

## AFSC/ABL: Pink salmon data collected at Sashin Creek Weir 1934-2002

**Theme keywords:** biota, 002, Pink salmon, *Oncorhynchus gorbuscha*

**Abstract:** A database describing a 67-year time series for Sashin Creek pink salmon (*Oncorhynchus gorbuscha*) data is presented. The database details the survival and other biological parameters of the pink salmon population living in Sashin Creek, a pristine environment in Little Port Walter, Baranof Island, Alaska. We assembled all the published and unpublished biological and environmental data pertaining to this population, which has been evaluated almost continually by researchers since 1934. We developed a database using Microsoft Access that includes annual estimates of the freshwater and saltwater survival for these fish. The database contains the daily counts of the number of emigrating fry and escaping adults during their annual migrations since 1934, and their lengths, weights, or fecundity. Environmental parameters in the database include stream temperature, stream discharge, daily minimum and maximum air temperatures, and precipitation where Sashin Creek enters seawater at Little Port Walter. All records have been evaluated and transformed to ensure comparability. References for all data are provided, including unpublished sources. The Sashin Creek Weir Database (SCWDATA) can be accessed through the Internet.

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

- [Identification Information](#)
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- [Metadata Reference Information](#)

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### Identification Information:

**Citation:**

**Citation information:**

**Originators:** Robert Bradshaw, Ron Heintz, AFSC

**Title:**

AFSC/ABL: Pink salmon data collected at Sashin Creek Weir 1934-2002

**Publication date:** 200309

**Geospatial data presentation form:** maps or data

**Description:**

**Abstract:**

A database describing a 67-year time series for Sashin Creek pink salmon (*Oncorhynchus gorbuscha*) data is presented. The database details the survival and other biological parameters of the pink salmon population living in Sashin Creek, a pristine environment in Little Port Walter, Baranof Island, Alaska. We assembled all the published and unpublished biological and environmental data pertaining to this population, which has been evaluated almost continually by researchers since 1934. We developed a database using Microsoft Access that includes annual estimates of the freshwater and saltwater survival for these fish. The database contains the daily counts of the number of emigrating fry and escaping adults during their annual migrations since 1934, and their lengths, weights, or fecundity. Environmental parameters in the database include stream temperature, stream discharge, daily minimum and maximum air temperatures, and precipitation where Sashin Creek enters seawater at Little Port Walter. All records have been evaluated and transformed to ensure comparability. References for all data are provided, including unpublished sources. The Sashin Creek Weir Database (SCWDATA) can be accessed through the Internet.

**Purpose:**

We assembled all the published and unpublished biological and environmental data pertaining to this population, which has been evaluated almost continually by researchers since 1934.

**Time period of content:**

**Time period information:**

**Range of dates/times:**

**Beginning date:** 1934

**Ending date:** 2002

**Currentness reference:**

publication date

**Status:**

**Progress:** Complete

**Maintenance and update frequency:** None planned

**Spatial domain:**

**Description of geographic extent:**

Sashin Creek drains into Little Port Walter (Southeast Alaska), a small embayment on the eastern side of Baranof Island near its southern tip. The watershed is 13.4 km<sup>2</sup> in area, and ranges between sea level and 400 m elevation

with an average annual precipitation of more than 558 cm.

**Bounding coordinates:**

**West bounding coordinate:** -134.650617

**East bounding coordinate:** -134.650617

**North bounding coordinate:** 56.3808

**South bounding coordinate:** 56.37933

**Keywords:**

**Theme:**

**Theme keywords:** biota, 002

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

**Theme:**

**Theme keywords:** Pink salmon, Oncorhynchus gorboscha

**Theme keyword thesaurus:** None

**Place:**

**Place keywords:** Sashin Creek, Little Port Walter, Baranof Island, Alaska, AK

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

**Taxonomy:**

**Keywords/taxon:**

**Taxonomic keywords:** single 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:** [Gnathostomata](#)

**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:** [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:**

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:** Ron Heinz

**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:** ron.heinz@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 97 database

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**Data Quality Information:**

**Logical consistency report:**

The many changes in research objectives and fish processing technology in the years since counts began are reflected in the ways the counts and meristic measurements have been collected.

### Completeness report:

We have attempted to obtain accurate descriptions of how data were collected, and then standardized the data to simplify analysis. We have noted when data have been transformed and provide the equations used for the transformations. The following is a list of table names and the warnings to data contained in that table.

