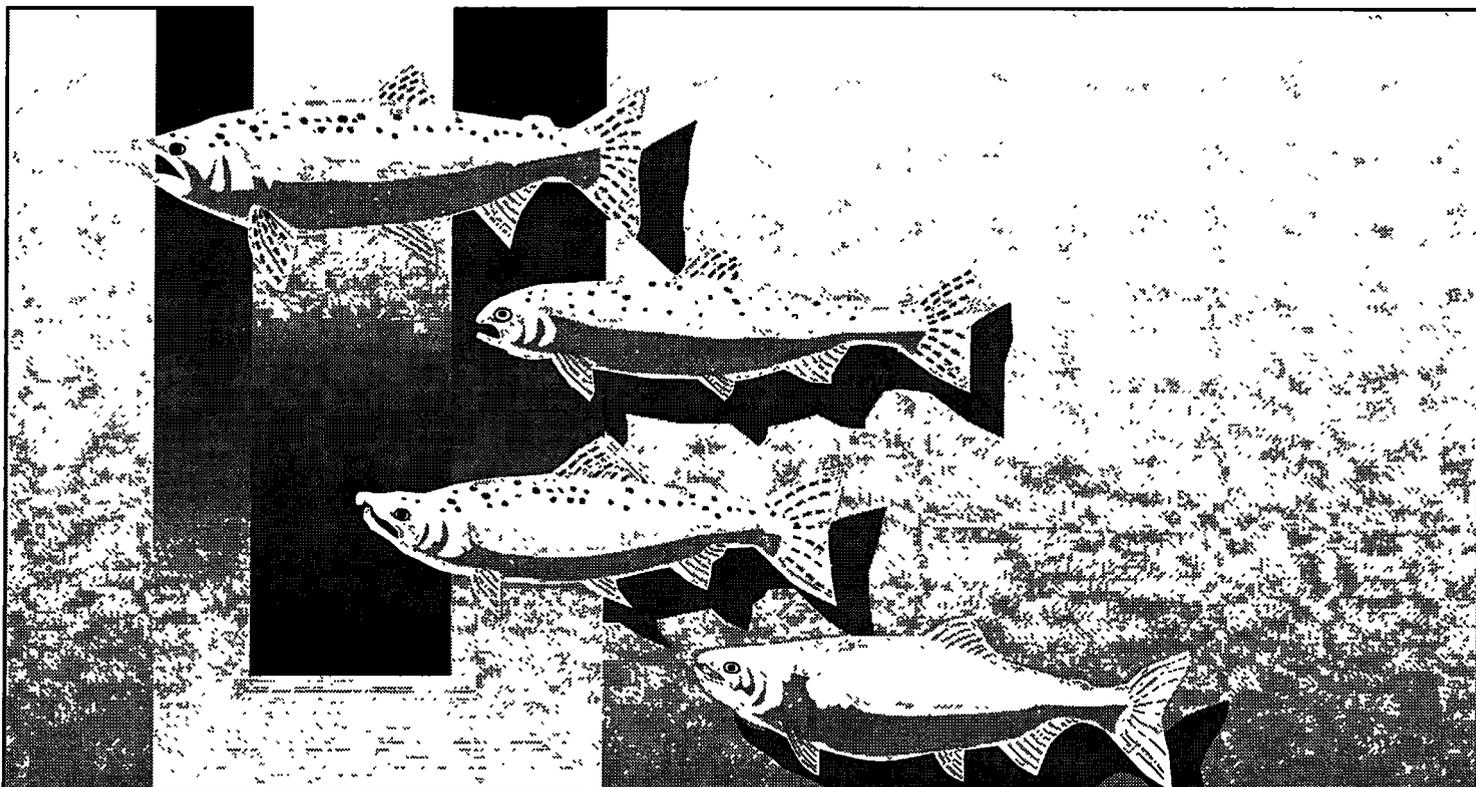




**US Army Corps  
of Engineers**

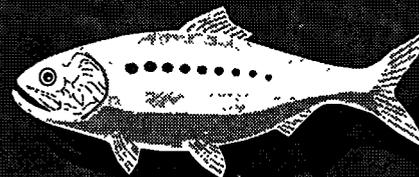
Portland & Walla Walla District

# Annual Fish Passage Report 1994



**COLUMBIA RIVER PROJECTS  
SNAKE RIVER PROJECTS**

**OREGON AND WASHINGTON**



**1994**

**ANNUAL FISH PASSAGE**

**REPORT**

**COLUMBIA AND SNAKE RIVERS**

**FOR**

**SALMON, STEELHEAD AND SHAD**

***BONNEVILLE DAM  
THE DALLES DAM  
JOHN DAY DAM  
McNARY DAM  
ICE HARBOR DAM  
LOWER MONUMENTAL DAM  
LITTLE GOOSE DAM  
LOWER GRANITE DAM  
PRIEST RAPIDS DAM  
ROCK ISLAND DAM  
ROCKY REACH DAM  
WELLS DAM***

**NORTH PACIFIC DIVISION  
U.S. ARMY CORPS OF ENGINEERS**

**Prepared By:  
U.S. Army Engineer Districts  
Portland and Walla Walla**

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**ANNUAL FISH PASSAGE REPORT  
FOR 1994**

**BONNEVILLE DAM**

**Fish Counting Schedule**

<b>Date</b>	<b>Time*</b>	
	<b>Direct Observation</b>	<b>Video Recording</b>
1-15 Nov 93	0800-1600 (8 hrs)	0400-0800, 1600-2000 (8 hrs)
16 Nov 93-14 Mar 94	None	0400-2000 (16 hrs)
15-31 Mar	0800-1600 (8 hrs)	0400-0800, 1600-2000 (8 hrs)
1 Apr-15 Jun 94	0400-2000 (16 hrs)	None
16 Jun-16 Aug 94	0400-2000 (16 hrs)	2400-0400, 2000-2400 (8 hrs)
17 Aug- 31 Oct	0400-2000 (16 hrs)	None
1-5 Nov 94	0800-1600 (8 hrs)	0400-0800, 1600-2000 (8 hrs)
6-15 Nov 94	0800-1600 (8 hrs)	2400-0800, 1600-2400 (16 hrs)
16-30 Nov 94	None	2400-2400 (24 hrs)

\* Start of hour through beginning of hour.

Times are Pacific Standard Time.

Much of the videotaping between 1 Nov 93 and 31 Mar 94 was missed. Also, counting was not possible during times when ladders were out of service for maintenance.

**Adult Fish Facilities Operating Schedule**

**Bradford Island Fish Ladder:**

Not out during this calendar year.

**Bradford Is. A-branch:**

Not out during this calendar year.

**Bradford Is. B-branch:**

11 Mar - 12 Mar                      Diffuser maintenance.

**Second Powerhouse Fish Ladder:**

3 Jan - 8 Feb                      Annual maintenance.

20 Dec - 22 Dec                      Annual maintenance.

Second powerhouse fishway auxiliary water supply turbines (F1 & F2) were in service continuously with the following exceptions:

1 Jan - 10 Feb	F2	Annual PH2 ladder maintenance (973 hours)
11 Feb	F2	(1.4 hours)
14 Feb	F2	Replaced exciter fan (1.7 hours)
23 Feb	F1&F2	Out for dive safety during TIEs installation (1 hour)
24 Feb	F1	Problem during line switching (1 hour)
9 Apr - 20 Apr	F2	Rotor winding failed (260 hours)
10 May	F2	General loss of field trip (.2 hour)
13 May	F1	BPA relay trouble (momentary)
13 Jun	F2	Loss of excitation (momentary)
14 Jun	F2	Excitation failure (momentary)
24 Jun	F1	Installed excitation limit relay (3 hours)
25 Jun	F2	Installed excitation limit relay (3 hours)
2 Aug	F1	Annual switching maintenance (1 hour)
22 Aug	F1&F2	Regulator trouble
14 Sep	F1	Blade angle transducer replacement (2 hours)
28 Oct	F2	Tripped adjusting voltage (momentary)
28 Nov - 31 Dec	F2	Overhaul maintenance (808 hours)_
18 Dec - 31 Dec	F1	Annual JBS maintenance (321 hours)

**Cascades Island Fish Ladder:**

28 Jan - 31 Jan                      Annual maintenance.

28 Nov - 22 Dec                      Annual maintenance and repair of auxiliary water diffusion system intake valve FV5-4.

## **Downstream Migrant Facilities Operating Schedule.**

### **First Powerhouse:**

1 Jan - 23 Feb            Out of service for annual maintenance.  
29 Nov - 31 Dec        Out of service for annual maintenance.

### **Second Powerhouse:**

1 Jan - 1 Mar            Out of service for annual maintenance.  
8 Dec - 31 Dec        Out of service for annual maintenance.

---

## **Fishway Activities.**

Survival of fish passing through turbines is assumed to be lower than for other passage routes. So, special operations were executed designed to achieve 70 percent fish passage efficiency (FPE) in the spring and 50 percent FPE in the summer. FPE is the proportion of juvenile fish passing the dam which pass through non-turbine routes. This required provision of certain levels of spill with some limitations. Daytime spill was limited to 75,000 cfs to prevent adult fish from falling back from upstream. Adult fish passage is much reduced at night.

