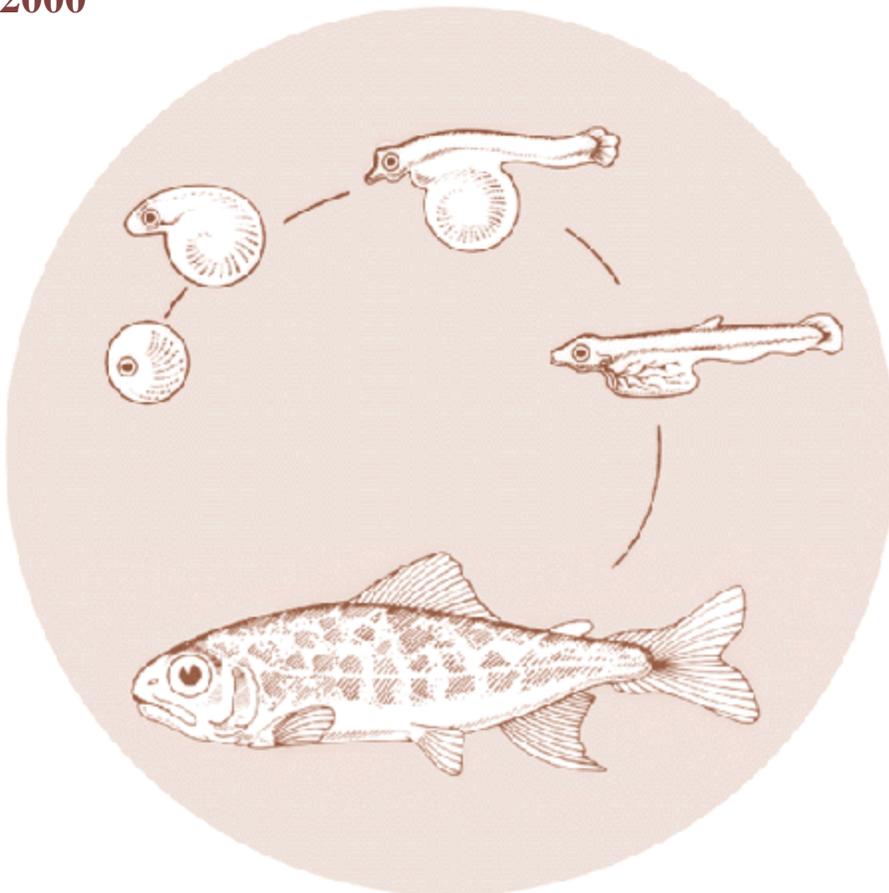


# Sherman Creek Hatchery

## Washington Department of Fish and Wildlife Fish Program

### Annual Report 2000



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**Washington Department  
of  
Fish and Wildlife  
Fish Program  
Production Division**

**Sherman Creek Hatchery**

**Annual Report**

January 1, 2000 - December 31, 2000

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# Executive Summary

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The Sherman Creek Hatchery (SCH) was designed to rear 1.7 million kokanee fry for acclimation and imprinting during the spring and early summer. Additionally, it was designed to trap all available returning adult kokanee during the fall for broodstock operations and evaluations. Since the start of this program, the operations on Lake Roosevelt have been modified to better achieve program goals. These strategic changes have been the result of recommendations through the Lake Roosevelt Hatcheries Coordination Team (LRHCT) and were done to enhance imprinting, improve survival and operate the two kokanee facilities more effectively. The primary changes have been to replace the kokanee fingerling program with a yearling (post smolt) program of up to 1,000,000 fish. To construct and operate twenty net pens to handle the increased production. The second significant change was to rear 200,000 rainbow trout fingerling at SCH from July through October, for stocking into the volunteer net pens. This enables the Spokane Tribal Hatchery (STH) to rear additional kokanee to further the enhancement efforts on Lake Roosevelt.

Monitoring and evaluation is preformed by the Lake Roosevelt Fisheries Monitoring Program. From 1988 to 1998, the principle sport fishery on Lake Roosevelt has shifted from walleye to include rainbow trout and kokanee salmon (Underwood et al. 1997, Tilson and Scholz 1997). The angler use, harvest rates for rainbow and kokanee and the economic value of the fishery has increased substantially during this 10-year period. The most recent information from the monitoring program also suggests that the hatchery and net pen rearing programs have been beneficial to enhancing the Lake Roosevelt fishery while not negatively impacting wild and native stocks within the lake.

