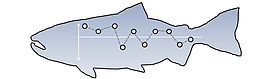
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## Keogh River Database Metadata

October 2018



## Introduction

The Keogh river located in the northeast of Vancouver Island, British Columbia has been sampled for a variety of species from 1976 to 2017 survey years. Simon Fraser University, British Columbia Ministry of Environment and Climate Change and InStream Consulting have collected data using floating fences, kelt traps, electrofishing and angling to sample over 2.85 million fish and were compiled into a comprehensive database. The Keogh database includes the following species throughout their life stages: steelhead (*Oncorhynchus mykiss),* pink salmon (*Oncorhynchus gorbuscha)*, sockeye salmon (*Oncorhynchus nerka),* chum (*Oncorhynchus keta)*, coho salmon (*Oncorhynchus kisutch)*, dolly varden (*Salvelinus malma)*, Coastal cutthroat trout (*Oncorhynchus clarkii)*, prickly sculpin (*Cottus asper),* Coastrange sculpin (*Cottus aleuticus*), lamprey (species unknown), stickleback (species unknown), crayfish (species unknown). All records within the database have undergone an extensive quality assurance quality checked (qa/qc) process to minimize errors and attempt to create consistency between the 42 years of data collection. The original data has been consolidated into an excel spreadsheet deriving from hardcopy data, Lotus summary spreadsheets and electronic data files. The qa/qc process consisted of round 1 and round 2 each requiring deliberate steps to minimize errors within the data and maximize consistency throughout the years.

This document contains:

1. Data Summaries
2. Metadata
3. Quality Assurance Process
4. Data Specifics per Year

## Acknowledgements

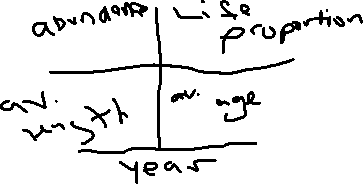
## Data Summaries

Figure 1. Plot comparing the average species abundance of Steelhead, Dolly Varden, Coho and Cutthroat from 1975-2017.

Figure 2. \*\*\* Need to be edited onto same axis

Figure 3. Maybe ggplot2 one with smolt/parr other stacked on top with adult/kelt.

Chart 3: include: proportion of lifestages? Think about potentially



## Keogh Database Metadata

Year

|  |  |
| --- | --- |
| Definition | Collection year. |
| Value Type | Date |
| Format | YYYY |

River

|  |  |
| --- | --- |
| Definition | River location of data collections. |
| Value Type | Text |
| Format | Keogh |
|  |  |

Date

|  |  |
| --- | --- |
| Definition | Day, month and year data was collected. |
| Value Type | Date |
| Format | dd-mmm-yy |

Location

|  |  |
| --- | --- |
| Definition | Reference to specific fish capture location along the river. The code refers to floating fence locations along river with permanent traps located either upstream or downstream: t1d/s (trap 1 downstream, t2u/s, trap 2 upstream); or a specific name given to capture location. |
| Value Type | Number and text |
| Code | t1d/s, t2d/s, t1u/s, t2u/s, specific name of location |
|  |  |

RK Capture

|  |  |
| --- | --- |
| Definition | Refers to first time capture of fish or multiple captures: 0=new fish, 1=recapture fish, blank= not determined. |
| Value Type | Number |
| Code | 0, 1, blank |

Method

|  |  |
| --- | --- |
| Definition | Reference to capture type of individual fish. |
| Value Type | Text |
| Code | Angled, eagle kill, electrofishing, gulper, kelt trap, netted, rst, seine, trap. |

Direction

|  |  |
| --- | --- |
| Definition | Refers to fish capture location in reference to the floating fences. |
| Value Type | Text |
| Code | d (downstream), u (upstream), blank |

Species Code

|  |  |
| --- | --- |
| Definition | Refers to fish species and life stage. Species specifics: steelhead (*Oncorhynchus mykiss),* pink salmon (*Oncorhynchus gorbuscha)*, sockeye salmon (*Oncorhynchus nerka),* chum (*Oncorhynchus keta)*, coho salmon (*Oncorhynchus kisutch)*, dolly varden (*Salvelinus malma)*, Coastal cutthroat trout (*Oncorhynchus clarkii)*, prickly sculpin (*Cottus asper),* Coastrange sculpin (*Cottus aleuticus*), lamprey (species unknown), stickleback (species unknown), crayfish (species unknown). Lifestage specifics: a= adult, k=kelt, s=smolt, p=parr, f=fry, j=juvenile, u=unknown. |
| Value Type | Text |
| Code | sha=steelhead adult, shk=steelhead kelt, shp= steelhead parr, shs=steelhead smolt, shf=steelhead fry, shj=steelhead juvenile, shu=steelhead unknown, coa= coho adult, cos= coho smolt, cop= coho parr, cof= coho fry, coj= coho juvenile, cou= coho unknown, dva= dolly varden char adult, dvs= dolly varden char smolt, dvp= dolly varden char parr, dvf= dolly varden char fry, cta= coastal cutthroat trout adult, ctk= coastal cutthroat kelt, cts= coastal cutthroat trout smolt, ctp= coastal cutthroat parr, ctj= coastal cutthroat juvenile, ctu= coastal cutthroat unknown, cas= prickly sculpin, cal= coastrange sculpin, lam= lamprey, stb= stickleback, pka= pink salmon adult, pku= pink salmon unknown, cha= chum adult, sockeye= sockeye, cray= crayfish, unk= unknown. Undetermined fish codes= cf, ctt, ctr, ks, shwres, shlgbres, cot. |

Fish Code

|  |  |
| --- | --- |
| Definition | Unique identifier for individual fish. |
| Value Type | Number and text. |
| Format | Species\_code.#individual |
|  |  |

Fork Length

|  |  |
| --- | --- |
| Definition | Refers to length of fish from snout to the end of the middle caudal fin. |
| Value Type | Number |
| Unit | Millimetres |

Weight

|  |  |
| --- | --- |
| Definition | Weight of fish. |
| Value Type | Number |
| Unit | Grams |

Number

|  |  |
| --- | --- |
| Definition | Number of fish caught per day. |
| Value Type | Number |
| Code | 1 to infinity, blank |