A special operation was executed from 2000 hrs on 18 March through 2000 hrs on 25 March to protect an early release of fish from nearby Spring Creek National Fish Hatchery. Flow was distributed between the powerhouses and spill in an attempt to produce 70% FPE.

### **• COE FFU: PH1 collection channel auxiliary water system evaluation.**

Corps of Engineers Portland District Fisheries Field Unit (FFU) personnel studied the effects of opening two diffusers in the first powerhouse collection channel, from 26 May 1994 through 13 September 1994. They looked at the effects of opening valves FG2-15 alone and FG2-7 and FG2-15 together to learn if the hydraulics of the collection channel could be improved.

- **COE FFU: Summer and fall water temperature measurement.**

FFU personnel monitored water temperatures in the adult fish ladders from 13 May through 28 November 1994. The work was done to identify any potential areas where temperature differences might be great enough to affect fish behavior.

- **COE FFU: Fish behavior study at the PH2 fish ladder.**

FFU personnel conducted underwater video surveillance in the second powerhouse fish ladder to provide behavioral information to NMFS for use in developing a PIT tag detector for adult fish. The work involved installing white backboards and cameras into the fish ladder. Most equipment movement activity occurred when adult fish are generally inactive to minimize passage impact.

- **Dissolved gas monitoring.**

The North Pacific Division Reservoir Control Center (RCC) was contracted to install and maintain dissolved gas measuring equipment in the forebay at the north end of the spillway. This was one of the many monitoring stations installed on the Columbia and Snake rivers. The equipment automatically relayed information to the Portland RCC office.

- **CRITFC: Adult salmonid stock identification.**

The Columbia River Inter-Tribal Fish Commission (CRITFC) again used the second powerhouse Adult Fish Collection and Monitoring Facility to collect salmonids. The work was being done to satisfy a requirement of the U.S. - Canada Pacific Salmon Treaty to identify "indicator stocks". These stocks are monitored to annually evaluate the success of a program designed to rebuild depressed Columbia River salmon populations. Trapped fish were immediately returned to the fish ladder and there was no impact to the official adult count. Trapping began on 6 April and continued on selected days of each week through 12 October. Through the year they trapped 1,029 chinook and 245 sockeye.

- **CTWS: Squawfish dam angling.**

Personnel of the Confederated Tribes of the Warm Springs (CTWS) fished by rod and reel at various locations on the project for squawfish. This is a continuing activity to control voracious predators on juvenile salmonids.

- **FPC: Fishway inspections**

The Fish Passage Center (FPC) continued to coordinate a fishway inspection program which involved once per month fishway inspections by a National Marine Fisheries Service inspector at Bonneville.

- **NMFS: Evaluation of the effects of dissolved gas supersaturation on fish and invertebrates below Bonneville Dam.**

National Marine Fisheries Service (NMFS) personnel examined fish and invertebrates below the dam to monitor for signs of gas bubble trauma symptoms. Information is needed to determine if spill for improved fish passage is causing injury itself.

- **NMFS National Marine Mammal Laboratory: Investigation of pinniped activity and impacts on fish at Bonneville.**

NMFS personnel visited to observe sea lions in the Bonneville tailraces in early April. At the time there were two animals that were observed almost daily and often observed feeding on salmonids. Personnel also observed the fish being trapped in the Adult Fish Collection Facility at the second powerhouse to identify pinniped marks. Rakes and bites were measured to determine how many of the marks were by sea lions versus harbor seals.

- **NMFS: PH2 FGE studies.**

NMFS personnel evaluated the fish guidance efficiency (FGE) of the second powerhouse juvenile bypass system. The study was similar to that conducted in 1993. Tests were done in the spring and compared FGE with 6 and 8 units operating. Work was done in units 12, 15 and 17.

- **NMFS: Smolt monitoring.**

NMFS personnel operated the juvenile fish sampling facilities at both powerhouses from 10 March through 31 October. They collected information about species composition, fish condition, marking and temporal distribution.

- **Fishway hydraulic evaluation.**

Consultants worked with the NPP Hydraulic Design section to investigate how the fishways are performing hydraulically.

- **OCFRU: Evaluation of facilities for collection, bypass, and transportation of out-migrating chinook salmon.**

Work by the Oregon Cooperative Fisheries Research Unit (OCFRU) at Bonneville was a small part of a larger study. It involved removing samples of fish from Corps transport barges while the barges were tied off in the navigation lock. The fish were subjected to saltwater challenge performance assays or were used to provide tissue samples for physiological study. The bulk of the work at Bonneville was done occasionally during May.

- **ODFW: Squawfish control.**

As part of a larger project, Oregon Department of Fish and Wildlife (ODFW) personnel trolled for squawfish in the Boat Restriction Zones (BRZ). Primary fishing areas were the outlets of the juvenile bypass systems.

- **ODFW: Steelhead stock identification.**

ODFW worked cooperatively with the CRITFC in using the Adult fish Collection Facility. They trapped steelhead to determine the hatchery to wild ratio and age composition as called for in the Columbia River Fish Management Plan. All fish trapped were returned to the fish ladder. Trapping was from 6 April through 12 October. Through the year they trapped 2,087 steelhead. This work has continued annually since 1984.

- **ODFW: Sturgeon research.**

ODFW personnel caught and tagged white sturgeon in the Bonneville reservoir. Little, if any, work was actually done within the project BRZ. So, the impact at this project was negligible.

- **OHSU: Lamprey blood research.**

Continuing an annual activity, Oregon Health Sciences University (OHSU) took about 20 lamprey that we collected during turbine draining. Collection is authorized by ODFW collection permit.

- **S. P. Cramer & Associates, Inc.: Squawfish removal support.**

Involvement in the squawfish control program at Bonneville was to deliver coolers and ice and pick up squawfish caught by squawfish control program dam anglers.

- **USFWS: Chinook trapping.**

The U. S. Fish and Wildlife Service (USFWS), with some assistance from personnel from the Washington Department of Fish & Wildlife (WDFW) and ODFW used the second powerhouse adult fish collection facility to trap and haul tule chinook to supplement hatchery short-falls. They trapped all days but one from 30 August through 20 September to collect 781 adult males, 1,129 females and 27 jacks. **These fish were not counted at the dam and counts were not adjusted for them.** While trapping occurred during the daytime, three turbine units operated at the second powerhouse to attract more fish to the fishways. Otherwise, the first powerhouse units were run as higher priority.

- **WDFW: Adult fish counting.**

WDFW personnel counted adult fish directly and by video under contract to Corps of Engineers (COE). Counting was done according to the schedule presented on Page 1.

When fish were counted by direct observation, counters observed for 50 minutes of each hour. The 50-minute totals were multiplied by a factor of 1.2 to estimate passage for each full hour.

- **WDFW: Chinook stock identification.**

WDFW, assisted by personnel from ODFW, continued an activity which has occurred annually since 1979. They observed fish alongside the regular fish counters to get more detailed information about the stock components of the fall chinook run. The work occurred through most of August and September.

- **WDFW: Squawfish sport reward program.**

WDFW personnel operated a sport reward station at Bonneville project's Fort Cascades Historical Site. This was one of the more productive of the many such stations on the Columbia and Snake rivers. They operated from May into September.

- **WDFW: Steelhead identification.**

WDFW personnel used the second powerhouse Adult Fish Collection Facility to trap and mark steelhead between 14 and 28 February. As required by their ESA permit, they stopped operation after they trapped their first chinook, and the facility was drained again.

## THE DALLES DAM

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### **Fish Counting Schedule**

1 Jan - 31 Mar	No counting
1 Apr - 31 Oct	Fish counts in both ladders for two 8 hour shifts per day, 0400 - 2000 hrs Pacific Standard Time
1 Nov - 31 Dec	No counting

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### **Adult Fish Facilities Operating Schedule**

#### **East Fish Ladder:**

4 Jan - 12 Feb	Dewatered for annual maintenance.
13 Jan - 12 Feb	Entrance area dewatered.
2 Dec - 31 Dec	Dewatered for annual maintenance.

#### **North Fish Ladder:**

5 Dec - 31 Dec	Dewatered for annual maintenance.
6 Dec - 31 Dec	Entrance area dewatered.

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### **Auxillary Fishway Water Supply System Schedule**

4 Jan - 27 Feb	Fishway auxiliary water supply turbines (F1 and F2) out of service for fishway dewatering annual maintenance.
5 Dec - 31 Dec	PUD auxiliary water system out of service for fishway annual maintenance.

See narrative following John Day Dam 'General Fishway Research Activities'.

