


# CLIMATE AND THE COAST STATEWIDE



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

[www.mpacollaborative.org](http://www.mpacollaborative.org)

 Reading Rock State  
Marine Conservation Area



## EXECUTIVE SUMMARY

This report is a summary of 382 survey respondents and 167 focus group participants (spread throughout 14 county-based focus groups)

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
- **MPAs are helping address climate change** impacts on local coastal ecosystems and communities
- **marine management is a priority** for addressing climate change
- **climate action is a high priority** for their community

# 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....

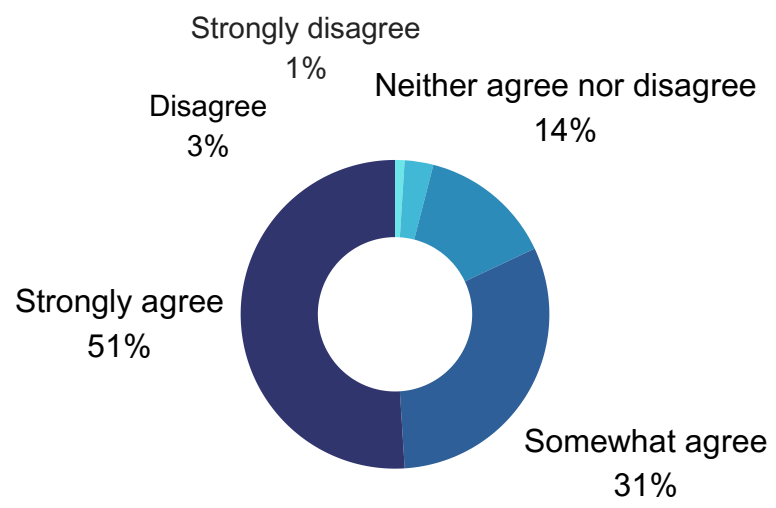
- a **blue carbon inventory** for California's MPAs (either as a whole or individually) that estimates how much blue carbon they sequester, as well as how much greenhouse gases are created through the management program
- **A climate change vulnerability assessment** for California's MPAs (either as 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 is the highest priority we face. Period.” - 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 Ocean acidification
- 3 Sea level rise
- 4 Coastal storms
- 5 Climate driven shift in human impacts
- 6 Invasive species
- 7 Wildfire runoff
- 8 Other

“Climate change [is] the significant factor in future biodiversity and environmental adverse effects.” - Respondent