**AdultEsc:** Discrepancies exist between the sum of DayTot and the total escapement reported by Olson and McNeil (1967) for brood years 1932, 1939, 1940, and 1953. For these, we relied on the sum of DayTot to calculate TotalEsc and adjusted EstEsc accordingly. EstEsc underestimates the escapement for the 1977 brood because too many fish spawned intertidally to be counted.

**AvgSize:** Mean length of females from brood years 1966, 1973, 1975, 1976, 1977, and 1994 differ from averages obtained from the Fecundity table because the size of individuals taken to estimate fecundity differed from the population mean (t-test  $P < 0.05$ ). Similarly, mean weights of females from brood years 1976, 1978, and 1979 differ between the population and those fish selected to measure fecundity (t test  $P < 0.05$ ). AvgFecun is the mean of NumberEggs for a given year unless the mean length of the population differed from the sample taken to estimate AvgFecun. In brood years 1966, 1973, 1975, 1976, 1977, 1994, 1996, and 1997, the fecundities of the sampled females were regressed on their lengths to model the relationship between length and fecundity. AvgFecun was then calculated as the estimated fecundity of a female with a length equal to the population mean.

**DailyAdult:** The 1985 escapement had the sexes separate for the early part of the run, but after 24 August the sexes were combined. The 1986 and 1996 escapement had both sexed and unsexed fish for each day. We took the individually sexed fish to calculate the ratio of male to female fish for each day, then applied it to the unsexed fish. Where no dates are given, no fish were counted through the weir.

**DailyFry:** The 141 fry reported on 18 June 1967 represent the total for 1418 June.

The 7 fry reported on 15 June 1968 represent the total for 1215 June. Initial fry counts reported for broods 1942 and 1958 include all fry caught before 10 March.

Final fry counts for broods 1943, 1946, 1949, 1950, 1952, 1955, 1956, and 1960 include all fish observed after 17 June. Where no dates are given, no fry were observed.

**EnvironmentalObservations:** Precipitation recorded as trace of T in Olson and McNeil (1967) and Vallion et al. (1981) was entered numerically as 0.0127 cm (0.005 inch).

**FryEsc:** Discrepancies existed between the sum of the daily migrations versus the number migrating in Olson and McNeil (1967) for the following years: 1942, 1947, 1949, 1952, 1954, 1955, and 1956. For these years, we entered the sum of the daily migrations for number migrating (FryCreek) and adjusted the number released (FryReleased) to reflect the corrected number migrating. For the 1968 brood year, Vallion et al. (1981) recorded, "An estimated 1,048,044 fry were produced in the creek but only 1,007,044 were released after counting. Approximately 40,500 fry were held and fed at the research station and released later."

**Survival:** Discrepancies exist between EstEsc in AdultEsc and EstEsc in Survival in Olson and McNeil (1967) for the 1940 and 1953 brood years. For these, we relied on the sum of DayTotal in DailyAdult to calculate TotalEsc and adjusted EstEsc accordingly in AdultEsc and Survival. For brood years 1971, 1972, 1974, 1975, 1976, and 1978 unmarked hatchery-produced fry, FryHatchery, were added to FryCreek for fry released, FryReleased. For the 1972-brood year, the total fry released was incorrect in Vallion et. al. (1981); we changed FryReleased to reflect the sum of FryCreek and

FryHatchery. The value reported for the 1945 brood year FryCreek in the freshwater and saltwater survival table in Olson and McNeil (1967) was incorrect; it should have been 43,012, not 43,102.

For brood years 1941, 1946, 1948, 1951, 1953, 1954, 1955, 1962, 1963, and 1967 we changed the values reported by Olson and McNeil (1967) for FryCreek and FryReleased in Survival to reflect the correct values given in FryEsc. PED-Fry and FryAdult were also adjusted to reflect the corrected values. The sum of the daily fry migration for 1967 was not used for FryCreek, instead the estimated hydraulic sample value was used. Olson and McNeil (1967) used 2,000 as the value for average fecundity to estimate PED for brood years where fecundity was observed in less than 20 females. Estimates of FryAdult are not provided for brood years 1946, 1950, 1952, 1954, and 1960 because adults arriving at the weir were thought to be straying fish. Values for FemaleCreek, beginning with the 1960 brood year, are observed counts. Earlier values are estimated as the sum of Female in DailyAdult.