Trap Fishing

|  |  |
| --- | --- |
| Definition | Refers to fish caught in a trap versus another capture method; true= caught in trap, false= capture methods excluding trap. |
| Value Type | Text |
| Code | True, false, blank |

Alive

|  |  |
| --- | --- |
| Definition | Refers to alive or dead fish; true= alive, false= mortality. |
| Value Type | Text |
| Code | True, false, blank. |
|  |  |

Catch Type

|  |  |
| --- | --- |
| Definition | Defines mark applied to fish for recapture data collections. |
| Value Type | Text |
| Code | a = a mark was applied, r = recapture fish, r/a= recapture/mark applied, u = no part of the fish was marked (unmarked). The fish was not previously marked, and no mark was applied. |

Mark Code

|  |  |
| --- | --- |
| Definition | If catch type was= A then mark code was applied to define type of mark; may refer to mark location on fish. |
| Value Type | Text |
| Code | adipose, caudal, caudal punch, left punch, operculum, pit, spaghetti, right punch. Cwt= coded wire tag, pit= passive integrated transponder, spag= spaghetti tag, ucc= upper caudal clip, lco= lower caudal orange vie tag, lcg= lower caudal green vie tag |
|  |  |

Pit Tag

|  |  |
| --- | --- |
| Definition | Unique identifier found on the individual unit and consists of a series of numbers. |
| Value Type | Number |
| Code | 0 to infinity |

Sex

|  |  |
| --- | --- |
| Definition | Sex of individual fish. |
| Value Type | Text |
| Format | Female, male, blank |
| Code | f, m, blank |

Scale

|  |  |
| --- | --- |
| Definition | Refers to scale collections taken from individual fish. |
| Value Type | Text |
| Format | yes, no, blank |
| Code | y, n, blank |

Scale Code

|  |  |
| --- | --- |
| Definition | References the location of the scale within a mount. |
| Value Type | Number |
| Format | YYYY.Book.Page.Square |
| Code | 2003.1.1.1 |

Scale ID

|  |  |
| --- | --- |
| Definition | Unique identifier used across multiple and refers to an individual fish. |
| Value Type | Number and text. |
| Format | YYYY.”fish code” |
| Code | 2001.shp001 |

Genetic

|  |  |
| --- | --- |
| Definition | Genetic sample taken from an individual fish. |
| Value Type | Text |
| Format | Yes, no, lost, blank |
| Code | y, n, lost, blank |
|  |  |

Bright

|  |  |
| --- | --- |
| Definition | Scale of brightness of individual fish. |
| Value Type | Number |
| Code | 0 to 8, blank |

Ripe

|  |  |
| --- | --- |
| Definition | Scale of ripeness of individual fish. |
| Value Type | Number |
| Code | 0 to 6, blank |

Condition

|  |  |
| --- | --- |
| Definition | Overall condition of the individual fish. |
| Value Type | Number and text |
| Code | 1 to 5, 1-1, 2-2, 3-2, vg= very good, g= good, m= moderate, p= poor and f= fair. |

Tag

|  |  |
| --- | --- |
| Definition | Unique identifier found on tag units and refer to spaghetti tag, lower caudal orange vie tag or lower caudal green vie tag. |
| Value Type | Number and text |
| Code | 0 to infinity, b#, d#, r#, g#, l#, r#, p#, tag#, w# and y#. |

Tag Colour External

|  |  |
| --- | --- |
| Definition | Colour of tag used. |
| Value Type | Text |
| Code | Blue, orange, yellow, green, pink, purple, red, silver and white. |

Tag Type Internal

|  |  |
| --- | --- |
| Definition | Tag type inserted into an individual. |
| Value Type | Number and text |
| Code | 0 to infinity |

Angler

|  |  |
| --- | --- |
| Definition | Name of person who caught the fish. |
| Value Type | Text. |
| Format | First name, last name |

Comments

|  |  |
| --- | --- |
| Definition | Any additional comments found on datasheets made by field technician. |
| Value Type | Text. |

Hatchery

|  |  |
| --- | --- |
| Definition | Wild fish or a fish that was reared within a hatchery. |
| Value Type | Number |
| Format | 0=wild, 1=hatchery |
| Code | 0, 1, blank |

Fresh Age

|  |  |
| --- | --- |
| Definition | Number years fish spent in fresh water. |
| Value Type | Number and text |
| Code | 1 to 6, r= re-age scale |

Ocean Age

|  |  |  |
| --- | --- | --- |
| Definition | Number years fish spent in the ocean; s= spawning event, r= re-age scale. |  |
| Value Type | Number and text |  |
| Code | 1 to 4, 1s, 1s1, 1s2, 1ss, 1ss1, 1sss, 1sss1, 2s, 2ss, 2ss1, 2s1, 2s2, s1s1, s1, s2, r, r.1, r.1s1, r.2, r.3, ss1, sss. |  |

1 Ager

|  |  |
| --- | --- |
| Definition | Fresh age plus ocean age equals the 1\_ager. First scale reading; s= spawning event, r= re-age scale. |
| Value Type | Number and text |
| Format | Fresh.ocean |
| Code | 1 to 9.2, 1.1s, 1.1s1, 1.1s2, 1.s1, 1.1s2, 1.1ss, 1.1ss1, 1.2s, 1.2s1, 1.2s3, 1.2ss, 1.ss1, 2.1s, 2.1s1, 2.1s2, 2.1ss, 2.1ss1, 2.1sss, 2.1sss1, 2.2s, 2.2s2, 2.2ss, 2.3s1, 2.s1, 2.s1s, 2.s2, 2.ss1, 3.1s, 3.1s1, 3.1s1s1, 3.1ss, 3.1ss1, 3.1sss, 3.2s, 3.2s1, 3.2s2, 3.2ss, 3.2ss1, 3.3s, 3.3s1, 3.s, 3.s1, 3.s2, 3.s2s, 3.s3, 3.ss1, 4.1s, 4.1s1, 4.1s1s, 4.1ss, 4.2s, 4.2s1, 4.2ss, r, r.1, r.2, r.3, r.1s, r.1s1, r.1s1s, r.1s2, r.1ss, r.1ss1, r.1sss, r.1sss1, r.2s1, r.2s, r.2s1. |

