AFSC/ABL: Southeast and Prince William Sound, Alaska Herring Microsatellite data, 2007-2008

Theme keywords: Biota, 002

Abstract: Herring is one of the most energy-rich fish in the Alaskan ecosystem, and when populations struggle over time, such as the Lynn Canal population, there is management concern. Prior to 1983, Lynn Canal herring supported a productive sac roe fishery, a bait fishery, and a winter food and bait fishery. All commercial fisheries were closed in 1983 and remain so today. The purpose of this study was to examine the genetic structure of Lynn Canal herring and determine if it was discrete from other collections in southeast Alaska. We used microsatellite DNA to examine both spawning and non-spawning aggregates (collected in two consecutive years) in Lynn Canal, and compared them to two Southeast Alaska populations: Prince of Wales Island (southernmost waters) and Sitka Sound on Baranof Island (outer-coast). In addition we examined two collections from Prince William Sound (approx. 850 km NW) as a means to compare extent of divergence over large tracts of unsuitable spawning habitat. Because the geographic location of Lynn Canal is somewhat isolated and schools are known to over-winter in the area, we hypothesized that Lynn Canal herring experience reduced gene flow. The results of our study showed allele frequencies from 16 loci were highly similar across all collections, including the distant Prince William Sound. This investigation concurs with previous studies that there is a large amount of movement among herring in the Gulf of Alaska. We conclude that Lynn Canal herring are part of a meta-population that is possibly Gulf – wide or larger.

FGDC, ESRI, and Biological Profile Metadata:

- Identification Information
- Data Quality Information
- Distribution Information
- Metadata Reference Information

Metadata elements shown with **blue** text are defined in the Federal Geographic Data Committee's (FGDC) *Content Standard for Digital Geospatial Metadata (CSDGM)*. Elements shown with **green** text are defined in the *ESRI Profile of the CSDGM*. Elements shown with **brown** text are defined in the *NBII Biological Profile of the CSDGM*. Elements shown with a green asterisk (*****) will be automatically updated by ArcCatalog. ArcCatalog adds hints indicating which FGDC elements are mandatory; these are shown with gray text.

Identification Information:

Citation:

Citation information:

Originators: Sharon Wildes, Johanna Vollenweider, Jeff Guyon, AFSC

Title:

AFSC/ABL: Southeast and Prince William Sound, Alaska Herring Microsatellite data, 2007-2008

Publication date: Unpublished material

Geospatial data presentation form: maps and data

Description:

Abstract:

Herring is one of the most energy-rich fish in the Alaskan ecosystem, and when populations struggle over time, such as the Lynn Canal population, there is management concern. Prior to 1983, Lynn Canal herring supported a productive sac roe fishery, a bait fishery, and a winter food and bait fishery. All commercial fisheries were closed in 1983 and remain so today. The purpose of this study was to examine the genetic structure of Lynn Canal herring and determine if it was discrete from other collections in southeast Alaska. We used microsatellite DNA to examine both spawning and non-spawning aggregates (collected in two consecutive years) in Lynn Canal, and compared them to two Southeast Alaska populations: Prince of Wales Island (southernmost waters) and Sitka Sound on Baranof Island (outer-coast). In addition we examined two collections from Prince William Sound (approx. 850 km NW) as a means to compare extent of divergence over large tracts of unsuitable spawning habitat. Because the geographic location of Lynn Canal is somewhat isolated and schools are known to over-winter in the area, we hypothesized that Lynn Canal herring experience reduced gene flow. The results of our study showed allele frequencies from 16 loci were highly similar across all collections, including the distant Prince William Sound. This investigation concurs with previous studies that there is a large amount of movement among herring in the Gulf of Alaska. We conclude that Lynn Canal herring are part of a meta-population that is possibly Gulf – wide or larger.

Purpose:

This dataset contains herring microsatellite data described in the abstract.

Time period of content:

Time period information:

Range of dates/times:

Beginning date: 2007

Ending date: 2008

Currentness reference:

ground condition

Status:

Progress: In work

Maintenance and update frequency: Unknown

Spatial domain:

Description of geographic extent:

Lynn Canal; Prince William Sound; Alaska

Bounding coordinates:

West bounding coordinate: -147.638889
East bounding coordinate: -134.971944
North bounding coordinate: 60.8236111
South bounding coordinate: 58.2291667

Keywords:

Theme:

Theme keywords: Biota, 002
Theme keyword thesaurus: ISO 19115 Topic Categories

Place:

Place keywords: Alaska
Place keyword thesaurus: Geographic Names Information System

Taxonomy:

Keywords/taxon:

