Data Management Plan

I. EXPECTED DATA

The proposed work will generate (A) laboratory data collected from controlled experiments and (B) transport model data. **A. Laboratory Experiments:** For the laboratory experiments we will specifically collect the following data:

- **Swimming performance and behavioral metrics:** mean swimming and sinking velocities, mean height of larvae in the swim chambers (center of larval mass), helical pitch, and turning rates.

- **Shell morphology and mass:** Growth rates (shell length, thickness, and mass), calcium carbonate per larvae.

- **Metabolic demand:** Respiration rates (via O_2 consumption), larval feeding rates.

- **Supporting Data:** Supporting data collected during laboratory experiments will include measurement of the experimental conditions (temperature, pH, pCO_2, total alkalinity, DIC) and videos of larval swimming.

B. Transport Modeling: The data collected from these models is outlined below:

Exploratory Models

Bio-physically Coupled Larval Transport Model: Transport distance (path distance particles travel between larval release and the end of the larval stage), larval dispersal kernals (spread of larvae), and transport success (the proportion of larvae that encounter suitable habitat).

II. DATA STEWARDSHIP AND PRESERVATION To archive our data and ensure long-term, open public access, all metadata and datasets will be also deposited in the Biological and Chemical Oceanography Data Management Office (http://www.bco-dmo.org/) in compliance with NSF regulations. Analyses and exploratory models will be conducted in the R environment for statistical computing. All custom scripts will be made available through a repository in GitHub (https://github.com/) and assigned a permanent DOI using Zenodo (https://zenodo.org/). Additionally, web apps for visualizations of exploratory models will be developed using Shiny by RStudio and hosted on faculty websites. The Salish Sea oceanographic model utilizes the Regional Ocean Mode 1 System (ROMS) and model runs can be accessed through http://faculty.washington.edu/pmacc/cmg/cmg.html. The particle- tracking model, designed to work with existing ROMS models, is open-source and is

available at https://code.google.com/p/particulator/. Modifications to the particle-tracking code will be added to this Google Code repository.

III. PROVIDING DATA ACCESS Manuscripts will be promptly prepared, and an effort will be made **to select open access journals** where appropriate. Upon publication, the generated data will be submitted to publicly accessible databases, such as (but not limited to) DRYAD (http://datadryad.org/). We envision that a wide variety of stakeholders, including resource managers and restoration coordinators, research scientists, biophysical modelers, and tribal natural resource managers, will be immediately interested in the data we generate. Because of the pressing need for some information, we will make the data available to the varied stakeholders upon request immediately following completion of its QA/QC or publication. We will request proper attribution for its generation when presented or published as part of other scientist's studies, which may include co- authorship or acknowledgment depending on the data and use. Upon our own completion of peer- review manuscripts that utilize the data, or by three years beyond the end of the funding period (whichever is earliest), the data will be publicly archived as described above.