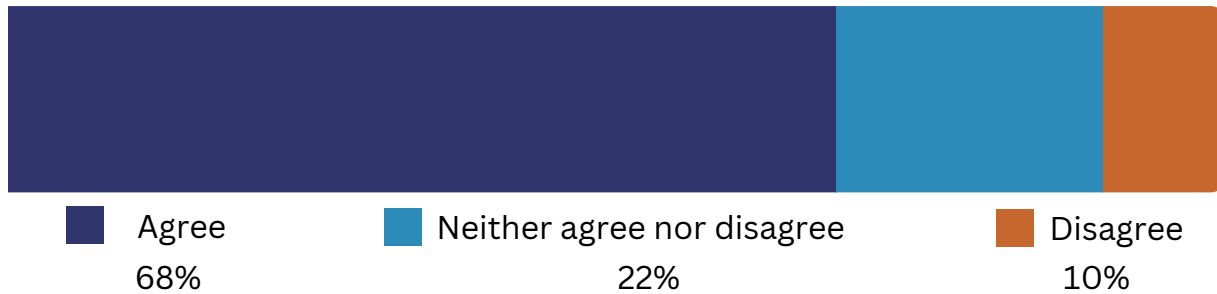
## TAKEAWAY #2

### Respondents believe MPAs are helping address climate change impacts on local coastal ecosystems

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

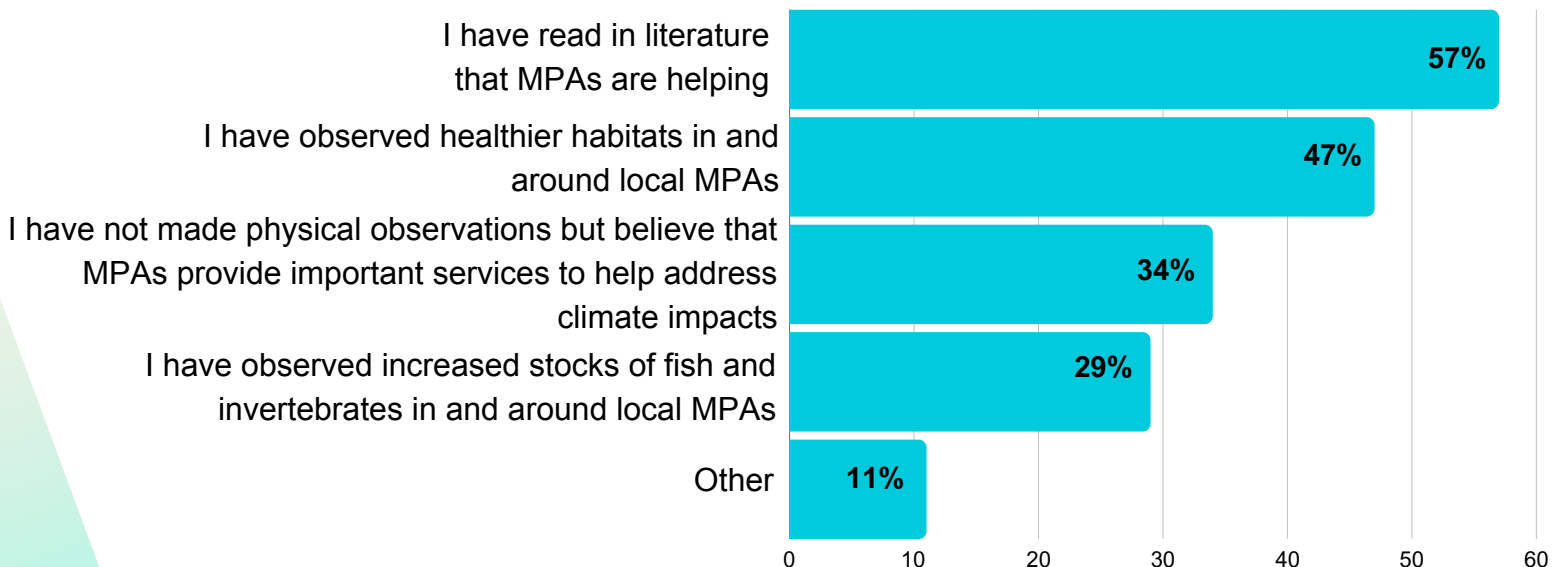
**My local MPAs are offsetting/helping address these impacts to my local coastal ecosystems.**

A majority of respondents felt that their local MPAs are offsetting/ helping address impacts to local coastal ecosystems. In particular, 68% agreed MPAs are strongly (27%) or somewhat (41%) offsetting climate impacts.



*“MPAs relieve some human-caused pressures to the ecosystem like fishing; they cannot directly protect against climate change impacts - the hope is that by relieving human impacts the ecosystems may be a bit more resilient to climate impacts.” - Respondent*

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



## 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 Widening of existing social inequalities
- 5 Loss of aesthetically, culturally, and/or spiritually important sites
- 6 Impacts to infrastructure
- 7 Loss of economic resources or opportunities
- 8 Diversion of resources that could be used for other community programs/priorities

“The climate affects all of us in our entire community so will hopefully be addressed in a thoughtful, community-oriented way - quickly!” - Respondent

“[I am] especially concerned on how low-income communities and communities of color will be disproportionately affected by climate change” - Respondent

