MPA COLLABORATIVE NETWORK

CLIMATE AND THE COAST

ORANGE COUNTY

OCMPAC
ORANGE COUNTY MARINE PROTECTED AREA COUNCIL

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 Orange County residents on climate change, the coast, and marine protected areas (MPAs).

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EXECUTIVE SUMMARY

This report is a summary of 23 survey respondents and 15 focus group attendees in Orange 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
- **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 takeaways **specific to Orange County** include:

- Concerns about **coastal squeeze** and **increased visitation** to the coast
- Importance of **education, environmental stewardship, and awareness** in combating climate change
- Strong desire to do restoration in many areas, including OC MPAs
- **Community involvement** in decision-making processes, including **tribal engagement** and **hosting community workshops**, is seen as crucial

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 pubic about how **adaptive management** will address climate change

Prioritize...

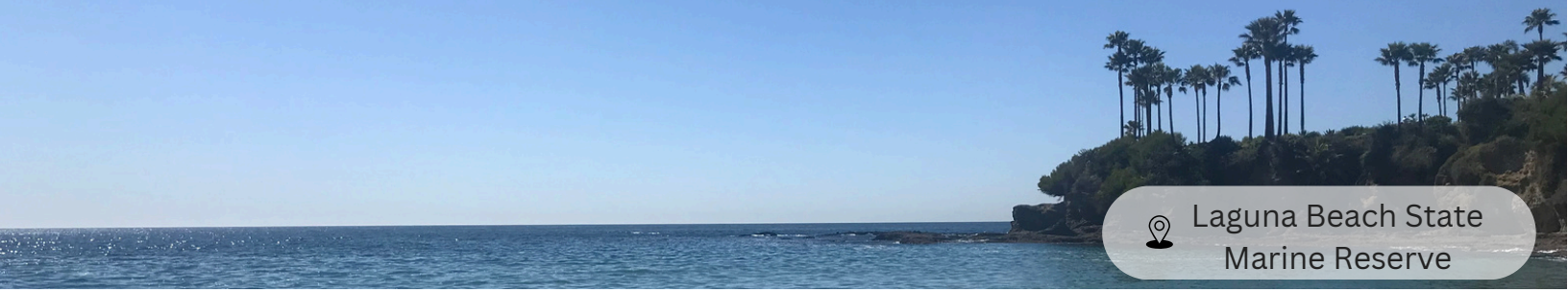
- **Traditional Ecological Knowledge (TEK)** in management and research practices
- **Protection of blue carbon ecosystems**
- **Research and monitoring** projects focused on MPAs and climate change to inform management decisions

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...

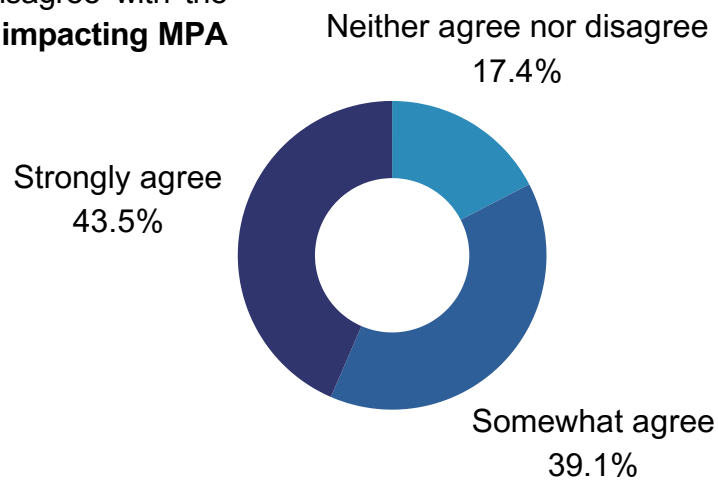
- a **blue carbon inventory** for California's MPAs (either as a whole or individually) that estimates how much blue carbon they sequester, as well as how much greenhouse gases are created through the management program
- a **climate change vulnerability assessment** for California's MPAs (either as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

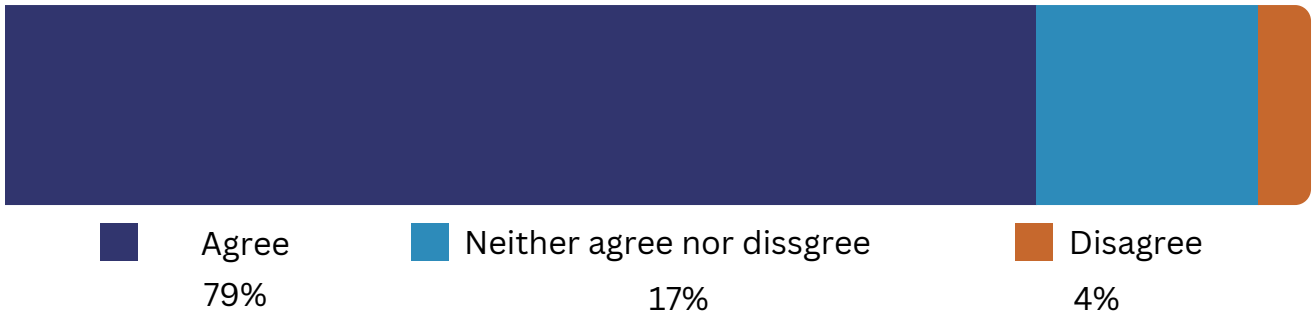
"...we are already in a delicate balance. Already seeing things tip. [We need to] get ahead of that curve and see if we can mitigate some of [climate] impacts, [and species loss]."
- Respondent

