

MPA (2023) FINAL REPORT

Status: Submitted (11/06/2024 10:44:14 AM)

Project: R/MPA-49E

Project Title: Long-Term Monitoring Of Mid-Depth Rocky Reef Ecosystems In California Marine Protected Areas

PUBLICATIONS

No user response.

PROJECT UPDATES, HIGHLIGHTS AND ACCOMPLISHMENTS (2024 REPORTING)

Project Updates: milestones or major results, changes, or challenges faced over the reporting period (required for each project)

1

Provide a high level description of your project's goals and objectives. Describe the progress that has been made toward reaching these goals and objectives. If applicable, this information may be taken and/or modified from your project proposal form.

The objectives and associated approaches of this project were two-fold:

a) Continue to monitor California MPAs using relatively inexpensive remote underwater video (RUVs) landers and a video drift camera;

Approach: Here we expanded stereo RUV lander deployments during summer and fall 2023 to include a total of six MPA sites, including sensors for monitoring water temperature and dissolved oxygen and a video drift camera for conducting invertebrate transects. All RUV lander deployments were stratified by substrate and fish habitat quality inside and out of MPAs;

b) Provide an analyses and evaluation of status and trends in MPAs and associated reference sites:

Approach: Here we evaluated the status of fish and invertebrate communities at all six sites along the coast, with a single-year snapshot at the four new Central California sites and trends in both communities evaluated at the two Channel Islands sites for which time series data existed.

Beyond the primary objectives above, the partnership CSUMB (a Hispanic Serving Institution), USCB (also an HSI) and MLML/SJSU directly resulted in the inclusion of students from a wide variety of backgrounds, including first generation college students, representatives of traditionally underrepresented communities, tribal communities, LBGTQ+, and others. While we aspired to get as many students on the water as possible, our imagery-based approach engaged students independent of their physical and/or financial ability to participate, effectively removing major traditional barriers to engagement in the study of the sub-tidal.

Students at our campuses engaged in:

1) Field work and experimental design as paid research assistants.

2) Post-processing and analysis of imagery using state of the art stereo video and GIS software packages as paid research assistants. 3) Post-processing and analysis of imagery as part of courses in marine ecology, marine biogeography, and marine fish ecology as upper-division undergraduate and graduate students.

4) Using our undersea imagery to complete undergraduate class projects as well as honors and graduate theses focused on MPA-specific topics.

2

What is the geographic area(s) of where the work is being done/communities affected by the work? Provide a zip code where possible.

Central California MPAs including Montara SMR, Ano Nuevo SMR, Point Lobos SMR and Point Buchon SMR.

Southern California/Channel Islands MPAs including Anacapa SMR and Carrington Point SMR.

- 3 Have there been any change(s) in your approach? If so, describe the change(s) and provide reason(s) for the change(s).
- 4 Any actual or anticipated problems or delays? If so, briefly state the problem or delay and describe any actions or plans to resolve them.
- 5 Any changes that had a significant impact on expenditures?
- 6 Have there been significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents?
- 7 Change of primary performance site location from that originally proposed? If yes, please describe including the organization name, DUNS (Data Universal Numbering System)/Unique Entity Identifier (UEI)/Employer Identification Number (EIN), and Congressional District Address.
- 8 Has there been a change in the active other support of the PD/PI or senior/key personnel since the last reporting period?

Highlights (optional)

- 9 Provide a recap of the highlight in a few sentences. Keep the language clear, in layman's terms, without abbreviations or acronyms, and written in the third person.

Central California: The overall results of the RUV surveys inside and out of four State Marine Reserves north of Point Conception in 2023 suggested that no single factor drove patterns in the abundance and size distribution of demersal fishes. Across all metrics, Substrate consistently influenced fish community structure and species distributions at most MPA locations, often more significantly than other factors. Relief and rugosity (two additional fish habitat attributes) also influenced community metrics, although these factors were less consistently significant across all sites and metrics.

Channel Islands: 2024 marked the 6th continuous year of baited remote underwater video (BRUV) studies in two MPAs in the Northern Channel Islands (NCI). We deployed systems at two focal MPAs: Carrington Point SMR and Anacapa Island SMR/SMCA, capturing the environmental gradient across the NCI.
- 10 In-depth description of the highlight

Central Coast: The overall results of the RUV surveys inside and out of four State Marine Reserves north of Point Conception in 2023 suggested that no single factor drove patterns in the abundance and size distribution of demersal fishes. Across all metrics, Substrate consistently influenced fish community structure and species distributions at most MPA locations, often more significantly than other factors.

