

DATA MANAGEMENT PLAN

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The P.I.s agree to support the NSF data management and data dissemination policies as described in the NSF Award and Administration Guide (AAG, Chapter VI.D.4) and to comply with the NSF Division of Ocean Sciences Sample and Data Policy. Outlined below are the types of data and samples that will be collected and how they will be managed. Data will be made publicly available within 2-years of collection. Once the data are publicly available, they are freely accessible by others.

BCO-DMO

A project page will be maintained at BCO-DMO. This project page will be used to store the metadata and links to the data. The BCO-DMO project page will have links to publications, and provide additional information that might be too detailed for the methods descriptions in a journal article, yet may be of interest to others doing similar research. The goal is to use the BCO-DMO page as a central repository for all metadata and some original data, while providing links to all data associated with this project that have been deposited into public databases like the National Center for Biotechnology Information (NCBI) and those associated with the NGA LTER. BCO-DMO, NCBI and LTER have existing standards for data and metadata format.

Types of Data

The NGA LTER maintains a comprehensive data repository that is compliant with NSF LTER requirements. Oceanographic field data and sampling will generate CTD profiles, depth stratified and size fractioned chlorophyll *a* concentrations, flow cytometry output and data from zooplankton microscopy. These types of data will be submitted to the NGA LTER data repository, any data that is unique to this project will be submitted to BCO-DMO in .csv format. The environmental and zooplankton data will be handled by the UAF team. The flow cytometry data will be the responsibility of the UHM team. Preserved zooplankton samples are archived at UAF and can be accessed by contacting PI Hopcroft.

Molecular Data

The proposed effort will generate metabarcoding, transcriptomic and RT-qPCR data. Raw sequence data and assembled data will be submitted to NCBI, a public repository of genomic gene expression and transcriptomic data. The project will have one or more BioProjects, which will house the raw sequence data in the sequence read archive (SRA) and any new assemblies in the transcriptome shotgun assembly (TSA) archive. RT-qPCR data will be submitted to the Gene Expression Omnibus (GEO) database following NCBI standards. Experimental details and collection metadata will be archived at BCO-DMO with links to the data submitted to NCBI. Data deposited at NCBI are reviewed for quality control and standard format making it easily accessible by other researchers. Substantive datasets generated by downstream analysis (i.e., annotation files, RNA-Seq expression data) will be submitted to BCO-DMO or publicly available through Dryad if the files are specific to a single publication. In the latter case, the files will be discoverable through BCO-DMO. Submission of data will be handled by the team that

generates the data: UHM will handle the zooplankton metabarcoding, transcriptomics and RT-qPCR), SFSU the prey field and gut content metabarcoding.

Experimental Data from Growth Experiments

The growth experiments will generate data tables for survival, stage, length measurements and C&N data. The original data on the experiments and protocols will be kept in laboratory notebooks that will be stored with the PIs for a minimum of five years after the completion of the project. Data summaries will be submitted to BCO-DMO in .csv format, accompanied by a description of the experimental design and methods. The UAF team will be responsible for the submission of the data.

Dissemination of Data and Publication of Results

Dissemination of the data will occur through presentations at national and international meetings by project participants, including the P.I.s, collaborators and student participants. Research results will be published in peer-reviewed journals.

Outreach Materials include a zooplankton guide for school-aged children and teachers. We will coordinate with the NGA LTER outreach efforts to make these broadly available through their website and by collaboration with the Center for Alaskan Coastal Studies.