2 Ager

|  |  |
| --- | --- |
| Definition | Second scale reading done separately from the first scale reading; s= spawning event, r= re-age scale. |
| Value Type | Number and text |
| Format | Fresh.ocean |
| Code | 1 to 9.2, 1.1s, 1.1s1, 1.1s2, 1.s1, 1.1s2, 1.1ss, 1.1ss1, 1.2s, 1.2s1, 1.2s3, 1.2ss, 1.ss1, 2.1s, 2.1s1, 2.1s2, 2.1ss, 2.1s1s, 2.1ss1, 2.1sss, 2.1sss1, 2.s, 2.2s, 2.2s2, 2.2s1, 2.2ss, 2.3s1, 2.s1, 2.s1s, 2.s2, 2.ss1, 3.1s, 3.1s1, 3.1s1s1, 3.1ss, 3.1ss1, 3.1sss, 3.2s, 3.2s1, 3.2s2, 3.2ss, 3.2ss1, 3.3s, 3.3s1, 3.s, 3.s1, 3.s2, 3.s2s, 3.s3, 3.ss1, 4.1s, 4.1s1, 4.1s2, 4.1s1s, 4.1ss, 4.2s, 4.2s1, 4.2ss, 4.3s1, r, r.1, r.2, r.3, r.1s, r.ss1, r.sss1, r.1s1, r.1s1s, r.1s2, r.1ss, r.1ss1, r.1sss, r.1sss1, r.2s1, r.2s, r.2s1. |

Tiebreaker

|  |  |
| --- | --- |
| Definition | Third scale reading done by an experienced ager if discrepancies occurred between the first ager and the second ager or a third reading done for quality assurance purposes; s= spawning event, r= re-age scale. |
| Value Type | Number and text |
| Format | Fresh.ocean |
| Code | 1 to 9.2, 1.1s, 1.1s1, 1.1s2, 1.s1, 1.1s2, 1.1ss, 1.1ss1, 1.ss2, 1.2s, 1.2s1, 1.2s3, 1.2ss, 1.ss1, 2.1s, 2.1s1, 2.1s2, 2.1ss, 2.1s1s, 2.1ss1, 2.1sss, 2.1sss1, 2.s, 2.2s, 2.2s2, 2.2s1, 2.2ss, 2.3s1, 2.s1, 2.s1s, 2.s2, 2.ss1, 3.1s, 3.1s1, 3.1s1s1, 3.1ss, 3.1ss1, 3.1sss, 3.2s, 3.2s1, 3.2s2, 3.2ss, 3.2ss1, 3.3s, 3.3s1, 3.s, 3.s1, 3.s2, 3.s2s, 3.s3, 3.ss1, 4.1s, 4.1s1, 4.1s2, 4.1s1s, 4.1ss, 4.2s, 4.2s1, 4.2ss, 4.3s1, r, r.1, r.2, r.3, r.1s, r.s1, r.ss1, r.sss1, r.1s1, r.1s1s, r.1s2, r.1ss, r.1ss1, r.1sss, r.1sss1, r.2s1, r.2s, r.2s1. |
|  |  |

Age Final

|  |  |
| --- | --- |
| Definition | Age given to fish if two or more confident scale readings were completed and/or a tiebreaker age determined the fish age with confidence; s= spawning event, r= re-age scale. |
| Value Type | Number and text |
| Format | Fresh.ocean |
| Code | 1 to 9.2, 1.1s, 1.1s1, 1.1s2, 1.s1, 1.1s2, 1.1ss, 1.1ss1, 1.ss2, 1.2s, 1.2s1, 1.2s3, 1.2ss, 1.ss1, 2.1s, 2.1s1, 2.1s2, 2.1ss, 2.1s1s, 2.1ss1, 2.1sss, 2.1sss1, 2.s, 2.2s, 2.2s2, 2.2s1, 2.2ss, 2.3s1, 2.s1, 2.s1s, 2.s2, 2.ss1, 3.1s, 3.1s1, 3.1s1s1, 3.1ss, 3.1ss1, 3.1sss, 3.2s, 3.2s1, 3.2s2, 3.2ss, 3.2ss1, 3.3s, 3.3s1, 3.s, 3.s1, 3.s2, 3.s2s, 3.s3, 3.ss1, 4.1s, 4.1s1, 4.1s2, 4.1s1s, 4.1ss, 4.2s, 4.2s1, 4.2ss, 4.3s1, r, r.1, r.2, r.3, r.1s, r.s1, r.ss1, r.sss1, r.1s1, r.1s1s, r.1s2, r.1ss, r.1ss1, r.1sss, r.1sss1, r.2s1, r.2s, r.2s1. |

Maturity

|  |  |
| --- | --- |
| Definition | Value given to determine the average maturity of a fish. |
| Value Type | Number |
| Format | 1 to 45, /5, ½, 1/3, ¼, 1/5, 2/, 2/1, 2/2, 2/3, 2/4, 2/5, 3/1, 3/2, 3/3, ¾, 3/5, 3/8, 4.5, 4/1, 4/2, 4/3, 4/5, 5/3, 5/5. |

## Keogh Database Quality Assurance Process

The qa/qc process consisted of round 1 and round 2 each requiring deliberate steps to minimize errors within the data and maximize consistency throughout the years. The qa/qc process was documented on Trello to ensure an effective work flow and outlined data checks required to create consistency between multiple data checkers. All data files are backed up on Trello, saved on Dropbox and backed up on an external hard drive.

**QA/QC Round 1:**

QA/QC round 1 is meant to be a thorough check through each data entry row. A comparison was completed between the database against electronic (E) and hardcopy (HC) data files to ensure no data entries are missing. Check for oddities in data (ex: date inputted as 30-FEB) and look for values that don't make sense (length: 100mm; weight: 5lbs). Data values should be consistent and left blank if no data collection was completed. The final age is documented only if fish scales were aged by two separate people. A basic scatterplot compared the linear relationship between the length and weight of the fish. You should be confident in the data before sending to round 2.