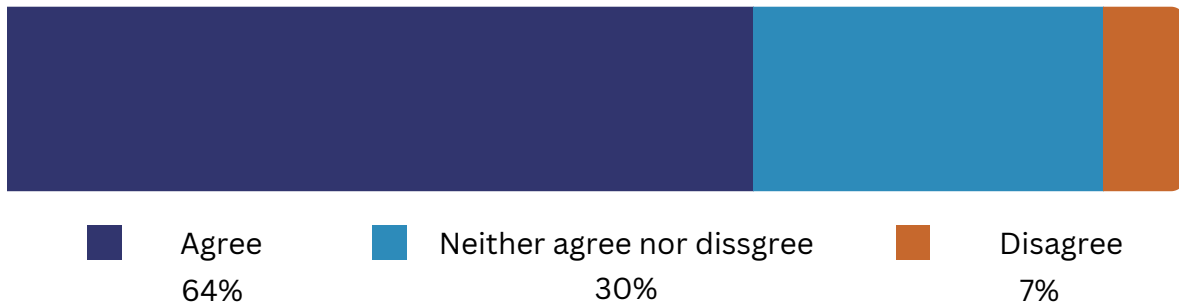
“...I am convinced that the more larger and more diverse and abundant fish and invertebrates MPAs produce is a key factor supporting ecosystem resilience, and that resilient ecosystems are a cornerstone of community resilience.”  
-Respondent

# 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:

- MPAs build stronger, more resilient ecosystems
- MPAs indirectly protect against climate change impacts by relieving human impacts
- MPAs provide sanctuary for species
- 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
- MPAs serve as a space for ocean ecosystems to heal following extreme climate events
- The spillover effect

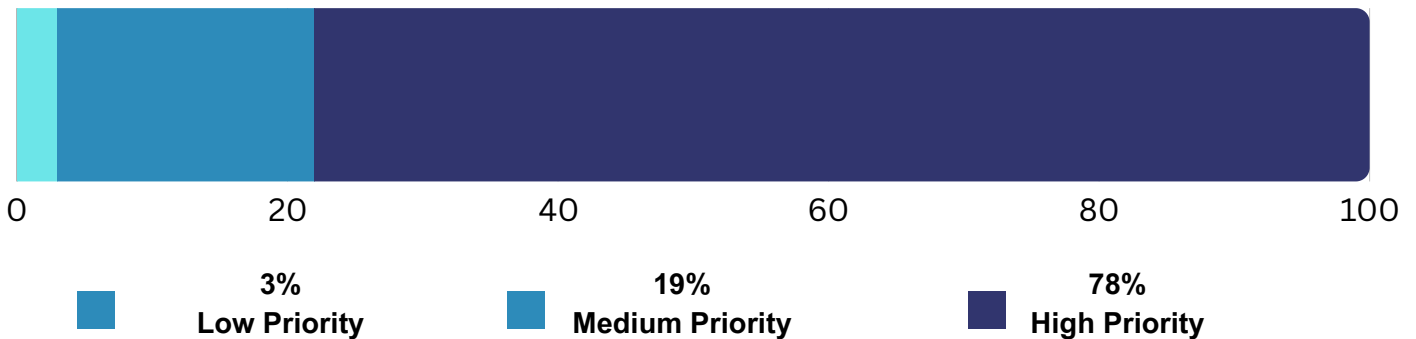
Respondents that **disagreed were also given a chance to explain their answer**. A thematic analysis of responses revealed the most frequently mentioned topics:

- MPAs cannot compensate for many climatic scenarios
- Climate change does not stop at MPA boundaries
- Need documented evidence
- Difficult to address [climate] challenges within MPAs with no-take restrictions
- MPAs are too small
- Management has been reactive rather than proactive in managing marine ecosystems

