**State of Alaska**
**Department of Fish and Game**
**Sportfish Division**

**Nomination Form**
**Fish Distribution Database**

Region: Three

USGS Quad(s): Big Delta A-3 & Mount Hayes D-3

Fish Distribution Database Number of Waterway: 334-40-11000-2490-3416-4020

Name of Waterway: Sawmill Creek ☐ USGS Name ☑ Local Name

☐ Addition ☐ Deletion ☐ Correction ☑ Backup Information

For Office Use

Nomination #: 11-223

Revision Year: 2012

Revision to: Atlas ____ Catalog ____ Both ____

Revision Code: F-1

| | Date |
|---|---|
| ADF&G Fisheries Scientist | |
| ADNR OHMP Operations Mgr. | |
| FDD Project Biologist | 9 MAY 11 |
| Cartographer | |

OBSERVATION INFORMATION

| Species | Date(s) Observed | Spawning | Rearing | Present | Anadromous |
|---|---|---|---|---|---|
| CO spawning | 1994-1998 | yes | | yes | ☑ |
| | | | | | ☐ |
| | | | | | ☐ |
| | | | | | ☐ |
| | | | | | ☐ |

**IMPORTANT**: Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

**Comments:** This nomination submission of Sawmill Creek (headwater upwelling to confluence of Sawmill Creek and Clearwater Creek) is to add aerial and boat survey counts to the AWC database and to clarify AWC map information. A separate word document (Sawmill Creek.doc) details a descriptive explanation of Sawmill Creek and contains maps showing location. From 1994-1998, ADF&G conducted aerial surveys of Sawmill Creek and 34 other springs contributing to the Clearwater River. From 1977-present ADF&G conducted boat survey on the navigatable portion of Sawmill Creek which start just above the confluence of Granite Creek. From 1994-1998 data for Sawmill Creek is a combination of aerial and boat survey segements. The boat counts represent only a 4 mile portion of Sawmill Creek. On USGS maps it is somewhat confusing where tributaries are located and how extensive they are, so Google maps are included to clarify location. To calculate distance and get lat/long location TOPO! software is used. The lower portion of Sawmill Creek is the Confluence of Clearwater Creek and Sawmill Creek (N64° 02.794', W145° 20.504') runs to its headwater springs (8.04 miles) which upwells from the ground (N63° 58.595', W145° 15.045').

Supports existing AWC data


Name of Observer (please print): James F. Parker

Signature: _____ Date: 3/30/2011

Agency: ADF&G - Sport Fish

Address: Box 605

Delta Junction, AK 99737


This certifies that in my best professional judgment and belief the above information is evidence that this water body should be included in or deleted from the Fish Distribution Database.

Signature of Area Biologist: _____ Date: _____

Name of Area Biologist (please print):

Revision 02/05

## Johnson, J D (DFG)

**From:** Parker, Fronty (DFG)
**Sent:** Tuesday, May 03, 2011 8:08 AM
**To:** Johnson, J D (DFG)
**Subject:** AWC nomination; Sawmill Creek (334-40-11000-2490-3416-4020)
**Attachments:** Sawmill Creek 03-31-2011.xls; Sawmill Creek.doc; AWC number system for DCR.xlsx

Sawmill Creek is one of two major tributaries to the Delta Clearwater River. Sawmill Creek AWC number remains the same. There are 5 spring tributaries into Sawmill Creek; Andersen, Granite, Fronty, Jan, and Jesse. I have attached a spreadsheet (AWC number system for DCR.XLS) that has all the spring and tributaries named and numbered.
-Fronty

Sawmill Creek (USGS name)
**Anadromous stream catalog number** 334-40-11000-2490-3416-4020

**Description:** Sawmill Creek is a major tributary to the DCR. The lower portion of Sawmill Creek is at the Confluence of Clearwater Creek and Sawmill Creek (N64 02.794 W145 20.504). This fork in the DCR is 14 miles upstream from the mouth (Figure1). From this point Sawmill Creek runs upstream to its headwater springs (8.04 miles) which up-wells from the ground (N63 58.595 W145 15.045). From 1994-1998 DF&G conducted aerial surveys of Sawmill Creek from its headwaters downstream to Richard Lake. DF&G begins boat counts at Richard Lake (mile 18), just above the confluence of Granite Creek (Figure 2).