### Lineage:

#### Methodology:

##### Methodology type:

Field

##### Methodology description:

Actual egg deposition, or the actual number of eggs deposited in the spawning beds, was estimated by hydraulically sampling the spawning area after fish entered the stream, but before hatching.

#### Methodology:

##### Methodology type:

Field

##### Methodology description:

The minimum and maximum air temperatures (C) recorded at the Little Port Walter weather station approximately 1 km downstream from the weir.

#### Methodology:

##### Methodology type:

Field

##### Methodology description:

Average mideye to fork of tail length (mm) of adult pink salmon sampled periodically at the weir. Average weight (kg) of adult pink salmon sampled periodically at the weir.

#### Process step:

##### Process description:

See methodology section for description of all measurements in database.

**Process date:** Unknown

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## Entity and Attribute Information:

### Detailed description:

#### Entity type:

**Entity type label:** AdultEsc

**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

#### Attribute:

**Attribute label:** BroodYr

**Attribute definition:**

Brood year is the year that the pink salmon eggs were fertilized.

**Attribute definition source:**

Database developer

#### Attribute domain values:

**Range domain:**

**Range domain minimum:** 1932

**Range domain maximum:** 2000

**Attribute units of measure:** 'year'

#### Attribute:

**Attribute label:** ReturnYr

**Attribute definition:**

Return year is the year the pink salmon returned as adults, which is always the brood year plus 2 years.

Return year of one cohort equals the brood year for their offspring.

**Attribute definition source:**

Database developer

#### Attribute domain values:

**Range domain:**

**Range domain minimum:** 1934

**Range domain maximum:** 2020

**Attribute units of measure:** 'year'

#### Attribute:

**Attribute label:** StartDate

**Attribute definition:**

Start date is the beginning date of weir operations, usually before the first pinks are passed through the weir.



**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 8/17/1934**Range domain maximum:** 8/17/2002**Attribute units of measure:** 'date'**Attribute:****Attribute label:** EndDate**Attribute definition:**

End date is the last date of weir operations, typically a few days after the last fish was passed through the weir.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 9/19/1934**Range domain maximum:** 10/02/2002**Attribute units of measure:** 'date'**Attribute:****Attribute label:** TotalEsc**Attribute definition:**

Uncorrected estimate of the total adult pink salmon escapement for a given year based on the total number of fish counted at the weir.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 8**Range domain maximum:** 154822**Attribute units of measure:** 'number'**Attribute:****Attribute label:** EstEsc**Attribute definition:**

Estimated escapement is based on the total escapement (TotalEsc) plus estimates of fish entering the creek

while gates and stoplogs in the weir were being cleaned or removed...

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 8

**Range domain maximum:** 114442

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** Midpoint

**Attribute definition:**

Midpoint is the date when 50% of pink salmon from the total escapement entered the creek. Note that objectives for weir operation and run size will influence the rate at which fish are passed into the creek.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 9/6/1934

**Range domain maximum:** 9/05/2002

**Attribute units of measure:** 'date'

**Attribute:**

**Attribute label:** DataCode

**Attribute definition:**

Data code is the numeric code that identifies the source of data, including published and unpublished data.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** AvgSize

**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:**

**Attribute label:** BroodYr

**Attribute definition:**

Brood year is the year that the pink salmon eggs were fertilized.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 1932

**Range domain maximum:** 2000

**Attribute units of measure:** 'year'

**Attribute:**

**Attribute label:** ReturnYr

**Attribute definition:**

Return year is the year the pink salmon returned as adults, which is always the brood year plus 2 years.

Return year of one cohort equals the brood year for their offspring.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 1934

**Range domain maximum:** 2002

**Attribute units of measure:** 'year'

**Attribute:**

**Attribute label:** MaleLn

**Attribute definition:**

Average middle of eye to fork of tail length (mm) of adult male pink salmon periodically sampled at the weir

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 0

**Range domain maximum:** 524.78

**Attribute units of measure:** 'mm'

**Attribute:****Attribute label:** MaleWt**Attribute definition:**

Average weight (kg) of adult male pink salmon periodically sampled at the weir.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0**Range domain maximum:** 2.42**Attribute units of measure:** 'kg'**Attribute:****Attribute label:** FemaleLn**Attribute definition:**

Average middle of eye to fork of tail length (mm) of adult female pink salmon periodically sampled at the weir.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0**Range domain maximum:** 530.25**Attribute units of measure:** 'mm'**Attribute:****Attribute label:** FemaleWt**Attribute definition:**

