MICHIGAN SEA GRANT UNIVERSITY OF MICHIGAN + MICHIGAN STATE UNIVERSITY

NOAA DATA SHARING DIRECTIVE POLICY

Data and information collected and/or created under NOAA grants and cooperative agreements must be made visible, accessible, and independently understandable to general users, free of charge or at minimal cost, in a timely manner (typically no later than two years after the data are collected or created), except where limited by law, regulation, policy or by security requirements. The requirement has two basic parts: (1) environmental data generated by a grant project must be made available after a reasonable period of exclusive use, and (2) the grant application must describe the plan to make the data available (Principal Investigators are expected to execute the plan).

If your project produces environmental data, it must conform to NOAA's Data Sharing Directive for Grants, Cooperative Agreements, and Contracts. For detailed guidance, you can view the current version of the policy, including a definition of environmental data (which can include socioeconomic and model data), download any updates and access additional implementation resources at the following permanent URL (Appendix B outlines requirements): https://seagrant.noaa.gov/Portals/1/Guidance/Data_Sharing_Directive_v3.0_remediated_2018-06-07.pdf.

Proposals submitted in response to this Announcement must include a Data Management Plan describing how these requirements will be satisfied. To comply with this requirement, the Principal Investigator must use the form below to explain how the data and metadata will be provided. Please complete the form, including information for all applicable datasets related to your project(s). If funding is required for data curation and archiving, please make sure that funds are budgeted in the project proposal for data management. All data generated through Sea Grant funded projects are required to be completely QA/QC'ed (Quality Assurance and Quality Control) and made publicly accessible **by two years after the end date of the project**. If the proposed research will not generate environmental data then a Data Management Plan will need to be stated as such: "*This project will not generate any environmental data*."

Sea Grant Data Management Plan Form
Proposal Submission Phase

***Title of the Proposal (required answer)**:*
Stoichiometric Plasticity of Heterotrophic Bacteria in the Laurentian Great Lakes: The Impact of Nutrient Concentration on Microbial Community Adaptation

***Name of lead PI (required answer)**: Sea Grant requires that the lead PI serve as the data steward.*

Connor O'Loughlin

***Contact Information (required answer)**:*
Email: ccolough@mtu.edu
Cell: 630-750-1165
Address: 1400 Townsend dr. Houghton, MI 49931

***Dataset Description(s) (required answer)**: What data will the dataset(s) contain? This includes descriptive details on data types, inclusion of metadata, data format(s), collection times / date ranges, etc. What name(s), if any, will be designated to the dataset(s)?*

The dataset for this project will comprise limnological, chemical, and biological data collected from the proposed experiment, and will be presented in a tabular format. Specific data types include water depth profiles of light (photosynthetically active radiation), conductivity, temperature, and dissolved oxygen, collected via handheld sensors and sondes, microbial community assemblage data from 16S rRNA gene sequencing, dissolved organic matter (mg C/L), TDN (mg N/L), organic and inorganic nitrogen (mg/L), soluble reactive phosphorus (μg P/L), absorption values from Biolog EcoPlates, tabulated microbial abundance (cells/mL) and absorption data from flow cytometry, particulate carbon, nitrogen, and phosphorus (mg/L), translationally active cells (cells/mL) and inactive cells (cell/mL) from BONCAT, and dissolved organic matter quality (excitation-emission matrix spectroscopy shown as fluorescence indices).

***Do you agree to release all data no later than 2 years after the end-date of the project? (required answer)**:*

Yes

***Issues (required answer):** Are there any legal, access, retention, etc. issues anticipated for the dataset? If yes, please explain.*

None

***Data Size**: What will be the estimated size of the dataset? Please report estimated number of MB, GB, TB, etc., collected.*

Sequence data: 6.2 GB; All other data 1 GB

***Data Format**: What format will the dataset utilize? (i.e., Excel file, model code, audio/video recording, etc.)*

16S sequence data will be FASTA, .csv, and all other data will be .csv or .xlsx

***Ownership (required answer)**: Who will own the dataset, if not the lead PI?*

Trista Vick-Majors (CO-PI)

***Post-Processing**: What post-processing, QA/QC will this dataset undergo? Who will be responsible for performing this post-processing and QA/QC to prepare the dataset for its deposition into a repository?*

Data from field and laboratory notebooks, and experimental data will be checked for outliers using R statistical software. Post-processing will be the responsibility of Connor O'Loughlin (PI). The 16S rRNA sequence data will be QC'd and processed using the DADA2 pipeline in the R software package. The PI is responsible for deposition into a repository.

***Preservation Plan (required answer)**: What data repositories will be used to host the dataset? If none, how will the data be preserved?*

The data will be made available in 2 years following the completion of the study, or when the results get published. A public repository on GitHub will be made available, with the URL link being provided in the publication.

***Products**: Will any information or data products be developed from this dataset? How will the related costs be supported? Which organization(s) will be producing these products?*

We anticipate one peer-reviewed publication to be submitted to

***Other Comments**: Are there any additional comments related to the data that will results from your Sea Grant-funded study?*

Sea Grant Data Management Form
Project Completion Phase

Date Submitted (required answer):

Title of the Proposal (required answer)*:*

Name of lead PI (required answer)*: Sea Grant requires that the lead PI serve as the data steward.*

Contact Information (required answer)*:*

Dataset Description(s) (required answer)*: What data do the dataset(s) contain? This includes details on data type, format, collection times / date range, etc. What name(s), if any, will be designated to the dataset(s)?*

Issues*: Are there any legal, access, retention, etc. issues existing for the dataset(s) (i.e.; IRB restrictions)?*

***Data Size**: What is the estimated size of the dataset? Please report estimated number of MB, GB, TB, etc., collected.*

***Data Format**: What format(s) do(es) the dataset(s) utilize? (i.e., Excel file, model code, audio/video recording, etc.)*

***Ownership (required answer)**: Who owns the data, if not the lead PI?*

***Post-Processing**: What post-processing, QA/QC has this data undergone? What organizations performed this post-processing and QA/QC to prepare the data for its deposition into a repository?*

***Preservation Plan (required answer)**: What data repositories were used to host the dataset? If none, how was the data preserved? Please provide URL for any data repositories that were used to preserve this data and any necessary information needed to extract the data.*

***Keywords (required answer)**: Please provide a list of terms used to query the database.*

***Release Date (required answer)**: When will this dataset be available to the public? Reminder: the release date must be no later than 2 years after the end of the project.*

Products (required answer)*: Have any information or data products been developed from this dataset? Which organization(s) produced these products? Please provide a location for any products that were produced as a result of this project.*

Preferred Data and Product Citations (required answer)*: How to reference data, publications, or any other project outcomes?*

Other Comments*: Are there any additional comments related to the data that you produced with your Sea Grant funding?*