MPA (2023) FINAL REPORT

Status: Submitted (10/28/2024 02:25:48 PM)

Project: R/MPA-49D

Project Title: Deepwater, Remotely Operated Vehicle Surveys Of California's MPAs

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 California Legislature passed the Marine Life Protection Act (MLPA) in 1999 recognizing the importance of California's diverse marine species and ecosystems as vital to the state's coastal economy, public well-being, and ecological health. The MLPA required the state to redesign its pre-existing system of marine protected areas (MPAs) to function as a statewide network. The MPA Monitoring Action Plan addresses an important MLPA requirement to continue long-term monitoring to facilitate adaptive management of the MPA Network as well as evaluation of the Network meeting the goals of the MLPA.

Our project goals are focused on helping California further the objectives of the Marine Life Protection Act. Specifically, the continued monitoring of deep rocky reefs and outcrops, underwater pinnacles, and submarine canyons, both inside and outside marine protected areas (MPAs) using a remotely operated vehicle. Deep-water habitats represent at least 75% of the area of all marine habitats in California, with rocky reefs accounting for around 20% of those deep-water habitats. Yet, far less is known about these habitats and associated fish assemblages than those in waters <30 m deep. Our efforts support the continued evaluation of the statewide network of MPAs as well as providing needed information to inform fisheries management.

The objectives of this project include: 1) Continue to monitor using ROVs historical sites both inside and outside MPAs to evaluate the effectiveness of California's MPA network and 2) provide data to inform fisheries management.

To meet these objectives, we will survey and post-process video and positional data collected using an ROV at both MPA and reference sites. Sites were determined in consultation with OPC and the California Department of Fish and Wildlife (CDFW). Sampling design was consistent with historic ROV surveys conducted by MARE and CDFW. All data collected will be provided to the state for use in continued MPA monitoring and fisheries stock assessments.

Using funding provided through Sea Grant, we successfully surveyed four MPAs from Bodega Bay to Monterey Bay. These include the Bodega Bay SMR and SMCA, Montara SMR and Portuguese Ledge SMCA. In total, we successfully surveyed and video processed (substrate, fish and invertebrates) a total of 33 transects (500 meters long each) and enumerated 16,920 fish from 55 species and 32,237 macroinvertebrates from 81 species. Data collected will be combined with previous surveys from 2005-2021.

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.

Nearshore California waters of Bodega Bay (94923), Half Moon Bay (94019) and Monterey Bay (93940).

3. Have there been any change(s) in your approach? If so, describe the change(s) and provide reason(s) for the change(s).

No Changes made.

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.

Initial funding was provided at the end of August, 2023. Due to the unavailability of a suitable ship, field work was pushed to the summer of 2024. Initially we had secured time aboard the NOAA ship R/V Fulmar, but due to extended offseason dry dock repairs that ship time was cancelled. We were able to secure ship time aboard the R/V Pacific Surveyor (out of Florence Oregon), but not until the end of July 2024.

5 Any changes that had a significant impact on expenditures?

Ship costs were a bit higher due to the cost associated with bringing the R/V Pacific Surveyor down from Florence Oregon to Bodega Bay. The ship also is a bit slower than the planned R/V Fulmar, increasing the amount of transit time between stations and reducing the amount of survey time at each location.

6 Have there been significant changes in use or care of human subjects, vertebrate animals, biohazards, and/or select agents?

N/A

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.

N/A

8 Has there been a change in the active other support of the PD/PI or senior/key personnel since the last reporting period?

No

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.

10 In-depth description of the highlight

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.

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 new partners this period

1 Partner Name | Scale | Type
No new partners this period

Notes

2 Is this partnership new to your project?

3 How long has this partner been associated with this project? Consider time from initial outreach to current situation.

4 Approximately how many hours did you work together on this project during this reporting period? Include time spent building relationships, project development, implementation, outreach, administrative work.