TAKEAWAY #2

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

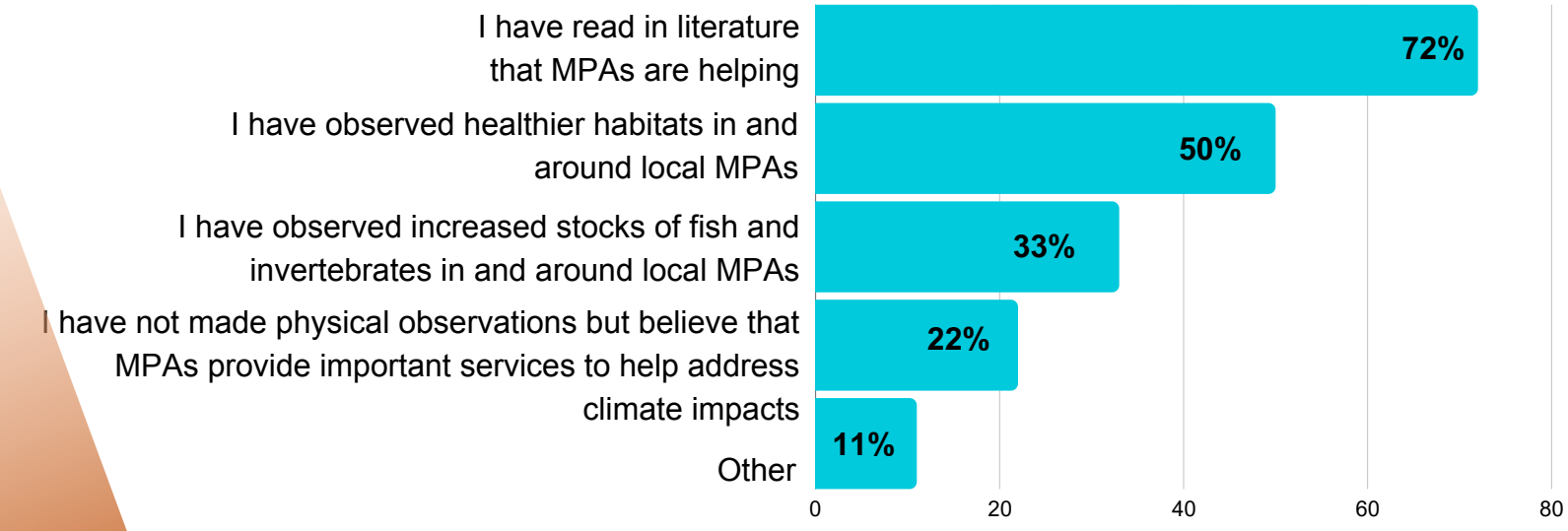
2. Indicate how strongly you agree or disagree with the following statement:
My local MPAs are offsetting/helping address these impacts to my local coastal ecosystems.

A majority of respondents felt that their local MPAs are offsetting/ helping address impacts to local coastal ecosystems. In particular, 79% agreed that MPAs are strongly (35%) or somewhat (44%) helping address climate impacts to local coastal ecosystems.



"[MPAs indirectly protect against climate change impacts by relieving human impacts]" - Respondent

Respondents who **agreed** 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

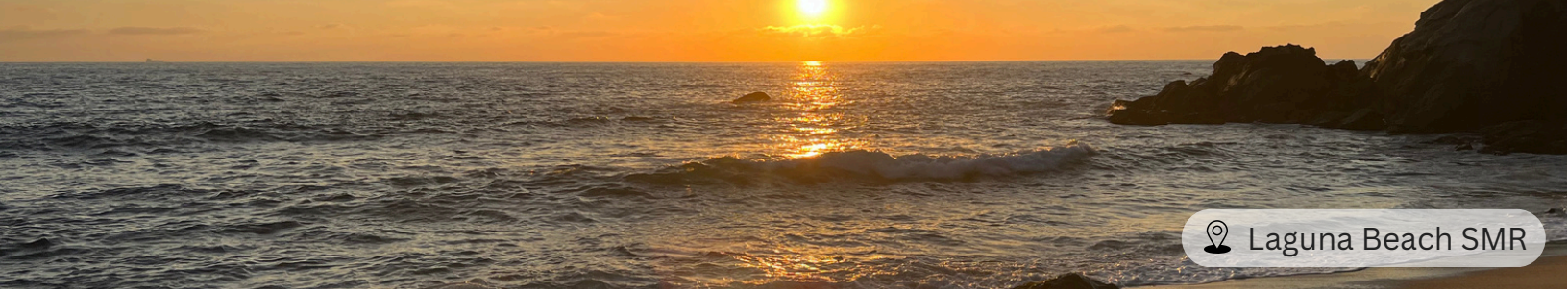
3. Rank your biggest concerns about how the following **climate impacts affect the health (**ability to function and thrive) **of your community or your community's resilience** (ability to bounce back).

