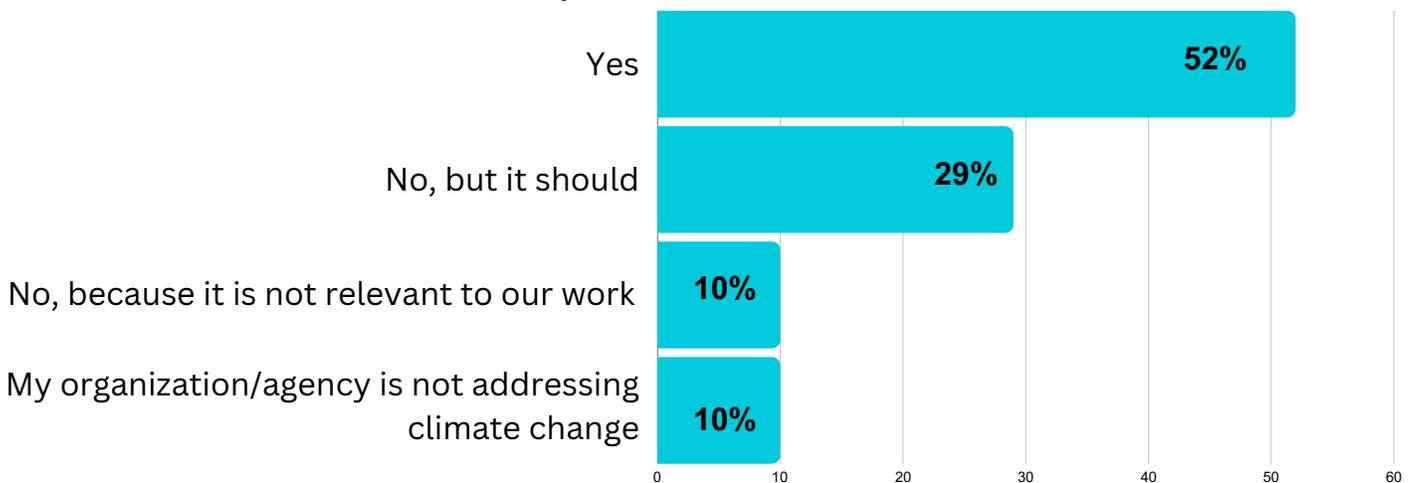
APPENDIX A

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 choose 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 San Diego and relevant community resources.

What is currently being done to address climate change:

- [Climate Change Vulnerability Assessment for the California Coastal National Monument](#): Trinidad and Point Arena-Stornetta Units
- [Trees Foundation](#): Working on stream restoration as well as estuaries that are connecting streams with MPAs. Important as SLR occurs and estuaries are changing. Need to ensure good access for all migrating species
- Board of [Jacoby Creek Land Trust](#): enhancement plan to help with recruitment and flooding for the habitat. Coastal Conservancy funded plan. Wants to work at the watershed level!
- [PachaMama Foundation](#): intro to community action training. Moderates training so people can understand what they can do in their own locations. The Pachamama Alliance held a 1-day Climate Convergence: education and awareness at a broader level.
- BLM is doing a lot of different things: fuels reduction projects, wetland restoration projects, supporting research to address climate change, etc.
- Forest and River News would like to participate in sharing climate related information
- [NorthCoast Environmental Center](#): would like to help getting information out there and wants to be a point of contact and connection for community members and others who are doing work.
- [Humboldt Coastal Resilience Project](#): The project includes a 5-year study to improve understanding, a vulnerability assessment, stakeholder involvement, and outreach activities. In September 2023, The Coastal Conservancy authorized a \$5M grant to restore and enhance 300 acres of dune habitat to increase resiliency.