Average weight (kg) of adult female pink salmon periodically sampled at the weir.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0**Range domain maximum:** 2.18**Attribute units of measure:** 'kg'**Attribute:**

**Attribute label:** AvgFecun

**Attribute definition:**

Average fecundity of female pink salmon for a given year was estimated from fish sampled at the weir.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 0

**Range domain maximum:** 2298

**Attribute units of measure:** 'number'

**Detailed description:**

**Entity type:**

**Entity type label:** DailyAdult

**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:**

**Attribute label:** BroodYr

**Attribute definition:**

Brood year is the year that the pink salmon eggs were fertilized

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 1932

**Range domain maximum:** 2000

**Attribute units of measure:** 'year'

**Attribute:**

**Attribute label:** ReturnYr

**Attribute definition:**

Return year is the year the pink salmon returned as adults, which is always the brood year plus 2 years.

Return year of one cohort equals the brood year for their offspring.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 1934**Range domain maximum:** 2002**Attribute units of measure:** 'year'**Attribute:****Attribute label:** Day**Attribute definition:**

Specific date that the data were collected

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 8/18/1934**Range domain maximum:** 10/2/2002**Attribute units of measure:** 'date'**Attribute:****Attribute label:** Male**Attribute definition:**

Number of adult male pink salmon counted through the Sashin Creek weir on a given Day.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0**Range domain maximum:** 1278**Attribute units of measure:** 'number'**Attribute:****Attribute label:** Female**Attribute definition:**

Number of adult female pink salmon counted through the Sashin Creek weir on a given Day.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:**

**Range domain minimum:** 0  
**Range domain maximum:** 8467  
**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** DayTotal

**Attribute definition:**

Total number of fish counted through the weir on a given Day calculated as the sum of Male and Female.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 0

**Range domain maximum:** 22688

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** DataCode

**Attribute definition:**

Data code is the numeric code that identifies the source of data, including published and unpublished data.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** DailyFry

**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:**

**Attribute label:** BroodYr

**Attribute definition:**

Brood year is the year that the pink salmon eggs were fertilized.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 1932

**Range domain maximum:** 2000

**Attribute units of measure:** 'year'

**Attribute:**

**Attribute label:** Day

**Attribute definition:**

Specific date that the data were collected

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 8/18/1934

**Range domain maximum:** 10/02/2002

**Attribute units of measure:** 'date'

**Attribute:**

**Attribute label:** NumberFry

**Attribute definition:**

Daily number of fry emigrating from Sashin Creek

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 0

**Range domain maximum:** 644286

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** DataCode

**Attribute definition:**

Data code is the numeric code that identifies the source of data, including published and unpublished data.

**Attribute definition source:**

Database developer



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

No domain defined.

**Detailed description:****Entity type:****Entity type label:** Environmental Observations**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:****Attribute label:** Day**Attribute definition:**

Specific date that the data were collected

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 8/18/1934**Range domain maximum:** 10/2/2002**Attribute units of measure:** 'date'**Attribute:****Attribute label:** AirMin**Attribute definition:**

Minimum air temperature (oC) at Little Port Walter was recorded at a weather station approximately 1 km downstream from the weir.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** -17.8**Range domain maximum:** 17.8**Attribute units of measure:** 'degree C'**Attribute:****Attribute label:** AirMax

**Attribute definition:**

Maximum air temperature (oC) at Little Port Walter was recorded at a weather station approximately 1 km downstream from the weir

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:**

**Range domain minimum:** -13.3

**Range domain maximum:** 31.1

**Attribute units of measure:** 'degree C'

**Attribute:**

**Attribute label:** AirAvg

**Attribute definition:**

Average air temperature (oC) at Little Port Walter was calculated from the minimum and maximum air temperatures recorded at a weather station approximately 1 km downstream from the weir

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:**

**Range domain minimum:** -14.4

**Range domain maximum:** 21.4

**Attribute units of measure:** 'degree C'

**Attribute:**

**Attribute label:** Precip

**Attribute definition:**

Daily precipitation (cm) at Little Port Walter was recorded at a weather station approximately 1 km downstream from the weir

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:**

**Range domain minimum:** 0

**Range domain maximum:** 37.6936

**Attribute units of measure:** 'cm'

**Attribute:**

**Attribute label:** WaterAvg

**Attribute definition:**

Average water temperature (oC) for Sashin Creek, calculated from the minimum and maximum water temperatures recorded 76 m upstream from the weir.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** -1.7

