

DATA MANAGEMENT PLAN

Data description: The primary data gathered from this project will fall into three categories, (1) Biometric data relating to each coral species investigated (e.g. symbiont associations, photosynthetic parameters, growth rates, rates of isotopic enrichment, etc.), (2) molecular-genetic data relating to the sequence, qPCR, and microsatellite analyses of *Symbiodinium* spp. populations, and (3) physical data collected at each field site (sea water temperatures, incident irradiance, site specific light attenuation).

Data formats and sharing:

At the start of the project, all PI's will register their projects and submit project metadata to the Biological & Chemical Oceanography Data Management Office (BCO-DMO, www.bco-dmo.org).

All raw site condition, physiological, and genetic data from each of the PI's laboratories will be submitted to the BCO-DMO within two years of collection. We will also provide direct electronic links to all available project databases through our dissemination of results in scientific publications as well as our respective laboratory websites:

(<https://homes.bio.psu.edu/people/faculty/lajeunesse/> and <http://www.ceoe.udel.edu/people/profile.aspx?mwarner>).

Molecular data will primarily consist of DNA sequences, gel images, microsatellite allele sizes and quantitative PCR (rtPCR) data relating to symbiont diversity in all samples used in physiological analyses. It is expected that all genetic data will be publically available within two years of acquirement. Any novel DNA sequences generated from this project will be placed in appropriate international databases (National Center for Biotechnology Information: <http://www.ncbi.nlm.nih.gov/>). All data will also be included as supplemental files along with papers submitted to international scientific journals.

Physiological data will consist of photosynthesis and respiration rates, *Symbiodinium* cell densities, size, chlorophyll *a* content, chlorophyll fluorescence parameters (from PAM and FIRE methodologies), calcification (buoyant weight) and linear extension, ^{13}C pulse/chase and $\delta^{13}\text{C}/^{15}\text{N}$ isotope natural abundance measurements, as well as animal protein, carbohydrates, total lipids and lipid classes, and isotope-specific fatty acid profiles.

Physical site data will include long-term temperature measurements taken over the course of the project (six thermistors from three sites for three years in Palau), short-term *in situ* light data recorded at each site (7-14 day intervals) and calculated attenuation coefficients for each site and season of sampling. In addition to being deposited at BCO-DMO, all data will be stored in a relational database in LaJeunesse's laboratory at Penn State and on Penn State's "ScholarSphere" data repository at (<https://scholarsphere.psu.edu/>). We expect to maintain this redundant database for approximately three years after the completion of this project.

Roles and Responsibilities:

PI LaJeunesse will be responsible for obtaining, curating, and submitting all data pertaining to genetic analyses as well as data on coral growth rates. PI Warner will be responsible for

obtaining, curating, and submitting all data pertaining to photobiology, cell density counts, host protein content, and respiration. PI Kemp will be responsible for obtaining, curating, and submitting data on stable isotope measurements including on natural abundances (baselines) and for the pulse-chase experiments.