Concerns ranked from biggest to smallest:

1. Warming and changing oceans further accelerating and exacerbating climate change on a larger scale
2. Impacts to culturally important species
3. Impacts to species used for sustinance
4. Impacts to infrastructure
5. Reduction of recreational opportunities
6. Loss of aesthetically, culturally, and/or spiritually important sites
7. Widening of existing social inequalities
8. Loss of economic resources or opportunities
9. Diversion of resources that could be used for other community programs/priorities

"Sea stars [are] disappearing and struggling to return. Some are very much on the recovery spectrum. [Species are] disappearing due to heat exposure and human impacts (trampling)" -Respondent

"[Increased visitation combined with ecosystem degradation/disappearance, also known as coastal squeeze]" - Responent



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)

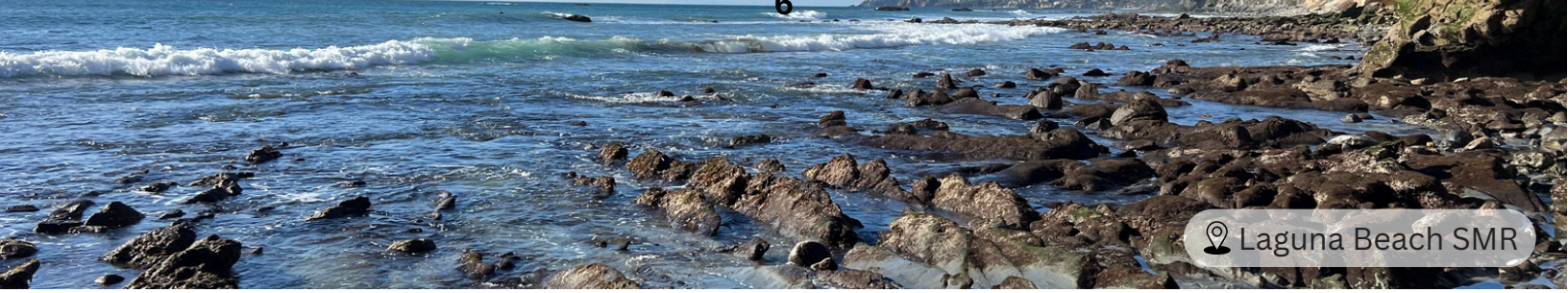
Respondents that **agreed were asked to explain their answer.**

- MPAs provide sanctuary for species
- the ocean is healthier near MPAs
- MPAs have the ability to act as a buffer

"MPAs help maintain healthy and diverse marine ecosystems that extend economic opportunities and innovation, and maintain cultural connections to the ocean." -Respondent

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

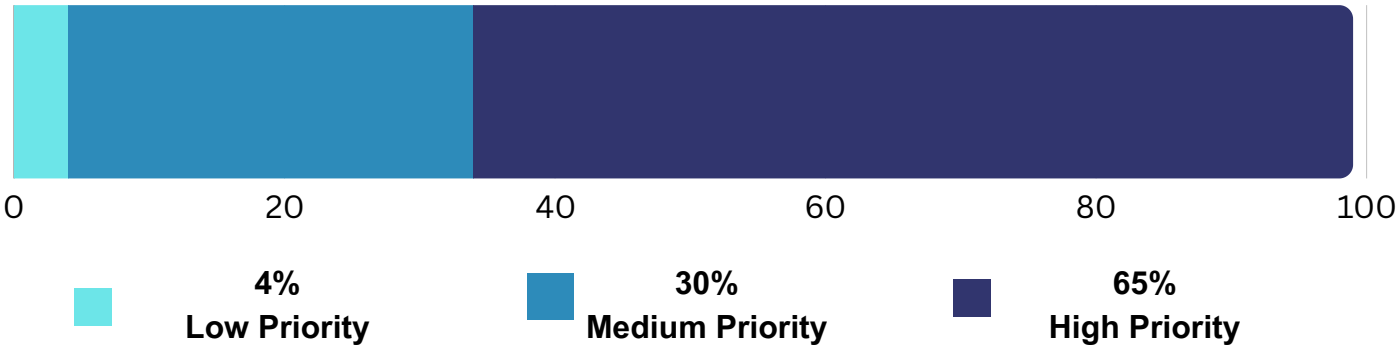
"From my understanding of MPA's are focused on protecting areas through human use surveys which are focused on our direct actions in those protected areas. I don't know of MPA's being focused on the anthropogenic actions indirectly affecting these areas...I'm not aware of climate change work related to MPA's but also don't know much about MPAs." -Respondent