**Range domain maximum:** 18.9

**Attribute units of measure:** 'degree C'

**Attribute:**

**Attribute label:** CreekDischarge

**Attribute definition:**

Water flow (m<sup>3</sup>/ s) of Sashin Creek, recorded at a gauging station located 950 m upstream from the weir.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 0.07079

**Range domain maximum:** 36.8119

**Attribute units of measure:** 'm<sup>3</sup>/s'

**Detailed description:**

**Entity type:**

**Entity type label:** Fecundity

**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:**

**Attribute label:** BroodYr

**Attribute definition:**

Brood year is the year that the pink salmon eggs were fertilized

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 1932**Range domain maximum:** 2000**Attribute units of measure:** 'year'**Attribute:****Attribute label:** ReturnYr**Attribute definition:**

Return year is the year the pink salmon returned as adults, which is always the brood year plus 2 years.  
Return year of one cohort equals the brood year for their offspring.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 1934**Range domain maximum:** 2002**Attribute units of measure:** 'year'**Attribute:****Attribute label:** Day**Attribute definition:**

Specific date that the data were collected.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 8/18/1934**Range domain maximum:** 10/2/2002**Attribute units of measure:** 'date'**Attribute:****Attribute label:** RawLength**Attribute definition:**

Original fish length (mm) as originally recorded. Table 3 describes the different morphological features used to obtain lengths

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0**Range domain maximum:** 627**Attribute units of measure:** 'mm'**Attribute:****Attribute label:** LengthCode**Attribute definition:**

Length code is a numeric code, which describes the morphological features used to measure raw length. See table 3 for code definitions.

**Attribute definition source:**

Database developer

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

No domain defined.

**Attribute:****Attribute label:** MEFT**Attribute definition:**

Middle of eye to fork of tail (MEFT) is the standard morphological feature used in this database to measure length (mm). All lengths not originally recorded as MEFT have been converted to this for ease in comparison of lengths.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 337.94**Range domain maximum:** 584**Attribute units of measure:** 'mm'**Attribute:****Attribute label:** ConversionCode**Attribute definition:**

Conversion code is the numeric code which describes the regression equation used to convert raw fish length measurements to the standardized middle of eye to fork of tail measurements

**Attribute definition source:**

Database developer

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

No domain defined.

**Attribute:****Attribute label:** Weight**Attribute definition:**

Weight (kg) of whole fish.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0.55**Range domain maximum:** 2.84**Attribute units of measure:** 'kg'**Attribute:****Attribute label:** RightOvary**Attribute definition:**

Number of eggs contained in the right ovary of the 1933 brood year pink salmon.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0**Range domain maximum:** 1239**Attribute units of measure:** 'number'**Attribute:****Attribute label:** LeftOvary**Attribute definition:**

Number of eggs contained in the left ovary of the 1933 brood year pink salmon.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0**Range domain maximum:** 1278

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** EggWeight

**Attribute definition:**

Egg weight (g) is total weight of eggs and scane in right and left ovaries combined

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 0

**Range domain maximum:** 485

**Attribute units of measure:** 'g'

**Attribute:**

**Attribute label:** NumberEggs

**Attribute definition:**

Total number of eggs in each randomly selected, unspawned female taken at the weir.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 609

**Range domain maximum:** 3026

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** DataCode

**Attribute definition:**

Data code is the numeric code that identifies the source of data, including published and unpublished data.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Detailed description:**

**Entity type:**

**Entity type label:** FryEsc

**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:**

**Attribute label:** BroodYr

**Attribute definition:**

Brood year is the year that the pink salmon eggs were fertilized

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 1932

**Range domain maximum:** 2000

**Attribute units of measure:** 'year'

**Attribute:**

**Attribute label:** EmigrationYr

**Attribute definition:**

Emigration year is the year that the fry were counted at the weir, which is always one year later than the brood year.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 1941

**Range domain maximum:** 1996

**Attribute units of measure:** 'year'

**Attribute:**

**Attribute label:** FryCreek

**Attribute definition:**

The number of fry emigrating from Sashin Creek

**Attribute definition source:**

Database developer

**Attribute domain values:**



**Range domain:****Range domain minimum:** 50**Range domain maximum:** 5940288**Attribute units of measure:** 'number'**Attribute:****Attribute label:** FryReleased**Attribute definition:**

