

## AFSC/ABL: Salmonid migrations at Auke Creek, Alaska

**Theme keywords:** Biota, 002, Auke Creek Salmon counts, weir, migration, smolt, salmon

**Abstract:** The Auke Lake system has endemic populations of pink, chum, sockeye and coho salmon, and supports populations of Dolly Varden char and cutthroat and steelhead trout. The National Marine Fisheries Service (NMFS), and its' predecessor agency, U.S. Bureau of Commercial Fisheries, began salmon research at Auke Creek, near Juneau, Alaska, in 1961. There are emigrant and immigrant counts of several species over nearly five decades (Appendices 1 and 2). Pink salmon fry populations at Auke Creek were estimated annually, 1972-79, and counted at the weir since 1980. Fyke nets were used capture sockeye salmon smolts leaving Auke Lake, and estimates are available for some years between 1961 and 1979. Total sockeye smolt counts are available since 1980. Chum salmon fry were counted annually since 1985. Coho salmon smolt estimates were made in 1976, 1977, and 1979, and the total coho smolt emigration was counted since 1980. Dolly Varden char and cutthroat trout were counted in 1970 and since 1980. Steelhead emigrants were counted since 1990. Weir counts of sockeye salmon adults at Auke Creek began in 1963; pink and chum salmon were counted 1967-68, and all salmon were counted since 1971. Chinook salmon entered Auke Creek since 1987 as a result of releases of juveniles from other hatcheries. Immigrant Dolly Varden and cutthroat and steelhead trout were counted from 1997-2006. Auke Creek is the site of many research projects on wild and hatchery salmonids. The present weir at Auke Creek was constructed in 1980, and provided the capability to capture all emigrant and immigrant salmonids. Annual operations and maintenance costs associated with Auke Creek Research Station are provided by NMFS through the salmon research program of Auke Bay Laboratory. Projects at Auke Creek between 1971 and 1983 operated under several cooperative agreements. An interagency cooperative agreement relating to Auke Creek weir was established in 1983 between the NMFS, University of Alaska-Fairbanks (UAF), and Alaska Department of Fish and Game (ADFG). The agreement provided the authority to jointly fund a full-time person to assist with the operation of the fish counting weir at Auke Creek. The primary objective is to operate the weir on a daily basis and maintain the long-term data collections on migrant salmonids. Auke Creek weir usually operates from early March through late October. A report of fish counts from daily weir operations and other information related to salmonid research involving the facilities at the weir is prepared each year. The annual fish count data are available in the Auke Creek data file at the NMFS Auke Bay Laboratory. Data collected on specific projects outside the scope of the cooperative agreements are usually not included in the annual report. Those data may be available from project investigators or their respective agencies.

### FGDC, ESRI , and Biological Profile Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Entity and Attribute 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:** John Joyce, Jerry Taylor, AFSC

#### Title:

AFSC/ABL: Salmonid migrations at Auke Creek, Alaska

**Publication date:** Unknown

**Geospatial data presentation form:** spreadsheet

### Description:

#### Abstract:

The Auke Lake system has endemic populations of pink, chum, sockeye and coho salmon, and supports populations of Dolly Varden char and cutthroat and steelhead trout. The National Marine Fisheries Service (NMFS), and its' predecessor agency, U.S. Bureau of Commercial Fisheries, began salmon research at Auke Creek, near Juneau, Alaska, in 1961. There are emigrant and immigrant counts of several species over nearly five decades (Appendices 1 and 2). Pink salmon fry populations at Auke Creek were estimated annually, 1972-79, and counted at the weir since 1980. Fyke nets were used capture sockeye salmon smolts leaving Auke Lake, and estimates are available for some years between 1961 and 1979. Total sockeye smolt counts are available since 1980. Chum salmon fry were counted annually since 1985. Coho salmon smolt estimates were made in 1976, 1977, and 1979, and the total coho smolt emigration was counted since 1980. Dolly Varden char and cutthroat trout were counted in 1970 and since 1980. Steelhead emigrants were counted since 1990. Weir counts of sockeye salmon adults at Auke Creek began in 1963; pink and chum salmon were counted 1967-68, and all salmon were counted since 1971. Chinook salmon entered Auke Creek since 1987 as a result of releases of juveniles from other hatcheries. Immigrant Dolly Varden and cutthroat and steelhead trout were counted from 1997-2006.