# 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.

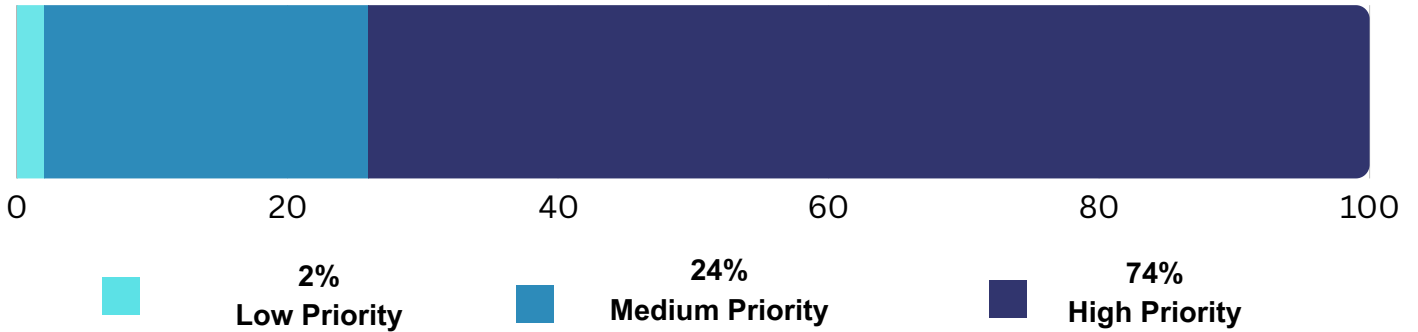
### Priorities ranked from most to least important

- 1 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.)?

Manage Human Behaviors

**Tribal Management**

Eelgrass protection

**Restoration**

Land Use Planning

Protect Eelgrass

Traditional Ecological Knowledge

Leave things alone

Regenerative Agriculture

**Reduce Fossil Fuel Use**

Shoreline Resilience

Offshore wind

Integrated approach

Locally Managed Marine Areas

**Managed Retreat**

Pollution Control

Remove Dams

Kelp Forests

Protect Whales

**Ecosystem Protection**

Community Engagement

Adaptive Management

**Renewable Energy**

Wetland Restoration



Casino Point No-Take State Marine Conservation Area

# 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?



“We need to talk about climate change using experiences that everyone can relate to.” - Respondent

“[We need] grantors to support implementation of plans AND grantees assessing the effectiveness management actions, i.e., monitoring.”-Respondent