Number of fry released to salt water is based on the sum of FryCreek and FryHatchery minus the number of fry killed by the weir operations or taken for experiments.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0**Range domain maximum:** 5923231**Attribute units of measure:** 'number'**Attribute:****Attribute label:** FryCreek90%CI**Attribute definition:**

90% confidence interval for the number of fry produced in the creek when the fry estimates were based on hydraulic sampling

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 6778**Range domain maximum:** 612712**Attribute units of measure:** 'CI'**Attribute:****Attribute label:** DataCode**Attribute definition:**

Data code is the numeric code that identifies the source of data, including published and unpublished data. See Table 5 for code definitions.

**Attribute definition source:**

Database developer

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

No domain defined.

**Detailed description:****Entity type:**

**Entity type label:** Length Weight

**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:**

**Attribute label:** BroodYr

**Attribute definition:**

Brood year is the year that the pink salmon eggs were fertilized

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:**

**Range domain minimum:** 1932

**Range domain maximum:** 2000

**Attribute units of measure:** 'year'

**Attribute:**

**Attribute label:** ReturnYr

**Attribute definition:**

Return year is the year the pink salmon returned as adults, which is always the brood year plus 2 years.

Return year of one cohort equals the brood year for their offspring.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:**

**Range domain minimum:** 1934

**Range domain maximum:** 2002

**Attribute units of measure:** 'year'

**Attribute:**

**Attribute label:** Day

**Attribute definition:**

Specific date that the data were collected

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:**

**Range domain minimum:** 8/18/1934

**Range domain maximum:** 10/02/2002

**Attribute units of measure:** 'date'

**Attribute:**

**Attribute label:** Sex

**Attribute definition:**

Sex of each pink salmon F=Female, M=Male, U=Unknown

**Attribute definition source:**

Database developer

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

No domain defined.

**Attribute:**

**Attribute label:** RawLength

**Attribute definition:**

Original fish length (mm) as originally recorded

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:**

**Range domain minimum:** 0

**Range domain maximum:** 627

**Attribute units of measure:** 'mm'

**Attribute:**

**Attribute label:** LengthCode

**Attribute definition:**

Length code is a numeric code, which describes the morphological features used to measure raw length. See table 3 for code definitions.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** MEFT

**Attribute definition:**

Middle of eye to fork of tail (MEFT) is the standard morphological feature used in this database to measure length (mm). All lengths not originally recorded as MEFT have been converted to this for ease in comparison of lengths.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 337.94

**Range domain maximum:** 584

**Attribute units of measure:** 'mm'

**Attribute:**

**Attribute label:** ConversionCode

**Attribute definition:**

Conversion code is the numeric code which describes the regression equation used to convert raw fish length measurements to the standardized middle of eye to fork of tail measurements.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

**Attribute:**

**Attribute label:** Weight

**Attribute definition:**

Weight (kg) of whole fish.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:****Range domain minimum:** 0.55**Range domain maximum:** 2.84**Attribute units of measure:** 'kg'**Attribute:****Attribute label:** DataCode**Attribute definition:**

Data code is the numeric code that identifies the source of data, including published and unpublished data.

**Attribute definition source:**

Database developer

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

No domain defined.

**Detailed description:****Entity type:****Entity type label:** Length\_Weight\_ExportErrors**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:****Attribute label:** Error**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

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

No domain defined.

**Attribute:****Attribute label:** Field**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

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

No domain defined.

**Attribute:****Attribute label:** Row**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

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

No domain defined.

**Detailed description:****Entity type:****Entity type label:** Length\_Weight\_ExportErrors1**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:****Attribute label:** Error**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

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

No domain defined.

**Attribute:****Attribute label:** Field**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

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

No domain defined.

**Attribute:****Attribute label:** Row**Attribute definition:**

-no description-

**Attribute definition source:**

Database developer

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

No domain defined.

**Detailed description:****Entity type:****Entity type label:** Survival**Entity type definition:**

-no description-

**Entity type definition source:**

Database developer

**Attribute:****Attribute label:** BroodYr**Attribute definition:**

Brood year is the year that the pink salmon eggs were fertilized.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 1932**Range domain maximum:** 2000**Attribute units of measure:** 'year'**Attribute:****Attribute label:** PED**Attribute definition:**

Potential egg deposition equals the potential number of eggs that could be laid into the creek obtained as the

product of AvgFecun and FemaleCreek. When fecundity was observed in less than 20 fish, PED was calculated as 2,000 times FemaleCreek.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 8000

**Range domain maximum:** 112331880

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** AED

**Attribute definition:**

Actual egg deposition or the actual number of eggs deposited in the spawning beds was estimated by hydraulically sampling the spawning area after fish entered the stream, but before hatching.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 507959

**Range domain maximum:** 22666222

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** AED90%CI

**Attribute definition:**

90% confidence interval for actual egg deposition (AED).

