Data Management plan

i. Types of data

This project will generate six types of data, which lend themselves to archiving and sharing:

(1) physical data (seawater flow, temperature, topographic complexity [SfM])
(2) community structure (abundance and size by species)
(3) image-based taxonomic keys
(4) lesson plans and outreach data
(5) high resolution color images of benthic quadrats
(6) publications & supporting data, particularly as they related to process-oriented studies

ii. Standards to be used for data

This proposal will build on the strong history of sharing data through BCO-DMO, MCR-LTER, NCEAS, EPOCA, and USGS (through the Powell Center). Through these efforts, we have considerable experience in developing relational databases (with metadata) that can be readily utilized by others. Additionally, we have designed QA/QC procedures that flag data based on the likelihood they are incorrect (for example, because abundance data changes to an unrealistic extent between years) and marks them for further evaluation.

iii. Policies for access to and sharing data

Following NSF policies, we will make project-related data available on publically accessible servers within 12 mo of data collection. The exceptions to this rule will be data related to graduate thesis projects, which will not be made available until 12 mo following graduation.

iv. Polices and provisions for re-use, redistribution, and production of derivatives

All users will have open and free access to our data within 12 mo of collection, unless otherwise embargoed to meet the needs of graduate thesis preparation. Although not required for access, we will encourage users to acknowledgement access to our data and make contact with the lead PIs in the spirit of effective collaboration.

v. Archiving and access to data

Over the last 12 y, the Edmunds lab has had a strong and well-developed policy of sharing data through web-accessible systems, and the Lasker lab has a strong history of making data available from his projects in the Bahamas, the Florida Keys, and St. John. We have spent considerable time working with BCO-DMO to make data available from the expired octocoral award (see BCO-DMO project 562086), and are making data sets from published manuscripts available within months of publication; we are working to close this temporal gap by assigning DOI values as manuscripts are submitted. We already are ensuring that the raw data as well as data sets in support of specific publications are made available.

We have worked to leverage the IM support inherent in the Moorea Coral Reef LTER (on which Edmunds is a co-PI) to aspects of our data management from St. John. The objective is to provide wider access to thematically cohesive data, and leverage access and exposure to coral reef time series data at the MCR-LTER site. A key role of our local data management (through H. Ake as an Independent Contractor) is to provide wider access to data and deliverables from our research that exceeds the services provided by BCO-DMO. We are interested is serving project deliverables to resource managers in Caribbean nations, and providing a data and learning portal suitable for outreach activities at schools with which we work in California and New York. The Edmunds LTREB award has benefited greatly from the MCR system, and data and deliverables have been made available for multiple years. While this remains a work in progress, it demonstrates the progress that has been made in making 31 y of LTREB data, and now OCE octocoral data, available through local and BCO-DMO resources.

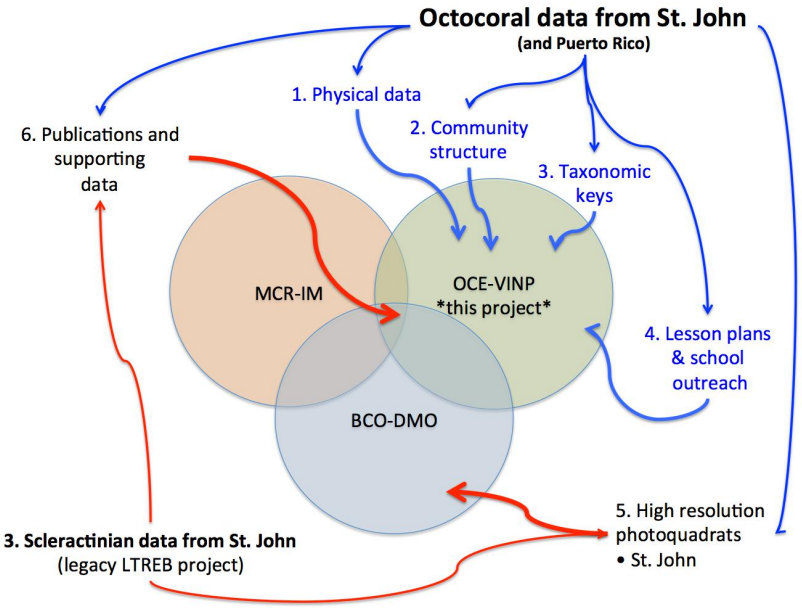

Fig. 1. Schematic showing relationships among the proposed project (with 6 data streams, 1-6), the St. John LTREB project, and the Moorea Coral Reef (MCR) LTER and **three** IM systems (**circles**): MCR-LTER, BCO-DMO and this proposal (OCE-VINP). The three systems are complementary to serve a broad end-user community with data, graphically rich deliverables, and outreach products. Core raw data – high-resolution images – are being off loaded to BCO-DMO for archiving. MCR-IM meets the NSF-mandated needs of the LTER community, and the coral reef theme of this system makes it a focus for other coral reef projects such as the project proposed herein and the LTREB. BCO-DMO meets the broadest needs of data hosting for the OCE community (and related projects). Published papers are the key deliverable of all projects and are shown in the common overlap among all three IM systems. H. Ake serves as our contract IM profession, and will continue in this role in the new award. Her appointment as a full time BCO-DMO employee provides a unique opportunity to interface the OCE-VINP data needs.