Clearwater Creek as indicated on USGS maps or otherwise known locally as the Delta Clearwater River (DCR) is entirely spring fed. A report written in 1991 (Parker, J. F. 1991. Status of Coho Salmon in the Delta Clearwater River of Interior Alaska. Alaska Department of Fish and Game, Fishery Data Series 91-4, Anchorage.) gives a summary of coho life history and data collected on the DCR. The report documents the DCR being only 20 miles in length, as having the largest spawning concentration in the Yukon River drainage, the largest coho sport fishery in the Tanana River drainage, and an extensive record of coho escapement index counts. Adult coho salmon distribute throughout the DCR to spawn, although fewer fish spawn in the lower sections largely due to lower water velocity and a greater proportion of fine sand in the streambed (Parker 1991). Coho salmon eggs hatch in February and March and coho salmon fry emerge from the gravel in May, approximately 6 months after spawning. The springs provide consistent flows, little change in water temperature, highly productive aquatic communities, and favorable over-wintering habitat for rearing coho salmon. The majority of the juvenile coho salmon rear in the DCR for 1 - 3 years before smolting, and spend 1 year in the ocean before returning (Parker 1991).

A unique coho salmon fishery occurs in August-October on the DCR. In 2003 1,272 coho salmon were harvested and 14,665 were caught, the catch being the largest ever recorded. These high harvest and catch numbers corresponded with the record escapement index of 102,800 fish in 2003 (Table 1).

DF&G conducts an annual coho salmon survey to assess the coho salmon escapement goal of 5,200–17,000. Annual coho counts since 1972 to the present are found in Table 1 (Parker, J. F. 2009. Fishery management report for sport fisheries in the Upper Tanana River drainage in 2008. Alaska Department of Fish and Game, Fishery Management Report No. 09-47, Anchorage.)

A significant portion of coho salmon are found spawning in non-navigatable portions of the river in short spring tributaries contributing to the DCR. Aerial counts for coho salmon in areas not counted by boat, were 21.9%, 23.8%, 19.0%, 17.1%, and 20.0% (averaging 20.36%) of the escapement, respectively (Table 1). This proportion is then applied to the mainstem DCR count and the resultant estimate for the non-navigable component is added to the mainstem count to obtain a estimate of total escapement.

From 1994 to 1998, coho counts in the Sawmill Creek segment of the river were made possible from a combination of aerial and approximately 4 miles of boat counts (Table 2). The aerial count from the headwaters to Richard Lake along with the boat count from Richard Lake to Mile 14 (confluence with Clearwater Creek) completes the AWC segment (334-40-11000-2490-3416-4020). This length of this water provides excellent spawning and rearing habitat for coho

salmon.
A final note, during years of high Chinook escapements, spawning Chinook salmon have been observed in the DCR in August. Although not common, spawning of Chinook salmon is possible, and has been documented by JF. Parker in 2003 (see Figure 3 photo).

**Anadromous species present**: Coho salmon (spawning and rearing).

**Other Species**; round whitefish, Arctic grayling, long nose suckers, and slimy sculpins.

**Anadromous species data collection**:
This nomination is to provide a description for this water and provide coho survey data.

Figure 2. Upper Delta Clearwater River, Google Earth picture with names of tributaries and springs. Bottom of picture is where springs originate.