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# Introduction

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**Figure 1.** Sherman Creek Hatchery

Sherman Creek Hatchery is at the mouth of Sherman Creek on Lake Roosevelt, which is 3 miles west of Kettle Falls, Washington. The Bonneville Power Administration (BPA) constructed the hatchery in 1991. The Washington Department of Fish and Wildlife (WDFW) perform the operations and maintenance with funding provided by BPA. The hatchery is one of two kokanee (*Oncorhynchus nerka*) facilities provided to partially mitigate for the loss of anadromous fish habitat due to the construction of Grand Coulee Dam in 1941. The hatcheries were initiated in part by the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program. The BPA, Spokane Indian Tribe (ST), Colville Confederated Tribes (CCT), Upper Columbia United Tribes Fisheries Research Center (UCUT), Eastern Washington University (EWU), National Park Service (NPS) and the WDFW work together toward fishery enhancement on Lake Roosevelt and Banks Lake. The combined production goals of the Sherman Creek Hatchery (SCH) and the Spokane Tribal Hatchery (STH) were established at 13 million kokanee, (8 million for Lake Roosevelt and another 5 million for Banks Lake). In addition to the kokanee, 500,000 rainbow trout (*Oncorhynchus mykiss*) are supplied annually for net pen rearing through the Volunteer Rainbow Trout Net Pen Project. Fish feed is partially funded through the WDFW Aquatic Lands Enhancement Fund.

The role of the Sherman Creek Hatchery in this program is to: (a) establish a kokanee broodstock for future egg requirements; (b) create and enhance the kokanee fishery within Lake Roosevelt; and (c) assist in rainbow trout rearing and fishery enhancement on Lake Roosevelt.

# 2000 Annual Operating Plan

## 2000 Annual Production Goal (APG)

The APG are the goals set fourth for the operation of SCH during the coming year. The Lake Roosevelt Hatchery Coordination Team(LRHCT) reviews these goals and they are then used to define objectives and provide direction for the program at Sherman Creek.

| <b>Table 1.</b> 2000 APG summary and time line for operations.                                                                                                                                 |      |           |          |         |                                                                                  |   |   |   |   |                                                   |   |   |   |   |   |   |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|----------|---------|----------------------------------------------------------------------------------|---|---|---|---|---------------------------------------------------|---|---|---|---|---|---|---|
| Unit                                                                                                                                                                                           | Fish | Operation | Number   | In      | Out                                                                              | J | F | M | A | M                                                 | J | J | A | S | O | N | D |
| RW's                                                                                                                                                                                           | KOK  | Rearing   | 300 K    | 25 / lb | 10 / lb                                                                          |   |   | I | X | X                                                 | O |   |   |   |   |   |   |
| RW's                                                                                                                                                                                           | RBT  | Rearing   | 200 K    | 90 / lb | 15 / lb                                                                          |   |   |   |   |                                                   |   | I | X | X | X | O |   |
| RW's                                                                                                                                                                                           | KOK  | Trapping  | Unk      |         |                                                                                  |   |   |   |   |                                                   |   |   |   | X | X | X | X |
| SCNP                                                                                                                                                                                           | KOK  | Rearing   | 200 K    | 40 / lb | 15 / lb                                                                          | X | X | X | X | X                                                 | O |   |   |   |   | I | X |
| CRNP                                                                                                                                                                                           | KOK  | Rearing   | 300 K    | 40 / lb | 15 / lb                                                                          | X | X | X | X | X                                                 | O |   |   |   |   | I | X |
| KFNP                                                                                                                                                                                           | RBT  | Rearing   | 115 K    | 15 / lb | 5 / lb                                                                           | X | X | X | X | X                                                 | O |   |   |   | I | X | X |
| KFNP                                                                                                                                                                                           | RBT  | Rearing   | 30 K     | 15 / lb | 9 / lb                                                                           | X | X | X | X | X                                                 | X | X | X | O |   | I | X |
| KFNP                                                                                                                                                                                           | RBT  | Rearing   | 60 K     | 75 / lb | 10 / lb                                                                          |   |   |   |   |                                                   |   | I | X | X | O |   |   |
| CFH                                                                                                                                                                                            | RBT  | Rearing   | 30 K     | Eggs    | 15 / lb                                                                          | X | X | O |   |                                                   | I | X | X | X | X | X | X |
| CFH                                                                                                                                                                                            | KOK  | Spawn     | Adults   | Unk     | Fry                                                                              |   |   |   |   |                                                   |   |   |   |   | X | X | X |
| CFH                                                                                                                                                                                            | KOK  | Eggs      | Incubate | Unk     | Fry                                                                              | X | O |   |   |                                                   |   |   |   |   |   | I | X |
| <b>Key:</b> RW's = Raceways<br>SCNP = Sherman Cove Net Pens<br>CRNP = Colville River Net Pens<br>KFNP = Kettle Falls Net Pens<br>CFH = Colville Trout Hatchery                                 |      |           |          |         | KOK = Kokanee<br>RBT = Rainbow<br>K = (x1,000)<br>Size = per/lb<br>Ukn = Unknown |   |   |   |   | I = Received In<br>O = Transferred or Planted Out |   |   |   |   |   |   |   |
| <b>Note:</b> These production numbers are included as a portion of this budget. The fish are reared during this budget cycle but some are programmed for release during the next budget cycle. |      |           |          |         |                                                                                  |   |   |   |   |                                                   |   |   |   |   |   |   |   |

