



# CLIMATE AND THE COAST

## SANTA CRUZ

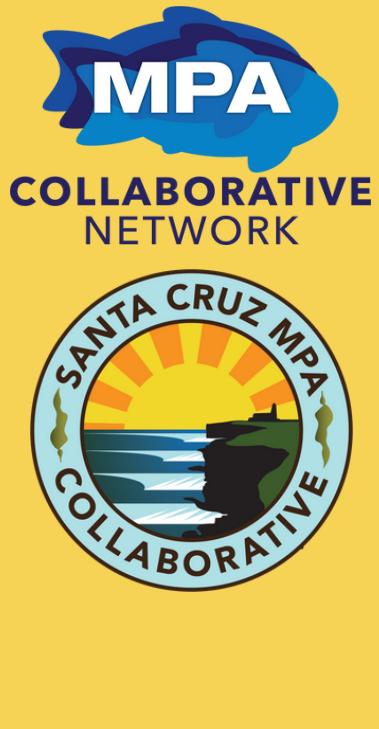


### Santa Cruz Marine Protected Area Collaborative

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 residents from Santa Cruz County on climate change, the coast, and marine protected areas (MPAs).*

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



# EXECUTIVE SUMMARY

This report is a summary of 25 survey respondents and 15 focus group attendees in Santa Cruz County.

Participants discussed climate resiliency and benefits of marine protected areas (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

Some take-aways **specific to Santa Cruz County** include:

- a high concern on the impacts from climate change on front-line communities;
- a concern that MPAs aren't as big as they ought to be to have a large impact;
- a need for tribal stewardship to be part of MPA Management.

# 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

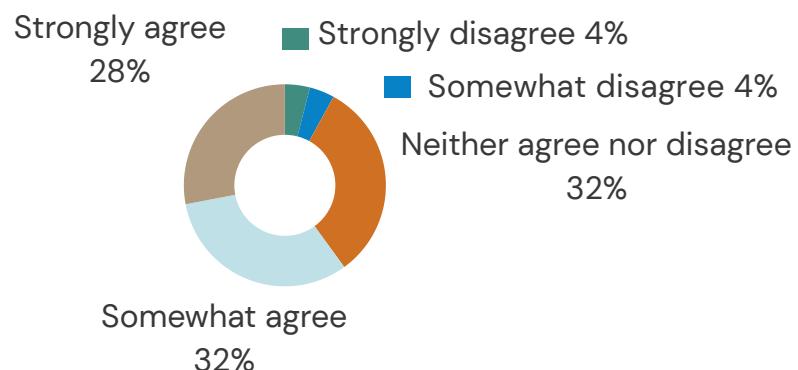
## Conduct...

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



“...Wharf in Capitola gone. Natural Bridges has a river with a retaining wall that got wrecked from strong wave action... Pajaro Levee broke... Areas impacted the most have the least amount of resources...”

- Respondent

\*Concern mentioned in the “other” section included: economic impact of changing coastal regions, Biodiversity decline and impacts, Harmful Algal Blooms, Lack of government action, Shift in community structure and in marine species populations, Species decline, Increased storm intensity and surge.