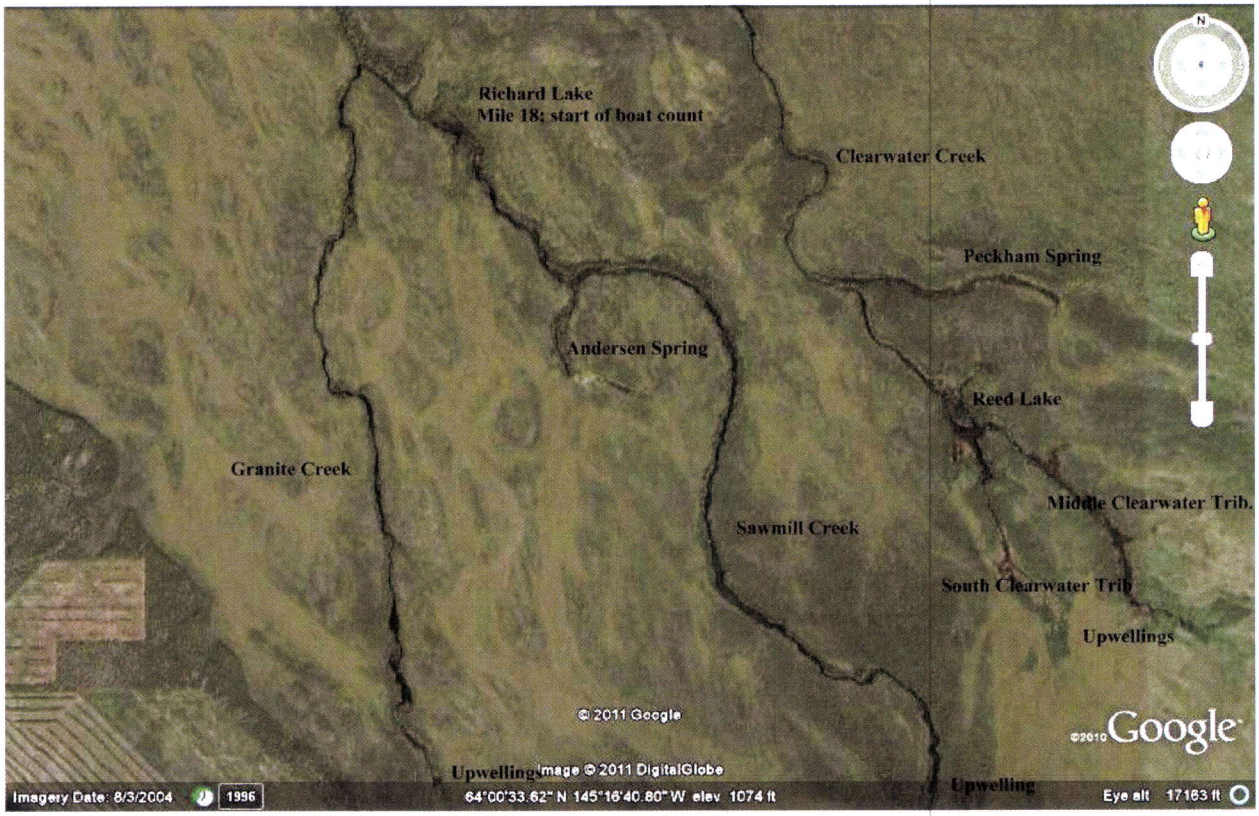


Table 1. Delta Clearwater River coho counts by boat and aerial counts from 1994-1998, expanded to include non-navigatable portions of the river in years when aerial surveys were not done.

| Year | Mainstem DCR Escapement | Counts in Lower River Mile 0-8 | Counts in Upper River Mile 8-18 | Only Tributaries | Coho's % in Tributaries | Expanded Count to include Tributaries. |
|---|---|---|---|---|---|---|
| 1972 | 632 | | | | | 803 |
| 1973 | 3,322 | | | | | 4,220 |
| 1974 | 3,954 | | | | | 5,023 |
| 1975 | 5,100 | | | | | 6,479 |
| 1976 | 1,920 | | | | | 2,439 |
| 1977 | 4,793 | | | | | 6,089 |
| 1978 | 4,798 | | | | | 6,095 |
| 1979 | 8,970 | | | | | 11,395 |
| 1980 | 3,946 | | | | | 5,013 |
| 1981 | 8,563 | | | | | 10,878 |
| 1982 | 8,365 | | | | | 10,627 |
| 1983 | 8,019 | | | | | 10,187 |
| 1984 | 11,061 | | | | | 14,052 |
| 1985 | 5,358 | | | | | 6,807 |
| 1986 | 10,857 | | | | | 13,793 |
| 1987 | 22,300 | | | | | 28,330 |
| 1988 | 21,600 | | | | | 27,441 |
| 1989 | 12,600 | | | | | 16,007 |