All production numbers, including numbers of fish to be released and sizes at release are target goals. Actual size and release numbers may be different from these goals. The APG and methods of operation are based on anticipated events at Sherman Creek, Lake Whatcom, Meadow Creek and the Spokane Tribal hatcheries. In the event significant circumstances or operations change, those changes will be reported to the LRHCT and BPA.

## 2000 Annual Operation Plan (AOP) Goals

The operation and program goals from the 2000 AOP were as follows:

- 2.1 Continue with annual kokanee yearling production.  
Status: Completed
- 2.2 Acclimate and plant 300,000 kokanee yearlings (Mar-July, raceways).  
Status: Completed
- 2.3 Rear and release 500,000 kokanee yearlings, (Oct-June, net pens).  
Status: Completed, 197,975 in 2000 and 500,000 for 2001 releases.
- 2.4 Rear 200,000 rainbow trout fingerlings for supply to the Lake Roosevelt net pen sites, (July-Oct. ). Status: Completed
- 2.5 Continue later release dates of all fish reared for improved survival.  
Status: Completed
- 2.6 Continue using semi-moist/high energy feed during low water temperature periods.  
Status: Completed
- 2.7 Construct and operate twenty kokanee net pens on Lake Roosevelt.  
Status: Ongoing
- 2.8 Use all available means of adult kokanee collection for broodstock and program evaluation. These methods include: floating "Oneida" traps, gillnets and electro-fishing.  
Status: Completed
- 2.9 Seek alternate means of adult collection.  
Status: Ongoing
- 2.10 Assist with the rainbow trout net pen operations on Lake Roosevelt.  
Status: Completed

## 2000 Annual Operating Plan Objectives

The objectives for this contractual period were to rear, acclimate, imprint, out plant, trap and spawn kokanee salmon and rear and acclimate rainbow trout to meet the 2000 APG and plan for 2001 operations. The purpose of this program is to enhance the fishery within Lake Roosevelt and to create a return of adult kokanee to Sherman Creek for future broodstock acquisition. We will try to accomplish this by following standard operating procedures of the Fish Program, WDFW fish health guidelines, and standard fish hatchery practices.

| <b>Table 2. 2000 AOP Objectives.</b>                                                                                                                                     |                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| (3.1) Yearling Acclimation                                                                                                                                               | (3.7) Out Planting                 |
| (3.2) Yearling Production                                                                                                                                                | (3.8) Adult Trapping               |
| (3.3) Rainbow Trout Rearing                                                                                                                                              | (3.9) Monitor Populations / Adults |
| (3.4) Fish Health Monitoring                                                                                                                                             | (3.10) Spawning                    |
| (3.5) Imprinting Strategies                                                                                                                                              | (3.11) Alternate Brood Stocks      |
| (3.6) Marking / Tagging                                                                                                                                                  | (3.12) Training / Contacts         |
| Status: All of the 2000 AOP Objectives were completed.<br>Note: For a full listing and description of AOP objectives 3.1 through 3.12, please refer to the 2000 SCH AOP. |                                    |

# Kokanee Salmon Production

Kokanee salmon production on Lake Roosevelt currently uses two stocks of kokanee. The first stock used is Lake Whatcom from the WDFW hatchery near Bellingham, Washington. Kokanee are native to Lake Whatcom and it has been the states primary egg source since 1915. The stock is pure, having no known introductions from other kokanee sources (Crawford 1979). The second stock used is Meadow Creek from the Meadow Creek Spawning Channel at the north end of Kootenay Lake, British Columbia. Meadow Creek is one of three stocks of kokanee in Kootenay Lake and is a wild stock that reproduces naturally in the spawning channel operated by the British Columbia Ministry of Fisheries.