Resources

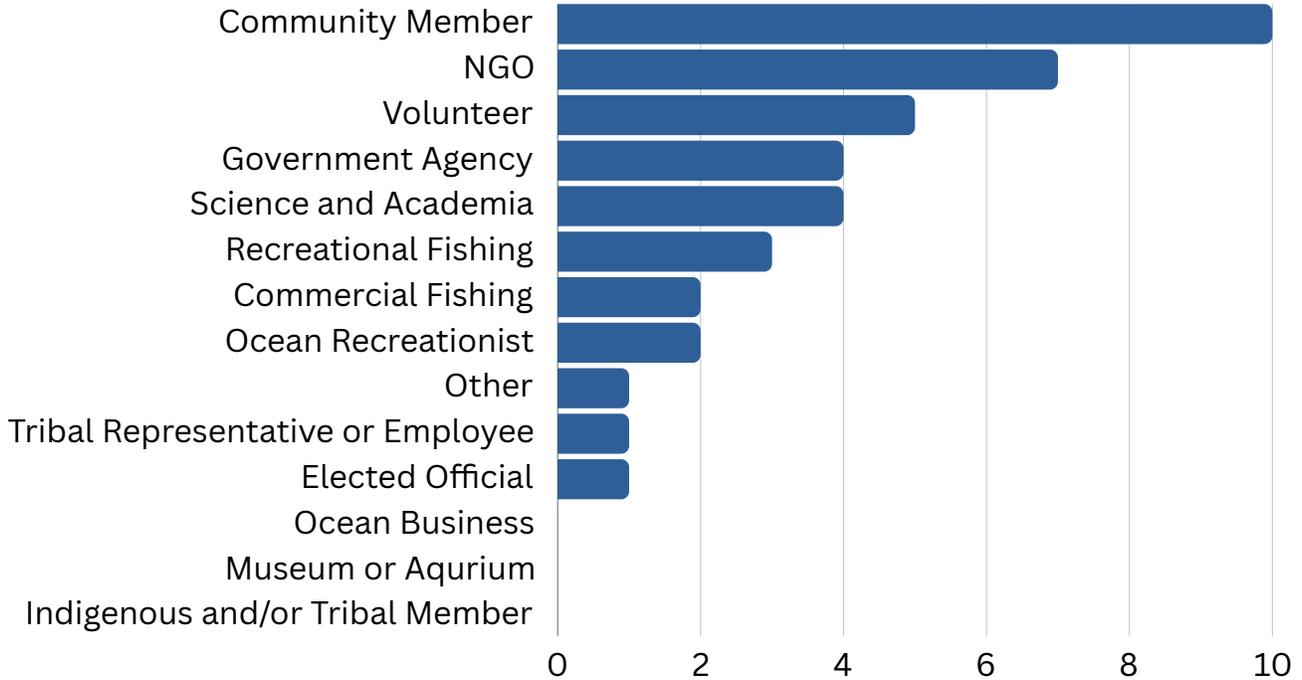
For resources on Climate Change and MPAs, as well as resources specific to your region, [visit our resources document \(click on this link or scan QR code\)](#).