Taxonomic keywords: collection, multiple species, vertebrates
Taxonomic keyword thesaurus: None

Taxonomic classification:

Taxon rank name: Empire
Taxon rank value: Biovitae
Applicable common names: Carbon-based lifeforms

Taxonomic classification:

Taxon rank name: Kingdom
Taxon rank value: Animalia

Taxonomic classification:

Taxon rank name: Phylum
Taxon rank value: Chordata

Taxonomic classification:

Taxon rank name: Subphylum
Taxon rank value: Vertebrata

Taxonomic classification:
Taxon rank name: Superclass
Taxon rank value: Osteichthyes

Taxonomic classification:
Taxon rank name: Class
Taxon rank value: Actinopterygii

Taxonomic classification:
Taxon rank name: Subclass
Taxon rank value: Neopterygii

Taxonomic classification:
Taxon rank name: Infraclass
Taxon rank value: Teleostei

Taxonomic classification:
Taxon rank name: Superorder
Taxon rank value: Clupeomorpha

Taxonomic classification:
Taxon rank name: Order
Taxon rank value: Clupeiformes

Taxonomic classification:
Taxon rank name: Suborder
Taxon rank value: Clupeoidei

Taxonomic classification:
Taxon rank name: Family
Taxon rank value: Clupeidae

Taxonomic classification:
Taxon rank name: Subfamily
Taxon rank value: Clupeinae

Taxonomic classification:
Taxon rank name: Genus
Taxon rank value: Clupea

Taxonomic classification:
Taxon rank name: Species
Taxon rank value: pallasii
Applicable common names:
Pacific herring

Access constraints: The Data set is still being analyzed and will not be available for distribution until it has been finalized and all QA/QC practices have been performed. Contact the Data Point of Contact for estimated time of release.
Use constraints:
User must read and fully comprehend the metadata prior to use. Data should not be used beyond the limits of the source scale. Acknowledgement of NOAA, as the source from which these data were obtained, in any publications and/or other representations of these data is suggested.

Point of contact:
Contact information:
Contact person primary:
Contact person: Sharon Wildes
Contact organization: National Oceanic and Atmospheric Administration (NOAA) Alaska Fisheries Science Center (AFSC) Auke Bay Laboratories (ABL)

Contact address:
Address type: mailing and physical
Address:
17109 Point Lena Loop Road
City: Juneau
State or province: AK
Postal code: 99801
Country: USA

Contact voice telephone: 907-789-6000
Contact facsimile telephone: 907-789-6094

Contact electronic mail address: sharon.wildes@noaa.gov

Contact instructions:
The e-mail address directs you to the person most knowledgeable about this data. If an alternative contact person becomes necessary, use the voice phone number for referral.

Back to Top

Data Quality Information:

Logical consistency report:
No logical consistency test were run.

Completeness report:
None

Lineage:
Process step:
Process description:
No process steps have been described for this data set

Process date: Unknown

Back to Top

Distribution Information:

Distributor:
Contact information:
Contact person primary:
Contact person: Sharon Wildes
Contact organization: National Oceanic and Atmospheric Administration (NOAA) Alaska Fisheries Science Center (AFSC) Auke Bay Laboratories (ABL)

Contact address:
Address type: mailing and physical
Address:
17109 Point Lena Loop Road
City: Juneau
State or province: AK
Postal code: 99801
Country: USA

Contact voice telephone: 907-789-6000
Contact facsimile telephone: 907-789-6094

Contact electronic mail address: sharon.wildes@noaa.gov

Contact instructions:
The e-mail address directs you to the person most knowledgeable about this data. If an alternative contact person becomes necessary, use the voice phone number for referral.

Resource description: Offline data

Distribution liability:
The user is responsible for the results of any application of this data for other than its intended purpose.

Back to Top

Metadata Reference Information:

Metadata date: 20081203
Metadata review date: 20100129

Metadata contact:
Contact information:
Contact person primary:
Contact person: Emily Fergusson
Contact organization: National Oceanic and Atmospheric Administration (NOAA) Alaska Fisheries Science Center (AFSC) Auke Bay Laboratories (ABL)
Contact position: Metadata coordinator

Contact address:
Address type: mailing and physical
Address:
17109 Point Lena Loop Road
City: Juneau
State or province: AK
Postal code: 99801
Country: USA

Contact voice telephone: Use e-mail to contact the metadata coordinator.
Contact facsimile telephone: 907-789-6094

Contact electronic mail address: AFSC.metadata@noaa.gov

Metadata standard name: FGDC Biological Data Profile of the Content Standard for Digital Geospatial Metadata
Metadata standard version: FGDC-STD-001.1-1999

Back to Top