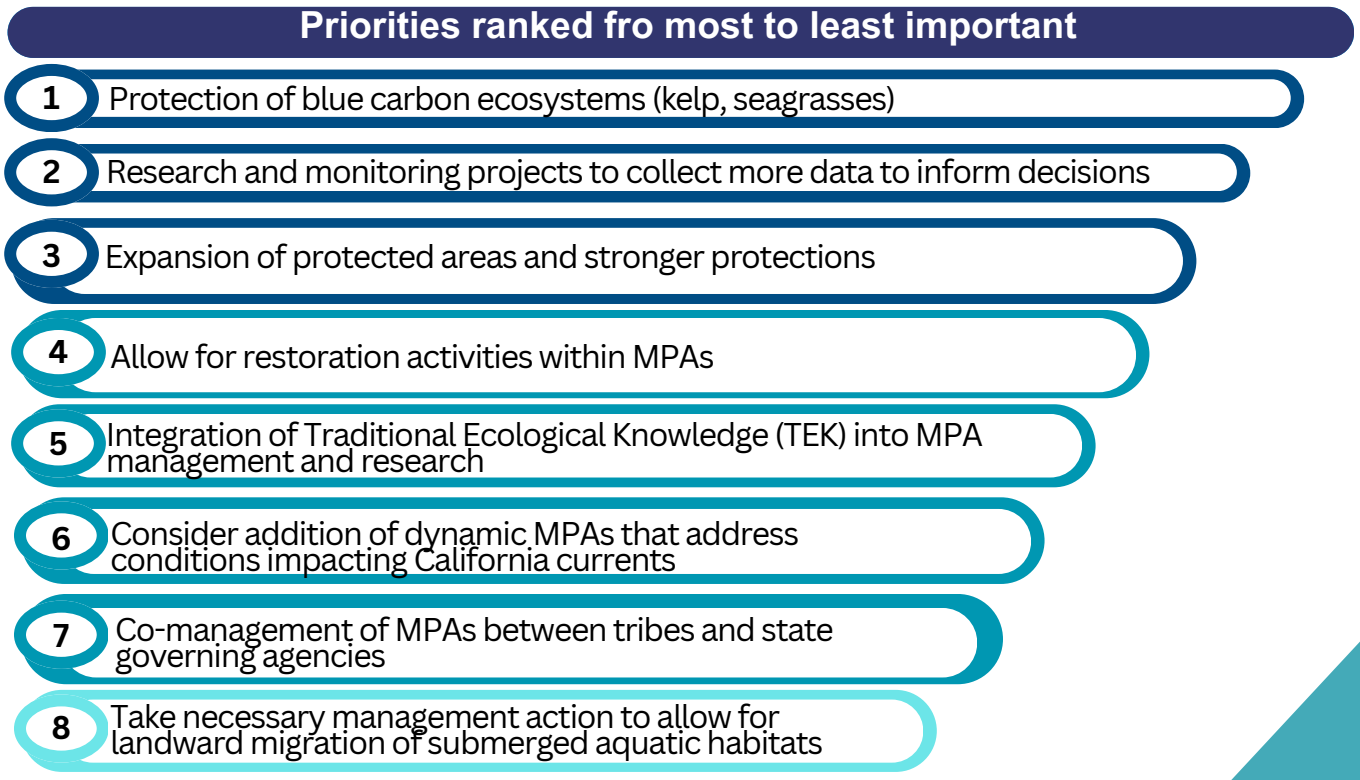
TAKEAWAY #5

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.