The effects of Designation (inside or outside of an MPA) were variable by site and metric:

 - Montara: Designation effects were more apparent here, particularly for MaxN and fish length where effects were nearly significant at ($p = 0.05$).
 - Ano Nuevo: Designation did not significantly affect community metrics, although some trends appeared in specific species groups.
 - Point Lobos: Designation was significant only for species richness, with no significant effects observed for Simpson diversity, MaxN, or mean fish length.
 - Point Buchon: Designation showed mixed effects, with a significant effect on MaxN and fish length, while other community metrics showed no consistent designation-related differences.

The influence of Designation was generally less consistent and varied across sites compared to Substrate and Relief, which

frequently emerged as significant predictors of Species Richness, Diversity, MaxN, and fish length. At several locations, Substrate emerged as the primary predictor of community composition, suggesting that local habitat (substrate, relief, rugosity) characteristics may play a stronger role in structuring fish communities than MPA designation alone. This fact will be important to consider as survey protocols are identified for long-term MPA monitoring, as it emphasizes the need to a) identify reference sites adjacent to MPAs that are comparable in habitat quality, and b) quantify any MPA effect on a site by site basis rather than pooling reference site data across sites for coastwide generalizations.

Channel Islands: 2024 marked the 6th continuous year of baited remote underwater video (BRUV) studies in two MPAs in the Northern Channel Islands (NCI). We deployed systems at two focal MPAs: Carrington Point SMR and Anacapa Island SMR/SMCA, capturing the environmental gradient across the NCI.

2. We have completed video analysis for all years of data collection. Our streamlined workflow allows us to complete video review on average no more more than 6 months following the conclusion of annual field work.

3. We have a published manuscript (Jainese et al. In Press. Understanding organism-habitat relationships and critically evaluating reference areas is key to marine protected area assessment. Marine Ecology Progress Series) on the findings from 2019-2022 surveys. Results are summarized below. below.

4. For the 2024 field sampling season we added a PME miniDOT logger to one of our BRUV systems and collected dissolved oxygen data for each deployment. This is an additional instrument to the HOBO Tidbit temperature loggers that accompany all our BRUV systems during deployment.

5. We have codified protocols for all aspects of BRUV work: from calibration of stereo-video systems to field deployment to video analysis by students to data analysis. We have a code database for all QA/QC and preliminary data analysis.

11

What is the full name (no acronyms), type, and scale of the partner(s) associated with this specific highlight. See "Help Text" for definitions/guidance.

California State University Monterey Bay

University of California Santa Barbara

Moss Landing Marine Laboratories

Accomplishments (optional)

12

Provide a recap of the accomplishment in a few sentences. Keep the language clear, in layman's terms, without abbreviations or acronyms, and written in the third person.

13

In-depth description of the accomplishment.

14

What is the full name (no acronyms), type, and scale of the partner(s) associated with this specific accomplishment. See "Help Text" for definitions/guidance.

PARTNERS THIS PERIOD (2024 REPORTING)

No user response.

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STAFFING LEVEL OF EFFORT (2024 REPORTING)

James Lindholm

- 1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
James Lindholm
 - 2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
2
 - 3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0
 - 4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
James Lindholm was the PI for the project.
-

Jennifer Caselle

- 1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
Jennifer Caselle
 - 2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
2
 - 3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0
 - 4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
Jennifer Caselle was a co-PI on the project.
-

Richard Starr

- 1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
Richard Starr
 - 2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
1
 - 3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0
 - 4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
Richard Starr was a co-PI on the project
-

Peter Carlson

- 1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
Peter Carlson
 - 2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
6
-

3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0

4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
Peter Carlson was provided key staff support for field and data collection efforts.

Amanda Kahn

1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
Amanda Kahn

2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
1

3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0

4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
Amanda Kahn was a co-PI on this project.

Kaitlin Roetcisoender

1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
Kaitlin Roetcisoender

2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
13

3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0

4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
Kaitlin was a undergraduate research assistant, contributing to field data collection and data analysis. Her time varied from full time to part time depending on the time of year.

Mitchell Kindred

1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
Mitchell Kindred

2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
13

3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0

4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
Mitchell was a undergraduate research assistant, contributing to field data collection and data analysis. His time varied from full time to part time depending on the time of year.

Alex Weatherford

- 1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
Alex Weatherford
- 2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
13
- 3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0
- 4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
Alex was a undergraduate research assistant, contributing to field data collection and data analysis. His time varied from full time to part time depending on the time of year.