| 1990 | 8,325 | | | | | 10,576 |
| 1991 | 23,900 | | | | | 30,362 |
| 1992 | 3,963 | | | | | 5,035 |
| 1993 | 10,875 | | | | | 13,816 |
| 1994 | 62,675 | | | 17,565 | 21.9% | 80,240 |
| 1995 | 20,100 | | | 6,283 | 23.8% | 26,383 |
| 1996 | 14,070 | | | 3,300 | 19.0% | 17,370 |
| 1997 | 11,525 | | | 2,375 | 17.1% | 13,900 |
| 1998 | 11,100 | | | 2,775 | 20.0% | 13,875 |
| 1999 | 10,975 | | | 2,967 | 21.3% | 13,942 |
| 2000 | 9,225 | 4,200 | 5,025 | 2,494 | 21.3% | 11,719 |
| 2001 | 46,875 | 19,375 | 27,500 | 12,013 | 21.3% | 59,547 |
| 2002 | 38,625 | 17,700 | 20,925 | 10,441 | 21.3% | 49,067 |
| 2003 | 102,800 | 41,575 | 61,225 | 27,791 | 21.3% | 130,591 |
| 2004 | 37,550 | 16,775 | 20,775 | 10,551 | 21.3% | 47,701 |
| 2005 | 31,175 | 13,825 | 17,350 | 8,428 | 21.3% | 39,603 |
| 2006 | 15,950 | 10,100 | 5,850 | 4,312 | 21.3% | 20,262 |
| 2007 | 14,650 | 7,325 | 7,325 | 3,961 | 21.3% | 18,611 |
| 2008 | 7,500 | 2,475 | 5,025 | 1,917 | 21.3% | 9,417 |
| 2009 | 16,850 | 9,425 | 7,425 | 4,307 | 21.3% | 21,157 |
| 2010 | 5,867 | 1,961 | 3,906 | 1,586 | 21.3% | 7,453 |