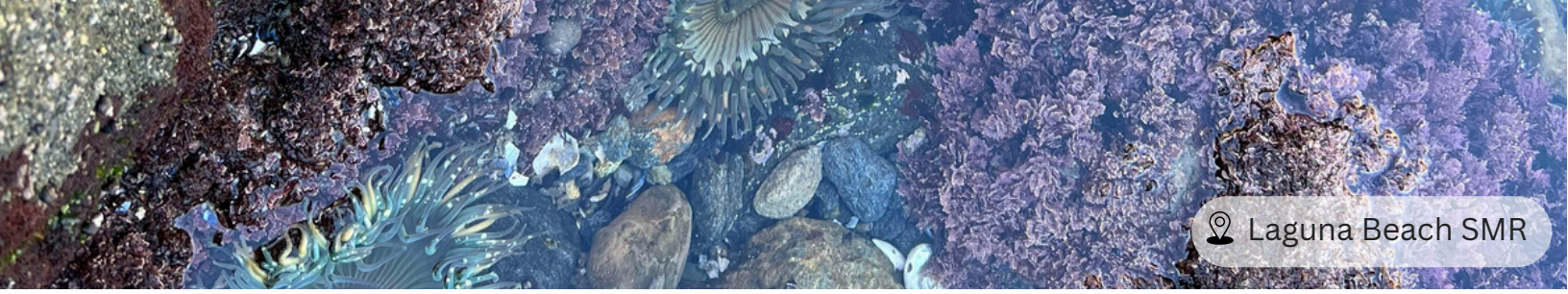


TAKEAWAY #6

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?*

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

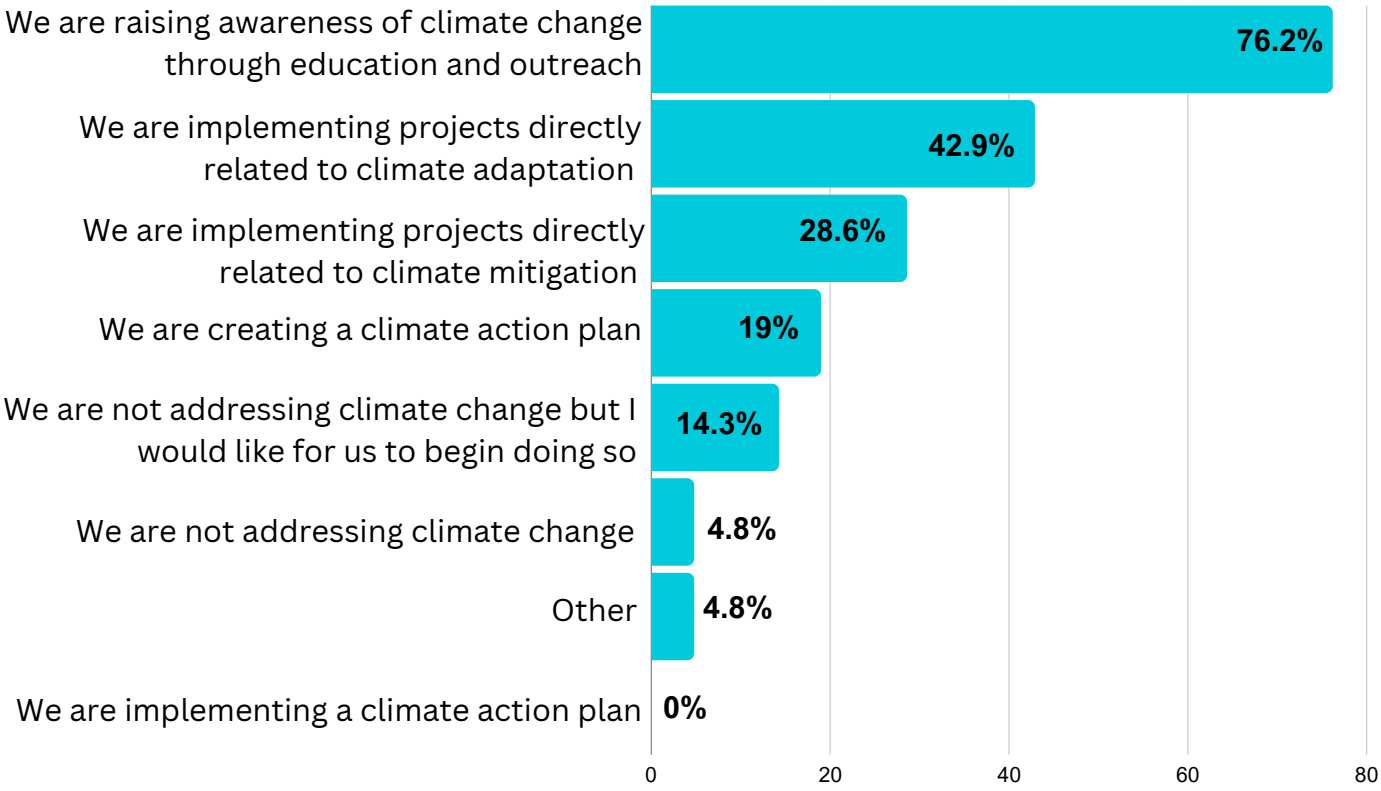
"[We need] Tribal management of marine resources and ecosystems" - Respondent

*Respondents were allowed to choose more than one answer

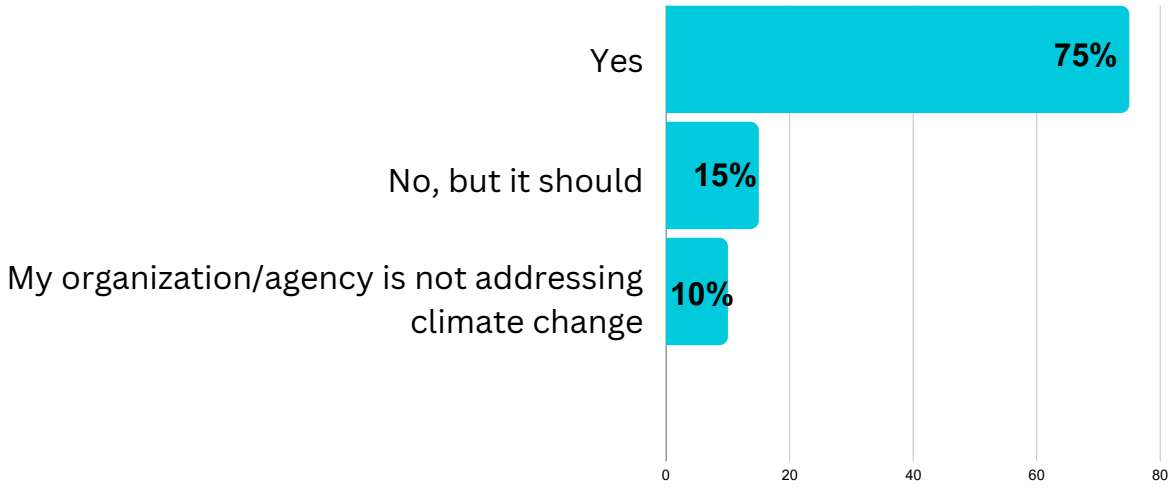
APPENDIX A

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 Orange County and relevant community resources.