Kameron Strickland

- 1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
Kameron Strickland
- 2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
6
- 3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0
- 4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
Kameron was a graduate research assistant, contributing to field data collection and data analysis. His time varied from full time to part time depending on the time of year.

Conner Jainese

- 1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
Conner Jainese
- 2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
12
- 3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0
- 4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
Conner was a graduate research assistant, contributing to field data collection and data analysis. His time varied from full time to part time depending on the time of year.

Travis Leggett

- 1 Full name of Faculty/Staff/Technician (written as First Name Last Name).
Travis Leggett
- 2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
1.5

3 How many calendar months effort on this project was funded by match/cost share dollars during this reporting period?
0

4 Provide any necessary notes, explanations, or justifications for inclusion of this individual, their effort, or anything else.
Travis was a part-time graduate research assistant, contributing to data analysis.

LEVERAGED FUNDING (2024 REPORTING)

No user response.

FOCUS AREAS, GOALS, AND CLASSIFICATION (2024 REPORTING)

1 Please indicate which National Focus Area your project primarily falls under. Note that a project may fall within a single Focus Area or transgress several focus areas; please report the primary.

Healthy Coastal Ecosystems

2 Select one or more goal(s) below that fall under the PRIMARY FOCUS AREA selected above relevant to your project. See instructions at the top of the page for the list of goals per Focus Area.

3 Approximately, what percentage of your project falls within the Focus Area, Healthy Coastal Ecosystems?
100

4 Approximately, what percentage of your project falls within the Focus Area, Resilient Coastal Communities and Economies?
0

5 Approximately, what percentage of your project falls within the Focus Area, Sustainable Fisheries and Aquaculture?
0

6 Approximately, what percentage of your project falls within the Focus Area, Environmental Literacy and Workforce Development?
0

7 Which of California Sea Grant's DEIJA Strategic Goal does your project address?

8 Explain how your project addressed one or more of California Sea Grant's DEIJA Strategic Goals (see above more info). If your project did not address any of the DEIJA Strategic Goals, write "N/A".

9 Classification - Tier 1: Major topical areas of investment for your project. Read "Help Text" for information about Sea Grant Classifications.

10 Classification - Tier 2: Specific sub-topical areas of your project. Multiple-select (up to three). Read "Help Text" for information about Sea Grant Classifications.

☒ Restoration and Conservation

- 11 Classification – Tier 3: Cross-cutting “disciplines” that are not intended to be exhaustive. Unlimited number of codes can be selected per Project. Please do not re-select Environmental Science and Literacy or Integrated Workforce Development if it was coded as such in Tier 1. Read "Help Text" for information about Classifications.

HEALTHY COASTAL ECOSYSTEM METRICS (2024 REPORTING)

No user response.

RESILIENT COMMUNITIES AND ECONOMIES METRICS (2024 REPORTING)

No user response.

SUSTAINABLE FISHERIES & AQUACULTURE METRICS (2024 REPORTING)

No user response.

ECONOMIC & SOCIETAL IMPACTS AND BENEFITS (2024 REPORTING)

No user response.

ENVIRONMENTAL ACTIONS & VISITOR ATTENDANCE (2024 REPORTING)

No user response.

EVENTS AND PUBLIC/PROFESSIONAL PRESENTATIONS (2024 REPORTING)

Baited Remote Underwater Video Survey of California Marine Protected Areas Sea Grant Sponsored/Organized Events

- 1 Title or name of the event.
-
- 2 The first day of the event. If the event ran for multiple days, just enter the start date.
-
- 3 Geographic location of the event (name of town, city, etc.). If a virtual event, write "Virtual".
-
- 4 Number of event attendees. Do not include Sea Grant staff (funded researchers and Extension Specialists) in the attendee count.
-
- 5 Was this a Sea Grant sponsored/organized event? See "Help Text" for definitions/guidance.
-
- 6 Was it an inward-facing event or an event internal to Sea Grant staff (Extension Specialists and/or funded researchers)? See "Help Text" for definitions/guidance.
-

7 What Focus Area was the event primarily focused on?

Public or Professional Presentations

8 Name(s) of the presentation author(s) and/or presenter(s).
Conner Jainese

9 Title of presentation.
Baited Remote Underwater Video Survey of California Marine Protected Areas

10 What was the name of the conference, symposium, meeting, or class that you presented at and it's location (geographic location or institution name)? If virtual, write "Virtual" along with the name of the institution host (if applicable).
SB Sportfishing Club

11 Date of presentation.
11-06-2024

12 Number of presentation attendees. Do not include Sea Grant staff (funded researchers and Extension Specialists) in the attendee count.
35

13 Was it an inward-facing event or an event internal to Sea Grant staff or PIs? See "Help Text" for definitions/guidance.

