

DATA MANAGEMENT PLAN

Data management and sharing are essential to the goals of the proposed research. The PIs are committed to working with the Biological and Chemical Oceanography Data Management Office (BCO-DMO), an NSF-funded data repository, to archive and make all data sources publically available. The PIs have corresponded with BCO-DMO and are assured that they will be able to assist with archiving and storing data generated from this proposed project. During year 3 of this project, the PIs have budgeted salary time to organizing, managing and publishing data from this project.

This project will produce large amounts of data in the form of: (i) acoustic soundscape records, (ii) images and counts of larval animals, (iii) samples of larval animals, (iv) *in situ* oceanographic and biogeochemical data, (v) benthic and pelagic coral reef surveys (including images and video) (vi) presentations, and (vii) peer-reviewed publications. Each PI will have copies of these data and videos for use in teaching, outreach, and analyses.

Raw data management and storage

During the field observational periods, acoustic, oceanographic, benthic survey and larval data will be downloaded, stored on separate computers and backed up daily to 2x portable hard drives. The same process will be followed for the acoustic and Hobo records. Records will be saved in their natural (i.e., compressed) formats as well as their standard format (i.e., audio = .wav data). Written laboratory and field notes will be scanned to produce a digital archive of the project. Larva settlement count and behavioral response data will be summarized in a spreadsheet form. Standard protocols for preservation of the biological samples will be used and documented to allow taxonomic descriptions and in accordance with IACUC and National Park Service permissions. Samples of recently settled animals from the field experiments will be preserved in ethanol and archived at WHOI's FOLFE Lab (PI Llopiz). Access to these samples will be provided upon request.

Upon returning to WHOI, digital data will be backed up using the WHOI Remote Access server to which PI Mooney has an active account (VIERS internet connect is too slow to access this in the field). This storage is located in the Clark building on the WHOI Quisset campus. Acoustic files will be categorized and organized for improved access using a Microsoft Access system. Hard drives will be kept at the Mooney SPASE Lab in the Marine Research Facility of the WHOI Quisset campus or the Llopiz FOLFE Lab in WHOI's Woods Hole Campus. External access to these data will be provided upon request in accordance with the project goals.

BCO-DMO archival and integration of project data

The PIs will work with BCO-DMO to archive and integrate all data from this project and make it available for use. BCO-DMO will assist with archiving the raw and processed acoustic data, images and counts of larval animals, oceanographic data (temperature, salinity, pH, dissolved oxygen), nutrient concentrations, phytoplankton pigments, abundances of microbes and benthic and pelagic transect surveys. The raw and processed data files will be made available at the time of manuscript publication and project completion. Links and references to the data will be available in the associated presentations and publications.

Availability of presentations and publications

Educational sound files, images, videos, handouts and presentations produced as a part of this work will be disseminated to the respective outreach collaborators and the WHOI Communications Office for future collaborations and distributions. Further distributions will be offered upon request. Copies will also remain at the Mooney SPASE Lab for further evolution of the tools. Links to these outreach and raw data will be reflected on the Mooney SPASE Lab website (www.whoi.edu/page.do?pid=52855), to facilitate their appropriate distributions. Thus,

we will advertise their on-line availability to schools and individuals and also distribution options for those without high-speed internet.

Presentation data and peer-reviewed publications will also be available upon request, as indicated on the Mooney Lab website in accordance with the intellectual property, or other rights or requirements of the related conferences and journals. Open access to these articles will be requested and is included in the budget. The unformatted manuscripts will be freely available at the WHOI manuscript website (dla.who.edu/manuscripts/) with a link provided on Mooney's webpage

Data compliance activities will be summarized and documented in annual reports led by the PI but will be assisted by all PIs. The lead PI will oversee the management of these data.