Plan Overview

A Data Management Plan created using DMPTool-Stage

Title: How ocean change stressors impact grazer control of kelp in a glacial-fed estuary

Creator: Matthew Edwards

Affiliation: San Diego State University (sdsu.edu)

Principal Investigator: Matthew Edwards

Data Manager: Matthew Edwards

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How ocean change stressors impact grazer control of kelp in a glacial-fed estuary

Data Policy Compliance

Identify any published data policies with which the project will comply, including the NSF OCE Data and Sample Policy as well as other policies that may be relevant if the project is part of a large coordinated research program (e.g. GEOTRACES).

The project investigators will comply with the data management and dissemination policies described in the *NSF Award and Administration Guide* (AAG, Chapter VI.D.4) and the *NSF Division of Ocean Sciences Sample and Data Policy*.

Pre-Cruise Planning

If the proposed project involves a research cruise, describe the cruise plans. (Skip this section if it is not relevant to your proposal.) Consider the following questions: (1) How will pre-cruise planning be coordinated? (e.g. email, teleconference, workshop) (2) What types of sampling instruments will be deployed on the cruise? (3) How will the cruise event log be recorded? (e.g. the Rolling Deck to Repository (R2R) event logger application, an Excel spreadsheet, or paper logs) (4) Will you prepare a cruise report?

There are no shipboard cruises associated with this project. Fieldwork will be completed at the Kasitsna Bay Marine lab. Planning will occur via videoconferencing. Station locations and timing have already been decided.

Description of Data Types

Provide a description of the types of data to be produced during the project. Identify the types of data, samples, physical collections, software, derived models, curriculum materials, and other materials to be produced in the course of the project. Include a description of the location of collection, collection methods and instruments, expected dates or duration of collection. If you will be using existing datasets, state this and include how you will obtain them.

- (1) Observational (e.g. in-situ, collected in the field). We will collect oceanographic data with sensor deployments, and biological data with in situ diver surveys of the benthos.
- (2) Experimental (e.g. generated in a lab or under controlled conditions). We will use a combination of field in situ experiments and lab experiments. Field experiments will be done through caging out of herbivores. Lab experiments will be done through altering seawater conditions and measuring organisms performance..

All data will be collected during the summers of 2019 - 2020.

Data and Metadata Formats and Standards

Identify the formats and standards to be used for data and metadata formatting and content. Where existing standards are absent or deemed inadequate, these formats and contents should be documented along with any proposed solutions or remedies. Consider the following questions: (1) Which file formats will be used to store your data? (2) What type of contextual details (metadata) will you document and how? (3) Are there specific data or metadata standards that you will be adhering to? (4) Will you be using or creating a data dictionary, code list, or glossary? (5) What types of quality control will be used? How will data quality be assessed and flagged?

We will submit all data as MS Excel (.xls and/or .xlsx) files.

Data Storage and Access During the Project

Describe how project data will be stored, accessed, and shared among project participants during the course of the project. Consider the following: (1) How will data be shared among project participants during the data collection and analysis phases? (e.g. web page, shared network drive) (2) How/where will data be stored and backed-up? (3) If data volumes will be significant, what is the estimated total file size?

All data will first be stored on project computers and shared among PI's while in the field. Data will also be shared with KAchemak Bay NAtional Estuarine Research Reserve (KBNERR) and the NOAA Kachemak Bay researchers. Data will be backed up on external hard drives and USB drives and stored at our host institutions. Our data file sizes are expected to be less than 100 megabytes.

Mechanisms and Policies for Access, Sharing, Re-Use, and Re-Distribution

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Describe mechanisms for data access and sharing, and describe any related policies and provisions for re-use, re-distribution, and the production of derivatives. Include provisions for appropriate protections of privacy, confidentiality, security, intellectual property, or other rights or requirements. Consider the following: (1) When will data be made publicly available and how? Identify the data repositories you plan to use to make data available. (2) Are the data sensitive in nature (e.g. endangered species concerns, potential patentability)? If so, is public access inappropriate and how will access be provided? (e.g. formal consent agreements, restricted access) (3) Will any permission restrictions (such as an embargo period) need to be placed on the data? If so, what are the reasons and what is the duration of the embargo? (4) Who holds intellectual property rights to the data and how might this affect data access? (5) Who is likely to be interested in re-using the data? What are the foreseeable re-uses of the data?

Data sets produced by the science party will be made available through the BCO-DMO data system within two-years from the date of collection. The project investigators will work with BCO-DMO data managers to make project data available online in compliance with the NSF OCE Sample and Data Policy. Data, samples, and other information collected under this project can be made publically available without restriction once submitted to the public repositories.

Plans for Archiving

Describe the plans for long-term archiving of data, samples, and other research products, and for preservation of access to them. Consider the following: (1) What is your long-term strategy for maintaining, curating, and archiving the data? (2) What archive(s) have you identified as a place to deposit data and other research products?

BCO-DMO will also ensure that project data are submitted to the appropriate national data archive. The PIs will work with BCO-DMO to ensure data are archived appropriately and that proper and complete documentation are archived along with the data.

Roles and Responsibilities

Describe the roles and responsibilities of all parties with respect to the management of the data. Consider the following: (1) If there are multiple investigators involved, what are the data management responsibilities of each person? (2) Who will be the lead or primary person responsible for ultimately ensuring compliance with the Data Management Plan?

Each PI will be responsible for sharing his/her subset of data among the project participants in a timely fashion. Project PI Konar will be responsible for all biodiversity and subtidal sampling data. C0-PI Edwards will be responsible for all seaweed and invertebrate photosynthesis and respiration data, and data on primary production rates. Co-PI Kelly will be responsible for all oceanographic sensor data and data on organism cellular stress responses and experimental lab results.