## TAKEAWAY #2

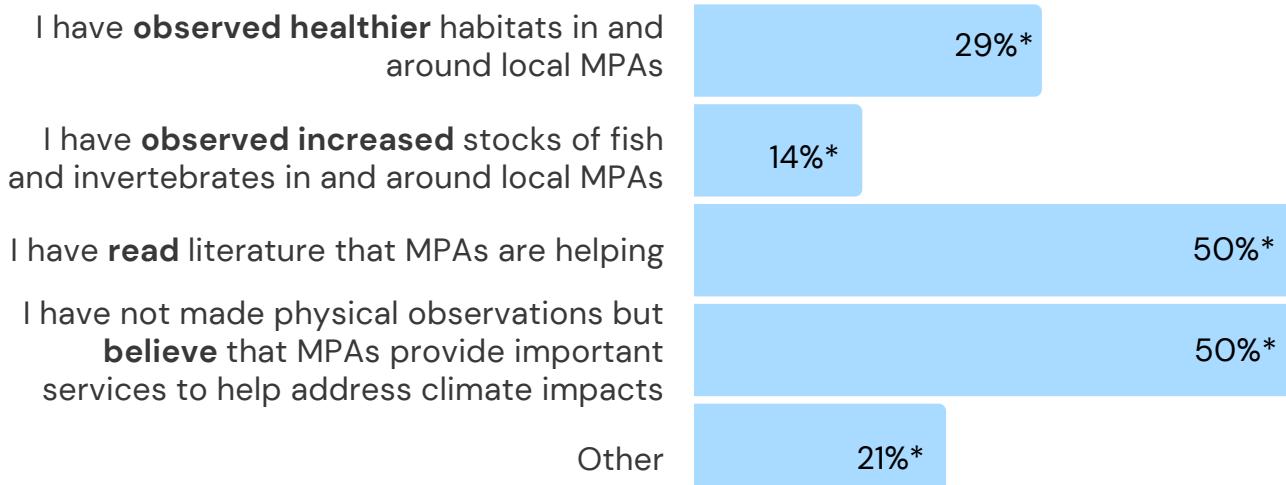
### Most respondents believe MPAs are helping address climate change impacts on local coastal ecosystems

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.**



 “There hasn't been a ton of long-term data taken on if MPAs are effective because they haven't been around long enough. However, it seems from the short-term data that we do have, they are improving resiliency.” – Respondent

Respondents who **somewhat agreed**, that local MPAs are offsetting/helping address impacts to [their] 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 species used for sustenance
- 3 Widening of existing social inequalities
- 4 Impacts to culturally important species
- 5 Impacts to infrastructure
- 6 Loss of economic resources or opportunities
- 7 Loss of aesthetically, culturally, and/or spiritually important sites
- 8 Reduction of recreational opportunities
- 9 Diversion of resources that could be used for other community programs/priorities

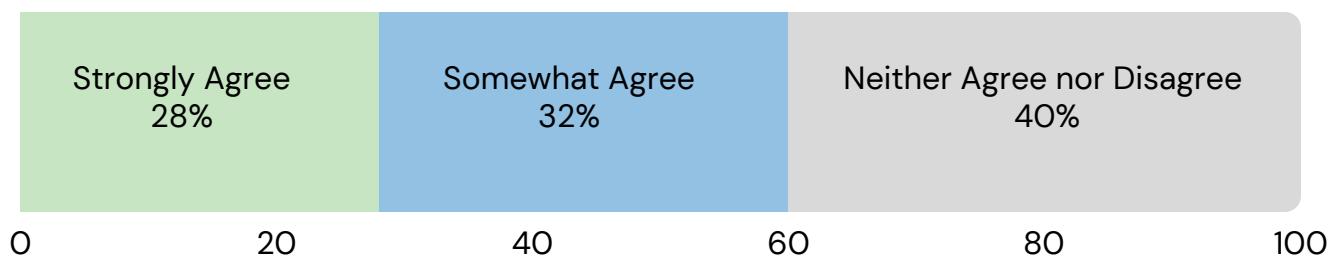
"We know from history that [MPAs] can bring back ecosystems from the dead. Monterey Bay was a smelly mess in the early 1900s... just a few of decades after Julia Platt created the first MPA, the ecosystem rebounded. Nature is resilient." -Respondent

"Climate change will impact many other changes such as health, public safety, disasters, and will require large investments that could otherwise be directed to other needs." - 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:

- General Community Awareness
- Need increased protection of marine and coastal resources to buffer climate change.
- Spillover
- Biodiversity increases resilience
- MPAs allow ecosystems to thrive without human impacts
- MPAs encourage people to be outside, learn about nature and strengthen social bonds.
- MPAs experimental “ground zero” to find solutions to mitigate climate change impacts on a larger scale.
- MPAs have the ability to act as a buffer.
- MPAs provide opportunity for connecting with the environment--the first step to increasing awareness about environmental climate impacts.
- MPAs serve as a space for ocean ecosystems to heal following extreme climate events.
- The ocean is healthier near MPAs
- Restoring fish/wildlife populations.