| <b>Table 3.</b> 1992-2000 Kokanee salmon releases. |                         |                         |                    |                         |                    |                                 |
|----------------------------------------------------|-------------------------|-------------------------|--------------------|-------------------------|--------------------|---------------------------------|
| <b>Fingerlings</b>                                 |                         | <b>Yearlings</b>        |                    |                         |                    |                                 |
|                                                    | <b>Raceways</b>         | <b>Raceways</b>         |                    | <b>Net Pens</b>         |                    | <b>Combined Yearling Totals</b> |
| <b>Stock Origin</b>                                | <b>Whatcom Hatchery</b> | <b>Whatcom Hatchery</b> | <b>Meadow Wild</b> | <b>Whatcom Hatchery</b> | <b>Meadow Wild</b> |                                 |
| 1992                                               | 976,925                 | 45,714                  |                    |                         |                    | 45,714                          |
| 1993                                               | 902,749                 | 85,321                  |                    |                         |                    | 85,321                          |
| 1994                                               | 946,762                 | 73,157                  |                    | 53,002                  |                    | 126,159                         |
| 1995                                               |                         | 203,357                 |                    | 72,252                  |                    | 275,609                         |
| 1996                                               |                         | 215,198                 |                    | 71,055                  |                    | 286,253                         |
| 1997                                               |                         | 216,896                 |                    | 48,417                  |                    | 265,313                         |
| 1998                                               | 87,421                  | 290,028                 |                    | 211,178                 |                    | 501,206                         |
| 1999                                               |                         | 368,622                 |                    | 181,846                 |                    | 550,468                         |
| 2000                                               |                         | 272,166                 | 105,432            | 197,975                 |                    | 575,573                         |

In addition to the kokanee releases SCH reared 10,000 kokanee captive broodstock during 1993.

## Raceway Production/Releases

During March 2000, SCH received two stocks of kokanee salmon from the STH. Lot 04, was Lake Whatcom Hatchery stock and Lot 05, which was Meadow Creek wild stock kokanee.

### Lot 04 Lake Whatcom BY98

We received 276,208 Lake Whatcom kokanee at 16.8 fpp totaling 16,410 pounds that were adipose clipped with 38% coded wire tagged.

Releases of 272,166 kokanee at 9.4 fpp from Lot 04 totaled 28,955.3 pounds and were stocked into Lake Roosevelt through the SCH fish ladder at the end of June and July of 2000. During rearing at SCH mortality was 4,042 or 1.46% and represented a production gain of 12,545.3 pounds.

### Lot 05 Meadow Creek BY98

We received 107,122 Meadow Creek kokanee at 25.7 fpp totaling 4,175 pounds that were adipose clipped and 100% coded wire tagged.

Releases of 105,432 kokanee at 9.63 fpp from Lot 05 totaled 10,944.9 pounds and were stocked into Lake Roosevelt through the SCH fish ladder at the end of June of 2000. During rearing at SCH mortality for this lot was 1,690 or 1.58% and represented a production gain of 6,769.9 pounds.

We timed the above releases in conjunction with a mortality study looking at predator prey relationships. This study was led by Casey Baldwin, WDFW and is available through the Lake Roosevelt Fisheries Monitoring Program.

## Kokanee Net Pen Production/Releases

### Lot 03 Lake Whatcom BY98

In November 1999 we received 201,200 Lake Whatcom kokanee from the STH at 54.4 fpp totaling 3,699 pounds for the kokanee net pens. The fish were reared through the winter at the Colville and Sherman Creek net pen sites as part of the Kokanee Net Pen Project. In mid-June of 2000, 197,975 adipose clipped kokanee at 19.7 fpp totaling 10,050.9 were released into Lake Roosevelt. These kokanee had a net pen reared mortality of 3,225 or 1.6% and represented a production gain of 6,355.9 pounds.

### Lot 06 Meadow Creek BY99

In November 2000 the net pens were loaded with 411,612 Meadow Creek kokanee @ 46.9 fpp totaling 8,774 pounds for release in June of 2001. These fish are in pens at the mouth of the Colville River with an additional 100,000 to be transferred in January to the new kokanee net pens located at Seven Bays.

