

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:

AFSC/RACE/SAP/Foy: Effects of ocean acidification on larval Tanner crab: Kodiak Island, Alaska.

1.2. Summary description of the data:

To study the effects of ocean acidification we examined the effects of ocean acidification on the larval stages of the economically important southern Tanner crab, *Chionoecetes bairdi*.

Ovigerous females were reared in one of 3 treatments: control (ambient pH ~8.1), pH 7.8, and pH 7.5 for 2 years. Larvae in year 1 were from oocytes developed in the field whereas larvae in year

2 were from oocytes developed under acidified conditions. Larvae hatched each year, were also exposed to 3 pH treatments to examine starvation-survival, morphology, condition, and calcium/magnesium

content. Approximately 300 larvae were stocked in multiple treatments for testing the effect of pH. Hatching success was measured as the total % of larval hatched from a full clutch while duration

was the number of days over which hatching occurred. Hatching success did not differ among treatments in 2012 but varied between 46 to 87% in 2013 dependent on pH treatment. Larval mass was highest

in pH 7.8 in 2012 and lowest in the control, however in 2013 the highest larval mass was in the control water. There were only small (not significant) changes in magnesium or calcium content among

treatments in 2012 however, the reduction in both minerals at higher pH was greater in 2013. There was higher percent carbon and nitrogen contents in pH 7.5 larvae in 2013. The morphology of Tanner

crab larval was assessed from 200 larvae stocked in multiple 2 L beakers. There was no effect of treatment on larval morphometrics. In 2012 and 2013, we examined if embryos developed under acidified

conditions affected larval morphology by assessing 15 newly hatched larvae

larvae from each treatment. There was again no effect of treatment on larval morphometrics. Starvation survival experiments

were performed in 1 L sized PVC inserts. In both years larvae from embryos that developed in pH 7.5 water survived about 3 days longer than those that developed in control water. However, in 2012

larvae from embryos that had developed in pH 7.8 water were similar to control larvae whereas in 2013 they were intermediate between the control and pH 7.5 larvae. The overall effects of treatment

at the larval stage appeared to be better condition and initial survival at lower pH, however multiple years of treatment led to lower survival.

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:

2011-06-21 to 2013-07-03

1.5. Actual or planned geographic coverage of the data:

W: -152.3, E: -151.1, N: 57.72, S: 57.65

Kodiak Island, Alaska

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:

Robert Foy

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

robert.foy@noaa.gov

2.5. Phone number:

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:

Robert Foy

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"):

Unknown

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):

Process Steps:

- 2013-07-30 00:00:00 - Measuring of Hatching success, larval mass, Ca and Mg, CHN, and survival data
- 2014-05-07 00:00:00 - Analysis of the results
- 2011-07-21 00:00:00 - Collection of larval Morphology data 1 step
- 2013-05-29 00:00:00 - Collection of larval Morphology data 2 step
- 2014-04-07 00:00:00 - Statistical analysis

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):

unknown

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/27853>

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:

none

7.2. Name of organization of facility providing data access:

Alaska Fisheries Science Center (AFSC)

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

yes

7.2.2. URL of data access service, if known:

https://console.cloud.google.com/storage/browser/_details/nmfs_odp_afsc/RACE/SAP/Foy%3B%20Eff

7.3. Data access methods or services offered:

unknown

7.4. Approximate delay between data collection and dissemination:

unknown

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):**

Alaska Fisheries Science Center - Seattle, WA

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

Unknown

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

IT Security and Contingency Plan for the system establishes procedures and applies to the functions, operations, and resources necessary to recover and restore data as hosted in the Western Regional Support Center in Seattle, Washington, following a disruption.

9. Additional Line Office or Staff Office Questions

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