5 Was knowledge co-production or participatory science involved in the planning or implementation of your project? Answer yes or no. If yes, explain how it was involved. If no, do you plan to incorporate either into future partnerships?

STAFFING LEVEL OF EFFORT (2024 REPORTING)

Andrew Lauermann

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

2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
2.8

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.

Dirk Rosen

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

2 How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
0.1

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.

Heidi Carpenter-Lovig

① Full name of Faculty/Staff/Technician (written as First Name Last Name).
Heidi Carpenter-Lovig

② How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
0.8

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.

Kyle Palmer

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

② How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
0.7

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.

Greta Goshorn

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

② How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
1.0

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.

Jordan Stovall

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

② How many calendar months effort on this project was funded by Sea Grant dollars during this reporting period?
2.2

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.

Samuel Parker

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

Sammuel Parker

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

0.6

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.

Ciera Green

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

Ciera Green

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

2.4

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.

Johnathan Centoni

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

Johnathan Cintoni

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

0.5

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.

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Madeleine Frost

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

Madeleine Frost

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

1.7

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.

Paul Lauermann

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

Paul Lauermann

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

1.3

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.

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.

☑ Goal 1

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?

☑ Does not address DEIJA Strategic Goals

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.

Fisheries

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.

☑ Environmental Science

HEALTHY COASTAL ECOSYSTEM METRICS (2024 REPORTING)

Resource Managers Using Ecosystem-Based Approaches in the Management of Land, Water, and Living Resources

1 Number of resource managers using/applying this ecosystem-based approach as a result of information from your California Sea Grant efforts.

13

2 Brief description of the ecosystem-based approach, and how it's being used:

Data collected is beiing used for the evaluationa and effectivness of the statewide network of MPA's as well as being used for stock assessments (specifically the current Quillback rockfish assessment focused around the Farallon Islands).

3 List the name(s) of the agencies/institutions/entities the resource managers are employed by.

California Department of Fish and Wildlife and the National Fish and Wildlife Service.

4 Geographic location (city, county, and zip code, if possible) in which the resource manager(s) is using the ecosystem-based approaches.

Bodega Bay California (94923) to Monterey Bay California (93940).

Areas of Coastal Habitat Protected, Enhanced, or Restored

5 Number of acres coastal habitat conserved as a result of California Sea Grant efforts (whole numbers only—no fractions). See "Help Text" for information about what acreage to report.

6 Type of coastal habitat conserved.

7 Geographic location of habitat (city, region, or coordinates).

8 How did you calculate these acres? See "Help Text" for information about acre vs. linear mile.

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)

No user response.

FORMAL AND NONFORMAL EDUCATION (2024 REPORTING)

No user response.

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)

Paul Lauermann

1 Full name of post-secondary student.

Paul Lauermann

2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".

California State Polytechnic University, Humboldt

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.

1.3

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.

Yes, he became a non contracted MARE employee during this grant funding period and his job description directly relates to his degree. Funding from this grant helps continue his education.

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?

Yes

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.

No

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Ciera Green

1 Full name of post-secondary student.

Ciera Green

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2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".

California State Polytechnic University, Humboldt

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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.

2.4

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5 Level of degree sought by student involved in project.

MA/MS/MMA

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6 Did the student graduate from undergraduate or graduate school during the reporting period?

No

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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.

Yes, she became a non contracted MARE employee during this grant funding period and her job description directly relates to her degree. Funding from this grant helps continue her education.

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Continuing

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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.

No

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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?

No

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No

Madeleine Frost

1 Full name of post-secondary student.

Madeleine Frost

---

2 Name of student's higher education institution. If the name of the institution is not known, write "Unknown".

California State Polytechnic University, Humboldt

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.

1.7

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.

Yes, she became a non contracted MARE employee during this grant funding period and her job description directly relates to her degree. Funding from this grant helps continue her education.

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?

No

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.

No

VOLUNTEER SUPPORT (2024 REPORTING)

No user response.