

## AFSC/ABL: Chum salmon length and weight monitoring at Fish Creek (Hyder, AK), Chilkat River (Haines, AK), Olsen Creek (Cordova, AK), and Quilcene River (Quilcene, WA)

**Theme keywords:** Biota, 002, Chum salmon, *Oncorhynchus keta*, size, age, growth, scale

**Abstract:** Changes in size and age at maturity of chum salmon (*Oncorhynchus keta*) were monitored for two locations in North America. Chum salmon spawners returning to Fish Creek, southeastern Alaska, were sampled yearly from 1972 through 1996. Spawners returning to the Quilcene National Fish Hatchery in Hood Canal, Washington, were sampled yearly from 1973 through 1996. Size at maturity of both populations declined significantly from about 1980 to the mid-1990s. Age at maturity increased during this time. These changes were associated with a major ocean climate regime shift in the North Pacific Ocean that occurred in 1976-77. Population abundance of chum salmon increased greatly after the regime shift, especially in Asia. Similar changes in size and age at maturity occurred in Asian chum salmon; because the range of North American and Asian chum salmon overlaps on the high seas, these changes are discussed in relation to possible density-dependent population factors. Since the mid-1990s, size at maturity and population abundance have increased, possibly indicating another climate change in the North Pacific Ocean.

### 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.

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### Identification Information:

**Citation:**

**Citation information:**

**Originators:** John Helle, Ellen Martinson, AFSC

**Title:**

AFSC/ABL: Chum salmon length and weight monitoring at Fish Creek (Hyder, AK), Chilkat River (Haines, AK), Olsen Creek (Cordova, AK), and Quilcene River (Quilcene, WA)

**Publication date:** Unknown

**Geospatial data presentation form:** maps and data

**Other citation details:**

John H Helle and Margaret Hoffman. 1998. Changes in size and age at maturity of two North American stocks of chum salmon (*Oncorhynchus keta*) before and after a major regime shift in the North Pacific Ocean. North Pacific Anadromous Fish Commission. Bull 1. pages 81-89.

**Description:****Abstract:**

Changes in size and age at maturity of chum salmon (*Oncorhynchus keta*) were monitored for two locations in North America. Chum salmon spawners returning to Fish Creek, southeastern Alaska, were sampled yearly from 1972 through 1996. Spawners returning to the Quilcene National Fish Hatchery in Hood Canal, Washington, were sampled yearly from 1973 through 1996. Size at maturity of both populations declined significantly from about 1980 to the mid-1990s. Age at maturity increased during this time. These changes were associated with a major ocean climate regime shift in the North Pacific Ocean that occurred in 1976-77. Population abundance of chum salmon increased greatly after the regime shift, especially in Asia. Similar changes in size and age at maturity occurred in Asian chum salmon; because the range of North American and Asian chum salmon overlaps on the high seas, these changes are discussed in relation to possible density-dependent population factors. Since the mid-1990s, size at maturity and population abundance have increased, possibly indicating another climate change in the North Pacific Ocean.

**Purpose:**

This dataset contains length, weight, and scale information for chum salmon monitored in 4 rivers in Alaska from 1959 to 2008. Monitoring in 2009 was limited to Olsen Creek, Fish creek, and Chilkat River.

**Time period of content:****Time period information:****Range of dates/times:**

**Beginning date:** 1959

**Ending date:** 2009

**Currentness reference:**

ground condition

**Status:**

**Progress:** In work

**Maintenance and update frequency:** Annually

**Spatial domain:****Description of geographic extent:**

Fish Creek near Hyder, Alaska, Quilcene River near Quilcene Washington, Chilkat River near Haines Alaska, Olsen Creek near cordova Alaska.

**Bounding coordinates:**

**West bounding coordinate:** -146.127222

**East bounding coordinate:** -122.8626639

**North bounding coordinate:** 60.80222

**South bounding coordinate:** 47.8187027

**Keywords:****Theme:**

**Theme keywords:** Biota, 002

**Theme keyword thesaurus:** ISO 19115 Topic Categories

**Theme:**

**Theme keywords:** Chum salmon, Oncorhynchus keta

**Theme keyword thesaurus:** ITIS

**Theme:**

**Theme keywords:** size, age, growth, scale

**Theme keyword thesaurus:** None

**Place:**

**Place keywords:** Alaska, Hyder, Alaska, Quilcene River, Quilcene, Washington, Chilkat River, Haines, Alaska, Olsen Creek, Cordova, Alaska

**Place keyword thesaurus:** Geographic Names Information System

**Taxonomy:****Keywords/taxon:**

**Taxonomic keywords:** collection, multiple species, invertebrates

**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

**Applicable common names:** Salmon

**Taxonomic classification:**

**Taxon rank name:** Species

**Taxon rank value:** Oncorhynchus keta

**Applicable common names:** Chum  
salmon

**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:** Ellen Martinson

**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:** ellen.martinson@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.

**Data set credit:**

NOAA collection 1972-2009

**Native data set environment:**

Microsoft Excel spreadsheet

[Back to Top](#)

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**Data Quality Information:****Logical consistency report:**

No logical consistency test were run.

**Completeness report:**

Data were entered from the write in rain book onto a standard sheet. Data were verified by one individual reading the entries to an individual with the original data.

**Lineage:****Methodology:****Methodology type:**

Field

**Methodology description:**

Annually, foot surveys are conducted at each system during the peak of the chum salmon spawning run. Up to 300 carcasses are sampled per site visit. Sex ratios are computed when 150 samples of one sex are reached. Scales are collected from the preferred area on the body of the fish, four rows above the lateral line and directly below the posterior insertion of the dorsal fin. Body length is measured in millimeters from the middle of the eye to the end of the hypural plate using a caliper. Body weight is measured using a spring scale to the tenth of a kilogram. Sex is determined. Scales are being used for age and growth studies.

**Process step:****Process description:**

No process steps have been described for this data set

**Process date:** Unknown

[Back to Top](#)

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## Distribution Information:

### Distributor:

#### Contact information:

##### Contact person primary:

**Contact person:** Ellen Martinson

**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:** ellen.martinson@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.

### Distribution liability:

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

[Back to Top](#)

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## Metadata Reference Information:

**Metadata date:** 20081119

**Metadata review date:** 20100120

**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](#)