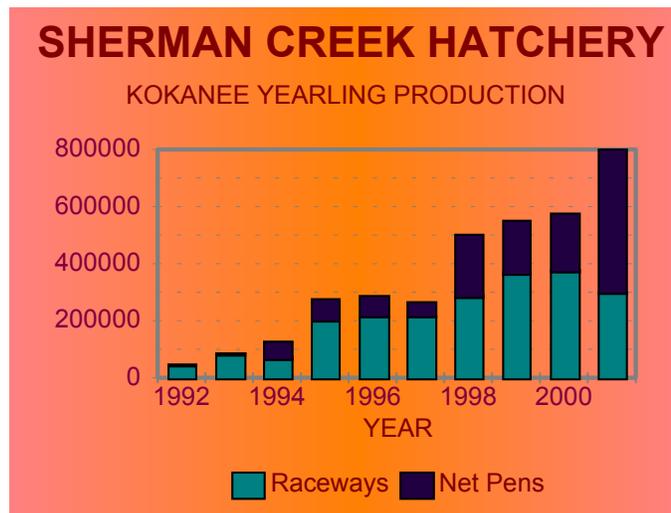


Figure 2. 1992-2000 Kokanee yearling releases.

# Rainbow Trout Production

## Raceway Production/Transfers

During 1995 we began an annual summer fingerling program of rearing rainbow trout for fall net pen stocking. This frees up water and rearing space at the STH enabling them to rear additional kokanee to further our efforts on Lake Roosevelt and Banks Lake.

| Year | Number Reared | Species       | Operation              |
|------|---------------|---------------|------------------------|
| 1993 | 10,000        | Kokanee Brood | Captive Brood          |
| 1995 | 101,116       | Rainbow Trout | Fingerling Production. |
| 1996 | 142,072       | Rainbow Trout | Fingerling Production. |
| 1997 | 140,359       | Rainbow Trout | Fingerling Production. |
| 1998 | 192,461       | Rainbow Trout | Fingerling Production. |
| 1999 | 238,139       | Rainbow Trout | Fingerling Production. |
| 2000 | 197,379       | Rainbow Trout | Fingerling Production. |

## Lot 12 Spokane BY99

In July 2000 SCH received 199,100 Spokane rainbow trout fingerlings from the STH at 110.0 fpp totaling 8,394 pounds to rear for fall net pen stocking.

In October 2000 SCH transferred 60,092 rainbow trout at 16.6 fpp totaling 3,620 pounds to the Kettle Falls net pens, 52,213 at 13.3 fpp totaling 3,920 pounds to the Hall Creek net pens, and 62,979 at 12.1 fpp totaling 5,205 pounds to the Hunters net pens. An additional 20,064 at 38.0 fpp totaling 528 pounds were transferred to the Kettle Falls net pens for summer rearing.

These fish had a raceway reared mortality of 1,721 or 0.86% and represented a production gain of 2,448.9 pounds.

Note: The above figures included 2,031 rainbows at 12.1 fpp totaling 167.9 pounds that were surplus fish and released directly into Sherman Creek.

## Net Pen Production/Releases

In cooperation with the Volunteer Net Pen Program (LRDA), SCH staff operate the six rainbow trout net pens at Kettle Falls that produce approximately 100,000 catchable rainbow trout annually.

The monitoring and evaluation of the net pen program is conducted by the Lake Roosevelt Fisheries Monitoring Program.

Note: To avoid confusion between stocking databases starting in 2000 the Volunteer Net Pen Program will report all hatchery stock net pen rainbows while SCH will report all wild stock net pen releases.

| <b>Table 5.</b> Wild rainbow net pen releases. |              |                |                   |               |                   |
|------------------------------------------------|--------------|----------------|-------------------|---------------|-------------------|
| <b>Year</b>                                    | <b>Stock</b> | <b>Numbers</b> | <b>Size / Fpp</b> | <b>Pounds</b> | <b>Brood Year</b> |
| 1999                                           | PHALON LAKE  | 9,725          | 2.34              | 4,155.7       | 1998              |
| 2000                                           | PHALON LAKE  | 32,449         | 7.8               | 4,160.9       | 1999              |
| 2001                                           | PHALON LAKE  |                |                   |               | 2000              |

We are incorporating greater use of native or locally adaptive stocks of redband rainbow trout in our net pen program and monitoring their performance through the Lake Roosevelt Fisheries Monitoring Program.

### **Lot 11 Phalon Lake BY99**

In March 2000 the Colville Trout Hatchery transferred 30,708 Phalon Lake rainbow at 20.2 fpp totaling 1,518 pounds to net pens at Kettle Falls. Then an additional 3,298 were transferred at 17.0 fpp totaling 194 pounds.

