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:

Using the otolith sulcus to aid in prey identification and improve estimates of prey size in diet studies of a piscivorous predator

1.2. Summary description of the data:

Diet studies are fundamental for understanding trophic connections in marine ecosystems. In the southeastern US, the common bottlenose dolphin Tursiops truncatus is the predominant marine mammal in coastal waters, but its role as a top predator has received little attention. Diet studies of piscivorous predators, like bottlenose dolphins, start with assessing prey otoliths recovered from stomachs or feces, but digestive erosion hampers species identification and underestimates fish weight (FW). To compensate, FW is often estimated from the least affected otoliths and scaled to other otoliths, which also introduces bias. The ulcus, an otolith surface feature, has a species-specific shape of its ostium and caudal extents, which is within the otolith edge for some species. We explored whether the sulcus could improve species identification and estimation of prey size using a case study of four sciaenid species targeted by fisheries and bottlenose dolphins in North Carolina. Methods were assessed first on otoliths from a reference collection (n=421) and applied to prey otoliths (n=5308) recovered from 20 stomachs of dead stranded dolphins. We demonstrated in reference collection otoliths that cauda to sulcus length (CL:SL) could discriminate between spotted seatrout (Cynoscion nebulosus) and weakfish (Cynoscion regalis) (classification accuracy=0.98). This method confirmed for the first time predation of spotted seatrout by bottlenose dolphins in North Carolina. Using predictive models developed from reference collection otoliths, we provided evidence that digestion affects otolith length more than sulcus or cauda length, making the latter better predictors. Lastly, we explored scenarios of calculating total consumed biomass across degrees of digestion. A suggested approach was for the least digested otoliths to be scaled to other otoliths iteratively from within the same stomach, month, or season as samples allow. Using the otolith sulcus helped overcome challenges of species identification and fish-size estimation, indicating their potential use in other diet studies.

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

1.4. Actual or planned temporal coverage of the data:

1.5. Actual or planned geographic coverage of the data:

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Document (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:
Aleta Hohn

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:
aleta.hohn@noaa.gov

2.5. Phone number:
252-728-8797

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:
Aleta Hohn

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?

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

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):

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:
- 1.3. Is this a one-time data collection, or an ongoing series of measurements?
- 1.4. Actual or planned temporal coverage of the data
- 1.5. Actual or planned geographic coverage of the data
- 1.7. Data collection method(s)
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?

- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

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/58439

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?

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?

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

7.2. Name of organization of facility providing data access:
Southeast Fisheries Science Center (SEFSC)

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

7.2.2. URL of data access service, if known:
https://grunt.sefsc.noaa.gov/parr/58439.zip

7.3. Data access methods or services offered:
Download From Provided url

7.4. Approximate delay between data collection and dissemination:

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

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)

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):
Southeast Fisheries Science Center - Miami, FL

SEFSC PARR Data Server

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

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

9. Additional Line Office or Staff Office Questions

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