**QA/QC Round 2:**

Round 2 of QA/QC should be completed after round 1 and checks for overall completeness of data. All data ranges should make sense. Round 2 is a thorough check for consistency between data values and a broad overlook of the data base for each year with a thorough check of a subset of data (10%). If the data count within a file for SHP is 100, 10 entries should be checked completely against original data. If possible, round 2 should be completed by a different person than whom did round 1.

**Final Steps:**

Once the data has completed round 1 and round 2 qa/qc, each file is backed up on Trello, Dropbox, and on an external hard drive. Each file was compiled into Excel into a single spreadsheet. A final check was completed to ensure data transferred fully and formats were consistent.

## Data Specifics Per Year

The following is a summary of data throughout each year of data collection. Descriptions include specific discrepancies between original datasets, missing data for particular life stages, and outlier values that look suspect but are entered according to original records.

|  |  |  |
| --- | --- | --- |
| **Year** |  | **Data Specifics** |
| 2017 | SHA | Unclear Pit tag/Tag codes (contradict between data sheets). The following fish have pit tag and tag values (cannot determine pit tag value so second value plunked into tag):  -sh252, sh161, sh216, sh227, sh217, sh149, sh228, sh124, sh225, sh226, sh154, sh93, sh229, sh363, sh357, sh359, sh360, sh297, sh358, sh361,sh362, sh355, sh454, sh456, sh356, sh230, sh491, sh527, sh526, sh528, sh524, sh525, sh530, sh529, sh165, sh523, sh522, sh281, sh531, sh280, sh608, sh578, sh595, sh92, sh77, sh28, sh55.  These weights are outliers but are entered correctly:  -sh217, sh111 |
| SHK | Fish code shk46 to shk43 (two labeled 46) |
| SHS | Fish codes changes:  -shs234 to shs243  -shs488 to shs448  -added shs563 |
| SHP | -shp23, shp27, sh416, sh522 and sh104 have r for age since scales are present. |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctp, cts, dva, dvp, dvs. |
| 2016 | SHA | -age x.3 changed r.3 -added final ages since scales have been aged 3 times |
| SHK | -no shk |
| SHS | -Converted weights from ounces to grams.  -added scale codes |
| SHP | -added shp-, 14-may-16, length 152  -Converted weights from ounces to grams. |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctp, cts, dva, dvp, dvs, lam  -added scale codes |
| 2015 | SHA | -Sha054- only in age data. Deleted the date since no record.  -changed floating fence to kf1 (same location).  -added fresh age to 1-ager |
| SHK | -no shk |
| SHS | -shs: length=372, weight=531- odd but correct  -added shs067  -added 2015.3.8 to shs205  -added final ages when two agers present |
| SHP | -SHP vs SHS- shs013, shs213 and shs205 no envelopes to correct.  -shp006 is shp not shs. |
|  | Other Species | Includes: cal, cas, cha, coa, cop, cos, cta, ctp, cts, dva, dvp, dvs, lam, pka  -deleted weights that did not make sense  -hatchery fish were added |
| 2014 | SHA | -Some dates were changed from 11-may-2014 to 10-may-2014. Refer to original scale books.  -Some scale codes were used more than once: 2014.1.1.1 through to 2014.1.4.10.  -20-may-2014: sha- length 590. Changed to shk and is wild. Refer to original scale book.  -sha 13, 82, 90, 91, 92, 94, 95, 96, 97, 98, 99 are all changed to shk as per scale book.  -sha080: scale code is 2014.3.4.3,4,5.  -deleted duplicates  -sha100: changed scale code to 2014.5.2.1, 2014.5.3.1  -Changed ripe from 4(5) to 4 on (fish\_code) sha041 -Changed ripe from 4,5 to 4 on (fish\_code) sha055 -Added pit tag "prefixes" from 2014\_MASTER  -added ef (electrofishing records)  -sha089- unknown date |
| SHK | -added shk length 580, pit 179007665; shk length 600, pit 179007744  -added shk; sha013. Multiple entries for sha013 because caught multiple times (more than one scale book).  -Changed species\_code from "shja" to "shk" on (fish\_code) shja043, shja057, shja083, shja093 |
| SHS | -24-may-2014: shs length 216. pit tag 141711. Date is not 24-apr-2014. Refer to original scale book.  Changed species\_code from "shu" to "shj" on (scale\_id) 2014.shu027  -shs- fish codes 1-42 have two entries. |
| SHP | No notes. |
|  | Other Species | Includes: Cal, cas, cha, coa, cof, cop, cos, cta, ctp, cts, dva, dvf, dvp, dvs, lam, pka  -added scale codes for cos  -added methods including net, ef, seine |
| 2013 | SHA | -corrected some final ages |
| SHK | No kelt. |
| SHS | -missing shs075  -fixed scale codes  -added 2\_ager |
| SHP | -added 2\_ager |
|  | Other Species | Includes: cal, cas, cop, cos, cot, cray, cta, ctp, ctp, dva, dvs, lam, stb.  -could not find any records of other fish but kept in the database as must have come from somewhere. |
| 2012 | SHA | -added sha039  -the dates for sha040 (01-Apr-29) and sha041 (01-May-02) do not make sense (the years are wrong), but these errors match the electronic file so I did not change - changed 12-May-2021 to 2012 -added bright, ripe, condition |
|  | SHK | -Bright values changed: 27-Apr-12 (2->3), 23-May-12 (4->6)  -Condition value changed: 14-May-12 (1->2)  -deleted 03-Mar-12 and 27-Apr-12 as they were duplicates of entries  -changed number/day to 1 to match the amount of records. |