14 What Focus Area was the presentation primarily focused on?
Healthy Coastal Ecosystems

FORMAL AND NONFORMAL EDUCATION (2024 REPORTING)

Formal Education Programs for P-12 Students

1 Name of formal education program/event.

2 Name of the school district(s) the P-12 students attend.

3 Number of P-12 students who participated in the CA Sea Grant supported formal education program.

4 Description of the formal education event. How were these students reached/what type of learning opportunities did they have?

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Formal Education Programs for Educators

- 5 Name of formal education program/event.

- 6 Name of the school district(s) that the educator(s) worked in.

- 7 Number of educators who participated in Sea Grant-supported professional development programs (if applicable)

- 8 Description of the formal education event. How these educators reached/what type of professional development opportunities did they have?

Nonformal Education Programs for Youth and Adults

- 9 Title/name of nonformal education program/event.
Santa Barbara Sea Center, World Ocean Day

- 10 Who was the main target audience?
☒ All ages

- 11 Number of youth attendees.

- 12 Number of adult attendees.
1853

- 13 Type of nonformal education opportunity.

- 14 Description of nonformal education program and the learning outcomes of the program.

GOVERNMENT RELATIONS (2024 REPORTING)

No user response.

PRESS AND MEDIA COVERAGE (2024 REPORTING)

No user response.

PRODUCTS, TOOLS, TECHNOLOGIES, AND INFORMATION SERVICES (2024 REPORTING)

No user response.

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STUDENTS INVOLVED (2024 REPORTING)

Kaitlin Roetcisoender

- 1 Full name of post-secondary student.
Kaitlin Roetcisoender
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
California State University Monterey Bay
- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
13 months
- 5 Level of degree sought by student involved in project.
BA/BS
- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
No
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
Continuing
- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
no
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.

Alex Weatherford

- 1 Full name of post-secondary student.
Alex Weatherford
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
California State University Monterey Bay

- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)
-
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
13 months
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- 5 Level of degree sought by student involved in project.
BA/BS
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- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
No
-
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
-
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
-
- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
-
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
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- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.
-

Mitchell Kindred

- 1 Full name of post-secondary student.
Mitchell Kindred
-
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
California State University Monterey Bay
-
- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)
-
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
13 months
-
- 5 Level of degree sought by student involved in project.
BA/BS
-

- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
No
-
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
-
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
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- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
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- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
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- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.
-

Natalie Frontella

- 1 Full name of post-secondary student.
Natalie Frontella
-
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
California State University Monterey Bay
-
- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)
-
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
4 months
-
- 5 Level of degree sought by student involved in project.
BA/BS
-
- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
Yes
-
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
Enrolled in a graduate program here at CSUMB and continued to work on the project.
-
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
-

- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
-
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
-
- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.
-

Abraham Felix

- 1 Full name of post-secondary student.
Abraham Felix
-
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
California State University Monterey Bay
-
- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)
-
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
3 months
-
- 5 Level of degree sought by student involved in project.
BA/BS
-
- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
No
-
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
-
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
-
- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
-
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
-

- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.

Cristian Martinez

- 1 Full name of post-secondary student.
Cristian Martinez
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
Moss Landing Marine Laboratories
- 3 How was the student funded?
☒ Other
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
0
- 5 Level of degree sought by student involved in project.
MA/MS/MMA
- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
No
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.

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Keenan Guillas

- 1 Full name of post-secondary student.
Keenan Guillas
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
Moss Landing Marine Laboratories
- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
13 months
- 5 Level of degree sought by student involved in project.
MA/MS/MMA
- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
No
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.

Celine de Jong

- 1 Full name of post-secondary student.
Celine de Jong
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
Moss Landing Marine Laboratories
- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)

- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
13 months
-
- 5 Level of degree sought by student involved in project.
MA/MS/MMA
-
- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
No
-
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
-
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
-
- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
-
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
-
- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.
-

Sarah Johnson

- 1 Full name of post-secondary student.
Sarah Johnson
-
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
Moss Landing Marine Laboratories
-
- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)
-
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
13 months
-
- 5 Level of degree sought by student involved in project.
MA/MS/MMA
-
- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
No
-

- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
-
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
-
- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
-
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
-
- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.
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Jenni Johnson

- 1 Full name of post-secondary student.
Jenni Johnson
-
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
Moss Landing Marine Laboratories
-
- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)
-
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
13 months
-
- 5 Level of degree sought by student involved in project.
MA/MS/MMA
-
- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
No
-
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
-
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
-

- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
-
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
-
- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.
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Zachary Zirbel

- 1 Full name of post-secondary student.
Zachary Zirbel
-
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
Moss Landing Marine Laboratories
-
- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)
-
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
13 months
-
- 5 Level of degree sought by student involved in project.
MA/MS/MMA
-
- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
No
-
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
-
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
-
- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
-
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
-

- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.