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 141566

**Range domain maximum:** 1900272

**Attribute units of measure:** 'CI'

**Attribute:**

**Attribute label:** AED/PED

**Attribute definition:**



The proportion of a given brood's reproductive potential that was actually deposited into spawning substrate measured as the ratio of AED/PED and expressed as percent.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 16.8

**Range domain maximum:** 55

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** Embryos

**Attribute definition:**

Number of embryos hatched in the creek, which was estimated by hydraulic sampling. See McNeil (1964) for method.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 2337775

**Range domain maximum:** 14141721

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** Embryos90%CI

**Attribute definition:**

90% confidence interval of the number of embryos hatched in the creek.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 542802

**Range domain maximum:** 154521

**Attribute units of measure:** 'CI'

**Attribute:**

**Attribute label:** PED-Hatch

**Attribute definition:**

Survival from PED to hatching calculated from the ratio of Embryos/PED and expressed as percent

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 26.13

**Range domain maximum:** 54.74

**Attribute units of measure:** '%'

**Attribute:**

**Attribute label:** FryCreek

**Attribute definition:**

The number of fry emigrating from Sashin Creek

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 50

**Range domain maximum:** 5940288

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** FryCreek90%CI

**Attribute definition:**

90% confidence interval for the number of fry produced in the creek when the fry estimates were based on hydraulic sampling

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 6778

**Range domain maximum:** 612712

**Attribute units of measure:** 'CI'

**Attribute:**

**Attribute label:** FryHatchery

**Attribute definition:**

Number of fry produced in the hatchery at LPW and released into the estuary

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0**Range domain maximum:** 681764**Attribute units of measure:** 'number'**Attribute:****Attribute label:** PED-Fry**Attribute definition:**

Survival between unfertilized egg and emergence measured as the ratio of frycreek/ped and expressed as percent

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0.06**Range domain maximum:** 21.75**Attribute units of measure:** '%'**Attribute:****Attribute label:** FryReleased**Attribute definition:**

Number of fry released to salt water is based on the sum of FryCreek and FryHatchery minus the number of fry killed by the weir operations or taken for experiments.

**Attribute definition source:**

Database developer

**Attribute domain values:****Range domain:****Range domain minimum:** 0**Range domain maximum:** 5923231**Attribute units of measure:** 'number'**Attribute:****Attribute label:** ReturnYr**Attribute definition:**

Return year is the year the pink salmon returned as adults, which is always the brood year plus 2 years.

Return year of one cohort equals the brood year for their offspring.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 1934

**Range domain maximum:** 2002

**Attribute units of measure:** 'year'

**Attribute:**

**Attribute label:** EstEsc

**Attribute definition:**

Estimated escapement is based on the total escapement (TotalEsc) plus estimates of fish entering the creek while gates

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 8

**Range domain maximum:** 114442

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** FemaleCreek

**Attribute definition:**

Number of adult females captured at the weir then released into Sashin Creek

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 4

**Range domain maximum:** 56400

**Attribute units of measure:** 'number'

**Attribute:**

**Attribute label:** Fry-Adult

**Attribute definition:**

Percent survival from fry to adult, which is the number of fry released to salt water divided by the estimated

total escapement of the returning adults multiplied by 100.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Range domain:**

**Range domain minimum:** 0.17

**Range domain maximum:** 23.1

**Attribute units of measure:** '%'

**Attribute:**

**Attribute label:** DataCode

**Attribute definition:**

Data code is the numeric code that identifies the source of data, including published and unpublished data.

See Table 5 for code definitions.

**Attribute definition source:**

Database developer

**Attribute domain values:**

**Unrepresentable domain:**

No domain defined.

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## Distribution Information:

**Distributor:**

**Contact information:**

**Contact person primary:**

**Contact person:** Robert Bradshaw

**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:** robert.bradshaw@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.

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**Metadata Reference Information:**

**Metadata date:** 20080909

**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

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