## JOHN DAY DAM

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### Fish Counting Schedule

1 Jan - 31 Mar	No counting
1 Apr - 31 Oct	Fish counting in both ladders for two 8 hour shifts per day, 0400 - 2000 hrs Pacific Standard Time
1 Nov - 31 Dec	No counting

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### Adult Fish Facilities operating Schedule

#### South Fish ladder:

19 Dec - 31 Dec Dewatered for annual maintenance.

#### North Fish ladder:

1 Dec - 16 Dec Dewatered for annual maintenance.

5 Dec - 15 Dec Entrance area dewatered.

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### Auxiliary Water Supply System

2 Dec - 15 Dec Fish pumps and diffuser 9 out of service.

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### Juvenile Bypass System

30 Jan - 16 Feb Dewatered for annual maintenance.

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### GENERAL FISHWAY RESEARCH ACTIVITIES:

1. The National Biological Service (NBS) conducted 'Development and Evaluation of Prey Protection Measures at Columbia and Lower Snake River Dam Bypass Systems' through radiotelemetry. (The Dalles and John Day).
  - a. Contact Rip Shively (509) 538-2299 ext 226

2. PUD Smolt Monitoring Program (The Dalles).
    - a. Contact Rich Johnsen (503) 296-9893
  3. CRITFC; Predator Control involved hook and line angling for squawfish from the project (The Dalles and John Day).
    - a. Contact Ken Collis (503) 731-1270
  4. OCFRU conducted 'Movement, Distribution and Behavior of Juvenile Salmonids passing through Columbia and Snake River Dams' through radiotelemetry (The Dalles and John Day).
    - a. Contact John Snelling (503) 737-4531
  5. ODFW conducted 'Effects of Mitigation Measures on Productivity of White Sturgeon Populations' (The Dalles and John Day).
    - a. Contact Tom Rien (503) 637-2036
  6. NMFS conducted 'Studies to Evaluate the Effectiveness of Extended Length Screens' through Fyke net sampling at turbine intakes (The Dalles).
    - a. Contact Dean Brege (503) 739-2387
  7. COE conducted 'On-site Testing of Non-lethal Techniques to Determine FGE of Structures within Turbine Intakes' through hydroacoustics (The Dalles).
    - a. Contact Bill Nagy (503) 374-8801
  8. Northwest Hydraulic Consultants Inc. (NHCI) conducted 'Hydraulic Computer Modeling of the Adult Fish Facilities' (The Dalles and John Day).
    - a. Contact Ted Edmister (COE) (503) 326-6407
  9. NMFS conducted 'Smolt Monitoring' through gatewell airlift sampling (John Day).
    - a. Contact Rick Martinson (503) 739-2303
- 

## **PIES ACTIVITIES:**

### **PIES 2 Water Quality Improvement**

Storm drains from the power house roof for both projects were routed away from the fishways to the tailrace. The storm drain in front of the John Day powerhouse door was rerouted to the tailrace. The storm drain for the west visitor center park at The Dalles was rerouted to a drain field.

### **PIES 4 STS, VBS and Orifice Inspection Device**

The prototype device for John Day encountered numerous problems. Modifications were necessary to see the STS under high turbidity. The fuel system was converted to propane for water quality issues due to the proximity of the gatewells.

### **PIES 8 Modification of John Day South Fish Ladder Diffuser**

The temporary structures in an attempt to prevent holding and jumping are to be replaced with permanent structures in 95/96. Previous radiotelemetry results were inconclusive.

Observational results revealed that jumping still occurred but holding appeared to be reduced from a subjective point of view.

### **PIES 11 Spare Fish Unit Windings at The Dalles**

These have been delivered and are being stored on project.

### **PIES 18 Upgrade Juvenile Orifice Entrances at John Day**

Orifice plates were replaced, as were the mild steel bolts in the actuating rod stems, with stainless hardware. The orifices were increased to 14". The tainter gate controls were modified for forebay/channel differential of 4.5' +/- .5'.

### **PIES 19 Modify John Day South Fish Ladder Count Station**

Over the 93/94 winter maintenance season the first weir immediately upstream of the count station was removed and the proceeding ten weirs were reduced in height to accommodate the difference. A corner deflection wall was placed in the south corner immediately upstream of the count station. Over the 94/95 winter maintenance season the count station window size was increased as was the size of the count room itself for better visibility and comfort.

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## **OTHER FISHWAY ACTIVITIES**

FPC continued to coordinate monthly fishway inspections through the ODFW inspector for John Day and The Dalles.

The operation of the Northern Wasco Co. PUD. 5 MW turbine unit continued in the north fishway auxiliary water conduit at The Dalles. When the unit was out of service, the water was diverted through the sluiceway to provide a continuous flow to the system.

The United States Department of Agriculture (USDA) Animal Damage Control continued gull predation abatement for both John Day and The Dalles. They replaced avian deterrent lines for both projects prior to juvenile passage season. They also used pyrotechnics and lethal techniques (only when necessary) to control the degree of predation on juvenile salmonids.

WDFW counted adult fish passage through the ladder system. Fish were counted 50 minutes each hour and totals were multiplied by 1.2 to estimate for the full hour.

The CRITFC squawfish abatement program continued with hook and line angling by the CTWS at The Dalles and the Yakama Indian Nation (YIN) at John Day. Catch numbers seem to be decreasing from previous years. Hopefully this is an indication of effective control methods.

# MCNARY DAM

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## **Fish Counting Schedule**

1 Jan - 31 Mar	No counting.
1 Apr - 31 Oct	Visual counting daily 0400-2000 hours Pacific Standard Time (PST).
1 Nov - 31 Dec	No counting.

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## **Fish Ladder Operating Schedule**

### **North Ladder:**

1 Jan - 31 Jan	In service.
1 Feb - 22 Feb	Out of service for annual inspection and maintenance.
23 Feb - 4 Dec	In service.
5 Dec - 31 Dec	Out of service for hydroelectric plant construction.

### **South Ladder:**

2 Jan - 31 Jan	Out of service for annual inspection and maintenance.
1 Feb - 31 Dec	In service.

---

## **Fishway Activities**

Adult fish counting was conducted from 0400 to 2000 hours from 1 April through 31 October by direct observation (visual counting). Fish counting at McNary Dam was done through a cooperative agreement with WDFW.

In December, 1994, North Wasco County PUD began construction of a small hydroelectric facility adjacent to the Washington shore fish ladder. This project will use the fish ladder gravity auxiliary water supply to generate electricity.

The excess water (350 cfs) from the new juvenile bypass system was diverted into the powerhouse back channel and added to the north powerhouse junction pool. This increased the attraction flow from the north powerhouse entrance for adult fish passage.

A new computerized adult fishway control system was installed on 1 March 1994. The system is controlled by a computer located in the powerhouse control room with instantaneous readouts and a data logger.

The new juvenile fish bypass and transportation system was in operation from 8 April to 6 December.

# ICE HARBOR DAM

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## **Fish Counting Schedule**

1 Jan - 31 Mar	No counting.
1 Apr - 31 Oct	Visual counting daily 0400-2000 hours PST. Videotaping daily 2000-0400 hours PST.
1 Nov - 15 Dec	Videotaping 24 hours per day
16 Dec - 31 Dec	No counting.

---

## **Fish Ladder Operating Schedule**

### **North Ladder:**

1 Jan - 1 Feb	In service.
2 Feb - 7 Mar	Out of service for annual inspection, maintenance, and installation of new diffuser gratings and supports.
8 Mar - 31 Dec	In service.

### **South Ladder:**

1 Jan - 9 Jan	In service.
10 Jan - 12 Jan	Out of service for annual inspection and maintenance.
13 Jan - 31 Dec	In service.

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## **Fishway Activities**

Adult fish counting was conducted from 0400 to 2000 hours from 1 April through 31 October by direct observation (visual counting). From 1 April through 31 October fish passage from 2000 to 0400 hours was videotaped using a time lapse video recorder. Videotapes were later

interrogated by fish counters. From 1 November through 15 December, adult fish passage was recorded 24 hours per day using time lapse videotaping methods and tapes were interrogated later. Fish counting at Ice Harbor Dam was done through a cooperative agreement with WDFW.

The diffuser gratings and supports in the north shore fishway were replaced during the winter maintenance season.

The University of Idaho (U of I) trapped adult steelhead at Ice Harbor Dam in 1994 as part of Corps funded Lower Snake River adult fish passage evaluation. Adult steelhead were radio tagged, released at either the mouth of the Snake River or upstream of Ice Harbor Dam, and monitored when passing Snake River dams.

The ice and trash sluiceway and submersible travelling screens were operated to bypass juvenile fish and to protect adult fallbacks from 15 March to 5 December.

# LOWER MONUMENTAL DAM

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## Fish Counting Schedule

1 Jan - 31 Mar	No counting.
1 Apr - 31 Oct	Visual counting daily 0400-2000 hours PST.
1 Nov - 31 Dec	No counting.

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## Fish Ladder Operating Schedule

### North Ladder:

1 Jan - 6 Feb	In service.
7 Feb - 8 Feb	Out of service for annual inspection and maintenance.
9 Feb - 31 Dec	In service.

### South Ladder:

1 Jan - 30 Jan	In service.
31 Jan - 1 Feb	Out of service for annual inspection and maintenance.
2 Feb - 31 Dec	In service.

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## Fishway Activities

Adult fish counting was conducted from 0400 to 2000 hours from 1 April through 31 October by direct observation (visual counting). Fish counting at Lower Monumental Dam was done through a cooperative agreement with WDFW.