In July and October 2000 a total of 32,449 fish were released at 7.8 average fpp totaling 4,160.9 pounds. These fish had a net pen reared mortality of 1,557 or 4.6% and represented a production gain of 2,448.9 pounds and were released directly into Lake Roosevelt.

### **Lot 13 Phalon Lake BY00**

In October and November 2000 the Colville Trout Hatchery transferred 36,000 Phalon Lake rainbow to net pens at the Kettle Falls site. We are rearing these fish for release in September 2001.

# Adult Kokanee Collected

These fish were collected using a combination of methods but primarily through boat electro-fishing. The fish collected were of known hatchery origin with fin clips and/or coded wire tag implants. Additional adult and trapping information is available through Eastern Washington University and the Lake Roosevelt Fisheries Monitoring Program.

| <b>Table 6. 1993-2000 adult kokanee recoveries.</b> |              |                |              |
|-----------------------------------------------------|--------------|----------------|--------------|
| <b>Adult Kokanee Recovered</b>                      |              |                |              |
| <b>Year</b>                                         | <b>Males</b> | <b>Females</b> | <b>Total</b> |
| 1993                                                |              |                | 60           |
| 1994                                                |              |                | 81           |
| 1995                                                |              |                | 10           |
| 1996                                                |              |                | 970          |
| 1997                                                | 374          | 22             | 396          |
| 1998                                                |              |                | 2,471        |
| 1999                                                | 1,292        | 35             | 1,327        |
| 2000                                                | 2,302        | 233            | 2,658        |

## 2000 Trapping

The 2000 trapping season totaled 2,658 adult kokanee collected in Sherman Creek and the adjoining cove. These fish returned earlier than in previous years. We think the earlier run time and higher returns are the result of introducing Meadow Creek wild stock into the fisheries program on Lake Roosevelt. This was the first year that Meadow Creek fish were expected back.

The following table represents the coded wire tag analysis done at Eastern Washington University from the returning adults collected at Sherman Creek (McLellan, 2000).

| <b>Table 7. Kootenay Stock vs. Whatcom Stock Kokanee Salmon</b>                                                                                 |            |                                  |                    |                        |                   |                            |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------|--------------------|------------------------|-------------------|----------------------------|----------------|
| Returns to Sherman Cree of coded wire tagged 2-year old Whatcom stock (62-03-34) vs. Meadow Creek stock (62-03-35) released from Sherman Creek. |            |                                  |                    |                        |                   |                            |                |
| <b>Lot Number</b>                                                                                                                               | <b>Age</b> | <b># Stocked in L. Roosevelt</b> | <b># Recovered</b> | <b># Not Recovered</b> | <b>Recovery %</b> | <b><math>\chi^2</math></b> | <b>p-value</b> |
| 62-03-34                                                                                                                                        | 2          | 74,669                           | 199                | 74,477                 | 0.27              |                            |                |
| 62-03-35                                                                                                                                        | 2          | 83,291                           | 1,339              | 81,952                 | 1.61              | 734.5                      | <0.001         |

**Note:** The number stocked column has been corrected for percent coded wire tag retention.

We normally transfer adult kokanee to the Colville WDFW Fish Hatchery for holding and spawning. This year however, the LRHCT decided to not take eggs from unknown origin adults since we were in the middle of a stock change to increase the use of wild kokanee from Meadow Creek, BC.

## Monitoring and Evaluation

---

Monitoring and evaluations are performed by the Lake Roosevelt Fisheries Monitoring Program. From 1988 to 1999, the principle sport fishery on Lake Roosevelt has shifted from walleye to include rainbow trout and kokanee salmon (Underwood et al. 1997, Tilson and Scholz 1997). The angler use, harvest rates for rainbow and kokanee and the economic value of the fishery has increased substantially during this 10-year period. The most recent information from the monitoring program also suggests that the hatchery and net pen rearing programs have been beneficial to enhancing the Lake Roosevelt fishery while not negatively impacting wild and native stocks within the lake.

SCH assists in the monitoring and evaluation efforts through marking coordination, data collection, database operations and stock imprinting. Information collected and compiled is being used to improve on operations at SCH and the STH. This information is available to other natural resource agencies and interested individuals.

# **Hatchery Operations and Maintenance**

---

## **Maintenance and Construction Projects**

Operations and maintenance were performed according to state of Washington and WDFW policies and guidelines.