|  | SHS | -scale\_id 2012.shp2 -> 2012.shs2  -added missing fish shs 100, 104, 196, 225, 249, 275.  -added scale\_id's for fish 225, 249, and 275  -Length changes: shs101 (156->165), shs173 (223->233), shs24 (211->215), shs261 (92->261).  -"scale" values were mostly 'k-juvenile2012'. I deleted these and changed to 'y'  -added shs035, shs138, shs203  -added ages for shs100 (2) and shs196 (2) and changed the ages for shs273 (4->r), shs276 (2->r), shs281(4->3), shs282(4->3). |
|  | SHP | -shp1 date changed to 16-Apr-12  -'scale' for shp 2, 35, 138, and 203 all have 'k-juvenile2012' value. Changed to 'y'.  -shp38 length change 85->95 |
|  | Other Species | Includes: cal, cas, cof, cop, cos, crf, cta, ctp, cts, dva, dvs, lam, sockeye, stb.  -could not find these records but kept in database.  -moved scale codes and pit tag numbers from comments to respective columns.  -deleted recapture value of 1. Not possible that every single fish in database were recap fish.  -added hatchery codes for cos, cosh |
| 2011 | SHA | -SHKW034- ripe 5?= deleted -ages- changed some ages to r instead of ?, +, NA -added y/n to scale -changed fish codes of sha/shk- duplicates were deleted -deleted w002-w006- discrepancies in fish codes between files -added sha length 430- dead -added scale codes - added h017- 25-apr-2011 -fish sha w005 changed to 006 - whenever there are discrepancies between sha/shk fish between data sheets, file: ksha2011 revised final = correct - shah001 changed to shah002 -deleted sha duplicates -h006 added scale code |
| SHK | -shk-length 760- wild to hatchery and recapture -shk- length 860- changed to recapture -shk- no length- changed to recapture -added shkh length 430- dead - shk47- from wild to hatchery |
| SHS | -shs-shp all fish codes match  -shs65= length (265) and weight (184) are correct. confirmed in hard copies under 'additional files" - shs- length 283, weight 62 =deleted. No record found. |
| SHP | -shp-001,002,007,010,013,014,016,017,019,023,025 + additional 41 records -shs-shp all fish codes match  -3 agers- 1 final= for shs/shp |
|  | Other Species | Includes: Cal, cas, cha, cof, cop, cos, cot, cta, ctp, cts, dva, dvs, lam  -added sculpin  -added cos from lotus |
| 2010 | SHA | -sha1 length is 665 not 700  -13-jun-10: length 830 is shk not sha  -multiple scales labelled 20, 21, 22, 23, 24  -added final ages |
| SHK | -sha13 changed to shk13 |
| SHS/SHP | -deleted shs01 length 120 because duplicated from shp81  -added sh14, 15, 16 with scale codes 2010.1.2.4,5,6  -added sh04, 07, 12, 28, 125, 130, 144, 145, 146, 19, 20,3, 40, 42, 42, 44, 56, 63, 77, 94  -multiple fish codes are the same because each month the fish codes were duplicated |
|  | Other Species | Includes: cal, cas, cop, cos, crf, cta, ctp, cts, dva, dvp, dvs, lam  -Changed lmp to lam for lamprey -book values added to scale codes -added pit tag numbers from comments -ct to cts due to length |
| 2009 | SHA | -added wild ages |
| SHK | -added ages |
| SHS | No notes. |
| SHP | -added ages. |
|  | Other Species | Includes: cop, cos, cof, cta, ctp, cts, dva, dvp, dvs, lam  -added book values to the scale codes  -Cos\_shs\_cts\_dvs\_part 40: dva april 22 length=393, weight=348 |
| 2008 | SHA | -sha001 and sha002 (wild) are recorded as 2008 records (not 2007). |
| SHK | -shk23 and shk47 are entered as recapture fish - 2 fish have adult fish codes but classified as kelt: wsha048 and wsha049. Recorded on envelopes as such so left. |
| SHS/SHP | -Records do not discriminate between shs/shp  -no dates recorded for fish 26, 33, 37, 38, 39, 85, 179, 182  -ager\_1: replaced fish 210 age of ‘2 or 3’ to ‘r’ |
|  | Other Species | Includes: cop, cos, cot, cta, ctp, cts, dva, dvp, dvs, lam  No notes. |
| 2007 | SHA | -ages with value ‘3?’ changed to ‘r’ |
| SHK | No notes. |
| SHS | No notes. |
| SHP | No notes. |
|  | Other Species | Includes: cal, cas, cop, cos, cot, cta, ctp, cts, dva, dvs, lam  -Fish codes moved to scale codes. Most of them are the same but entered as is on data sheet. |
| 2006 | SHA | -wsha006 has length of 740 (not 750)  -sha with no fish codes dates ranging from Jan-14 to Apr-06 were recorded as upstream “u” not downstream “d” |
| SHK | -wild ages entered |
| SHS | -added ager\_2 |
| SHP | No notes. |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctp, cts, dva, dvs  -added weights for COS -added cal and cas species |
| 2005 | SHA | -Jan 30 changed from ‘angle’ to ‘trap’  -Dec 25 changed from blank to ‘angle’ |
| SHK | -shlgbk02=female |
| SHS | -scale envelopes have corrected values, electronic copies incorrect.  -06-May: number/day 15  -09-May: number/day 10  -30-May: length is 271 not 217. |
| SHP | -02-May length 85 not 80  -21-May: number/day is 48 not 40. |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctp, cts, dva, dvs, lam  -entered dead fish -deleted shk fish codes -moved codes from fish codes to scale codes |
| 2004 | SHA | -sha002 scale code changed from sha 1-1 to sha1-2  -shlgb040 entered from KSHA2004FINAL\_adults  -shlgb046 weight is 3000g  -shlgb017 is male and shlgb020 is male  -shlgb018 bright value 3 (not 1), shlgb020 bright value 4 (not 1) |
| SHK | -lgb fish locations missing  -shkw008 not in electronic records, scale envelope |
| SHS | -shs138b not shs138a  -shs091 date is 14-may (not 13-may), shs134 date is 26-may (not 24-may), shs170 date is 23-may (not 30-may)  -shs013 length is 156 (not 150)  -weights for the following fish missing from electronic files but on scale envelopes: shs085, 087, 089, 139b, 140, 151, 152 |
| SHP | -fish length 79 changed date to 08-apr (not 07-apr)  -number 28-apr from 1 to 3, 29-apr from 3 to 1  -deleted series of duplicates |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctp, cts, dva, dvs, lam  COS: -corrected weights -corrected number/day  COT: -no COT in records  Cot-asp=cal  cta:- deleted blank entries dvs: corrected number/day  -deleted blank entries |
