

## SNAP-A-STRIPER DATA PLAN

### Data Plan Executive Summary

Project protocols have been designed to comply with current fishing regulations and make use of the common skills and practices of fishermen.

### Data Plan

#### Data Quality Assurance

Project protocols are designed for simplicity and for compliance with common fishing practice and regulation. Experienced fishermen will require no additional training.

#### Data Quality Control

The combination of fish photos and labeled heads will allow us to verify that the image and head are from the same fish.

The combination of an image of the fish and the otoliths from its head allow us to investigate the relationship between the shape of the fish (“morphometrics” that we identify with photo) and the otolith chemistry (which we get from the heads)--by having both a picture and head from the same fish, we can associate which body shapes go with which suites of otolith chemistry, eventually allowing us to make predictions about the origins of samples for which we only have pictures.

We will continue accepting fish images and heads until our analysis reveals a strong statistical relationship between fish origin and shape, or the lack of such a relationship.

#### Data Quality Validation

If submitted images are of insufficient quality for our morphological analysis, we will exclude those fish head and image pairs from our analysis.

#### Planned Data Analysis

This study is designed to investigate the relationship between striped bass morphology and origin (the place where an individual fish hatched from its egg). We will perform a morphological analysis on images of whole fish to characterize their body shape. We will

## SNAP-A-STRIPER DATA PLAN

perform a chemical analysis of the center of the otoliths to determine the chemical signature of the water in which the fish began its development. The differences in the chemical signatures of waters in different estuaries and rivers throughout the range of striped bass is sufficient to identify a fish's movements among and between bodies of water, as has been shown with striped bass movement within the Hudson River system ([Secor et al. 2001](#)) and correctly identifying individuals that come from different river systems ([Morse et al. 2003](#)). We hypothesize that the fish we catch in Maine are from a variety of spawning/nursery locations and that differences are unique enough to be identified.

By asking that fishermen provide us with both a clear image of the fish's body and with the fish's head, we will be able to confirm the match between head and fish. This will allow us to ascertain the origin of each fish. We can then explore whether all the fish from one location share a body type that is statistically distinct from the fish who hatched in the other location.

We will continue analyzing matched pairs of fish images and otoliths until we have statistically established the relationship between fish place of origin (as determined by otolith analysis) and morphology, or determined that no relationship exists.

### Project Metadata

The Ecosystem Investigation Network has a defined data model and metadata structure for project data that includes global elements common to all projects and specific data elements unique to the individual projects. These data include date, time, location, and selected project. The Ecosystem Investigation Network does not have a global data schema that conforms to one common standard, but leverages elements of existing standards used by scientific communities based on the nature of the project (e.g., OBIS, EML, FGDC, Darwin Core, CF, ISO 19115, etc.).

Data, observations, comments, photographs, and associated metadata submitted by users to individual projects are retained in the Ecosystem Investigation Network database and follow data management and retention policies established by the program. Specific data that is collected during this project will be stored in the Ecosystem Investigation Network during the life of the project.

For information about this project and its data, please contact:

Zachary Whitener, Research Associate and Vessel Safety Officer, Fisheries Ecology Lab  
Gulf of Maine Research Institute  
350 Commercial Street  
Portland, ME 04101  
[zwhitener@gmri.org](mailto:zwhitener@gmri.org)  
207-228-1646

## SNAP-A-STRIPER DATA PLAN

### Project Data Management

The Ecosystem Investigation Network utilizes basic catalog and filter functionality to enable users to discover specific projects and associated data. Publicly accessible data contributed by individuals will be available for download, with limited fields based on the requirements of individual projects. For example, the data export functionality for a project may be limited to a public view summary that does not include demographic or personal data. The public view of the data will not include personally identifiable data, unless that information was knowingly shared by the participant through open ended comments or discussion threads. Data will be downloaded in .csv format, a non-proprietary file type, and it can be opened by numerous spreadsheet software programs, including free and open ones.

Data, observations, comments, photographs, and associated metadata submitted by users to individual projects will be retained in the Ecosystem Investigation Network database and follow data management and retention policies established by the program. Specific data that is collected during this project will be stored in the Ecosystem Investigation Network during the life of the project. The full detail of data contributed to the project will be stored in the Ecosystem Investigation Network database and will be made available to project owners.

The Ecosystem Investigation Network utilizes basic catalog and filter functionality to enable users to discover specific projects and associated data. Publicly accessible data contributed by individuals will be available for download with limited fields based on the requirements of individual projects. For example, the data export functionality for a project may be limited to a public view summary that does not include demographic or personal data. The public view of the data will not include personally identifiable data, unless that information was knowingly shared by the participant through open ended comments or discussion threads. Data will be downloaded in .csv format, a non-proprietary file type, and it can be opened by numerous spreadsheet software programs, including free and open ones.

### References

SECOR, David H., Jay R. ROOKER, Erik ZLOKOVITZ, and Vincent S. ZDANOWICZ. "Identification of riverine, estuarine, and coastal contingents of Hudson River striped bass based upon otolith elemental fingerprints." *Marine ecology. Progress series* 211 (2001): 245-253.  
<http://www.int-res.com/articles/meps2001/211/m211p245.pdf>