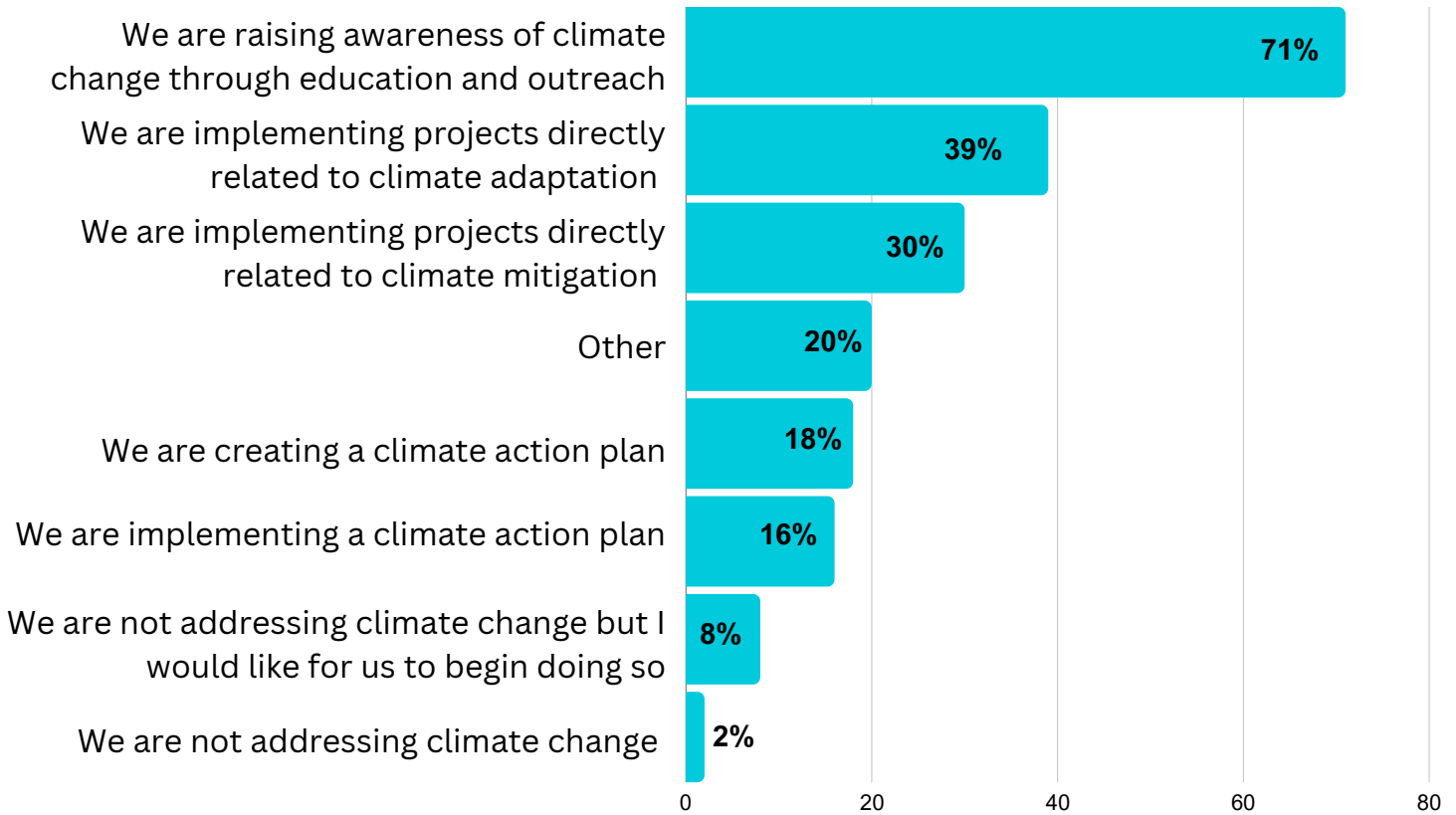


“CDFW and other management agencies should have dedicated personnel focused on climate change. We cannot wait to have ‘all of the data’ before taking action.” - Respondent