Auke Creek is the site of many research projects on wild and hatchery salmonids. The present weir at Auke Creek was constructed in 1980, and provided the capability to capture all emigrant and immigrant salmonids. Annual operations and maintenance costs associated with Auke Creek Research Station are provided by NMFS through the salmon research program of Auke Bay Laboratory. Projects at Auke Creek between 1971 and 1983 operated under several cooperative agreements. An interagency cooperative agreement relating to Auke Creek weir was established in 1983 between the NMFS, University of Alaska-Fairbanks (UAF), and Alaska Department of Fish and Game (ADFG). The agreement provided the authority to jointly fund a full-time person to assist with the

operation of the fish counting weir at Auke Creek. The primary objective is to operate the weir on a daily basis and maintain the long-term data collections on migrant salmonids. Auke Creek weir usually operates from early March through late October. A report of fish counts from daily weir operations and other information related to salmonid research involving the facilities at the weir is prepared each year. The annual fish count data are available in the Auke Creek data file at the NMFS Auke Bay Laboratory. Data collected on specific projects outside the scope of the cooperative agreements are usually not included in the annual report. Those data may be available from project investigators or their respective agencies.

**Purpose:**

The primary objective is to operate the weir on a daily basis and maintain the long-term data collections on migrant salmonids. The fish rearing facilities at Auke Creek are often used in aquaculture and salmonid life history experiments. In 2007 35,000 marked pink salmon fry were released at Auke Creek in an outbreeding depression project as part of a UAF graduate thesis. An ADFG Sport Fish project resulted in the release of 14,000 adipose fin clipped Dolly Varden juveniles into Lake Creek in July. These fish may be captured at the weir during future emigrations.

**Time period of content:**

**Time period information:**

**Range of dates/times:**

**Beginning date:** 1961

**Ending date:** 2009

**Currentness reference:**

ground condition

**Status:**

**Progress:** In work

**Maintenance and update frequency:** Weekly

**Spatial domain:**

**Description of geographic extent:**

Auke Creek and Auke Lake in Juneau, Alaska

**Bounding coordinates:**

**West bounding coordinate:** -134.6475

**East bounding coordinate:** -134.618983

**North bounding coordinate:** 58.393967

**South bounding coordinate:** 58.379983

**Keywords:**

**Theme:**

**Theme keywords:** Biota, 002  
**Theme keyword thesaurus:** ISO 19115 Topic Category

**Theme:**  
**Theme keywords:** Auke Creek Salmon counts, weir, migration, smolt, salmon  
**Theme keyword thesaurus:** None

**Place:**  
**Place keywords:** Juneau, Alaska, AK  
**Place keyword thesaurus:** Geographic Names Information System

**Place:**  
**Place keywords:** Southeast Alaska, Auke Creek, Auke Lake  
**Place keyword thesaurus:** None

**Taxonomy:**  
**Keywords/taxon:**  
**Taxonomic keywords:** animals, vertebrates, multiple species  
**Taxonomic keyword thesaurus:** none

**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:** clarkii  
**Applicable common names:** trucha  
degollada

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

**Taxonomic classification:**  
**Taxon rank name:** Species

**Taxon rank value:** keta  
**Applicable common names:** chum salmon

**Taxonomic classification:**  
**Taxon rank name:** Species  
**Taxon rank value:** kisutch  
**Applicable common names:** coho salmon  
 or silver salmon

**Taxonomic classification:**  
**Taxon rank name:** Species  
**Taxon rank value:** mykiss  
**Applicable common names:** redband trout

**Taxonomic classification:**  
**Taxon rank name:** Species  
**Taxon rank value:** nerka  
**Applicable common names:** sockeye  
 salmon or kokanee

**Taxonomic classification:**  
**Taxon rank name:** Species  
**Taxon rank value:** tshawytscha  
**Applicable common names:** chinook  
 salmon or king salmon

**Taxonomic classification:**  
**Taxon rank name:** Genus  
**Taxon rank value:** Salvelinus

**Taxonomic classification:**  
**Taxon rank name:** Species  
**Taxon rank value:** malma  
**Applicable common names:** Dolly Varden

**Access constraints:** Contact the Point of Contact for data request form. 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:** John Joyce

**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:** john.joyce@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 Access database

[Back to Top](#)

---

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

N/A

**Completeness report:**

Pre-1980 total counts are known to be incomplete in some years. In some years wild and hatchery fish are included in the counts.

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

Request process and methodology description from distributor.