The hatchery crew was involved with a variety of projects both with fish handling and facility operations. This enables the hatchery to operate more efficiently and utilizes funds more effectively. Some projects accomplished were: roadway and grounds maintenance, safety modifications, dock maintenance and repairs, predator netting, building repairs and maintenance, water festival and visitor site improvements.

## **Residence Replacement**

During 2000 we replaced the on site house using a Liberty Homes manufactured home with Substantial Completion on January 9, 2001. We were then able to occupy the house during January. The contractor has additional finish work to complete but needs to wait for milder temperatures this spring. The hatchery crew did much of the site work which allowed us to correct some of the other deficiencies surrounding the residence. One of those items corrected was the relocation of the water treatment plant from the house to the garage.

## **Water Plant**

During the residence replacement we relocated the pressure tank, electrical service, controls, piping, and carbon filter from the house to the garage. This should eliminate some of the problems we faced on the old house involving water damage and power fluctuations.

## **Stream Maintenance**

In September 2000 the Hatchery Maintenance crew removed gravel and sediment from the area just downstream of the fish ladder which was preventing proper draining of the raceways and ladder. This problem originated during the May 1998 flooding of Sherman Creek when upstream material was deposited below the intake dam.

## **Equipment Purchases**

### **Kokanee Net Pens**

In November and December 2000 we received twenty kokanee net pens complete with walkways for kokanee rearing in Lake Roosevelt. This increased our rearing capabilities to meet program goals. We will locate the pens at both the Colville river site and at Seven Bays with the help of the Volunteer Net Pen Project. We are very pleased in getting these pens which are easier and safer to operate than the home built versions currently in use.

### **Docks**

With delivery of the kokanee net pens we can now proceed with purchasing the support docks for anchoring and offshore feed storage.

### **Truck**

We have ordered the replacement truck for the hatchery with delivery expected in February. This will enable us to surplus the old tanker and use the 1992 flatbed for fish transport and fire protection.

### **Transport Tank**

The 350-gallon fish transport tank is expected for delivery in April. This will allow us to move fish between the hatchery and the net pens and help with adult collections each fall. We are also equipping this tank for fire fighting for plant protection at Sherman Creek.

## **Future Modifications Identified**

- During 2001 the hatchery crew will complete additional finish work on the house to include replacement of the back porch and additional storage.
- Improved predator control for the raceways at Sherman Creek is planned for 2001.
- Ways of reducing silt and debris entering the head box through the intake screen need to be investigated. Status: Ongoing

## Cooperative Projects

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The hatchery staff represented WDFW and BPA on the Lake Roosevelt Water Festival Organization Committee which prepares for the annual fourth grade event. SCH and BPA were joint presenters for the sixth year at the water festival, providing hands on instruction to more than 500 students from the surrounding area.

This year again with Dr. Scholz's and Eastern Washington University's assistance we sponsored a field trip involving two of the local high school chemistry and biology classes in field sampling and fishery investigations. This was a great success and will be an ongoing event.

We continue to expand our visitor facilities to meet the increasing number of visitors we see each year. Hopefully we can construct a living stream to improve on our outside facilities in a self guided type format.

The Lake Roosevelt Hatchery Coordination Team continues to be an excellent avenue for interagency cooperation between the co-managers on Lake Roosevelt and this coming year we look forward to continued success.

Some of the agencies or groups we have partnerships with include: the Spokane Tribe of Indians, Colville Confederated Tribe, Kalispel Tribe, Colville National Forest, National Park Service, B.C. Ministry of the Environment, BC Fisheries, Lake Roosevelt Water Festival, Lake Roosevelt Development Association, Stevens County, Ferry County, Boise Cascade, Cominco, Avista, and school districts from Stevens, Ferry, Trail and Fruitvale BC, all helping with the hatchery and the surrounding fish and wildlife resources.

# Personnel

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SCH was operated during 2000 using two FTE's; Mitch Combs, Fish Hatchery Specialist 3 and Jeffrey Weathermen, Fish Hatchery Specialist 2 with administrative and complex support from Mike Lewis, Complex Manager and Cory Morrison, Fish Hatchery Specialist 4.

Fish health services for both SCH and the STH were provided by Steve Roberts, Fish Health Specialist.

During this period hatchery staff received ongoing training in the following areas: fish health, fish culture techniques, fisheries management, pesticide application, ethics, sexual harassment, boat handling, defensive driving, first aid, D.O.T. drug and alcohol testing, and safety.

In March, SCH personnel attended the 26th Annual International Kokanee Workshop in Coeur d'Alene, Idaho. This workshop is the annual inter-agency exchange of kokanee culture and management techniques between the eleven western states and Canada.