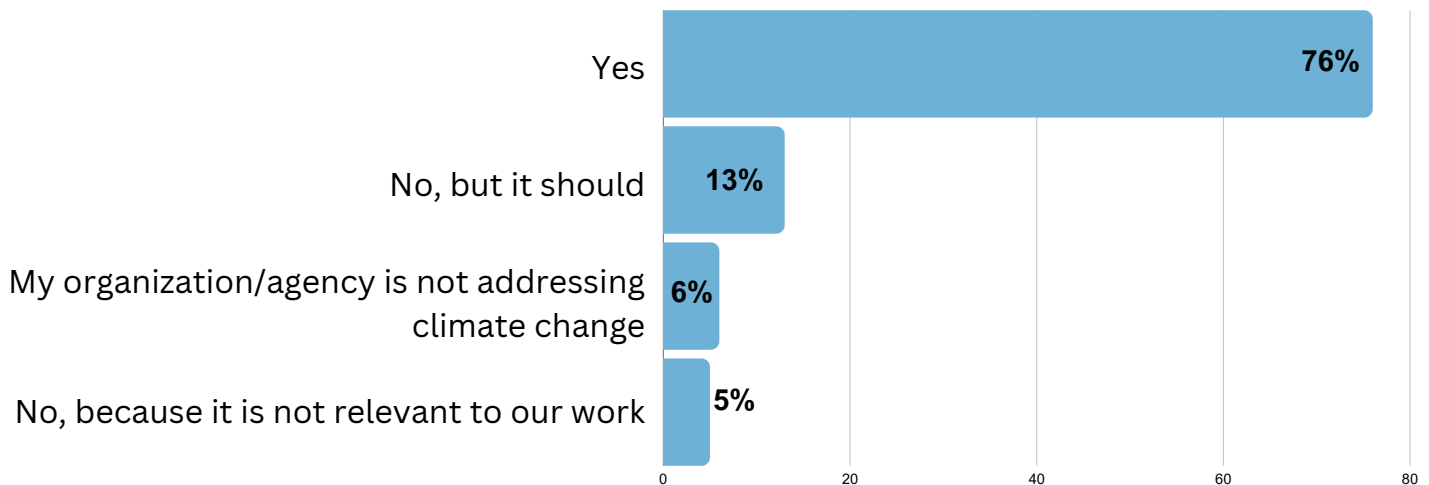
# APPENDIX A

## 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?



# APPENDIX A

## Resources

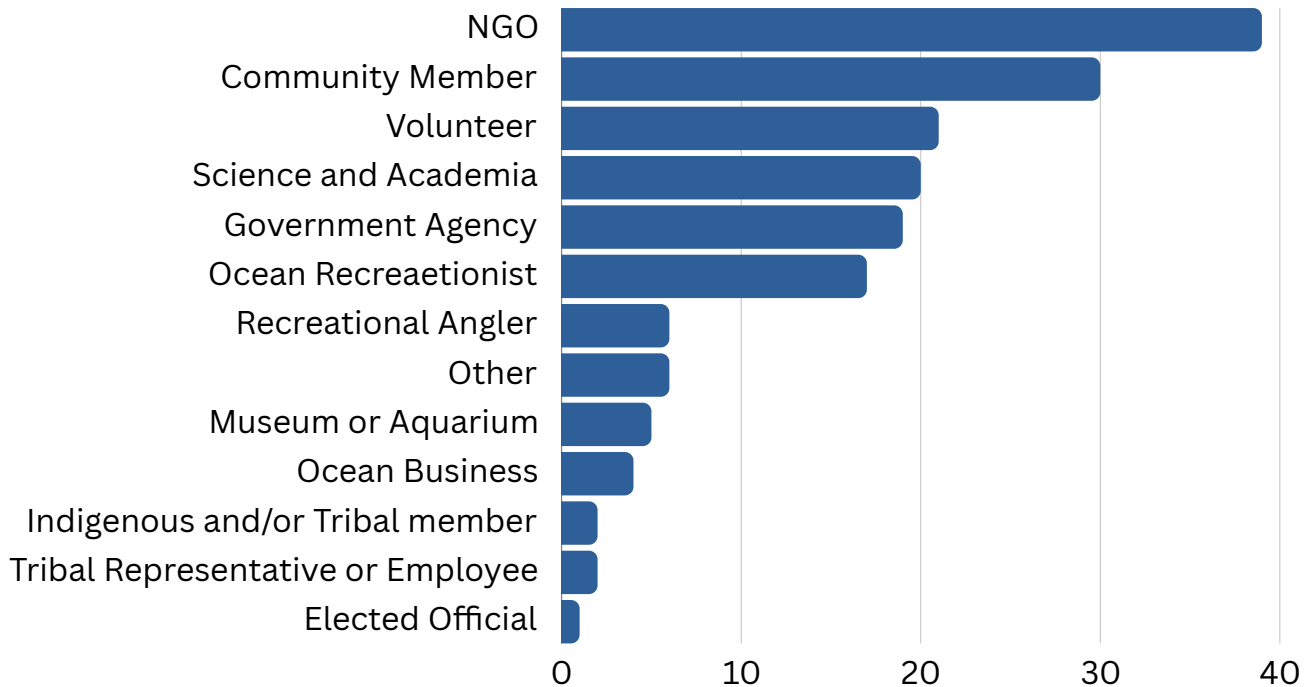
For resources on Climate Change and MPAs, as well as resources specific to your region, [visit our resources document \(click on this link or scan QR code\)](#).