The U of I monitored radio tagged adult salmonids at Lower Monumental Dam in 1994 as part of a Corps funded Lower Snake River adult fish passage study.

The turbines for fish pumps numbers 2 and 3 were rebuilt by a contractor during the winter maintenance season. Fish pump number 3 was removed from service in late November to allow the contractor to rebuild the turbine during the winter maintenance season.

The juvenile bypass system was in operation from 15 March through 1 December to either bypass juvenile fish or to collect them for transportation, and to protect adult fallbacks.

# LITTLE GOOSE DAM

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## **Fish Counting Schedule**

1 Jan - 14 Apr	No counting.
15 Apr - 31 Oct	Visual counting daily 0400-2000 hours PST.
1 Nov - 30 Nov	Visual counting daily 0700-1700 hours PST.
1 Dec - 31 Dec	No counting.

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## **Fish Ladder Operating Schedule**

### **Project Ladder:**

1 Jan - 2 Jan	In service.
3 Jan - 3 Mar	Out of service for annual inspection, maintenance, and construction of the excess water system.
4 Mar - 31 Dec	In service.

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## **Fishway Activities**

Adult fish counting was conducted from 0400 to 2000 hours from 1 April through 31 October by direct observation (visual counting). From 1 November through 30 November adult fish were visually counted from 0700 to 1700 hours. Fish counting at Little Goose Dam was done through a cooperative agreement with WDFW.

A new computerized fishway control system for operating and monitoring the adult fishway became operative in March. The system is controlled by a computer located in the powerhouse control room with instantaneous readouts and a data logger.

Construction took place during the winter maintenance season to add the excess water from the juvenile bypass system primary dewatering structure to the adult fish passage facilities auxiliary

water supply system. This added approximately 200 cfs to the auxiliary water supply for attracting adult fish into the adult fish passage facilities.

The U of I monitored radio tagged adult salmonids at Little Goose Dam in 1994 as part of Corps funded Lower Snake River adult fish passage research.

The fallout fence located in front of the north powerhouse entrances in the powerhouse collection channel was modified as part of the adult passage study to reduce the numbers of adult fish falling out of the entrances.

The turbine for fish pump number 3 was rebuilt by a contractor during the winter maintenance season and the pump was returned to service on 13 April. Fish pump number 2 was taken out of service on 29 November to allow the contractor to rebuild the pump turbine during an extended 1995 winter maintenance season.

The juvenile bypass system was in operation from 15 March through 1 December to either bypass juvenile fish or to collect them for transportation, and to protect adult fallbacks.

## LOWER GRANITE

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### Fish Counting Schedule

1 Jan - 28 Feb	No counting.
1 Mar - 31 Mar	Visual counting daily 0800-1600 hours PST.
1 Apr - 31 Oct	Visual counting daily 0400-2000 hours PST. Videotaping daily 2000-0400 hours PST.
15 Jun - 31 Aug	Videotaping 24 hours a day including the 10 minute break periods (during visual counting hours) for sockeye passage.
1 Nov - 15 Dec	Visual counting daily 0600-1600 hours PST. Videotaping daily 1600-0600 hours PST.
16 Dec - 31 Dec	No counting.

### Fish Ladder Operating Schedule

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#### Project Ladder:

1 Jan - 2 Jan	In service.
3 Jan - 24 Jan	Out of service for annual inspection and maintenance.
25 Jan - 31 Dec	In service.

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### Fishway Activities

Adult fish counting by direct observation (visual counting) was conducted from 0800 to 1600 hours from 1 March through 31 March. Adult fish were visually counted from 0400 to 2000 hours from 1 April through 31 October, and 0600 to 1600 hours from 1 November through 15 December. Adult fish passage during noncounting hours from 1 April through 15 December was videotaped using a time lapse video recorder. The tapes were later interrogated by fish counters and adult fish counted to determine 24 hour fish passage. The videotaping hours were 2000 to 0400 hours from 1 April through 31 October and 1600 to 0600 hours from

1 November through 15 December. From 15 June through 31 August, adult fish passage during normal counting hours, 0400 to 2000 hours , was videotaped and later interrogated by fish counters to count sockeye salmon during the 10 minute break periods each hour. Fish counting at Lower Granite Dam was done through a cooperative agreement with WDFW.

A new computerized fishway control system was installed for the adult fishway. The system is controlled by a computer located in the powerhouse control room with instantaneous readouts and a data logger.

The U of I monitored radio-tagged adult steelhead in the Lower Snake River and at Lower Granite Dam in 1994 as part of Corps funded Lower Snake River adult fish passage research. NMFS operated the adult trap as part of the juvenile fish transportation program evaluation and for steelhead stock identification and removal of fall chinook hatchery strays.

The juvenile bypass system was in operation from 14 March through 1 December to either bypass juvenile fish or to collect them for transportation, and to protect adult fallbacks.

A prototype gatewell dip tank system for evacuating juvenile fish from gatewells was evaluated in turbine unit gatewell slot 6A during June. This tank system may be used in possible future reservoir drawdown tests.

## **PRIEST RAPIDS DAM**

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### **Fish Counting Schedule**

1 Jan - 15 Apr	No counting
15 Apr	Fish Counter training and review
16 Apr - 15 Nov	Counting daily 0400-2000 hours Pacific Standard Time.
16 Nov - 31 Dec	No counting.

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### **Fish Ladder Operating and Maintenance Schedule**

#### **Left Bank Ladder:**

1 Jan - 15 Jan	Out of service for annual inspection, maintenance and rehabilitation project.
16 Jan - 27 Nov	In service.
28 Nov - 31 Dec	Out of service for annual inspection, maintenance rehabilitation project.

#### **Right Bank Ladder:**

1 Jan - 19 Jan	In service.
20 Jan - 8 Feb	Out of service for annual inspection, maintenance and rehabilitation project.
9 Feb - 31 Dec	In-service.

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### **Fishway Activities**

Public Utility District No. 2 of Grant County resumed its standard 16 hour counts using two 8-hour shifts from 16 April through 15 November 1994. Counts were made at both ladders by direct observation each day of the week.

The PUD continued its fishway rehabilitation project to install automated controls, and to repair and upgrade existing equipment.

WDFW trapped and examined steelhead once a week from 2 August through 18 October. No chinook sampling was conducted.

## **ROCK ISLAND AND ROCKY REACH DAMS**

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### **Fish Counting Schedule**

Daily counting occurs between mid-April and 15 November every year. Counting occurs between 0400-2000 in two 8-hour shifts at Rocky Reach Dam. Starting in 1992, the PUD District has counted the three ladders at Rock Island Dam by videotaping on a 24-hour basis.

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### **Fish Ladder Operating and Maintenance Schedule**

Ladder maintenance varies from year to year, but occurs between the window of 1 December and 15 March.

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### **Fishway Activities**

Public Utility District of Chelan County has conducted the fish counting at Rock Island Dam since 1973 and at Rocky Reach Dam since 1962. Fish are counted by direct observation at the one ladder at Rocky Reach Dam and by videotape at Rock Island Dam.

## WELLS DAM

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### **Fish Counting Schedule**

1 Jan - 30 Apr	No counting.
1 May - 29 Oct	Counting daily 0500-2100 hours Pacific Daylight Time.
30 Oct - 15 Nov	Counting daily 0400-2000 Pacific Standard Time.
16 Nov - 31 Dec	No counting.

---

### **Fish Ladder Operating and Maintenance Schedule**

#### **Left Bank Ladder:**

1 Jan - 13 Jan	Out of service for annual maintenance
14 Jan - 31 Dec	In-service.

#### **Right Bank Ladder:**

1 Jan - 23 Jan	In-service.
24 Jan - 27 Jan	Out of service for inspection.
28 Jan - 29 Nov	In service.
30 Nov - 31 Dec	Out of service for annual maintenance.

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### **Fishway Activities**

Douglas County Public Utility District operated the two ladders at Wells Dam as per agreement between the fisheries agencies and Tribal agencies. Fish counting at Wells is accomplished using closed circuit television. Fish are counted fifty minutes out of each hour with a ten minute break period. The ladders were left open 24 hours a day. In 1994, from 2100-0500 hours, passage of adult fish using the ladders was recorded on a slow speed video recorder. On a weekly basis, the

videotapes were reviewed and fish passage by species was enumerated. The percentage of fish that passed the project during the night counting hours were 5 % steelhead, 10 % sockeye, 3 % fall chinook, 6 % summer chinook, and 10 % spring chinook.

WDFW operated a trap in the east ladder to collect summer chinook broodstock for the east bank and Wells Hatcheries. The trap is operated no more than three days a week between 28 June and 27 August. The Colville Confederated Tribes coordinated collection of sockeye broodstock during the summer chinook brood collection. WDFW operated a trap in the west ladder from 1 August through 31 October for the collection of summer steelhead broodstock.

