



State of Alaska  
Department of Fish and Game  
Sportfish Division

Nomination Form  
Fish Distribution Database



Region  USGS Quad(s)

Fish Distribution Database Number of Waterway

Name of Waterway   USGS Name  Local Name

Addition  Deletion  Correction  Backup Information

For Office Use

|                |                           |                           |                 |
|----------------|---------------------------|---------------------------|-----------------|
| Nomination #   | <u>11-239</u>             | <u>[Signature]</u>        | <u>6/13/11</u>  |
|                |                           | ADF&G Fisheries Scientist | Date            |
| Revision Year: | <u>2012</u>               | <u>[Signature]</u>        | <u>6/13/11</u>  |
|                |                           | ADNR OHMP Operations Mgr. | Date            |
| Revision to:   | Atlas _____ Catalog _____ | <u>[Signature]</u>        | <u>9 May 11</u> |
|                | Both _____                | FDD Project Biologist     | Date            |
| Revision Code: | <u>C-9</u>                | <u>[Signature]</u>        | <u>9/21/11</u>  |
|                |                           | Cartographer              | Date            |

OBSERVATION INFORMATION

| Species     | Date(s) Observed | Spawning | Rearing | Present | Anadromous                          |
|-------------|------------------|----------|---------|---------|-------------------------------------|
| CO spawning | 1994-1998        | yes      |         | yes     | <input checked="" type="checkbox"/> |
|             |                  |          |         |         | <input type="checkbox"/>            |
|             |                  |          |         |         | <input type="checkbox"/>            |
|             |                  |          |         |         | <input type="checkbox"/>            |
|             |                  |          |         |         | <input type="checkbox"/>            |

*Revise hydrographer observations 2/10/11 old*

**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:** Barb Spring is a short spring influenced Tributary on the North side of the Delta Clearwater River. Barb Spring has a wide backwater area near the mouth of the spring then becomes narrow all the way to its headwater 0.3 mile upstream. There are not barriers to fish movement, salmon are difficult to observed because of the dense canopy over the spring especially in the mid-section. This submission of Barb Spring is to provide a description and add aerial coho salmon survey counts to the AWC database. A description of Barb Spring is described in the word document (Barb Spring.doc) From 1994-1998, ADF&G conducted aerial surveys of Barb Spring and 34 other non-navigatable springs. Barb Spring is approximately 0.30 miles in length and spawning coho salmon were observed in two of the five survey years, counts ranging from 0-90. Barb Spring originates on the North side of the Delta Clearwater River (N64° 03.902', W145° 28.282') and the lower end with its confluence with the Delta Clearwater River (N64° 03.723', W145° 28.158'). Barb Spring has good habitat for juvenile coho salmon as well as other Juvenile species having extensive surface area near it's mouth. TOPO! software was used to calculate distance and obtain lat/long locations.

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

Signature: \_\_\_\_\_ Date: 4/19/2011

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: \_\_\_\_\_ Revision 02/05

Name of Area Biologist (please print): \_\_\_\_\_

**Johnson, J D (DFG)**

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**From:** Parker, Fronty (DFG)  
**Sent:** Thursday, May 05, 2011 7:51 AM  
**To:** Johnson, J D (DFG)  
**Subject:** AWC nomination: Barb Spring (334-40-11000-2490-3416-4008)  
**Attachments:** Barb Spring 04-19-2011.xls; Barb Spring.doc; AWC number system for DCR.xlsx

Barb Spring is one of 21 tributaries into the Delta Clearwater River that has aerial coho salmon survey data. This is an existing AWC nomination and is updated with new data. The original numbering sequence for Barb Spring has changed is shown in the spreadsheet "AWC number system for DCR.XLSX". Descriptive information and aerial coho salmon survey data for Barb Spring is added to this nomination.

-Fronty

Barb Spring (local name, no USGS name)

04/19/2011

**Anadromous stream catalog number** 334-40-11000-2490-3416-4008

**Description:** Barb Spring is a spring influenced tributary on the North Side of the Delta Clearwater River located at mile 6.3 (Figure 1). Barb Spring is fairly narrow along most of its length with the exception of its mouth portion which widens and encompasses more extensive wetland area. No barriers exist for movements of fish along this spring. Spawning coho salmon have been observed and counted in two of the five years that aerial surveys were conducted in Barb Spring.

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. 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).

