

DATA MANAGEMENT PLAN

1. *Data and Education Products*

Data collected during the proposed project will be both spatially (geographically and within the depth of the water column) and temporally (date and time) referenced and will include primarily biological data, but also physical and chemical data, obtained through experiments, *in situ* measurements, and modeled outputs. In addition, data products will all be accompanied by metadata. Education products will include syllabi, assignments, and short documentaries.

2. *Archival*

The PI will back up all raw data and education products, and copies will be kept on at least two computers or external hard drives at Oregon State University. In addition, data will be archived with the Biological and Chemical Oceanography Data Management Office (BCO-DMO) with the assistance of their staff, and following their best practices (<http://www.bco-dmo.org/data-management-best-practices-guide>). These data will include all measurements of vertical distribution and abundance, and physiological rate measurements (growth, respiration, ingestion, egestion, and assimilation efficiency) and condition (total lipids, lipid classes and fatty acid composition; CN content; protein content; O:N ratios).

3. *Preserved and Frozen Samples*

Preserved and frozen samples collected during the field seasons that are not processed at Palmer Station will be maintained until analysis at Oregon State University in the Bernard Lab.

4. *Metadata*

Metadata will be described according to Michener et al. (1997) and will be structured in Ecological Metadata Language (EML) Version 2.1.0.

Michener, W.K., Brunt, J.W., Helly, J.J., Kirchner, T.B. and Stafford, S.G. (1997). Nongeospatial metadata for the ecological sciences. *Ecological Applications* 7(1): 330-342.

5. *Policies for Access to Data*

PI Bernard will submit all quality-assessed and quality-controlled scientific data collected to the BCO-DMO no later than two years after the end of the proposed 5-year project. Standard procedures and protocols will be followed. Metadata will be submitted to BCO-DMO no later than 60 days after each field season. Once in the public domain, data will be freely available for scholarly use by the research community, with the express understanding that data users will properly acknowledge the originating investigator. Use or reproduction of any material for any commercial purpose will be prohibited.

Education products will be digitally archived within three months of completion. Access to education products will be made freely available for education purposes on PI Bernard's academic webpage.

6. *Policies and Procedures for Re-use, Re-distribution, and the Production of Derivatives.*

1) *Acceptable use.* Use of the data or education products will be restricted to academic, research, educational, government, recreational, or other not-for-profit professional purposes.

2) *Redistribution.* The metadata and the license of agreement must accompany all copies of the data or education product made and must be available to all users. Redistribution of the data or education product beyond a user's collaboration sphere is not permitted.

3) *Citation.* The data or education product should be cited appropriately in any publications that originate from its use or in the metadata of any of its derived data products. Citation should take the following general form: Creator, Year of Data Publication, Title of Dataset (or Title of Education Product), Publisher, Dataset Identifier (or Education Product Identifier).