APPENDIX B

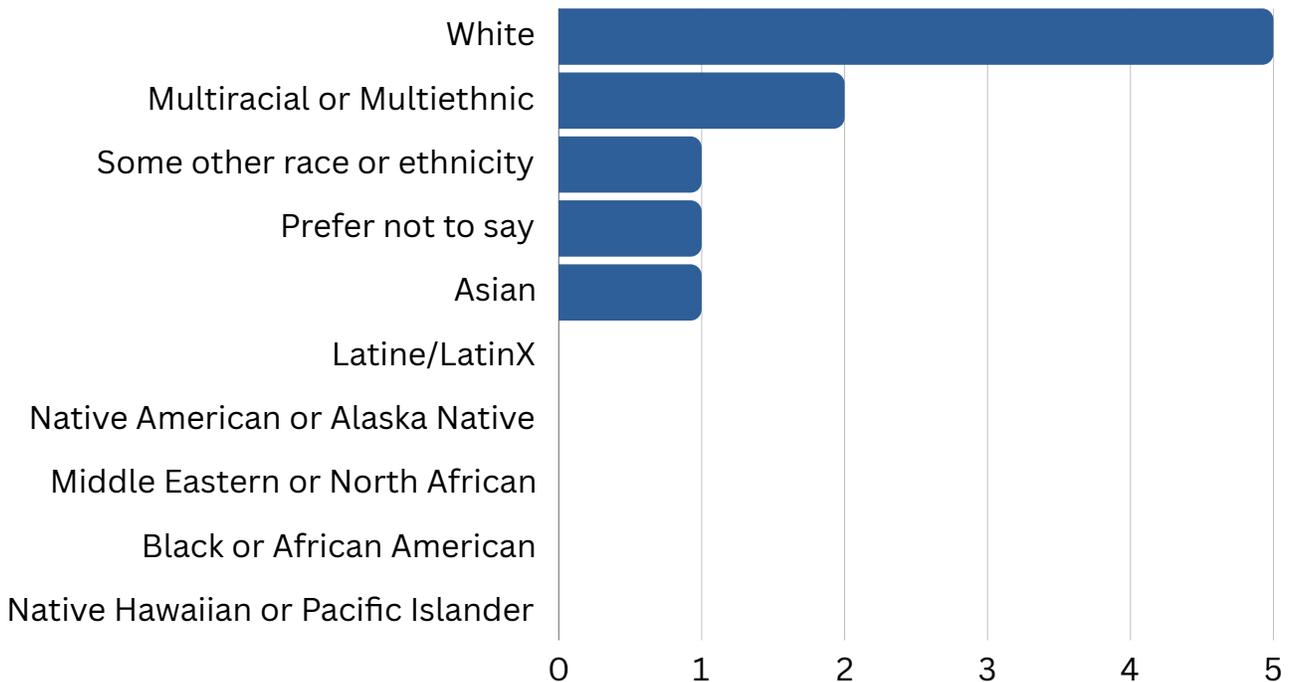
Demographics of survey respondents

Sector Affiliation*



* Respondents that answered 'other' were given the opportunity to state their affiliation, but no responses were submitted.

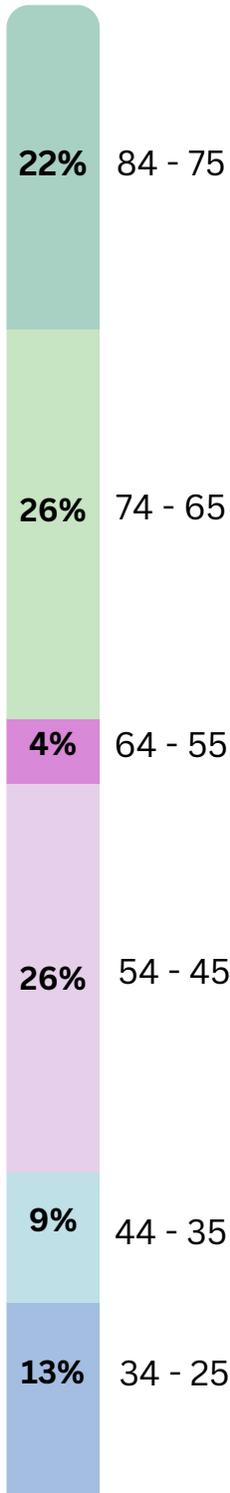
Which race, ethnicity and/or origin categories describe you?*



*Respondents were allowed to choose more than one answer

APPENDIX B

Age Groups



0% of respondents selected any of the following age groups: "Under 18" and "over 85".

Gender Identity



30% of respondents selected "male" as their gender identity.



61% of respondents selected "female" as their gender identity.