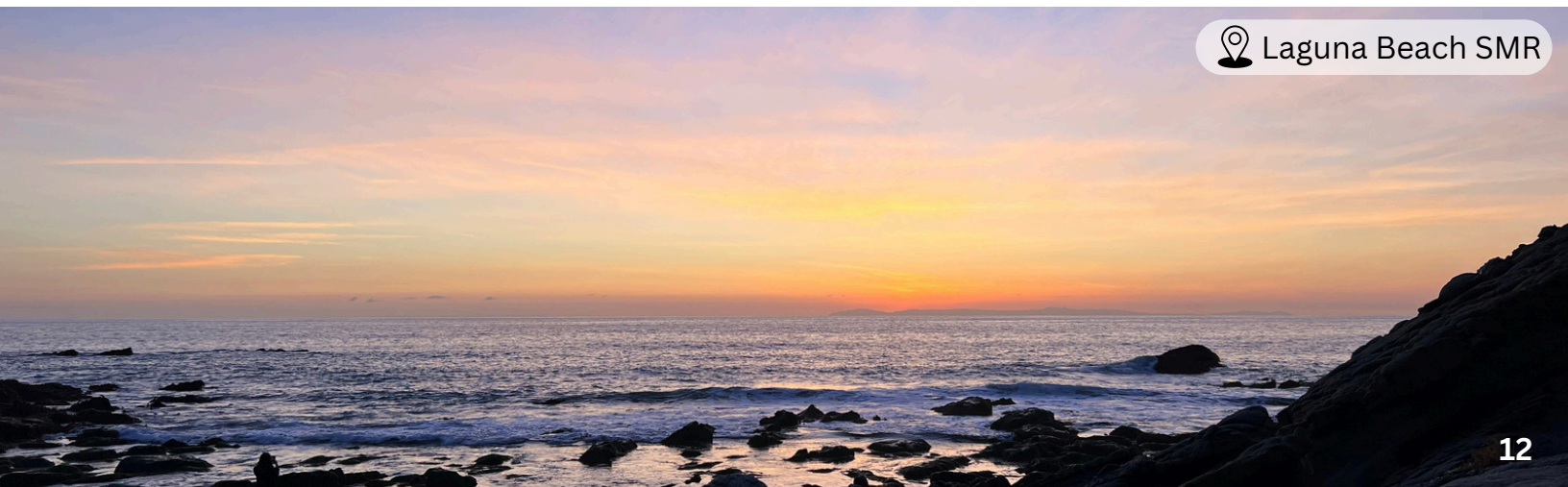
What is currently being done to address climate change:

- OC Parks Strategic Plan (2018) & South OC Regional Coastal Resilience Strategic Plan (2024)
- Multi-Agency Rocky Intertidal Network (MARINe) conducts a coordinated monitoring of rocky intertidal shores along the US West Coast
- State Parks' new Sea Level Rise Coordinator; developing an interpreter toolkit
- Alta Seads Conservancy is creating a spore bank for kelps in the eastern Pacific and testing climate resilience
- UC Irvine's Sorte lab is monitoring climate-related species range expansions
- OC Coastkeeper is restoring species (e.g., oysters, eelgrass); K-12 programming
- Southern California Association of Governments (SCAGs) - climate action planning
- Coastal Commission guides coastal armoring (e.g., Newport Beach) & managed retreat
- Bolsa Chica Land Trust is doing habitat restoration