Barb Spring is a 0.30 mile in length and is located on the North side of the Delta Clearwater River (Figure 1). Barb Spring on the USGS map is shown in Figure 2 for AWC purposes. Barb Spring originates from ground upwelling (N64° 03.902', W145° 28.282') and the lower end with its confluence with the Delta Clearwater River (N64° 03.723', W145° 28.158').

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.) From 1994-1998, aerial coho surveys were conducted to determine numbers of spawning coho salmon in non-boatable portions of the DCR. 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). The average proportion is then applied to the mainstem DCR count and the resultant estimate for the non-navigatable component is added to the mainstem count to obtain an estimate of total escapement. From 1994-1998, the helicopter count for Barb Spring is presented in Table 2.

**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 aerial coho survey data.

Figure 1. Barb Spring, Google Earth picture of Barb Spring joining with the confluence of the Delta Clearwater River, the watered area is outlined in blue.

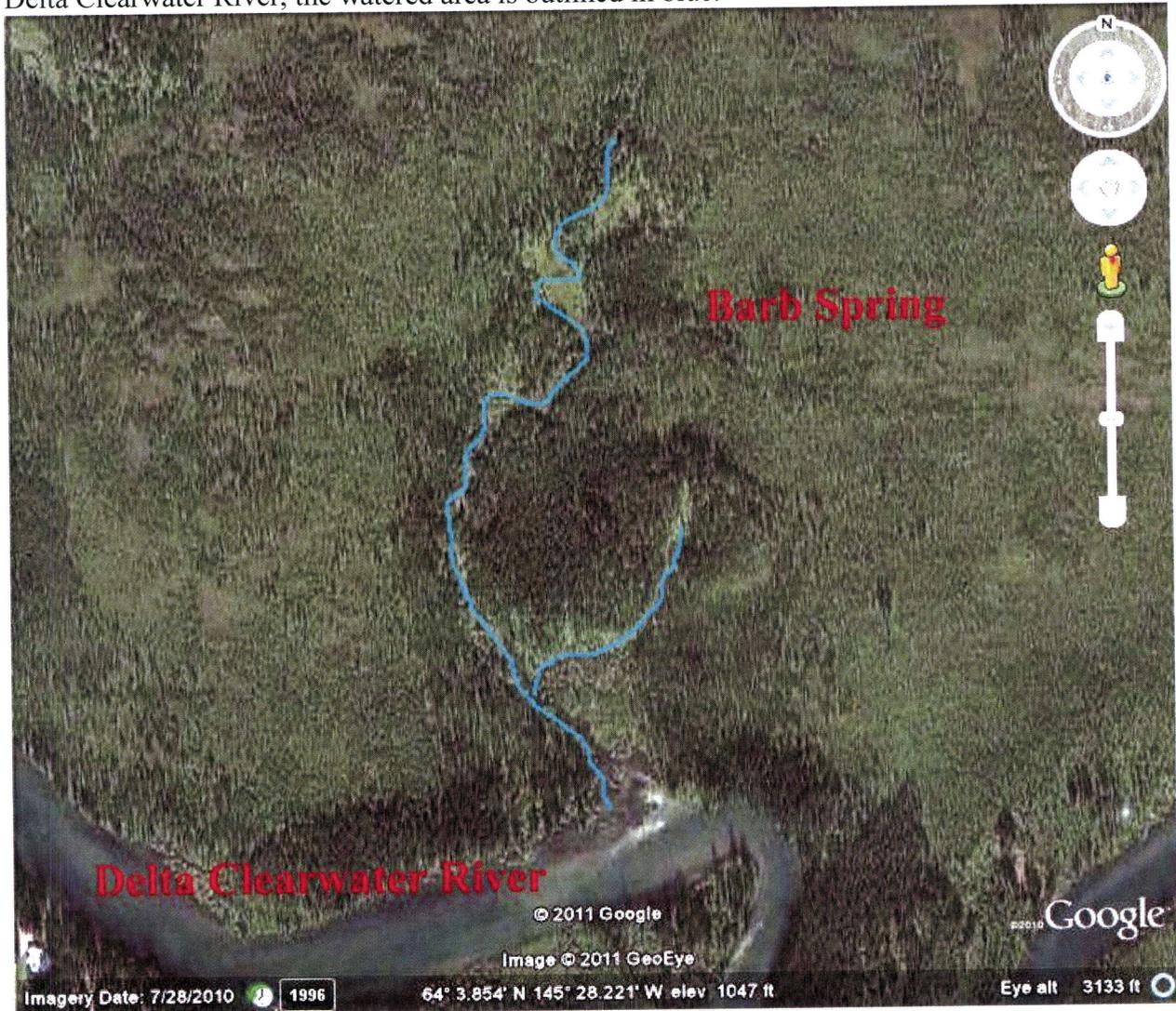


Figure 2. USGS map with several spring tributaries of the Delta Clearwater River including Barb Spring.