TABLE 1

FISH ESCAPEMENT AT MAIN STEM DAMS  
COLUMBIA AND SNAKE RIVERS 1989-1994

SPECIES	BONNEVILLE	THE DALLES	JOHN DAY	M McNARY	ICE HARBOR	LOWER MONUMENTAL	LITTLE GOOSE	LOWER GRANITE
<b>1990</b>								
CHINOOK*	340,990	207,556	156,313	147,439	31,841	28,215		23,345
Spring	96,252	57,424	43,127	44,499	20,730	20,076		17,549
Summer	28,021	22,615	20,532	22,248	5,794	5,738		5,221
Fall	216,717	127,517	92,654	80,692	5,317	2,401		575
Jacks	44,443	32,794	22,195	26,280	2,229	1,615		552
STEELHEAD	183,027	129,271	107,849	95,061	54,758	44,907		56,859
SOCKEYE	49,581	40,230	42,077	46,145	1			
COHO*	24,845	4,645	3,023	2,059	1	1		
Adults	11,627	2,305	1,520	1,054	1	1		
Jacks	13,218	2,340	1,503	1,005				
SHAD	2,947,865	3,706,856	1,641,943	866,940	90,164	25,891		2,804
<b>1991</b>								
CHINOOK*	274,622	153,023	118,921	114,841	23,175	18,210	13,737	13,618
Spring	61,228	32,359	21,847	22,631	11,288	9,697	7,774	7,603
Summer	21,953	18,467	16,872	17,588	5,861	5,268	4,750	4,988
Fall	191,441	102,197	80,202	74,622	6,026	3,245	1,213	1,027
Jacks	48,211	36,820	28,646	32,131	3,790	3,104	2,379	2,556
STEELHEAD	274,545	199,853	160,257	168,962	123,762	98,315	96,830	100,381
SOCKEYE	76,481	63,405	63,760	69,365	9	6	10	8
COHO*	64,057	9,601	8,021	2,272	1	5	1	
Adults	58,868	8,548	6,692	1,609	1	2	1	
Jacks	5,189	1,053	1,329	663		3		
SHAD	1,914,417	2,191,077	1,382,009	674,483	58,571	20,484	3,889	722
<b>1992</b>								
CHINOOK*	256,299	168,507	132,025	135,707	36,021	30,145	26,746	26,193
Spring	90,582	58,451	45,457	50,590	26,114	24,129	22,226	21,924
Summer	19,245	14,976	13,910	14,414	4,377	3,523	3,091	3,312
Fall	146,472	95,080	72,658	70,703	5,530	2,493	1,429	957
Jacks	36,611	27,160	22,084	23,984	1,932	1,255	1,195	933
STEELHEAD	314,975	232,179	195,194	194,026	160,614	130,419	117,698	121,459
SOCKEYE	84,992	66,384	69,731	68,737	33	15	12	15
COHO*	18,126	3,825	2,633	1,801				
Adults	14,369	2,586	1,710	1,196				
Jacks	3,757	1,239	923	605				
SHAD	2,551,439	2,824,313	1,963,060	1,635,089	171,607	123,037	72,629	22,298
<b>1993</b>								
CHINOOK*	277,657	184,953	141,705	143,412	34,991	34,195	32,384	30,446
Spring	112,172	69,356	56,144	59,556	24,935	24,506	23,683	21,218
Summer	23,616	20,063	18,364	20,374	6,919	7,349	7,222	8,019
Fall	141,869	95,534	67,197	63,482	3,137	2,340	1,479	1,209
Jacks	18,320	12,298	9,621	10,315	673	561	590	352
STEELHEAD	188,386	124,829	95,642	9,318	73,107	70,992	59,740	66,699
SOCKEYE	80,178	62,252	61,218	66,485	17	18	16	12
COHO*	11,732	4,360	2,995	481				
Adults	10,642	3,944	2,679	360				
Jacks	1,090	416	316	121				
SHAD	2,166,674	2,394,394	647,097	701,404	48,801	15,896	3,938	927
<b>1994</b>								
CHINOOK*	243,450	161,758	126,645	128,868	7,581	7,219	5,457	5,077
Spring	20,566	11,798	9,745	8,987	3,472	3,630	3,328	3,167
Summer	19,531	15,997	12,935	14,313	1,003	1,035	873	864
Fall	203,353	133,963	103,965	105,568	3,106	2,554	1,256	1,046
Jacks	35,253	25,470	18,867	20,979	1,170	1,001	476	371
STEELHEAD	161,978	112,254	93,075	94,427	51,704	49,917	45,815	47,550
SOCKEYE	12,678	9,356	11,170	10,603	0	7	44	5
COHO*	22,794	4,376	2,842	1,735				
Adults	20,291	3,786	2,455	1,347				
Jacks	2,503	590	387	388				
SHAD	1,557,555	1,801,545	935,958	668,528	33,443	18,952	10,066	3,402

ASSUMED DATES FOR CHINOOK RUN (MAY VARY FROM PREVIOUS YEARS)

SEASON	1 MARCH - 31 MAY	1 APRIL - 3 JUNE	1 APR - 5 JUN	1 APR - 8 JUN	1 APR - 11 JUN	1 APR - 13 JUN	15 APR - 15 Jun	1 MAR - 17 JUN
SPRING								
SUMMER	1 JUN - 31 JUL	4 JUN - 3 AUG	6 JUN - 5 AUG	9 JUN - 8 AUG	12 JUN - 11 AUG	14 JUN - 13 AUG	16 JUN - 15-Aug	18 JUN - 17 AUG
FALL	1 AUG - '15 NOV	4 AUG - 31 OCT	6 AUG - 31 OCT	9 AUG - 31 OCT	12 AUG - '30 NOV	14 AUG - '31 OCT	16 AUG - 30 NOV	18 AUG - 15 DEC

\*Includes Jack Counts.

TABLE 2

FISH ESCAPEMENT AT PUBLIC UTILITY DISTRICT PROJECTS 1989 -1994

SPECIES	PRIEST RAPIDS	ROCK ISLAND	ROCKY REACH	WELLS
<b>1990</b>				
CHINOOK*	36,257	27,251	9,108	4,755
Spring	12,288	7,720	1,909	660
Summer	15,976	14,232	4,361	3,356
Fall	7,993	5,299	2,838	739
Jacks	2,410	2,925	1,157	406
STEELHEAD	7,830	6,946	5,033	3,737
SOCKEYE	46,331	44,143	9,296	7,597
COHO*	31	104 *	62 *	25 *
Adults	28			
Jacks	3			
SHAD	23,602			
<b>1991</b>				
CHINOOK*	31,482	21,493	6,628	3,644
Spring	8,008	5,781	1,323	785
Summer	15,173	11,024	3,274	2,046
Fall	8,301	4,688	2,031	813
Jacks	4,240	3,374	1,106	610
STEELHEAD	13,939	10,927	7,645	7,785
SOCKEYE	71,245	62,533	27,439	27,482
COHO*	22	166 *	41 *	19 *
Adults	15			
Jacks	7			
SHAD	27,638			
<b>1992</b>				
CHINOOK*	37,752	29,921	8,383	5,064
Spring	20,036	15,634	2,714	1,573
Summer	9,896	9,711	3,010	1,974
Fall	7,820	4,576	2,659	1,472
Jacks	5,286	4,747	2,153	1,364
STEELHEAD	13,733	12,476	7,516	7,073
SOCKEYE	80,857	68,359	41,804	41,951
COHO*	1	49 *	74 *	28 *
Adults	1			
Jacks				
SHAD	121,547			
<b>1993</b>				
CHINOOK*	54,566	37,198	11,295	7,421
Spring	29,342	19,943	4,128	2,626
Summer	17,176	13,403	4,843	3,574
Fall	8,048	3,852	2,324	1,221
Jacks	1,703	1,080	504	355
STEELHEAD	5,493	4,831	2,815	2,400
SOCKEYE	82,924	65,630	28,319	27,849
COHO*	1	6 *	4 *	7 *
Adults	1			
Jacks				
SHAD	15,443			
<b>1994</b>				
CHINOOK*	32,890	24,364	12,064	8,266
Spring	3,126	2,038	360	258
Summer	15,500	13,179	6,176	4,991
Fall	14,264	9,147	5,528	3,017
Jacks	3,097	3,198	1,437	948
STEELHEAD	6,706	5,620	2,818	2,183
SOCKEYE	12,385	11,368	1,680	1,666
COHO*	0	18 *	6 *	3 *
Adults		18	6	3
Jacks				
SHAD	19,643			

ASSUMED DATES FOR CHINOOK RUNS

SPRING	16 APR - 13 JUN	13 APR - 17 JUN	16 APR - 19 JUN	1 MAY - 28-Jun
SUMMER	14 JUN - 13 AUG	18 JUN - 17 AUG	20 JUN - 19 AUG	29 JUN - 28-Aug
FALL	14 AUG - 15 NOV	18 AUG - 15 NOV	20 AUG - 15 NOV	29 AUG - 15 NOV

\*Includes Jack Counts.

1992 and 1993 counting at Priest Rapids Project was 24 hours a day. All other years are two 8-hour shifts per day with one 8-hour shift in April and November.