## TAKEAWAY #5

### Respondents believe marine management is a high priority for addressing climate change

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



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 Expansion of protected areas and stronger protections
- 3 Research & monitoring projects to collect more data to inform decisions
- 4 Allow for restoration activities within MPAs
- 5 Integration of Traditional Ecological Knowledge (TEK) into MPA management and research
- 6 Co-management of MPAs between tribes and state governing agencies
- 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

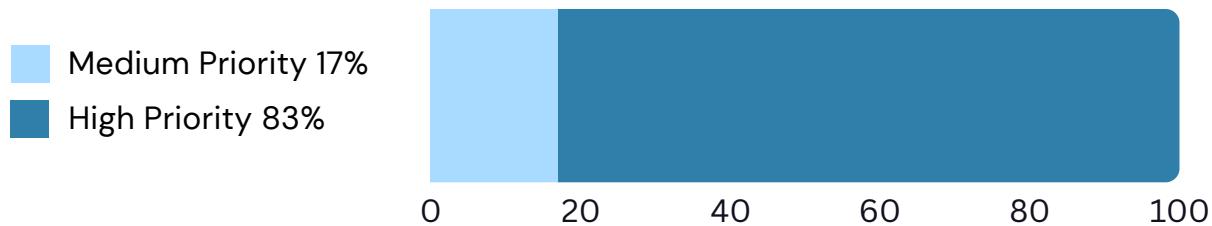
 "Climate change will affect (and already is affecting) the lowest classes of people first, despite being caused almost exclusively by large trillion dollar corporations. The biggest socioeconomic struggles are inherently tied with the struggles causing climate change and the two cannot be disentangled.

"We shouldn't be addressing one without the other." – Respondent

## TAKEAWAY #6

**Respondents overwhelmingly 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

### Respondents' Highest Needs

[The Seymour Center has a] new exhibit about coastal climate resilience and what is happening in the community. [It's] trying to come from a place of hope...[but] is very overwhelming for everyone. Still trying to figure out how to motivate people to make positive change when things seem tough.

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



\* Respondents were allowed to choose more than one answer

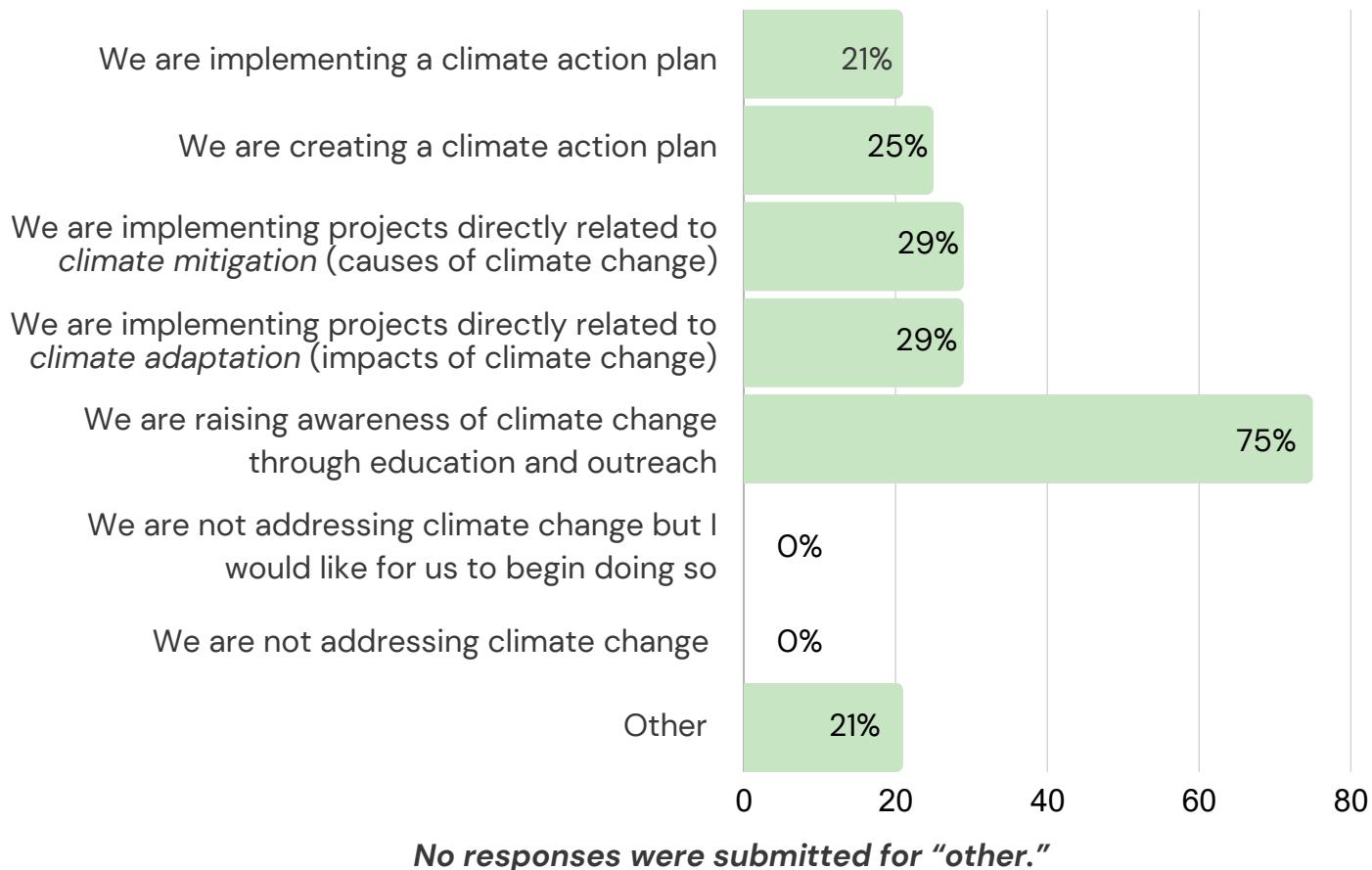
#### Respondents expressed a need for funding to support their work, specifically:

