

AFSC/ABL: Population structure of odd- and even-broodline Asian pink salmon

Theme keywords: Biota, 002, population structure, allozyme, isolation by distance, *Oncorhynchus gorboscha*, pink salmon

Abstract: Electrophoretic analysis of Asian even brood-year pink salmon stocks has shown regional heterogeneity (Noll et al. in review). Hypothetical mixed fisheries were created using data from 24 variable loci from Noll et al. in review. The mixture was analyzed to test the accuracy and precision of this baseline data for potential use in mixed fishery analyses. Thirteen stocks were separated into four management regions: Japan, Sakhalin, eastern Kamchatka, and western Kamchatka. Simulations were varied in sample size, number of loci, and percent regional contribution. The simulated mixtures were analyzed using the Conditional Maximum Likelihood Estimate (MLE). The mean estimate, standard deviation, and coefficient of variation were calculated for standardized comparison by both stock and region. Computed MLEs showed that estimates for the Noll et al. baseline improved in accuracy and precision with increased sample size and retention of important loci. When 24 loci and a minimum of 200 samples in a mixture were used, the baseline was approximately 80% accurate in its ability to distinguish regions from a mixture.

FGDC, ESRI, and Biological Profile Metadata:

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- [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, AFSC

Title:

AFSC/ABL: Population structure of odd- and even-broodline Asian pink salmon

Publication date: 1998

Geospatial data presentation form: maps and data

Other citation details:

Hawkins, S., N. Varnavskaya, J. Pohl, and R. Wilmot. 1998. Simulations of the even-year Asian pink salmon (*Oncorhynchus gorbuscha*) genetic baseline to determine accuracy and precision of stock composition estimates. N. Pac. Anadr. Fish Comm. Bull. No. 1:213-219.

Description:

Abstract:

Electrophoretic analysis of Asian even brood-year pink salmon stocks has shown regional heterogeneity (Noll et al. in review). Hypothetical mixed fisheries were created using data from 24 variable loci from Noll et al. in review. The mixture was analyzed to test the accuracy and precision of this baseline data for potential use in mixed fishery analyses. Thirteen stocks were separated into four management regions: Japan, Sakhalin, eastern Kamchatka, and western Kamchatka. Simulations were varied in sample size, number of loci, and percent regional contribution. The simulated mixtures were analyzed using the Conditional Maximum Likelihood Estimate (MLE). The mean estimate, standard deviation, and coefficient of variation were calculated for standardized comparison by both stock and region. Computed MLEs showed that estimates for the Noll et al. baseline improved in accuracy and precision with increased sample size and retention of important loci. When 24 loci and a minimum of 200 samples in a mixture were used, the baseline was approximately 80% accurate in its ability to distinguish regions from a mixture.

Purpose:

This study examines the feasibility of using the even-year pink salmon genetic baseline (Noll et al. in review) as a tool in assessing stock composition in mixed-stock fisheries.

Time period of content:

Time period information:

Range of dates/times:

Beginning date: 1989

Ending date: 1995

Currentness reference:

ground condition

Status:

Progress: Complete

Maintenance and update frequency: None planned

Spatial domain:

Description of geographic extent:

Hokkaido Island, Japan; Sakhalin Island, Russia; Kamchatkan Peninsula, Russia; Prince William Sound, Alaska; Kuril

Islands; Magadan, Russia; Bering Sea

Bounding coordinates:

West bounding coordinate: 143

East bounding coordinate: 160

North bounding coordinate: 64.7

South bounding coordinate: 42.6

Keywords:

Theme:

Theme keywords: Biota, 002

Theme keyword thesaurus: ISO 19115 Topic Categories

Theme:

Theme keywords: population structure, allozyme, isolation by distance

Theme keyword thesaurus: None

Theme:

Theme keywords: Oncorhynchus gorbuscha, pink salmon

Theme keyword thesaurus: ITIS

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: Protacanthopterygii

Taxonomic classification:

Taxon rank name: Order

Taxon rank value: Salmoniformes

Taxonomic classification:

Taxon rank name: Family

Taxon rank value: Salmonidae

Taxonomic classification:

Taxon rank name: Subfamily

Taxon rank value: Salmoninae

Taxonomic classification:

Taxon rank name: Genus

Taxon rank value: Oncorhynchus

Taxonomic classification:**Taxon rank name:** Species**Taxon rank value:** gorbuscha**Applicable common names:** Pink salmon

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

Use constraints:

The user must adhere to restrictions placed on publication of data by the Magnuson-Stevens Fishery Conservation and Management Act.

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.

Native data set environment:

Microsoft Excel Spreadsheet

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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

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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
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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.

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Metadata Reference Information:

Metadata date: 20081204

Metadata review date: 20100319

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

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