

Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:

Master Dataset for Elwha Carcass Addition Experiment - Elwha River salmon carcass addition experiment

1.2. Summary description of the data:

Dam removal and other fish-barrier removal projects in western North America are assumed to boost freshwater productivity via the transport of marine-derived nutrients from recolonizing Pacific salmon (*Oncorhynchus* spp). In anticipation of the removal of two hydroelectric dams on the Elwha River in Washington State, we tested this hypothesis with a salmon carcass addition experiment. Our study was designed to examine how background nutrient dynamics and benthic foodwebs vary seasonally, and how these features respond to salmon subsidies. We conducted our experiment in six side channels of the Elwha River, each with a spatially paired reference and treatment reach. Each reach was sampled on multiple occasions from October 2007 to August 2008, before and after carcass placement. We evaluated nutrient limitation status, measured water chemistry, periphyton, benthic invertebrates, and juvenile rainbow trout (*O. mykiss*) response, and traced salmon-derived nutrient uptake using stable isotopes. Outside of winter, algal accrual was limited by both nitrogen and phosphorous and remained so even in the presence of salmon carcasses. One month after salmon addition, dissolved inorganic nitrogen levels doubled in treatment reaches. Two months after addition, benthic algal accrual was significantly elevated. We detected no changes in invertebrate or fish metrics, with the exception of ^{15}N enrichment. Natural seasonal variability was greater than salmon effects for the majority of our response metrics. Yet seasonality and synchronicity of nutrient supply and demand are often overlooked in nutrient enhancement studies. Timing and magnitude of salmon-derived nitrogen uptake suggest that uptake of dissolved nutrients were favored over direct consumption of carcasses. The highest proportion of salmon-derived nitrogen was incorporated by herbivores (18–30%) and peaked 1–2 months after carcass addition. Peak nitrogen enrichment in predators (11–16%) occurred 2–3 months after addition. All taxa returned to background d^{15}N levels by 7 months. Since this study was conducted, both dams on the Elwha River were removed over 2011-2014 to open over 90% of the basin to anadromous fishes. We anticipate that as the full portfolio of salmon species expand

through the basin, nutrient supply and demand will become more balanced and positive feedback loops of reciprocal nutrient transfer reinforced.

All datasets related to Elwha River carcass addition experiment. Includes physical habitat, chemical, and biological data.

1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

1.4. Actual or planned temporal coverage of the data:

2007-08-01 to 2008-08-30

1.5. Actual or planned geographic coverage of the data:

W: -123.7579, E: -123.3293, N: 48.1502, S: 47.6658

Elwha River: Lower and middle Elwha River basin

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)

Table (digital)

1.7. Data collection method(s):

(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:

Northwest Fisheries Science Center (NWFSC)

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

Northwest Fisheries Science Center (NWFSC)

2.4. E-mail address:

nmfs.nwfsc.metadata@noaa.gov

2.5. Phone number:

206-860-3200

3. Responsible Party for Data Management

Program Managers, or their designee, shall be responsible for assuring the proper management of

the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

Sarah Morley

3.2. Title:

Data Steward

4. Resources

Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

No

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Lineage Statement:

Invertebrates identified and enumerated under microscopy, chlorophyll samples analyzed by fluorometer, isotope samples analyzed in mass spec

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

All laboratory samples checked against blanks and duplicates. These data were collected and processed in accordance with established protocols and best practices under the direction of the project's Principal Investigator. Contact the dataset Data Manager for full QA/QC methodology.

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:

- 1.7. Data collection method(s)

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:**6.3. URL of metadata folder or data catalog, if known:**

<https://www.fisheries.noaa.gov/inport/item/20550>

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive:

https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

No

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

No

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

NA

7.2. Name of organization of facility providing data access:

Northwest Fisheries Science Center (NWFS)

7.2.1. If data hosting service is needed, please indicate:

Yes

7.2.2. URL of data access service, if known:

https://www.webapps.nwfsc.noaa.gov/apex/parr/elwha_carcass_addition/data/page/

https://www.webapps.nwfsc.noaa.gov/apex/parrdata/inventory/tables/table/elwha_carcass_addition

7.3. Data access methods or services offered:

At this time, contact the Data Manager for information on obtaining access to this data set. In the near future, the NWFSC will strive to provide all non-sensitive data resources as a web service in order to meet the NOAA Data Access Policy Directive (<https://nosc.noaa.gov/EDMC/PD.DA.php>).

7.4. Approximate delay between data collection and dissemination:

0 days

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

No Delay

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:

(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

NCEI_MD

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):

Northwest Fisheries Science Center - Seattle, WA

8.3. Approximate delay between data collection and submission to an archive facility:

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8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

The Northwest Fisheries Science Center facilitates backup and recovery of all data and IT components which are managed by IT Operations through the capture of static (point-in-time) backup data to physical media. Once data is captured to physical media (every 1-3 days), a duplicate is made and routinely (weekly) transported to an offsite archive facility where it is maintained throughout the data's applicable life-cycle.

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.