TABLE 2

TABLE 3

## STEELHEAD OVER COLUMBIA AND SNAKE RIVER DAMS 1953 - 1994

## BY RUN-YEAR (1 JUNE - 31 MAY)

Estimating the size of the upriver steelhead run has previously been hampered because of the calendar year approach used in the summary tables. Problems in accountability arise due to overwintering behavior of summer steelhead; especially Snake River stocks, which often have sizeable proportions of the run remaining below mainstem Projects during the winter months. Movement of these steelhead commences again the following spring when warming reservoir temperatures trigger upstream movement. For this reason, an additional table has been prepared which summarizes steelhead trout counts at each Project on a "fish year" basis; 1 June - 31 May. Because all stocks of Steelhead cross Bonneville Dam during the calendar year, those summary counts have not been modified.

RUN-YEA	THE DALLE	JOHN DAY	MENARY	ICE HARBOR	LOWER MONUMENTAL	LITTLE GOOSE*	LOWER GRANITE
1953-54			8,252			*	
1954-55			72,913				
1955-56			84,434				
1956-57	3,531	*	40,660				
1957-58	128,124		105,136				
1958-59	120,170		87,413				
1959-60	155,892		111,288				
1960-61	110,955		95,556				
1961-62	134,740		104,679	9,474		*	
1962-63	163,125		163,333	108,186			
1963-64	118,899		113,676	76,788			
1964-65	110,509		99,872	58,025			
1965-66	142,376		120,469	62,566			
1966-67	144,267	*	144,461	64,987			
1967-68	122,231	6,598	83,948	47,536			
1968-69	147,844	122,649	107,806	85,273	16,240	*	
1969-70	111,617	81,623	74,933	58,172	63,269		
1970-71	99,319	81,238	68,598	54,445	58,430	54,257	*
1971-72	151,329	117,402	110,450	66,196	68,704	70,867	
1972-73	135,730	149,704	95,837	63,584	66,650	63,033	
1973-74	100,924	93,951	62,158	37,245	38,288	37,099	
1974-75	71,336	40,868	26,191	12,170	14,851	13,818	2,789 *
1975-76	57,695	33,640	25,150	15,895	17,236	15,177	16,592
1976-77	83,194	59,368	54,409	24,140	21,801	21,109	22,562
1977-78	133,096	102,193	86,962	54,911	48,160	47,617	57,029
1978-79	58,995	43,554	34,580	27,252	19,849	24,050	26,473
1979-80	86,317	59,825	54,213	26,790	20,073	23,816	28,758
1980-81	93,309	77,113	63,957	47,778	32,599	36,680	37,996
1981-82	112,265	96,663	62,955	43,274	37,755	**	42,420
1982-83	116,178	105,438	72,246	70,236	60,775		72,384
1983-84	172,033	157,602	126,706	90,030	82,555		88,760
1984-85	221,299	204,595	142,246	101,008	92,947		104,417
1985-86	274,826	245,087	181,635	123,187	104,400		116,147
1986-87	280,671	234,651	193,096	142,273	121,107		129,983
1987-88	219,822	172,290	151,587	77,565	64,717		71,280
1988-89	197,669	163,283	150,361	98,950	81,324		87,137
1989-90	236,584	193,951	170,014	149,361	131,050		131,420
1990-91	128,123	107,117	94,522	54,370	44,518	**	56,865
1991-92	199,244	158,790	168,156	122,874	97,454	96,421	99,052
1992-93	233,430	197,715	197,739	166,654	135,820	118,949	128,265
1993-94	123,449	94,080	90,359	68,568	65,883	58,747	59,768
Total	5,301,117	3,200,988	3,937,357	2,309,763	1,606,455	681,640	1,380,097
10-Year Average	211,512	177,156	153,972	110,481	93,922	27,412	98,433

\*Because counting started at each dam early in the year after construction was complete, these figures are for the latter part of the run year only. That part of the run year starting after June 1st of the previous year passed the dams without being counted.

\*\*1981 was the last year visual counts were made at Little Goose Project until 1991. The 10-yr. average show the years 1971-72 through 1980-81.

TABLE 4

**STEELHEAD OVER COLUMBIA RIVER PUD PROJECTS 1959 - 1994**  
**BY RUN-YEAR (1 JUNE - 31 MAY)**

<b>RUN-YEAR</b>	<b>PRIEST RAPIDS</b>	<b>ROCK ISLAND</b>	<b>ROCKY REACH</b>	<b>WELLS</b>
1959-60	810 *			
1960-61	7,277			
1961-62	8,970			
1962-63	9,408			
1963-64	8,808			
1964-65	6,137			
1965-66	9,055			
1966-67	13,159			
1967-68	8,402			
1968-69	9,672			
1969-70	6,140			
1970-71	5,764			
1971-72	11,331			
1972-73	6,006			
1973--74	6,881			
1974-75	2,955			
1975-76	2,558			44 *
1976-77	9,490			4,636
1977-78	9,632			5,464
1978-79	4,479			1,475
1979-80	8,704			3,771
1980-81	8,308			3,363
1981-82	9,122	7,607 *	5,567 *	4,107
1982-83	10,948	9,737	6,037	7,805
1983-84	32,103	29,885	19,864	19,540
1984-85	26,566	25,287	17,349	16,663
1986-86	34,007	31,813	22,621	19,712
1986-87	22,332	22,766	15,060	13,251
1987-88	14,054	12,887	7,243	5,565
1988-89	10,138	9,100	5,573	4,358
1989-90	10,720	9,244	5,991	4,577
1990-91	7,858	6,926	5,023	3,842
1991-92	14,047	11,125	7,788	7,823
1992-93	13,593	12,382	7,429	7,029
1993-94	5,441	4,689	2,738	2,359
<b>Total</b>	<b>374,065</b>	<b>193,448</b>	<b>128,283</b>	<b>135,384</b>
<b>10-Year Average</b>	<b>15,876</b>	<b>14,622</b>	<b>9,682</b>	<b>8,518</b>

\*Partial year

TABLE 5

WILD STEELHEAD AT MAIN STEM DAMS  
COLUMBIA AND SNAKE RIVERS 1994

	BONNEVILLE	THE DALLES	JOHN DAY	MCNARY	ICE HARBOR	LOWER MONUMENTAL	LITTLE GOOSE	LOWER GRANITE
MARCH	144							279
APRIL	478	358	862	1,007	1,017	951	360	1,223
MAY	309	20	83	59	67	42	106	106
JUNE	1,493	547	404	217	77	30	53	27
JULY	10,195	4,761	2,243	2,770	800	648	527	341
AUGUST	9,563	2,131	1,438	1,189	526	522	573	593
SEPTEMBER	5,929	7,453	6,843	6,474	2,346	2,255	1,665	1,470
OCTOBER	1,161	4,989	5,460	5,486	3,432	3,701	4,050	4,086
NOVEMBER	179						1,088	1,257
DECEMBER								43

CORPS OF ENGINEERS PROJECTS 1994	TOTAL WILD STEELHEAD
BONNEVILLE	29,451
THE DALLES	20,259
JOHN DAY	17,333
MC NARY	17,202
ICE HARBOR	8,265
LWR MONUMENTAL	8,149
LITTLE GOOSE	8,422
LOWER GRANITE	9,425

\*Lower Granite counts include daytime visual counts, night time video counts and break video counts  
See Tables 170 - 175.

# **COLUMBIA RIVER TABLES**

TABLE 6

MONTHLY TOTALS OF SALMONID AND SHAD COUNTED OVER BONNEVILLE DAM  
1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*			505	13,499	6,562	9,418	10,113	47,587	145,801	9,669	296		243,450
STEELHEAD			422	1,976	3,132	7,225	26,719	58,780	54,856	8,079	789		161,978
SOCKEYE					2	9,514	3,152	10					12,678
COHO*							5	1,608	12,521	8,239	421		22,794
MINI-JACKS**			(1)	5	77	10,472	7,388	905	1,956	546	69		21,417
CHUM									2	2	22		26
PINK							3		1	1			5
<b>TOTAL</b>			<b>926</b>	<b>15,480</b>	<b>9,773</b>	<b>36,629</b>	<b>47,380</b>	<b>108,890</b>	<b>215,137</b>	<b>26,536</b>	<b>1,597</b>		<b>462,348</b>
<b>SHAD</b>				<b>53</b>	<b>136,547</b>	<b>1,223,421</b>	<b>195,894</b>	<b>1,640</b>					<b>1,557,555</b>

\*Jacks included

\*\*Salmonid fish under 12 inches in length.