- Demonstrating to the public the benefits of MPA protections.
- Funding for abandoned lost and discarded fishing gear removals/restoration projects.
- Managing, restoring, and monitoring current MPA networks.
- Expanding MPAs to other areas.

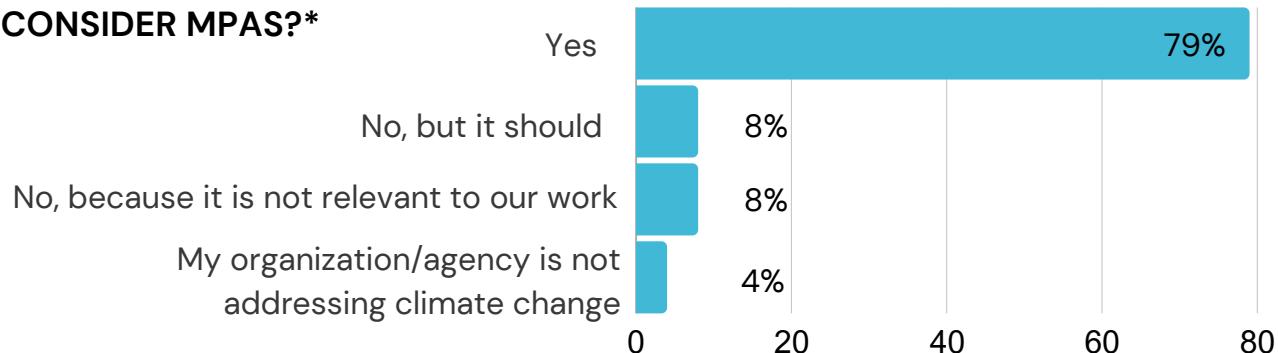
## APPENDIX A

### 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?\*



\*percents do not add up to 100 because respondents were allowed to choose more than one answer

## APPENDIX A

# COMMUNITY NOTES AND RESOURCES

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

### What is currently being done to address climate change:

- Seymour Marine Discovery Center has a new exhibit about coastal climate resilience and what is happening in the community.
- Save Our Shores provides community outreach, communications, and education programs that include climate and MPAs.
- SeaCLiff and NewBrighton projects: Sea Level Rise assessment and pathways analysis in response to 2023 January storms.
- UC Santa Cruz
  - Certificate program around coastal climate resilience.
  - Coastal science and policy program (UCSC)
  - Outreach and engagement with different populations
- Clean Oceans International is creating plastic conversion systems that can be deployed to island nations so they can take their plastic and convert it to a variety of things, specifically fuel additives.
- City of Santa Cruz 2022 Climate Action and Adaptation Plan (2022 CAAP):
  - [www.santacruzcountyca.gov/Portals/0/County/OR3/CAAP/2022%20Climate%20Action%20and%20Adaptation%20Plan%20%28CAAP%29.pdf](http://www.santacruzcountyca.gov/Portals/0/County/OR3/CAAP/2022%20Climate%20Action%20and%20Adaptation%20Plan%20%28CAAP%29.pdf)
  - The storymap:  
<https://experience.arcgis.com/experience/e5bb44474dc84990b641598bcdcdfb0>