| 2003 | SHA | -no sha004  -kshafinal file is correct. Errors in 2003adult file. |
| SHK | -‘shkh?’ changed to ‘shu’ since could not determine if shk for sure |
| SHS/SHP | -shp have fish codes shs as recorded on scale envelopes |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctp, cts, dva, dvs, lam  -COSH- added hatchery code and then changed to cos |
| 2002 | SHA | -w026 to w028 date is 29-dec (not 30-dec), w031 date 29-dec (not 30-dec), w059 date is 24-Jan (not 29-Jan), w077 date is 10-Feb (not 11-Feb), w078 and w079 date is 01-Feb (not 11-Feb).  -location: there were inconsistent entries for certain locations (like 'ss' for some fish, but 'sandstone' for others). w041 added 'kf1'; 017-012 added 'last chance'; 038 'darcy's box' changed to 'below darcy'; 046 'mini clay' changed to 'xxx'; 047 'xxx' changed to blank; 071 blank changed to 'treeline'; 072 blank changed to 'xxx'; 077 blank changed to 'last chance'; 085 'lower log jam' changed to 'claybank'; 087 'dead zone' changed to 'darcys box'  - There were duplicates for fish\_codes in Trello for fish w004-w008, and missing fish\_codes w083-w087. The data for the duplicates in Trello (i.e fish lengths, scale codes...) matched the data of the missing fish in the electronic file. So I changed the ID of the duplicates 'w004' to 'w083', 'w005' to 'w084'... etc.  -fork\_length: w033 (blank->780), w046 (620->810), w047 (810->blank), w071 (650->680)  -catch\_type: w028 and w047 (r->a); w058, w070, & w074 (a->r)  -sex: w024 (f->m); w046, w063, & w072 (m->f); w041 & w047 (f->blank); w081 (m->blank)  -scale\_code: w004 (2002.1.1.5 -> 2002.1.1.4), w005 (2002.1.1.4 -> 2002.1.1.5), w033 (blank -> 2002.1.4.3), w039 (blank -> 2002.1.4.9) |
| SHK | No notes. |
| SHS | -date: shs029 (09-may-02 -> 08-may-02), shs157 (04-Jun-02 -> 05-Jun-02)  -fresh\_age and age\_final: age 2s1 added to shs130  -1\_ager: unsure where this data is from  -added new fish (wshs1-wshs47), which were from '2002\_SHS\_scales' file |
| SHP | No notes. |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctp, cts, dva, dvp, lam  -COT: all number/day were 0. Deleted entries.  -COS: has ages but not sure where they came from but kept in as they seem legit |
| 2001 | SHA | -sha001 to sha0043 picked most consistent date  -shah004 weight 420 (not 42)  -deleted age value of ‘0’ |
| SHK | -duplicates were deleted |
| SHS | -needed to add fish codes and scale codes |
| SHP | -converted to grams  -some shp have shs fish code. Confirmed on scale envelopes. |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctp, cts, dva, dvp, dvs, lam  -deleted empty entries -cot-al to cal -cot-asp to cas |
| 2000 | SHA | No notes. |
| SHK | No notes. |
| SHS | -species code shslgb to shs but fish codes included shslgb. Added 1 to ‘hatchery’ |
| SHP | No notes. |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctp, cts, dva, dvs, lam  -Deleted entries "trap"= false. All comments said no data sheets found and no other data associated with these entries.  -cot-al to cal -cot-asp to cas -added dead fish |
| 1999 | SHA | No notes. |
| SHK | No notes. |
| SHS | -added second record for shs126 and shs244 |
| SHP | -discrepancies between kSMOLTS99 (electronic copy) and 1999\_SHP (hardcopy) for fish shp051 and shp052. Used hardcopy for records.  -fish code b-001 is correct on hard copies |
|  | Other Species | Includes: cal, cas, cos, cta, ctp, cts, dva, dvs, lam  -deleted blank entries -cot-al= cal -cot-asp= cas |
| 1998 | SHA | -added sha entries from envelopes and added 1998.1.3.5  -1998.1.3.3 is sha  -sha length 740 has tag number 5490  -sha length 640 on 20-Feb (not 650) |
| SHK | -1998.1.3.4, 6-9 are shk -added extra entries from envelopes that were not on hardcopies |
| SHS | -shp15 = shs15  -added shs110, shs56 -shs134 has scale code 1998k.5.2.5 from hard copy -shs135 has scale code 1998k.5.3.6 -moved final ages to 1\_ager since only one ager |
| SHP | No notes. |
|  | Other Species | Includes: cal, cas, cop, cos, cot, cta, ctp, cts, dva, dvs, lam  -deleted entries that were blank -deleted dead entries because comments stated no data found in secondary file and original doesn't have entries -DVA: have weights larger than length but correct in original file |
| 1997 | SHA | No notes. |
| SHK | No notes. |
| SHS | -shs205= fish length not fish code  -shs154 = shs153  -moved final age to first ager since only one ager |
| SHP | -xb = shp fish |
|  | Other Species | Includes: cop, cos, cot, cta, ctp, cts, dva, dvp, dvs, lam  -CTS: added fish code cts002 |
| 1996 | SHA | No notes. |
| SHK | No notes. |
| SHS | -moved 1.1.1 codes from fish code to scale code  -deleted duplicate scale codes |
| SHP | No notes. |
|  | Other Species | Includes: cos, cot, cta, ctp, cts, dva, dvs  COS: -added 704 cos to number/day to match original  CTA: -added fish codes from original -deleted length 238 duplicate entry  CTP: -added fish codes -moved some fish codes to scale codes |
| 1995 | SHA | -converted weights from kg to g |
| SHK | No notes. |
| SHS | -final ages were determined |
| SHP | No notes. |
|  | Other Species | Includes: cop, cos, cot, cta, ctp, cts, dva, dvs, lam  -COS: added scale codes  -CTP: added ctp scale codes  -CTS: added scale codes |
| 1994 | SHA | No notes. |
| SHK | -added w46 to w58 |