**Table 2.-** Boat count surveys and aerial surveys of the non-navigable portion of Sawmill Creek, aerial survey of Sawmill Creek, and total counts of Sawmill Creek from 1994-1998.

| Year | Boat Count Escapement[a] | Aerial Count Tributaries[b] | Total Count |
|---|---|---|---|
| 1994 | 1,950 | 17,175 | 19,125 |
| 1995 | 600 | 6,100 | 6,700 |
| 1996 | 525 | 4,700 | 5,225 |
| 1997 | 350 | 2,975 | 3,325 |
| 1998 | 375 | 2,250 | 2,625 |

a Data collected from a riverboat with an elevated platform of the portion of Sawmill Creek from Richard Lake to Mile 14 (confluence of Sawmill Creek and Clearwater Creek). The combination of boat and aerial counts gives a total count of Sawmill Creek.

b Data collected from helicopter aerial surveys from headwater of Sawmill Creek to Richard Lake (only 1994-1998).

Figure 3. Spawning coho salmon in the Sawmill Creek Tributary, Mile 15, of the Delta Clearwater River on September 27, 2009 (JF. Parker observation).

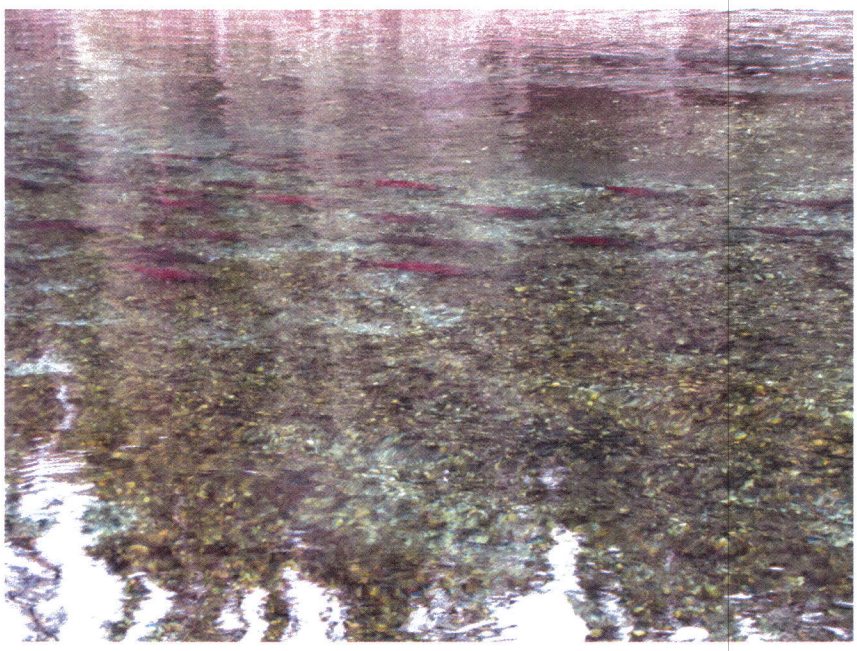
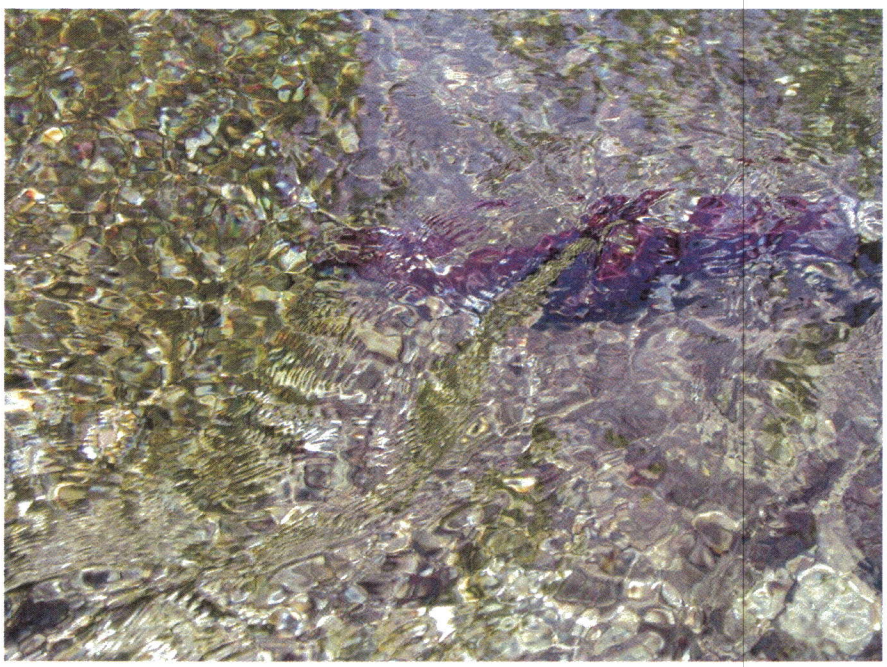


Figure 4. Spawning pair of Chinook Salmon in the Sawmill Creek Tributary, Mile 15, of the Delta Clearwater River on August 7, 2003 (JF. Parker personal observation).