TABLE 7

## BONNEVILLE PROJECT - 1994

## JANUARY

DATE	DISCH		TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F
1	88.2	0.0	7.2	43.0
2	91.2	0.0	7.0	44.0
3	107.4	0.0	8.0	44.0
4	99.2	0.0	4.8	44.0
5	122.5	0.0	5.7	44.0
6	126.4	0.0	5.0	44.0
7	110.0	0.0	7.0	46.0
8	127.3	0.0	7.0	44.0
9	95.9	0.0	7.0	44.0
10	116.4	0.0	7.0	43.0
11	112.9	0.0	7.0	43.0
12	116.4	0.0	7.0	44.0
13	115.7	0.0	7.0	44.0
14	122.2	0.0	7.0	43.0
15	114.8	0.0	7.0	44.0
16	96.0	0.0	7.0	44.0
17	122.0	0.0	7.5	45.0
18	151.0	0.0	6.4	44.0
19	133.9	0.0	7.0	44.0
20	144.0	0.0	7.0	44.0
21	128.3	0.0	5.5	44.0
22	109.8	0.0	5.4	44.0
23	99.8	0.0	5.2	44.0
24	127.1	0.0	6.0	43.0
25	133.4	0.0	5.5	43.0
26	133.7	0.0	5.5	43.0
27	142.3	0.0	5.6	43.0
28	144.2	0.0	4.5	43.0
29	143.0	0.0	5.0	43.0
30	124.5	0.0	5.0	43.0
31	143.1	0.0	5.0	43.0
AVG.	120.7	0.0	6.3	43.7

## BONNEVILLE PROJECT - 1994

## FEBRUARY

DATE	DISCH		TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F
1	162.6	0.0	5.0	42.0
2	168.9	0.0	6.4	41.0
3	165.1	0.0	5.9	41.0
4	157.2	0.0	5.5	40.0
5	156.2	0.0	6.0	40.0
6	136.7	0.0	6.0	40.0
7	143.5	0.0	6.0	40.0
8	150.8	0.0	6.5	40.0
9	168.5	0.0	7.0	40.0
10	154.1	0.0	7.0	40.0
11	133.8	0.0	7.2	40.0
12	150.5	0.0	7.0	40.0
13	111.4	0.0	7.0	40.0
14	150.2	0.0	8.0	40.0
15	153.6	0.0	7.0	41.0
16	135.2	0.0	7.5	41.0
17	129.2	0.0	7.0	41.0
18	138.4	0.0	7.0	40.0
19	114.9	0.0	7.5	39.0
20	102.8	0.0	7.0	39.0
21	143.1	0.0	6.3	40.0
22	148.8	0.0	7.0	40.0
23	132.2	0.0	6.2	40.0
24	158.7	0.0	6.3	40.0
25	151.3	0.0	5.5	40.0
26	138.4	0.0	6.0	39.0
27	101.5	0.0	7.5	39.0
28	133.3	0.0	7.0	40.0
AVG.	142.5	0.0	6.6	40.1

TABLE 8

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT  
 MARCH 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1											117.1	0.0	6.6	40.0	
2											123.5	0.0	6.6	40.0	
3											134.9	0.0	6.0	40.0	
4											131.3	0.0	6.2	40.0	
5											130.2	0.0	6.0	41.0	
6											102.0	0.0	6.0	42.0	
7											138.0	0.0	6.2	42.0	
8											152.8	0.0	5.5	42.0	
9											150.7	0.0	6.0	42.0	
10											127.7	0.0	5.8	42.0	
11											109.8	0.0	6.0	42.0	
12											117.1	0.0	6.1	43.0	
13											103.6	0.0	6.0	43.0	
14											129.8	0.0	5.8	43.0	
15		7						29		-1	128.1	0.0	5.8	44.0	
16		9						31		0	131.4	0.0	5.0	45.0	
17		16						26		0	144.3	0.0	5.0	45.0	
18		10						49		0	159.1	13.0	5.3	44.0	
19		6						24		0	162.4	84.2	5.5	45.0	
20		6						30		0	155.2	81.5	5.5	45.0	
21		5						7		0	155.3	81.3	5.5	45.0	
22		20						43		0	163.4	84.2	5.5	45.0	
23		9						17		0	154.7	79.2	5.1	46.0	
24		14						16		0	168.7	86.4	5.1	45.0	
25		26						13		0	134.7	58.6	4.0	45.0	
26		58						15		0	104.7	0.0	5.8	46.0	
27		42						16		0	101.4	0.0	5.5	46.0	
28		75						14		0	110.9	0.0	5.0	46.0	
29		97						12		0	130.5	0.0	5.0	46.0	
30		75						36		0	134.9	0.0	4.5	48.0	
31		30						44		0	135.5	0.0	4.2	48.0	
<b>TOTAL</b>	<b>505</b>							<b>422</b>		<b>-1</b>					
<b>AVG</b>	<b>30</b>							<b>25</b>			<b>133.7</b>	<b>18.3</b>	<b>5.6</b>	<b>43.7</b>	

TABLE 9

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

BONNEVILLE PROJECT  
 APRIL 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1	92			1				78	0	0	136.7	0.0	4.5	48.0
2	98			0				75	0	1	115.4	0.0	4.5	48.0
3	150			1				95	0	0	101.8	0.0	4.5	48.0
4	239			1				89	0	0	145.4	0.0	4.0	48.0
5	91			0				66	0	0	174.6	0.0	4.0	48.0
6	40			0				48	0	0	161.0	0.0	4.0	48.0
7	97			0				88	0	0	157.5	0.0	4.5	48.0
8	119			0				72	0	0	141.7	0.0	4.5	50.0
9	190			0				78	0	0	127.1	0.0	4.8	48.0
10	304			0				56	0	0	123.7	0.0	4.5	50.0
11	408			2				61	0	0	152.1	0.0	4.5	49.0
12	612			1				54	0	0	137.4	0.0	4.5	50.0
13	392			0				53	0	0	161.2	0.0	4.7	50.0
14	216			0				52	0	1	146.2	0.0	4.5	51.0
15	284			0				59	0	0	128.9	13.6	5.0	50.0
16	841			1				65	0	1	130.6	70.0	5.2	52.0
17	939			0				48	0	4	105.9	57.5	4.8	52.0
18	1,154			2				68	0	2	134.2	70.8	5.0	51.0
19	905			5				73	0	2	157.3	83.3	4.2	52.0
20	761			15				53	0	1	169.5	89.7	4.5	53.0
21	592			7				56	0	2	165.6	84.2	4.6	54.0
22	429			2				69	0	0	180.7	92.8	4.6	54.0
23	503			4				85	1	-1	183.1	93.3	3.5	54.0
24	416			2				70	0	-1	170.4	89.8	4.0	54.0
25	526			1				65	0	-6	165.7	87.7	4.0	54.0
26	702			4				60	0	-3	174.4	91.5	4.3	54.0
27	652			10				51	1	2	179.5	90.1	4.0	54.0
28	552			9				76	31	-1	193.2	96.9	4.5	55.0
29	647			8				67	3	1	194.5	98.0	4.3	55.0
30	461			11				46	17	0	207.6	104.9	4.3	54.0

TOTAL 13,412

87

1,976 53 5

AVG 447

3

66

2

154.1 43.8 4.4 51.2

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	13,917	87

STEELHEAD	SHAD	MINI-JCK
2,398	53	4





TABLE 12

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT  
JULY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1		334		27	0		344	403	31,374	505	177.3	64.2	4.2	66.0
2		357		34	0		342	454	22,569	525	151.6	60.1	5.6	65.0
3		290		28	0		391	407	12,169	439	140.4	57.1	4.1	65.0
4		355		39	0		330	474	14,528	440	131.2	54.7	5.6	65.0
5		375		63	0		323	490	8,479	471	145.7	58.6	5.5	65.0
6		336		61	0		194	509	6,138	436	174.4	63.5	4.0	65.0
7		409		57	0		234	750	20,051	490	161.4	63.8	4.3	66.0
8		395		65	0		165	688	20,169	479	163.0	65.0	5.0	67.0
9		384		52	0		126	706	9,966	474	173.0	63.8	4.5	67.0
10		405		41	0		161	844	7,799	308	147.0	63.4	4.5	67.0
11		258		48	0		89	709	5,962	235	166.6	63.1	5.4	67.0
12		217		23	2		71	781	5,500	269	171.1	64.0	5.0	68.0
13		257		20	0		76	814	3,346	189	164.0	64.0	5.0	68.0
14		304		31	0		57	936	4,464	201	158.4	62.2	5.3	68.0
15		306		33	0		46	1,000	3,943	200	162.3	63.8	5.0	68.0
16		302		30	0		29	995	4,489	177	146.8	60.9	5.0	68.0
17		304		39	0		30	877	2,462	164	135.4	50.3	5.0	68.0
18		317		29	2		22	1,187	1,952	160	148.9	57.9	5.0	69.0
19		280		27	1		31	980	1,958	126	163.5	60.7	6.0	70.0
20		234		56	0		25	1,072	1,936	144	158.5	63.2	6.5	70.0
21		325		37	0		12	1,626	1,813	130	154.9	61.0	5.2	70.0
22		239		17	0		8	1,206	1,241	100	156.6	56.4	6.2	71.0
23		267		38	0		6	1,302	773	107	154.2	53.9	6.6	72.0
24		236		28	0		8	991	751	95	130.3	58.8	5.0	72.0
25		184		16	0		7	882	582	80	150.3	59.3	5.2	72.0
26		222		27	0		5	695	302	70	156.4	61.0	5.5	72.0
27		154		18	0		0	570	282	79	144.3	56.2	4.8	72.0
28		184		21	0		2	746	192	68	141.7	53.5	4.1	72.0
29		306		32	0		7	1,206	294	85	138.6	60.6	5.9	72.0
30		262		39	0		8	1,230	222	72	141.8	61.7	5.7	72.0
31		216		23	0		3	1,189	188	70	115.3	48.4	6.5	73.0