| SHS | -shs41-70 added scale codes. No scale codes for other fish codes.  -final ages were determined. |
| SHP | -final ages were determined. |
|  | Other Species | Includes: cop, cos, cot, cta, ctp, cts, dva, dvp, dvs, lam  -CTS: added fish codes |
| 1993 | SHA | -a001k changed age from H3 to r.3  -deleted duplicates  -h00058 on adult hardcopy = shs058  -converted weights from kg to g; pounds to grams |
| SHK | -converted weights from kg to g |
| SHS | -added final ages |
| SHP | No notes. |
|  | Other Species | Includes: cop, cos, cot, cta, ctp, cts, dva, dvp, dvs, lam  No Notes. |
| 1992 | SHA | -added sha ad007  -rma008 length 610 (not 640) on hardcopy  -ama9296 is incorrect- excel lengths are not lined up correctly on data spreadsheet.  -converted weights from kg to g |
| SHK | -ad004 length 580 (not 680)  -few errors in 1992\_sha\_collections. Refer to hardcopy. |
| SHS | -shs044a, shs044b are correct (shs044a not in hardcopy) |
| SHP | -length of shp120 is 79 not 135 (as recorded on hardcopy)  -shp28 is length 98; shp29 is length 112 weight 16.3. “92smolts” electronic copy is incorrect. |
|  | Other Species | Includes: cop, cos, cot, cta, ctp, cts, dva, dvp, dvs, lam  CTA: -added fish codes  CTS: -added fish codes  CTP: -added fish codes |
| 1991 | SHA | -converted pounds to grams  -converted kg to grams  -added dead fish |
| SHK | -converted kg to grams |
| SHS | -deleted 2005 entries.  -no length for 17-may weight was 63.2 |
| SHP | No notes. |
|  | Other Species | Includes: cos, cot, ctp, cts, dva, dvs  COS: -added scale codes and fish codes |
| 1990 | SHA | -the following sha were deleted because they were no scale envelopes: 383, 346, 384, 385, 386, 387, 388, 389, 390, 429, 430, 431, 432, 433, 434, 435, 436, 437, 308, 309, 310, 311, 312, 313, 22, 34, 35, 438, 439 -sha- w656, w644, w645, w646, w632, w633, w634, w635  - weight: Changed weights to grams. sha81, deleted '5.6'; sha82, added '5.6'  -1\_ager: sha48 ns to 0.2; sha185 r to 0.3  -tie-breaker: sha123 2 to 3  - sha209, 212, 215, 222 but HC has no date info  -changed ages from r3.1s1 to r.1s1 for w125, w126, w127 and w270  -w173 and w174 were hatchery fish not wild  -w327 has length 680 not 870.  -w588 had weight of 7200  -1\_ager: w564 (r.2s1->r.2); w585 (2.3->r.3); w586 (ns->2.3), ages r3 changed to r, r3.1s1 changed to r.1s1  -added final ages |
| SHK | -the following are shk- w636, w638, w639, w640, w642, w648, w805 -shk- deleted shk with no values -no envelopes but ages: shk680, shk690, shk822  -shk w790 wild not hatchery  -fish\_code: two w524’s in Trello, but one of them matched data with w534. So changed the fish\_code to w535  - length: w805 (‘800’->blank); shk no fish code, row 3674 (830->630); shk no fish code, row 3685 (710->810) - deleted weights because wvlv values off hardcopies - sex: wshk with no fish code, row 3616 (f->m); - 1\_ager: w529 added ‘r.2s’; w542 has age ‘r2.1s’ in trello, ‘3.1ss?’ in record (did not change). - pit\_tag: w311 added ‘#00591’, w383 added ‘#00585’ - ‘w656 missing from Trello, added in. - alive: w311 added ‘false’ because mortality - there were duplicates of all the SHK wild in trello, so I deleted one set of the wSHK |
| SHS | -deleted scale codes that don’t exist.  -added scale codes to shs-single number only on scale envelopes= not fish codes.  -no fish codes only scale codes  -1\_ager: 3 102 change 3 to r, 10 78 added r  -2\_ager: 10 78 added r  -scale\_codes of ‘SHS90B\_entered’ do not match the same as Trello. Changed codes of 17 4 – 19 30, 20 117 – 28 102, 20 117 – 28 99.  -shs80 is hatchery not wild  -couldn’t find ‘non-random’ entries on hardcopies but I kept in the spreadsheets  -15-may length 157 weight 378 is correct off hardcopy |
| SHP | -21-apr length 318 weight 257.8 correct off hard copy |
|  | Other Species | Includes: cos, cta, ctp, cts, dva, dvp, dvs  COS: -added number/day  CTP: -added ctp |
| 1989 | SHA | -added hatchery fish h44, h84, h206 ages  -added r to 2\_ager instead of “?”  -added w498 |
| SHK | No notes. |
| SHS | -fresh water ages copied to 1\_ager |
| SHP | -shs codes but confirmed on scale envelopes.  -added fish codes |
|  | Other Species | Includes: cop, cos, cta, ctp, cts, dva, dvp, dvs, lam  No notes. |
| 1988 | SHA | -h ages change to r  -added final ages  -sha80, 81, 82 age changed to r  -sha32, 33, 50, 72 to 85= kelt and downstream |
| SHK | -sha32, 33, 50, 72 to 85= kelt and downstream |
| SHS | No notes. |
| SHP | No notes. |
|  | Other Species | Includes: cop, cos, cot, ctt, dvp  No notes. |
| 1987 | SHA | -h008 has age 1.1ss1  -w175 length 685 not 650; w177 length 650 not 680 (hardcopy records)  -w99 date is 05-apr  -hardcopy has correct gender; electronic file “1987\_sha\_shk” incorrect  -converted weight from kg to g |
| SHK | Deleted fish codes 1,1 and 14 since not on hardcopy  -final age determined  -changed “h” ages to “r”  -changed age 2.r to r  -changed r3.1s1 to r.1s1 |
| SHS | -shs96 have length 155 and weight 143.9  -shs220 have length 220 and weight 62.4 |
| SHP | -deleted shp31- duplicate |
|  | Other Species | Includes: cos, cts  -added CTS -added scale codes |
| 1986 | SHA | -added lp as prefix to fish codes |
| SHK | No notes. |
| SHS | -added shs008 |
| SHP | No notes. |
|  | Other Species | Includes: cos, cts  No notes. |
| 1985 | SHA | No notes. |
| SHK | No notes. |
| SHS | W295 has correct length 355 and weight 420.6 |
| SHP | No notes. |
|  | Other Species | Includes: cos  No notes. |
| 1984 | SHA | -converted weights from kg to g |