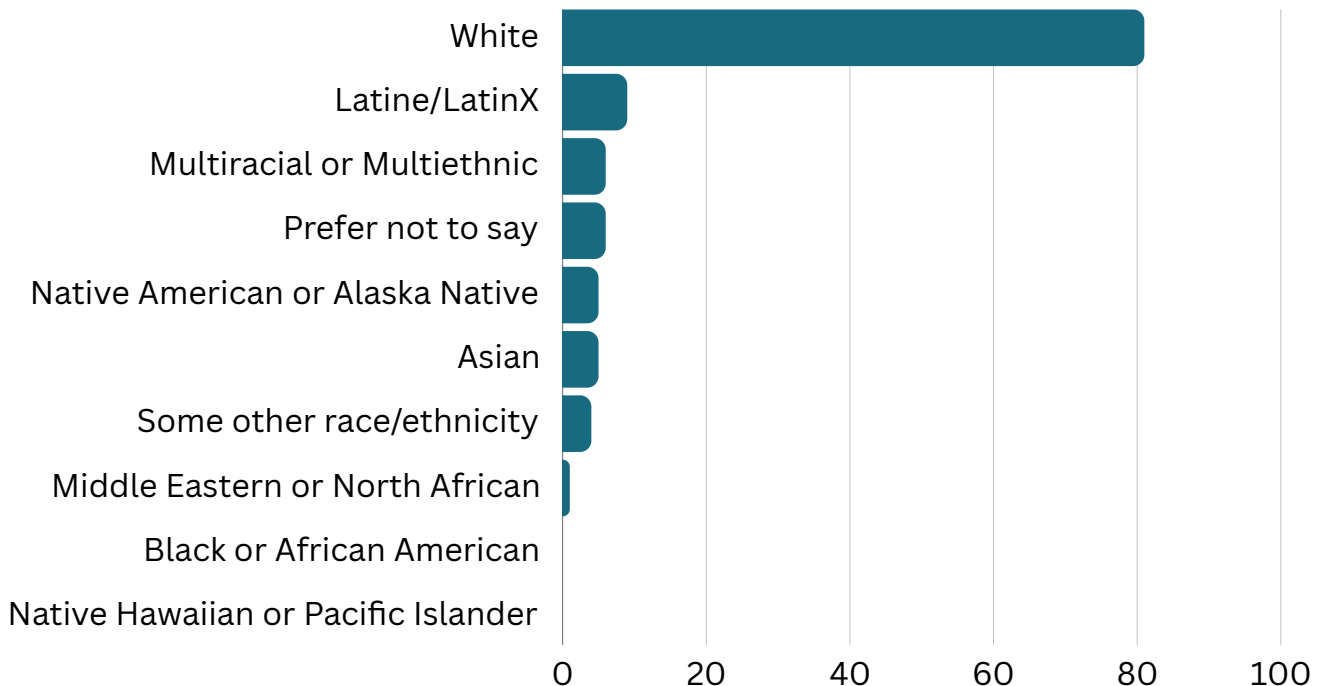
# APPENDIX B

## Demographics of survey respondents

### Sector Affiliation (%)

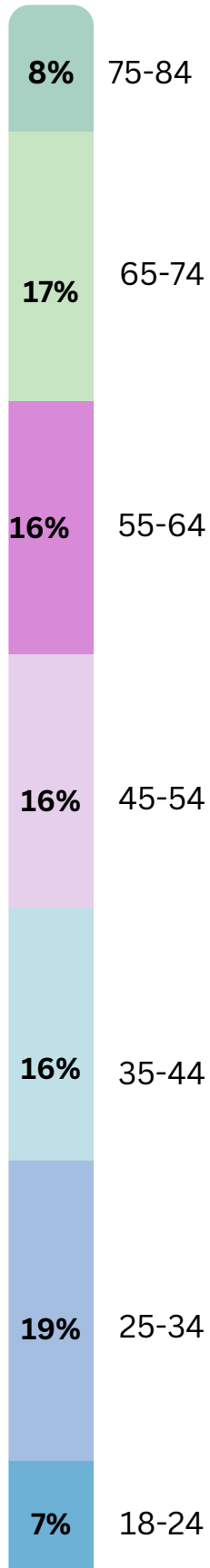


### Which race, ethnicity and/or origin categories describe you? (%)



# APPENDIX B

## Age Groups



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

## Gender Identity



70% of respondents selected "female" as their gender identity



25% of respondents selected "male" as their gender identity



3% of respondents chose "prefer not to say"

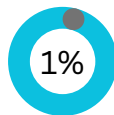


2% of respondents selected "non-binary" as their gender identity

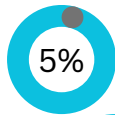


0% of respondents chose any of the following gender identities: "Transgender", "Not listed/Option to specify"