### Resources

## Resources

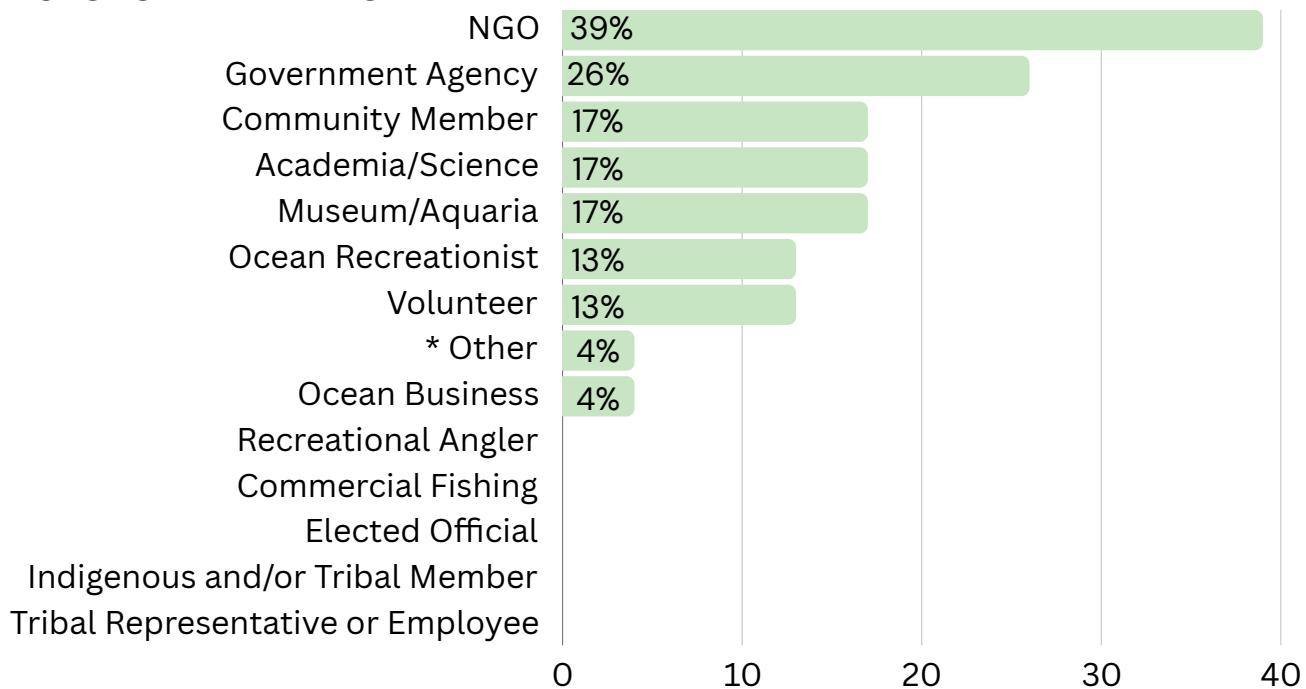
For resources on Climate Change and MPAs, as well as resources specific to your region, [visit our resources document \(click on this link or scan QR code\)](#).