4% of respondents selected "Non-binary" as their gender identity

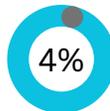


4% of respondents selected "prefer not to say"

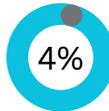


0% of respondents selected any of the following gender identities: "Transgender", "Not listed"

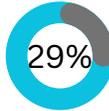
Highest level of education



4% Some college, but no degree



4% Associates or technical degree



29% Bachelor's degree

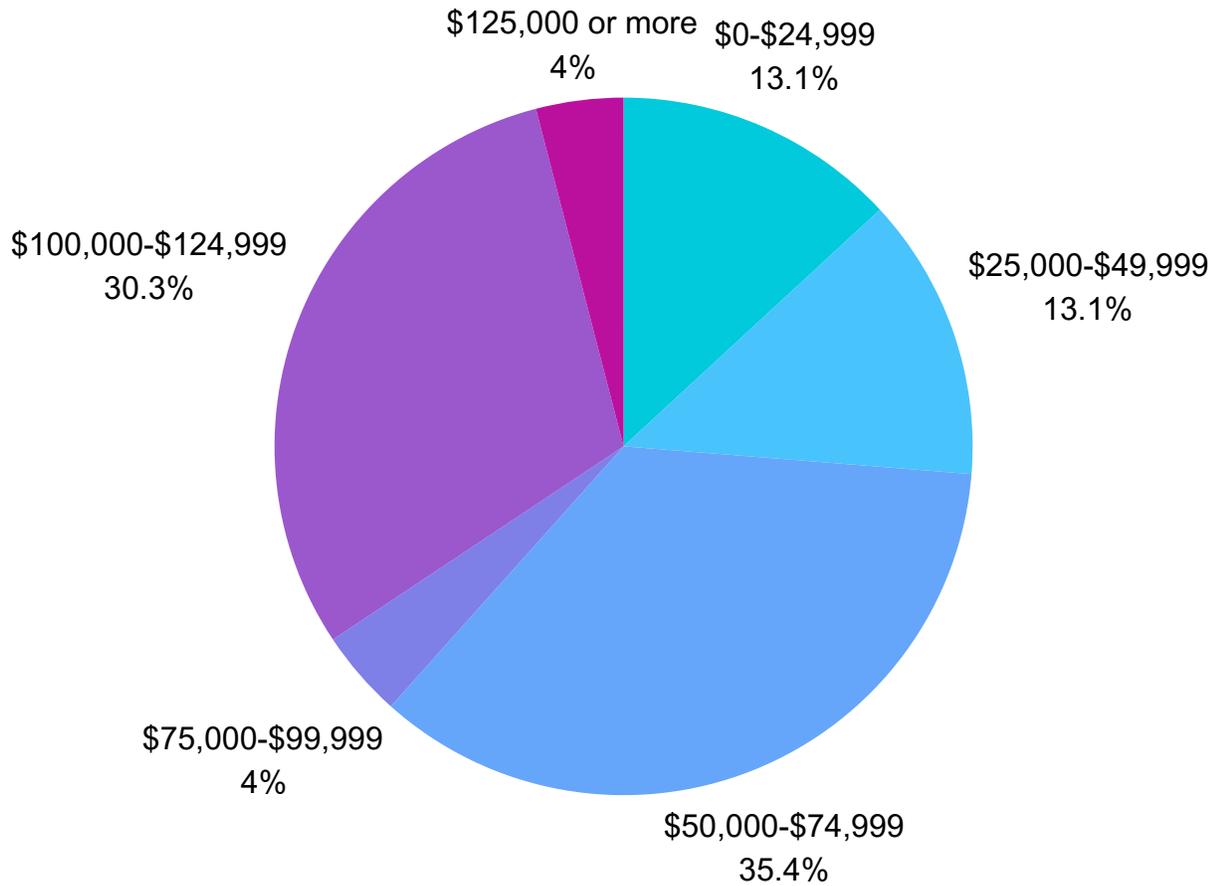


63% Graduate or professional degree

0% of respondents selected any of the following: some high school or less"; "high school graduate or GED"; "some college, but no degree."

APPENDIX B

Annual household income (before taxes) in 2022



Credit: Erika Delemarre

 South Humboldt Bay State Marine Recreational Management Area



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>