| SHK | -deleted record 05-may length 75 since I could not find this record in any envelopes, hardcopies, electronic copies |
| SHS | -two ws04 records: all values were the same except for ages  -added some final ages |
| SHP | -adjusted numbers/day to represent total |
|  | Other Species | Includes: cos  -added dead fish -deleted duplicates |
| 1983 | SHA | -deleted single number tags since not tag numbers |
| SHK | -tag numbers moved to comments: not on data sheets  -shk050 to shk075 only scale envelopes not on any hardcopy or electronic data sheets |
| SHS | -deleted final ages; only one ager |
| SHP | No notes. |
|  | Other Species | Includes: cas, cos, cta, ctp, cts, dva, dvp, dvs, unk  -added scale ids -added cta001 -cot-asp to cas |
| 1982 | SHA | -w239 has length 220 weight 4200 is correct  -added final ages when possible  -added tiebreaker ager to 2\_ager  -14-apr: no length, confirmed maturity value is 1 |
| SHK | -w075 to w077 changed to hatchery from wild. |
| SHS | -data sheets contradict (Scale codes, fish codes and number/day)  -the following fish are correct: length 138 weight 93; length 110 weight 79.3 |
| SHP | No notes. |
|  | Other Species | Includes: cos, cot, cts, dva, dvs  -added weights -added seined fish  -CTS: added fish codes and scale codes |
| 1981 | SHA | -adult fish length 790 is fish code w185 not w184  -converted weights from kg to g |
| SHK | -k119 correct date is 28-may |
| SHS | -added dead fish  -many weights didn’t make sense (i.e. weight same values as lengths) but correct on data sheets so left |
| SHP | -deleted ages 3.4 |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctk, ctp, ctr, cts, dva, dvp, dvs  -added dead fish -fixed number/day so total of each day is correct  -CTK: added condition |
| 1980 | SHA | -02-may: sha009 is shk not sha (on envelope) |
| SHK | No notes. |
| SHS | -deleted duplicates |
| SHP | No notes. |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctp, ctr, cts, dva, dvp, dvs, shu  COS/COP: -re-entered numbers/day -entered dead fish -added t2d/s -added May 19 -added June 19  CTS/CTR/CTP: -added t2d/s, t2u/s -added dead fish  DVA/DVS/DVP: -added dead fish -fixed numbers/day -added t2d/s |
| 1979 | SHA | -lotus numbers had many tag numbers  -hardcopy had correct lengths and weights. |
| SHK | -final ages added. |
| SHS | -length 200 weight 14 was correct; length 218 weight 15 was correct. |
| SHP | -deleted duplicates |
|  | Other Species | Includes: cal, cas, cop, cos, cta, ctj, ctp, cts, dva, dvp, dvs, lam, pit, pink  -added number per day -deleted duplicate entries -added dead fish -added lampreys -added pif and pink |
| 1978 | SHA | -could not find records of sha420-469: ages in database but no envelopes. Left in database.  -for electronic to hard copy discrepancies, go back to "additional\_files\_with\_weights" for correct value.  -deleted “shas502 weight 5.5?”  -converted weight from kg to g |
| SHK | -scale books found and added to database: No electronic copies. Hard to read a lot of the scale books- damaged.  -shk- fish codes on envelopes and HC -shk- deleted k050, k051, k013 as no record. -shk final age added since on UBC computing form |
| SHS | -“m” fish codes.  -shs: m016 length 298 weight 209 is correct on HC -shs: m001 length and weight correct on HC -shs m049 length 129 not 125  -changed t3d/s to t2d/s as per hardcopy. |
| SHP | -no envelopes for shp.  -“m” fish codes.  -m050: 19-may-78 is correct date. |
|  | Other Species | Includes: cal, cas, cof, cop, cos, cta, ctp, cts, dva, dvp, dvs, unk  No notes. |
| 1977 | SHA | -no sha scale envelopes in fish hut  -deleted weights for sha- 34, 85, 61, 93, 76, 92, 49, 84, 94, 35, 90 because don't make sense  -changed some final ages to match HC -no date for sha s363  -HC sha116 is 423 - SHA s029 to s513 some missing -sha s061 has 2 entries -sha125- 710 length not 760 -sha 133- 2x records -sha 154- length 735 not 745 (HC)  -converted weights from pounds to grams and kg to g |
| SHK | -deleted k001 duplicate, length 420  -k008 only on hard copy  -Lotus vs HC: HC fish codes correct. Kelt had discrepancies because lotus called them all adults but k001 codes were kelt. -the following look like the same fish but 2 records and 2 different fish codes exist: K007&K012, K009&K004, K005&K010. |
| SHS | -shs length 215- weight 60 not 6 -shs length 215 has weight of 27.2. |
| SHP | -shp- length 81, weight 6.1 not 61 |
|  | Other Species | Includes: cof, coj, cop, cos, cta, ctj, ctk, ctp, cts, ctu, dva, dvf, dvj, dvk, dvp, dvs, dvu  DVS: -entered tag numbers  DV: -weights are entered correctly. Weights higher value than lengths.  -DVA- length 460 weight 1225= correct  -entered weights -added t2d/s fish |
| 1976 | SHA | -contained records for 1975  -unknown for scale codes because nothing on envelope but they do exist. -scale code 1976.1.1.1.7\_8 changed tag 19 to 18 because 18 on scale envelope. -SHA112 changed tag from 168 to 166 because of envelope. -an011 changed date to 28-Jan-76 same as envelope. -added angled SHA- length 740, 1976.4.1.2.1\_2 -added 1976.4.1.1.7\_8 sha (deleted an004-duplicated). -added 1976.4.2.1.5\_6 to sha ank03 -added SHA an013 10-Jan-1976 (not 1986)  -sha009 labelled shk but correct |
| SHK | -added shk 1 to shk10 fish codes -added shk from lotus sheets |
| SHS | -added lotus records |
| SHP/SHJ | -added lotus records  -fish with length 210 weight 90.9 is correct from data |
|  | Other Species | Includes: cof, coj, cop, cos, cou, cta, ctj, ctp, cts, dva, dvu, ks, shj  -many fish added from lotus spreadsheets |