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

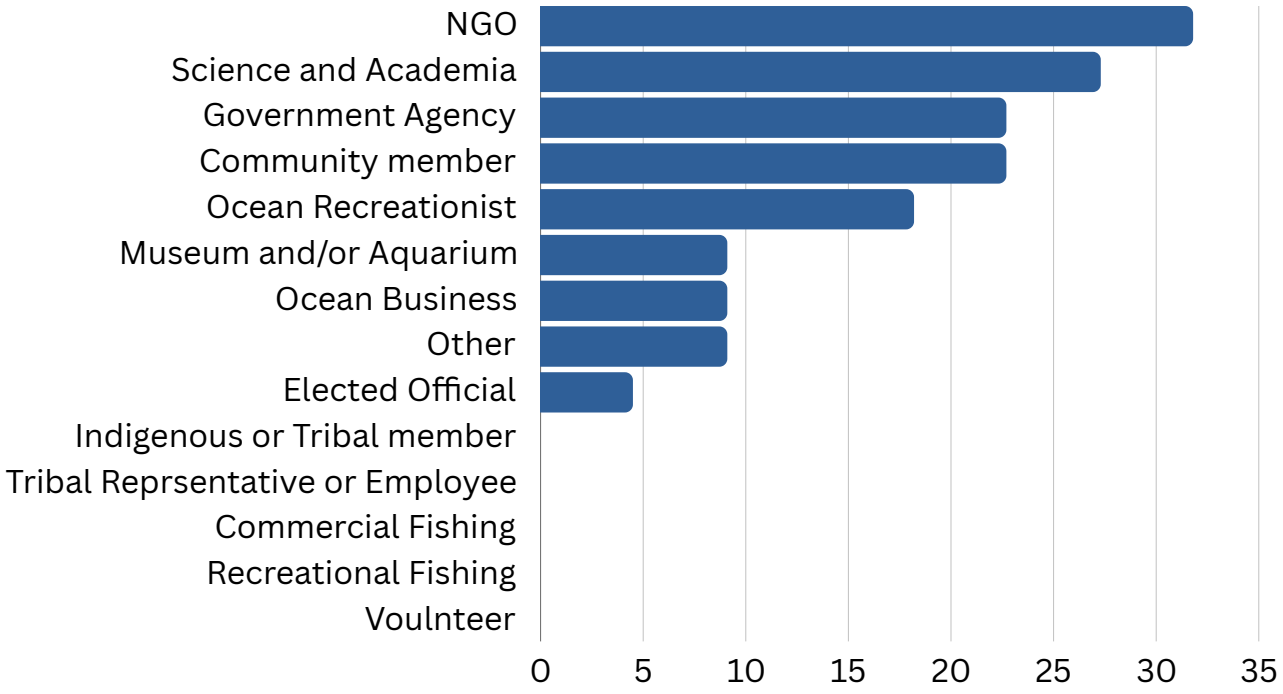


APPENDIX B

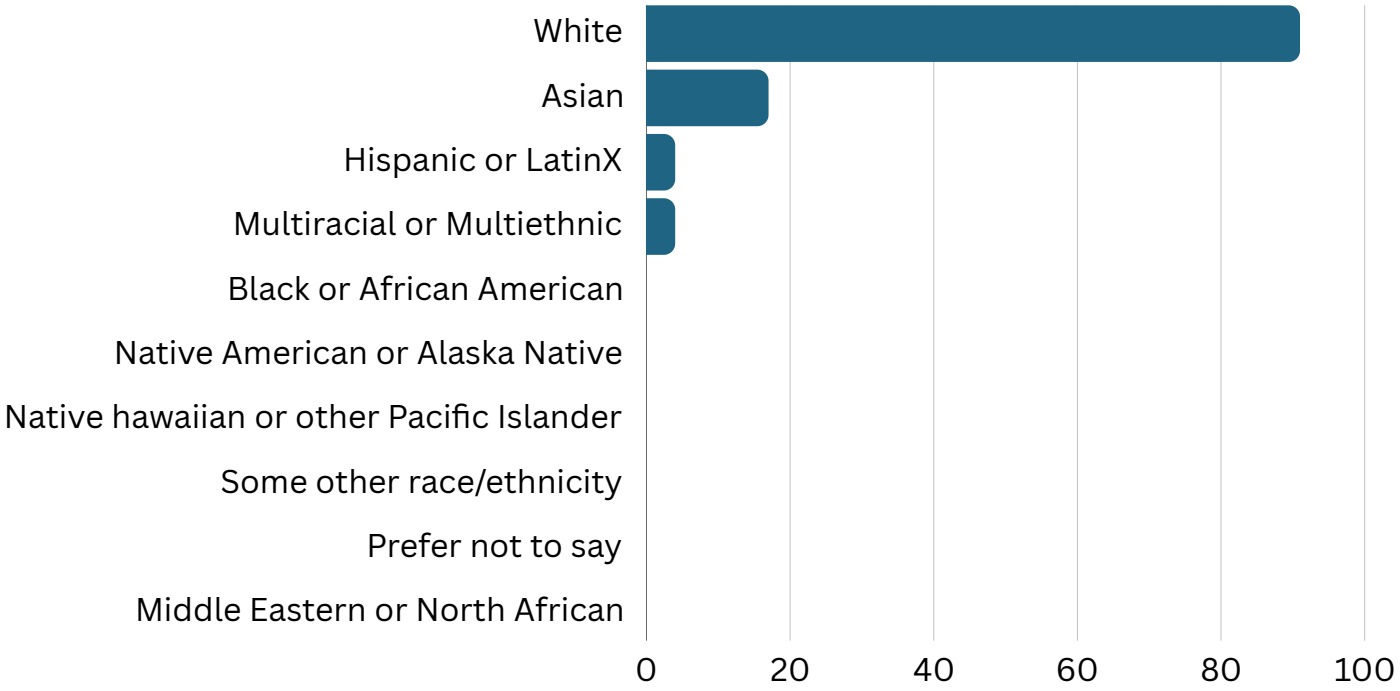
Demographics of survey respondents

*Respondents were allowed to choose more than one answer

Sector Affiliation (%)*



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



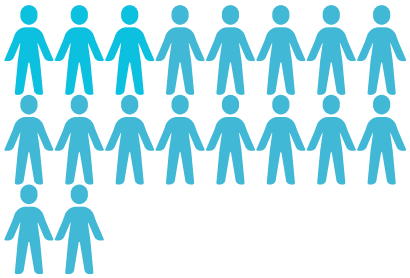
APPENDIX B

Age Groups

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

Gender Identity

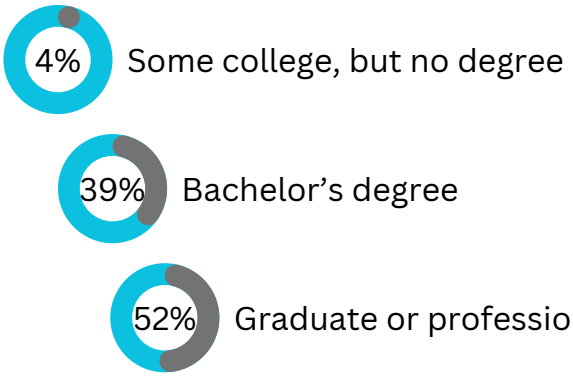
22% of respondents selected “**male**” as their gender identity.



78% of respondents selected “**female**” as their gender identity.