Lyndsey McNeill

- 1 Full name of post-secondary student.
Lyndsey McNeill
- 2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
University of California Santa Barbara
- 3 How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)
- 4 Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
14 months
- 5 Level of degree sought by student involved in project.
BA/BS
- 6 Did the student graduate from undergraduate or graduate school during the reporting period?
Yes
- 7 Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.
- 8 Was this student new to the project or is continuing work on the project from a previous reporting period?
- 9 Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.
- 10 Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?
- 11 Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.

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Kelly Sivertson

1

Full name of post-secondary student.
Kelly Sivertson

2

Name of student's higher education institution. If the name of the institution is not known, write "Unknown".
University of California Santa Barbara

3

How was the student funded?
☒ Paid/funded by Sea Grant funds (through California Sea Grant/UC San Diego/Scripps Institution of Oceanography)

4

Number of months (or weeks if less than one money) that the student was funded. Differentiate between months funded by federal Sea Grant dollars and months funded by other funding sources. See "Help Text" for definitions/guidance.
14 months

5

Level of degree sought by student involved in project.
BA/BS

6

Did the student graduate from undergraduate or graduate school during the reporting period?
No

7

Has the student become employed in a job related to their degree within two years of graduation? If yes, was the job related to their degree? Describe below.

8

Was this student new to the project or is continuing work on the project from a previous reporting period?

9

Was this student a current or past California Sea Grant State Fellow? If yes, list the Fellowship year (e.g., 2024 State Fellow, 2025 State Fellow) and with which agency they held their Fellowship.

10

Did you mentor this student outside of a university setting (i.e., mentoring took place outside of regular thesis advising or lab hours)? If yes, how many hours were spent mentoring the student outside of the university setting?

11

Did the student help to fulfill any of your organization's or Sea Grant's DEIJA objectives, including but not limited to increasing representation of people from groups historically underrepresented in ocean science and/or conducting a project that helped to strengthen DEIJA? If so, please explain. See "Help Text" for definitions/guidance.

VOLUNTEER SUPPORT (2024 REPORTING)

UCSB Baited Remote Underwater Video Field work AND In Lab Video Analysis

1

Name of the California Sea Grant-sponsored volunteer activity.
UCSB Baited Remote Underwater Video Field work AND In Lab Video Analysis

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-
- 2 If you are reporting an individual volunteer, provide their name. If multiple volunteers from one entity (such as a company, NGO, etc.) volunteered, provide the name of the entity here.
-
- 3 Number of volunteers. If you are reporting on multiple volunteers for one activity, enter the total number of individuals. If you are reporting one individual's activities, write "1".
In field: 8 student volunteers; in Lab: 3 students
-
- 4 Number of hours volunteered. If reporting on multiple individuals, enter the total number of hours for all individuals. See "Help Text" for definitions/guidance.
In field: 100 hours; In lab: 300 hours
-
- 5 Provide a brief description of their type of engagement (e.g., collected water samples or removed trash or debris, etc.). What is economic or societal benefits resulted from the volunteer activities? See "Help Text" for definitions/guidance.
UCSB Baited Remote Underwater Video (BRUV) Field work – BRUV field work provides a unique opportunity for students to get experience in marine science field work without needing a scientific SCUBA diving certification. Students are able to get experience working on research vessels, preparing field gear, collecting metadata and survey data.
UCSB In lab video analysis - Student volunteers are trained in video data collection protocols; including extensive California marine fish species identification, how to use industry standard video analysis programs, data QA/QC and analysis. Students then have the opportunity to use the data they collected for senior thesis projects or other educational related projects (e.g. class data project). For these project students were often mentored by senior scientist funded through this project.
-
- 6 How much did the volunteer program cost to administer? Provide dollar value where possible. Indicate what was funded with Sea Grant dollars and what was funded with non-Sea Grant dollars. See "Help Text" for definitions/guidance.
No extra funds were needed to administer the volunteer program beyond management costs of the UCSB program (i.e standard field work costs and employee funding).
-
- 7 What was the Primary Focus Area of the volunteer work?
☒ Healthy Coastal Ecosystems
-