

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/Long: Data from: Upper thermal tolerance in red and blue king crab:
Sublethal and lethal effects

1.2. Summary description of the data:

This dataset contains data from a series of experiments that determined the upper thermal tolerance of early benthic stage red and blue king crabs. Experiments included determining the temperature at which 50% of crabs died after 24 hour exposure, determining the effect of temperature on feeding ration, and the effects of temperature on long-term growth and mortality.

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:

2012 to 2013

1.5. Actual or planned geographic coverage of the data:

W: -152.395268, E: -152.395268, N: 57.782403, S: 57.782403
Laboratory study in Kodiak 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:**

Metadata Coordinators MC

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:**2.4. E-mail address:**

AFSC.metadata@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:

Chris Long

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:

- Initially, seven different temperatures were tested for both species: 14, 16, 18, 20, 22, 24, 26°C. As the trials were performed, we added an additional temperature

treatment for each species at around the estimated LT50 (temperature that causes 50% mortality): 21°C for blue king crab and 25°C for red king crab. The trials were run in a random order. For the seven temperatures tested in common among the species, both species were tested simultaneously. For each trial, 14 year-0 red and blue king crab were haphazardly assigned to each treatment. At the beginning of the experiments, all the tanks were at ambient temperature (i.e., the same temperature the crabs were being held at). The temperature in each tank was then increased gradually to the experimental temperature over 4 hours. The crabs were left at the temperature for 24 h after which they were checked for activity by gently prodding them with a dissecting needle and observing whether they responded by moving away from the needle. They were then checked to see if they were alive.

- In this experiment, the effects of temperature on feeding ration were determined for red and blue king crabs. Temperatures tested included 11, 13, 15, 17, 20, and 23° C for red king crab and 4, 6, 9, 11, 13, 15, 17, and 20°C for blue king crab. Year-1 blue king crab and year-0 red king crab were used. In each trial 5 (blue king crab) or 7 (red king crab) crab were massed and then introduced into individual holding cells. The temperature was slowly adjusted to the treatment temperature over 4 h. Crab were allowed to rest for 24h to acclimate them to the temperature and to standardize hunger levels. Then crab were fed small pieces of massed squid mantle and allowed to feed for 24h. At the same time, pieces of food were also placed in three control cells without crab. After this, the remaining food was removed and massed. Daily feeding ration, expressed as a percentage of the crab's mass, was calculated for each crab and corrected for the change of mass of the food in the control cells assuming a minimum feeding ration of 0%. In a few cases, crab molted during the trial or ate all the food and the data from these crab was excluded from analysis.

- To determine how temperature affects growth and long-term survival in year-0 crabs we performed 45 day experiments. Red king crab were tested at 12, 15, and 20°C and blue king crab at 12, 15, and 17°C. Twelve crabs per species per treatment were haphazardly selected. Crabs had their carapace width measured and were introduced into individual holding cells. The temperature was slowly adjusted to the treatment temperature over 4 h. Crabs were checked daily for molting or mortality and were fed to excess. After the end of the experiment each crab had their carapace width measured a second time.

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):

Data was checked for outliers and for values out of expected range.

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)
- 7.2. Name of organization of facility providing data access

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/35877>

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:

There are no legal restrictions on access to the data. They reside in public domain and can be freely distributed.

7.2. Name of organization of facility providing data access:

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/nmfs_odp_afsc/RACE/SAP/Long%3B%20Data%20fr

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):**

Kodiak Fisheries Research Center - Kodiak, AK

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.