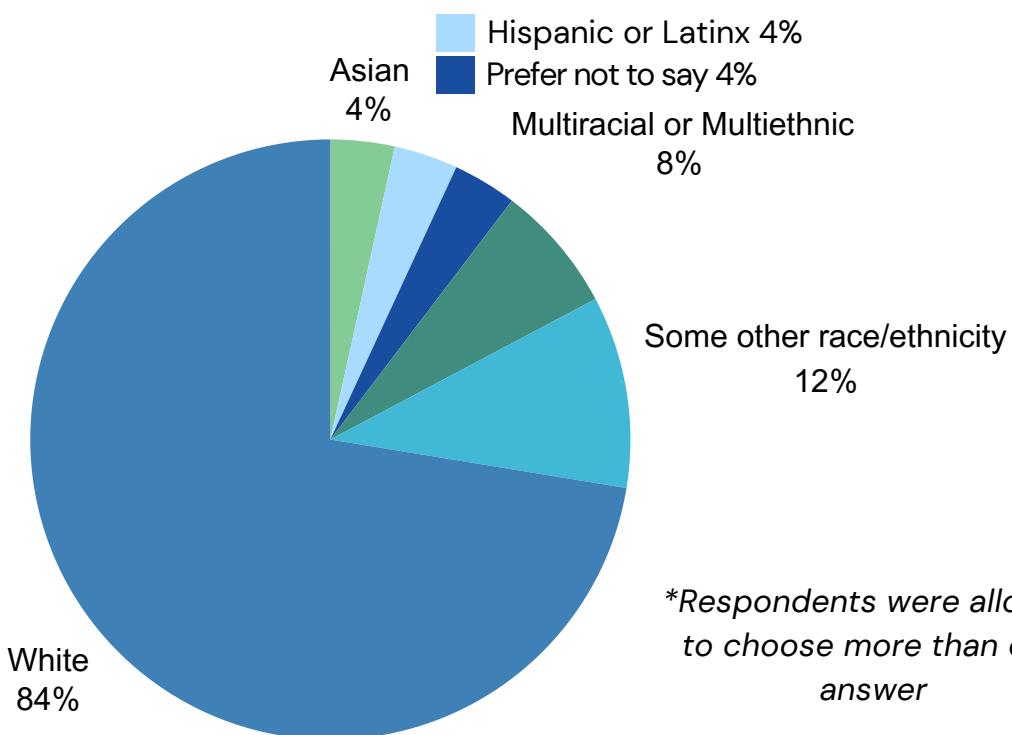
## APPENDIX B

### DEMOGRAPHICS OF SURVEY RESPONDENTS

#### SECTOR AFFILIATION



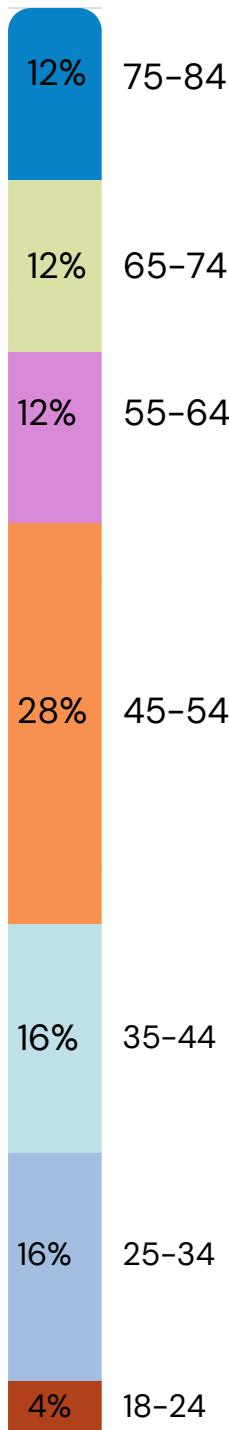
#### WHICH RACE, ETHNICITY AND/OR ORIGIN CATEGORIES DESCRIBE YOU?\*



## APPENDIX B

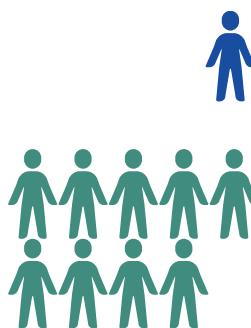
### DEMOGRAPHICS OF SURVEY RESPONDENTS

#### AGE GROUPS



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

#### GENDER IDENTITY



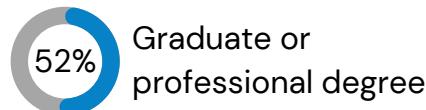
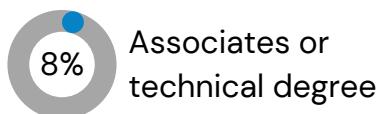
4% of respondents selected "male" as their gender identity.