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

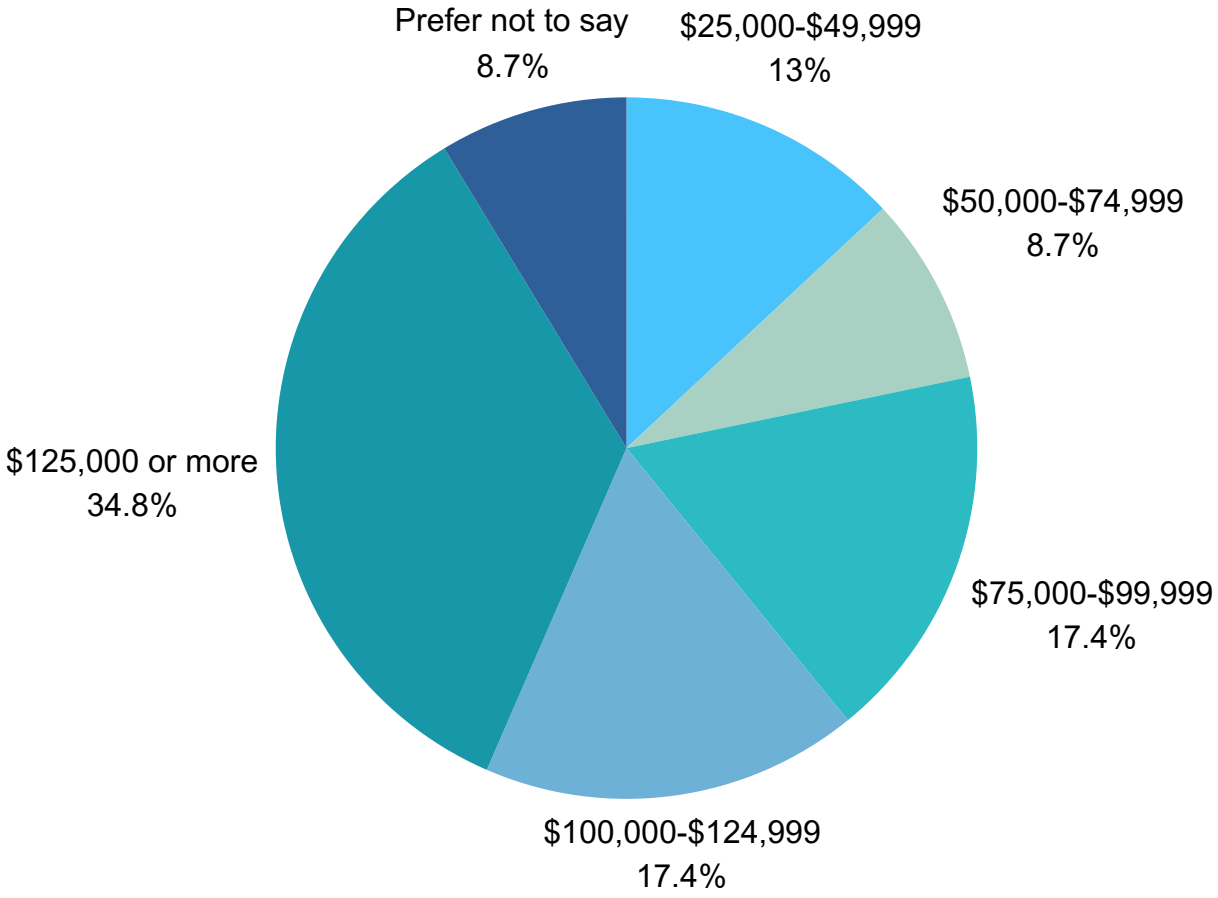
Highest level of education



0% of respondents selected any of the following: some high school or less”; “high school graduate or GED,” “associates 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.

For more information about the MPA Collaborative Network, visit https://www.mpacollaborative.org/

For more information about California's MPA Network, visit https://wildlife.ca.gov/Conservation/Marine/MPAs

Photo credit: Aubrie Fowler, South Coast Specialist, MPA Collaborative Network