| | DELTA CLEARWATER RIVER AERIAL SURVEY | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | NAMES OF SPRINGS SURVEYED AND COHO COUNTS | | | | | | | |
| | | | | | | | | |
| No. | IDENTIFICATION NAME | AWC # (numbers in Red are new) | 1994 | 1995 | 1996 | 1997 | 1998 | DESCRIPTION OF LOCATION |
| 1 | **SAWMILL CREEK** | 334-40-11000-2490-3416-4020 | 19,125 | 4,700 | 4,275 | 3,050 | 2,625 | headwaters to Mile 14 |
| 2 | **ANDERSEN** | 334-40-11000-2490-3416-4020-5030 | 25 | 8 | 25 | 0 | 0 | south spring into Sawmill |
| 3 | **GRANITE** | 334-40-11000-2490-3416-4020-5020 | 250 | 150 | 0 | 25 | 50 | headwaters to Sawmill |
| 4 | **South Clearwater Tributary** | 334-40-11000-2490-3416-4030-5007 | 1,700 | 400 | 300 | 125 | 575 | headwaters to Reed Lake |
| 5 | **Clearwater Creek** | 334-40-11000-2490-3416-4030 | 8,525 | 2,525 | 1,425 | 1,300 | 1,150 | headwaters to confluence of Sawmill Cr. |
| 6 | **PECKHAM** | 334-40-11000-2490-3416-4030-5004 | 100 | 50 | 0 | 0 | 0 | spring on north side of Clearwater cr |
| 9 | **FRONTY** | 334-40-11000-2490-3416-4020-5014 | 175 | 175 | 0 | 25 | 0 | first spring below Granite-south side |
| 10 | **JAN** | 334-40-11000-2490-3416-4020-5014-0010 | 200 | 150 | 0 | 0 | 0 | between Fronty and Jesse |
| 11 | **JESSE** | 334-40-11000-2490-3416-4020-5010 | 250 | 50 | 0 | 0 | 25 | south side of Sawmill Creek |
| 12 | **JENNIE** | 334-40-11000-2490-3416-4030-5002 | 25 | 25 | 25 | 0 | 0 | north side-near mouth of CH20-DCR |
| 13 | **CHAD** | 334-40-11000-2490-3416-4021 | 100 | 25 | 0 | 0 | 0 | south side of DCR |
| 14 | **BUNS** | 334-40-11000-2490-3416-4020 | 200 | 75 | 0 | 0 | 0 | south side of DCR |
| 15 | **PATTY** | 334-40-11000-2490-3416-4019 | 20 | 0 | 0 | 0 | 0 | north side of DCR |
| 16 | **DAVE** | 334-40-11000-2490-3416-4018 | 25 | 0 | 0 | 0 | 0 | north side of DCR |
| 17 | **TRAVIS** | 334-40-11000-2490-3416-4017 | 175 | 75 | 50 | 25 | 0 | north side of DCR |
| 18 | **REMMINGTON** | 334-40-11000-2490-3416-4016 | not surveyed | 100 | 0 | 0 | 0 | south side of DCR |
| 19 | **DUBOIS** | 334-40-11000-2490-3416-4015 | 10 | 0 | 200 | 25 | 125 | south side of DCR |
| 20 | **CHRISTIE** | 334-40-11000-2490-3416-4014 | 25 | 225 | 150 | 125 | 75 | north side of DCR |
| 21 | **CALEB** | 334-40-11000-2490-3416-4013 | 325 | 325 | 25 | 25 | 125 | north side of DCR across from camp |
| 22 | **ISAAC'S SLOUGH** | 334-40-11000-2490-3416-4012 | 700 | 225 | 250 | 25 | 0 | between Caleb and Parker-north side |
| 23 | **PARKER** | 334-40-11000-2490-3416-4011 | 775 | 200 | 50 | 0 | 50 | north side of DCR |
| 24 | **KENNA** | 334-40-11000-2490-3416-4010 | 350 | 100 | 0 | 0 | 0 | north side of DCR |
| 25 | **DOS GRIS** | 334-40-11000-2490-3416-4009 | not surveyed | 0 | 75 | 125 | 100 | south side of DCR (Gartz) |
| 26 | **BARB** | 334-40-11000-2490-3416-4008 | 90 | 25 | 0 | 0 | 0 | north side of DCR |
| 27 | **BACKY** | 334-40-11000-2490-3416-4007 | 15 | 0 | 0 | 0 | 0 | south side of DCR (Forck) |
| 28 | **RIDDER** | 334-40-11000-2490-3416-4006 | 300 | 125 | 50 | 25 | 25 | north side of DCR |
| 29 | **PEARSE** | 334-40-11000-2490-3416-4005 | 1,175 | 150 | 75 | 125 | 50 | South side of DCR connects at mile 3 |
| 30 | **HODGES** | 334-40-11000-2490-3416-4004 | not surveyed | 25 | 0 | 0 | 25 | north side of DCR |
| 31 | **STUGA** | 334-40-11000-2490-3416-4003 | not surveyed | 100 | 25 | 25 | 0 | south side of DCR (Al Svenston) |
| 32 | **SALMON ALLEY** | 334-40-11000-2490-3416-4002 | not surveyed | 350 | 50 | 50 | 25 | Loop of north side of DCR |
| 33 | **MALLARD** | 334-40-11000-2490-3416-4001 | 5 | 25 | 0 | 0 | 0 | north side of DCR, above mile one |
| 34 | **MAINSTEM MILE 0-14** | 334-40-11000-2490-3416 | 45,500 | 11,475 | 8,225 | 7,250 | 8,850 | Mouth of DCR to Tanana to mile 14 |
| 35 | **Total Delta Clearwater River** | | 80,165 | 21,858 | 15,275 | 12,350 | 13,875 | Total estimated escapement |
| | | | 0.57 | 0.52 | 0.54 | 0.59 | 0.64 | |
| | | | | | | | | |
| | | | 0.57 | | | | | |

Figure 1. Upper Delta Clearwater River, Google Earth picture with Sawmill Creek (highlighted in blue) from confluence of Clearwater Creek and Sawmill Creek to headwater spring.