96% of respondents selected "female" as their gender identity.



0% of respondents selected any of the following gender identity options: "Non-binary", "Transgender", "Not listed/Option to specify", "prefer not to say."

#### HIGHEST LEVEL OF EDUCATION

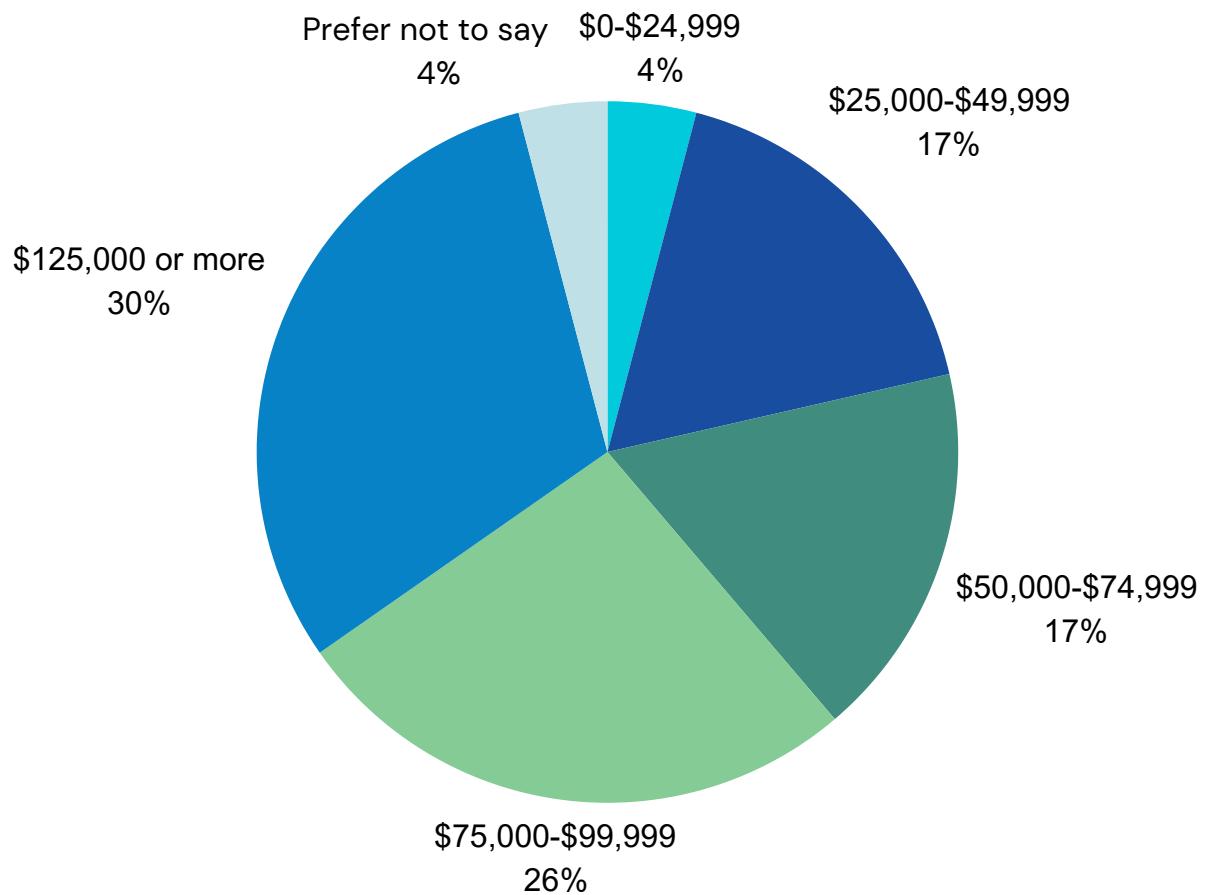


0% of respondents selected any of the following: "some high school or less"; "high school graduate or GED," or "some college but no degree."

## APPENDIX A

### DEMOGRAPHICS OF SURVEY RESPONDENTS

#### 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, visit

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

*Abbreviations used throughout the reports.*

**SMR**= State Marine Reserve. **SMCA** = State Marine Conservation Area.

**SMRMA**= State Marine Recreational Management Area. **SMP** = State Marine Park