**Process date:** Unknown

[Back to Top](#)

---

**Entity and Attribute Information:****Detailed description:****Entity type:**

**Entity type label:** Adult Sockeye scale data

**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:**

**Attribute label:** Sample\_date

**Attribute definition:**

date sample was take

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Sample\_number

**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer



**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Card\_number  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
Database developer

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Scale\_number  
**Attribute definition:**  
Unique identifier for each sample# & card # not unique for entire database though  
**Attribute definition source:**  
Database developer

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Unique\_scale\_number  
**Attribute definition:**  
Unique identifier for each sample (primary key)  
**Attribute definition source:**  
Database developer

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**  
**Attribute label:** Length  
**Attribute definition:**

Mideye to tail fork length in mm

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Sex

**Attribute definition:**

male or female fish

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

Field source not limited to list.

**Attribute:**

**Attribute label:** FW\_age

**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Enumerated domain:**

**Enumerated domain value:** 0

**Enumerated domain value definition:**

0

**Enumerated domain value definition source:**

Database developer

**Attribute domain values:**

**Enumerated domain:**

**Enumerated domain value:** 1

**Enumerated domain value definition:**

1

**Enumerated domain value definition source:**

Database developer

**Attribute domain values:****Enumerated domain:****Enumerated domain value:** 2**Enumerated domain value definition:**

2

**Enumerated domain value definition source:**

Database developer

**Attribute domain values:****Enumerated domain:****Enumerated domain value:** 3**Enumerated domain value definition:**

3

**Enumerated domain value definition source:**

Database developer

**Attribute domain values:****Enumerated domain:****Enumerated domain value:** 4**Enumerated domain value definition:**

4

**Enumerated domain value definition source:**

Database developer

**Attribute:****Attribute label:** SW\_age**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

**Attribute domain values:****Enumerated domain:****Enumerated domain value:** 0**Enumerated domain value definition:**

0

**Enumerated domain value definition source:**

Database developer

**Attribute domain values:**

**Enumerated domain:****Enumerated domain value:** 1**Enumerated domain value definition:**

1

**Enumerated domain value definition source:**

Database developer

**Attribute domain values:****Enumerated domain:****Enumerated domain value:** 2**Enumerated domain value definition:**

2

**Enumerated domain value definition source:**

Database developer

**Attribute domain values:****Enumerated domain:****Enumerated domain value:** 3**Enumerated domain value definition:**

3

**Enumerated domain value definition source:**

Database developer

**Attribute domain values:****Enumerated domain:****Enumerated domain value:** 4**Enumerated domain value definition:**

4

**Enumerated domain value definition source:**

Database developer

**Attribute:****Attribute label:** Return\_age**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

Field source not limited to list.

**Attribute:****Attribute label:** Fecundity**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Detailed description:****Entity type:****Entity type label:** Auke Daily Upstream Weir Count**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:****Attribute label:** Date**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Sockeye Adult**Attribute definition:**

generally &gt;300mm

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Sockeye Jack**Attribute definition:**

generally &lt;300mm

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Pink Male**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Pink Female**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chum Male**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** Chum Female  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
Database developer

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** Chum Both  
**Attribute definition:**  
-no description-  
**Attribute definition source:**  
Database developer

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** Coho Adult  
**Attribute definition:**  
generally >300mm  
**Attribute definition source:**  
Database developer

**Attribute domain values:**  
**Unrepresentable domain:**  
No domain defined.

**Attribute:**

**Attribute label:** Coho Jack  
**Attribute definition:**  
generally <300mm

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Dolly Varden**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Cutthroat**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:****Attribute label:** Chinook Adult**Attribute definition:**

generally &gt;250mm

**Attribute definition source:**

Database developer

**Attribute domain values:****Unrepresentable domain:**

No domain defined.

**Attribute:**



**Attribute label:** Chinook Mini Jack

**Attribute definition:**

generally <250mm

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Steelhead

**Attribute definition:**

any size

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Chumpy

**Attribute definition:**

Chum X Pink hybrid

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** Freshwater Age

**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:**

**Attribute label:** FW age

**Attribute definition:**

Age of freshwater section (number of annuli)

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** Return ages

**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:**

**Attribute label:** return age

**Attribute definition:**

possible sockeye return ages

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

[Back to Top](#)

---

## Distribution Information:

**Distributor:**

**Contact information:**

**Contact person primary:**

**Contact person:** John Joyce

**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:** john.joyce@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:** 20080904**Metadata review date:** 20100316**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](#)