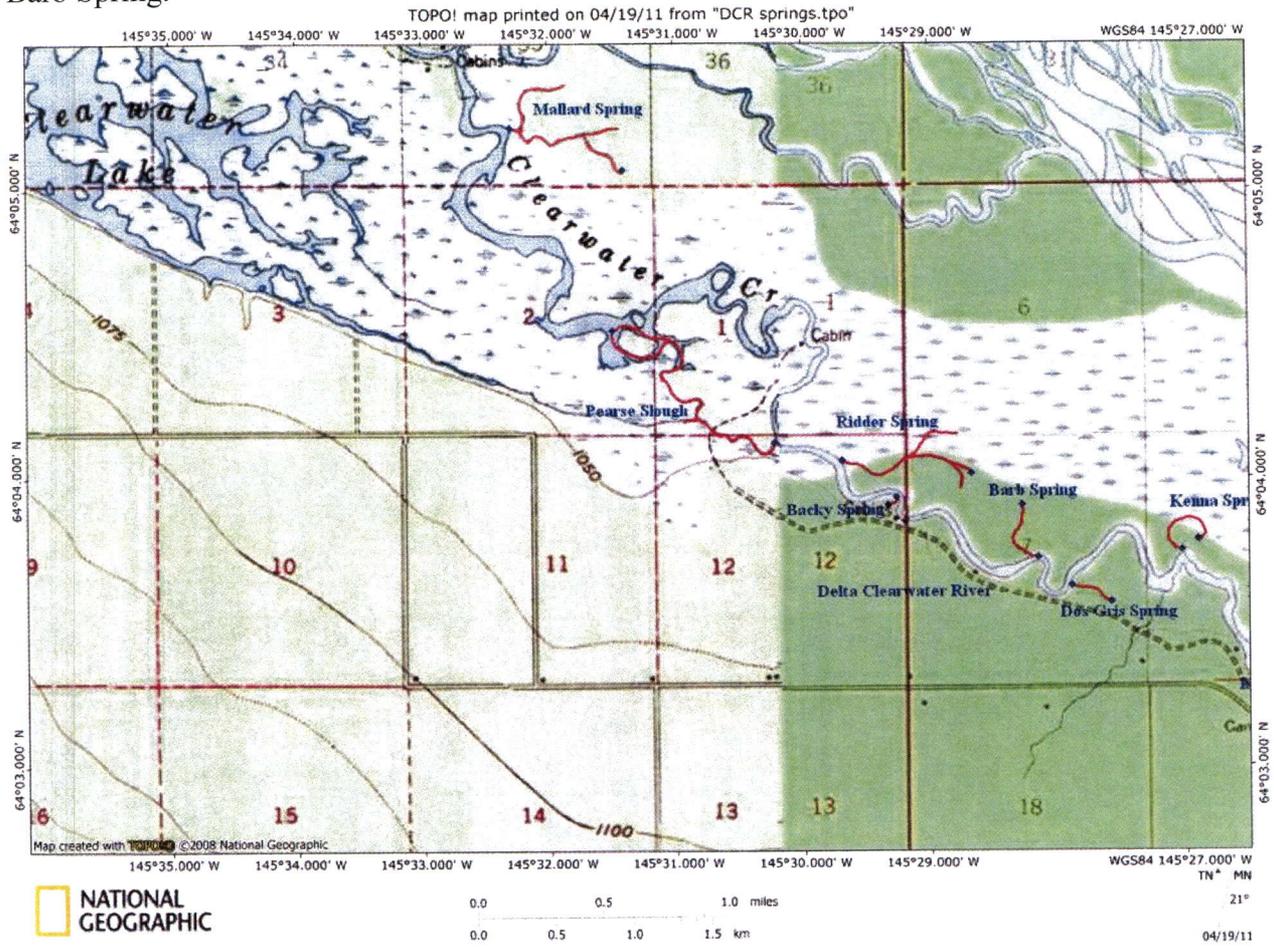
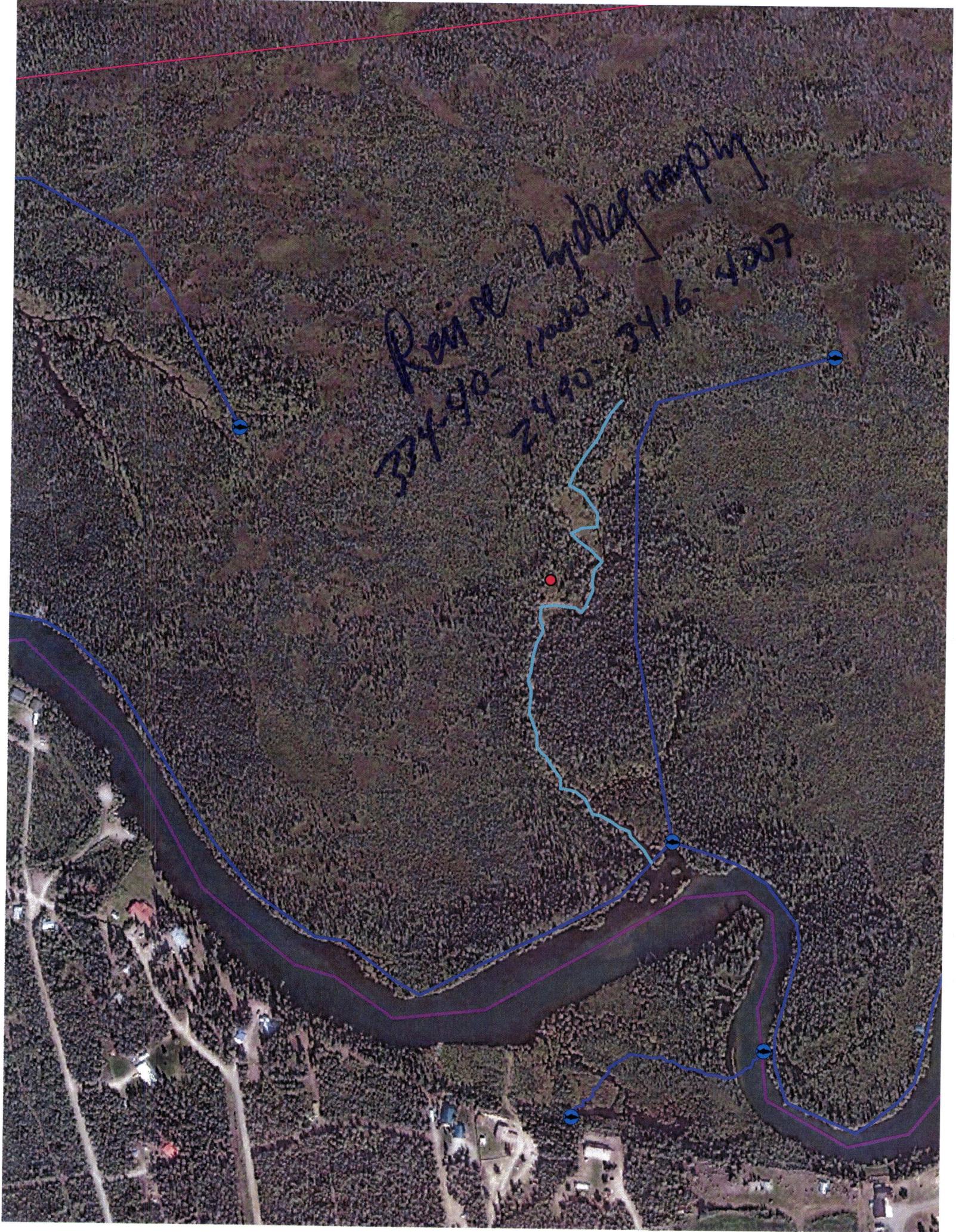


Table 1. Delta Clearwater River coho counts by boat and aerial counts from 1994-1998, expanded to include non-navigatable portions of the river in years when aerial surveys were not done.

| Year | Mainstem<br>DCR<br>Escapement | Counts in<br>Lower River<br>Mile 0-8 | Counts in<br>Upper River<br>Mile 8-18 | Only<br>Tributaries | Coho's<br>% in Tributaries | Expanded<br>Count<br>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.-** Helicopter Aerial Coho surveys of Barb Spring from 1994-1998.

| Year | Barb Spring<br>Tributary |
|------|--------------------------|
| 1994 | 90                       |
| 1995 | 25                       |
| 1996 | 0                        |
| 1997 | 0                        |
| 1998 | 0                        |



Raise hydrograph  
from 91% to 100%  
27490-27900-3416-4009