## References

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- Crawford, B. 1979. The origin and history of the trout brood stocks of the Washington Department of Game. Washington Department of Game. pg 55-56.
- McLellan, H. 2001. Kootenay stock vs. Whatcom stock kokanee salmon investigations in Lake Roosevelt, 2000. Eastern Washington University.
- Underwood, K.D. and J.P. Shields and M.B. Tilson. 1997. Lake Roosevelt Fisheries Monitoring Program, 1995 Annual Report in K.D. Underwood and J.P. Shields. Lake Roosevelt fisheries research, 1995 annual report. Bonneville Power Administration.

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**Appendix A**  
**2000 Planting Report Summary**

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**SHERMAN CREEK HATCHERY 2000 PLANTING REPORT SUMMARY**

| #  | (Spc:Stk:BY:BO) | Pond   | Date  | Water Name      | County  | Number  | Size | Pounds   | CWT      | Mark        | Lot |
|----|-----------------|--------|-------|-----------------|---------|---------|------|----------|----------|-------------|-----|
| 01 | KO:WHAL:98:H    | K-NP#1 | 06-14 | Roosevelt, Lake | Stevens | 24,705  | 18.2 | 1,357.4  |          |             | 03  |
| 02 | KO:WHAL:98:H    | K-NP#2 | 06-14 | Roosevelt, Lake | Stevens | 24,114  | 22.0 | 1,096.1  |          |             | 03  |
| 03 | KO:WHAL:98:H    | K-NP#3 | 06-14 | Roosevelt, Lake | Stevens | 25,470  | 18.2 | 1,399.5  |          |             | 03  |
| 04 | KO:WHAL:98:H    | K-NP#4 | 06-14 | Roosevelt, Lake | Stevens | 24,318  | 22.0 | 1,105.4  |          |             | 03  |
| 05 | KO:WHAL:98:H    | K-NP#5 | 06-14 | Roosevelt, Lake | Stevens | 24,579  | 20.4 | 1,204.9  |          |             | 03  |
| 06 | KO:WHAL:98:H    | K-NP#6 | 06-14 | Roosevelt, Lake | Stevens | 25,001  | 18.0 | 1,388.9  |          |             | 03  |
| 07 | KO:WHAL:98:H    | K-NP#7 | 06-14 | Roosevelt, Lake | Stevens | 25,301  | 19.4 | 1,304.2  |          |             | 03  |
| 08 | KO:WHAL:98:H    | K-NP#8 | 06-14 | Roosevelt, Lake | Stevens | 24,487  | 20.5 | 1,194.5  |          |             | 03  |
| 09 | KO:WHAL:98:H    | RW 1-3 | 06-26 | Roosevelt, Lake | Ferry   | 94,518  | 9.63 | 9,811.9  | 62-03-34 | Ad Clipped  | 04  |
| 10 | KO:WHAL:98:H    | RW 1-3 | 06-26 | Roosevelt, Lake | Ferry   | 95,660  | 9.63 | 9,830.4  |          |             | 04  |
| 11 | KO:MEAD:98:W    | RW 1-3 | 06-26 | Roosevelt, Lake | Ferry   | 105,432 | 9.63 | 10,944.9 | 62-03-35 | Ad Clipped  | 05  |
| 12 | RB:PHAL:99:W    | KF-3&6 | 07-11 | Roosevelt, Lake | Stevens | 29,233  | 8.9  | 3,284.6  | Org-EWU  | Floy tagged | 11  |
| 13 | KO:WHAL:98:H    | RW 2   | 07-25 | Roosevelt, Lake | Ferry   | 72,602  | 8.9  | 8,158.0  |          |             | 04  |
| 14 | KO:WHAL:98:H    | RW 2   | 07-25 | Roosevelt, Lake | Ferry   | 5,829   | 8.9  | 655.0    | 62-55-29 |             | 04  |
| 15 | KO:WHAL:98:H    | RW 2   | 07-25 | Roosevelt, Lake | Ferry   | 3,557   | 8.9  | 400.0    | 62-51-44 |             | 04  |
| 16 | RB:SPOK:99:H    | RW 2   | 10-31 | Roosevelt, Lake | Ferry   | 2,031   | 12.1 | 167.9    |          |             | 12  |
| 17 | RB:PHAL:99:W    | KF #3  | 10-17 | Roosevelt, Lake | Stevens | 3,216   | 3.7  | 876.3    |          |             | 11  |

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