## Highest level of education



1% High school graduate or GED



5% Some college, but no degree



2% Associate's or technical degree



37% Bachelor's degree



52% Graduate or professional degree

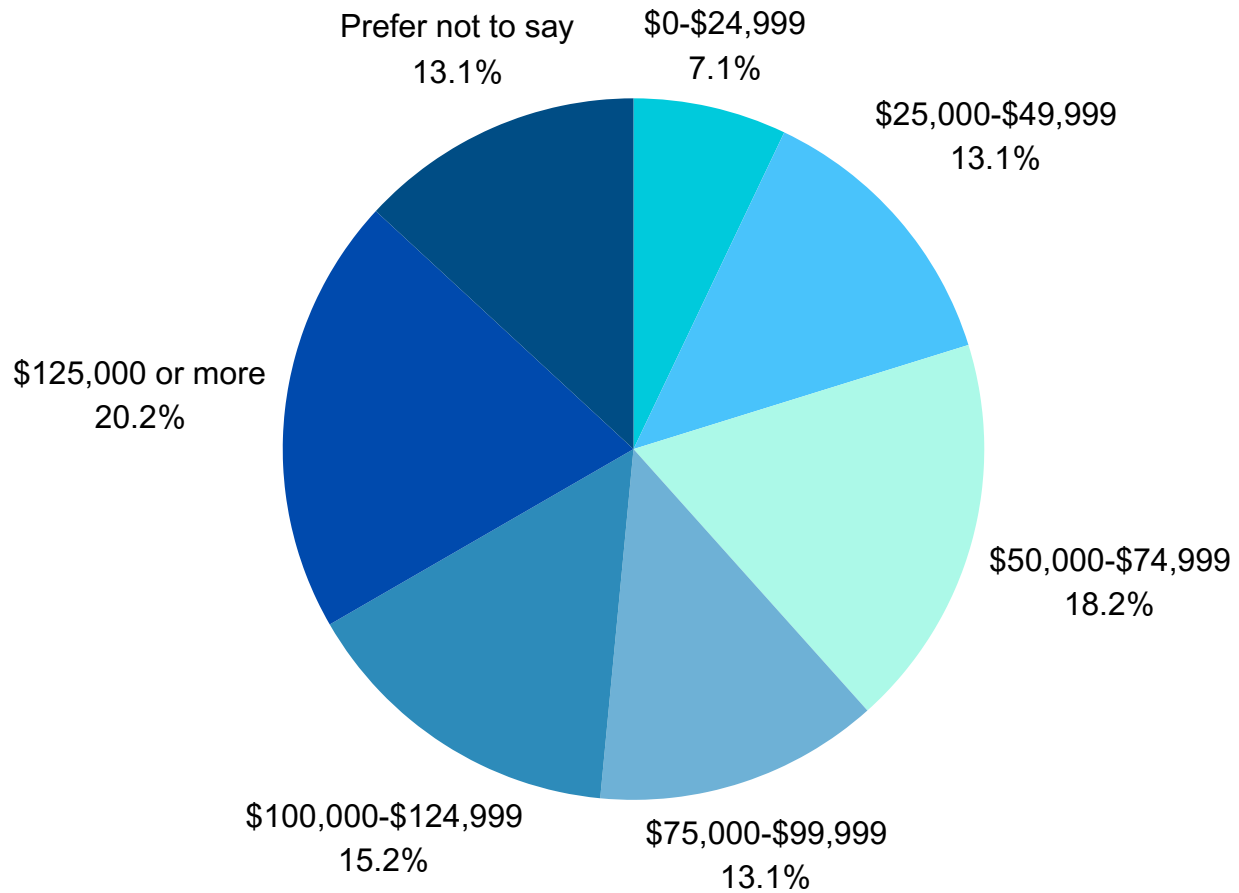


2% Prefer not to say

0% of respondents selected "some high school or less"

# 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](http://www.mpacollaborative.org)

For more information on MPAs:

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

Photo credit: MPA Collaborative Network Staff