<b>TOTAL</b>		9,014		1,099	5		3,152	26,719	195,894	7,388				
<b>AVG</b>		291		35			102	862	6,319	238	152.4	59.8	5.2	68.8

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>	<b>COHO ADULT</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>	<b>PINK</b>	
	SPRING	20,169	397		5	12,668	39,474	1,555,915	17,941	3
	SUMMER	17,631	1,900							
<b>TOTAL</b>		37,800	2,297							

Three Pinks were identified on the Bradford Island shore;

TABLE 13

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT  
AUGUST 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			186	22	1	0	4	1,408	138	110	105.5	42.9	6.0	73.0
2			252	27	0	0	1	1,665	120	48	101.5	42.8	6.0	72.0
3			311	32	0	0	1	2,051	150	85	101.7	42.4	6.5	72.0
4			238	29	0	0	1	1,668	159	40	119.9	50.5	5.0	73.0
5			266	31	0	0	0	2,233	129	21	119.1	49.4	6.0	72.0
6			246	17	0	0	1	1,270	74	17	100.9	44.5	4.5	72.0
7			309	40	0	1	0	1,164	131	17	88.0	36.0	5.0	72.0
8			495	45	0	0	0	1,440	80	15	103.6	41.4	6.5	72.0
9			420	49	0	0	1	1,694	44	26	115.4	48.8	6.0	72.0
10			473	42	0	3	1	1,715	32	23	93.8	41.2	7.0	73.0
11			491	41	1	2	0	1,781	50	23	83.6	33.8	7.0	73.0
12			1,123	51	2	0	0	2,524	42	30	88.3	36.8	7.1	73.0
13			782	64	5	1	0	2,784	49	25	93.5	39.6	6.6	72.0
14			648	56	5	2	0	2,262	45	31	94.2	39.7	7.0	72.0
15			484	65	5	7	0	2,489	30	38	105.0	42.4	6.7	72.0
16			456	76	3	4	0	1,928	63	35	109.9	49.1	6.0	72.0
17			488	41	8	6	0	1,671	21	20	97.8	40.9	6.5	72.0
18			435	32	5	11	0	1,446	25	34	102.5	42.8	6.6	72.0
19			694	56	6	6	0	1,339	12	12	105.8	43.0	7.0	72.0
20			944	83	11	17	0	1,198	36	8	88.5	37.9	6.0	71.0
21			1,316	144	20	24	0	1,287	25	21	86.6	35.2	7.0	71.0
22			782	117	16	16	0	1,376	24	11	83.9	34.8	7.4	71.0
23			1,303	151	19	5	0	1,550	14	15	77.5	10.5	7.0	71.0
24			1,353	187	37	4	0	1,665	9	21	73.8	0.0	7.0	71.0
25			2,871	248	57	2	0	1,740	5	12	71.9	0.0	7.0	71.0
26			3,649	412	140	19	0	2,549	19	29	80.9	0.0	6.5	70.0
27			3,810	401	180	57	0	2,982	24	23	100.6	0.0	7.0	70.0
28			3,761	366	160	33	0	2,681	12	31	79.5	0.0	7.0	70.0
29			5,112	448	172	30	0	2,654	14	26	94.9	0.0	7.0	70.0
30			4,529	456	232	39	0	2,220	35	35	87.7	0.0	7.5	70.0
31			5,106	425	197	37	0	2,346	29	23	81.9	0.0	7.0	70.0

<b>TOTAL</b>			43,333	4,254	1,282	326	10	58,780	1,640	905				
<b>AVG</b>			1,398	137	41.4	11		1,896	53	29	94.8	29.9	6.5	71.6

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>	
	SPRING	20,169	397	
	SUMMER	17,631	1,900	
	FALL	43,333	4,254	
<b>TOTAL</b>		81,133	6,551	

<b>COHO ADULT</b>	<b>COHO JACK</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>	<b>PINK</b>
1,287	326	12,678	98,254	1,557,555	18,846	3

TABLE 14

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT  
SEPTEMBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JR	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1			5,592	369	221	66		1,772		42	74.5	0.0	7.5	70.0
2			5,196	576	136	72		1,905		77	73.9	0.0	7.0	70.0
3			5,972	622	174	15		1,751		86	72.9	0.0	7.0	70.0
4			5,651	606	213	28		1,475		78	73.2	0.0	7.0	69.0
5			6,993	690	477	15		1,843		74	72.9	0.0	7.0	68.0
6			8,807	847	696	34		3,595		42	72.5	0.0	7.0	68.0
7			10,225	1,057	860	53		3,639		45	73.1	0.0	7.0	68.0
8			9,115	1,020	922	37		3,619		45	72.7	0.0	6.5	68.0
9			6,904	1,045	741	42		3,398		89	71.9	0.0	7.0	68.0
10			4,637	943	676	31		2,317		92	72.1	0.0	7.0	68.0
11			3,261	721	484	28		2,151		81	73.5	0.0	7.0	68.0
12			3,198	718	507	25		2,009		56	73.7	0.0	7.0	68.0
13			4,020	1,160	463	26		2,367		73	72.3	0.0	7.0	68.0
14			4,580	1,246	470	37		2,189		123	72.1	0.0	7.0	68.0
15			4,673	1,456	551	32		1,954		90	72.5	0.0	7.0	68.0
16			5,782	1,534	526	50		2,062		39	72.6	0.0	7.0	68.0
17			3,793	1,250	378	31		1,880		38	76.1	0.0	8.0	68.0
18			3,945	1,254	448	45		1,644		53	72.5	0.0	7.5	68.0
19			3,887	1,480	334	61		1,785		32	74.2	0.0	7.0	59.0
20			2,571	1,348	344	90		1,574		81	77.8	0.0	7.0	69.0
21			1,782	916	245	76		1,440		117	81.6	0.0	7.0	69.0
22			1,947	809	216	63		1,318		85	87.5	0.0	7.0	69.0
23			1,528	730	216	46		1,204		58	89.4	0.0	7.5	69.0
24			1,153	628	140	40		1,094		61	79.7	0.0	7.0	69.0
25			1,108	575	152	42		976		58	70.7	0.0	7.0	69.0
26			1,101	554	139	32		891		63	73.2	0.0	7.0	69.0
27			727	351	100	32		734		40	83.9	0.0	7.0	69.0
28			825	336	119	41		792		44	87.2	0.0	7.0	68.0
29			752	154	149	41		703		32	83.3	0.0	7.0	68.0
30			752	329	167	26		775		62	92.2	0.0	7.0	68.0

<b>TOTAL</b>			120,477	25,324	11,264	1,257		54,856		1,956					
<b>AVG</b>			4,016	844	375	42		1,829		65	76.5	0.0	7.1	68.2	

<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
	<b>SPRING</b>	20,169	397
	<b>SUMMER</b>	17,631	1,900
	<b>FALL</b>	163,810	29,578
<b>TOTAL</b>		201,610	31,875

	<b>COHO ADULT</b>	<b>COHO JACK</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>	<b>PINK</b>	<b>CHUM</b>
	12,551	1,583	12,678	153,110	1,557,555	20,802	4	2

Bradford Island identified 1 pink on the 9th and 1 chum on the 8th.

The Washington shore identified 1 chum on the 18th.  
1,937 chinook were removed between 30 August and 20 September to supplement hatchery stock.  
See the top paragraph on page 7 in the Bonneville narrative.

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT  
OCTOBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT				COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL	JACK							DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			569	326	121	38		559		55	72.2	0.0	7.5	68.0
2			413	286	162	26		489		43	82.1	0.0	7.0	68.0
3			507	197	123	43		442		63	89.9	0.0	7.0	68.0
4			508	232	103	20		411		64	76.1	0.0	7.0	67.0
5			372	222	142	19		450		30	72.5	0.0	7.0	66.0
6			402	197	270	52		436		46	71.2	0.0	7.0	66.0
7			362	216	453	54		336		26	72.5	0.0	7.5	66.0
8			257	157	351	47		300		17	90.1	0.0	7.0	66.0
9			196	155	258	36		324		10	72.5	0.0	7.5	66.0
10			227	158	325	62		229		31	78.3	0.0	7.5	66.0
11			280	107	309	57		281		28	96.8	0.0	7.5	65.0
12			294	119	273	30		264		18	113.2	0.0	7.5	65.0
13			217	103	295	18		278		17	107.5	0.0	7.8	64.0
14			113	65	178	20		166		8	85.3	0.0	5.5	63.0
15			90	90	252	38		142		14	123.1	0.0	7.0	62.0
16			91	53	194	16		177		9	126.4	0.0	8.0	62.0
17			84	44	180	24		351		15	88.6	0.0	6.5	62.0
18			124	81	305	27		338		6	84.7	0.0	6.5	62.0
19			57	53	283	27		259		1	94.6	0.0	6.5	61.0
20			99	42	238	16		168		2	106.7	0.0	6.6	61.0
21			166	48	429	29		162		9	95.7	0.0	6.5	61.0
22			178	64	322	28		162		13	111.1	0.0	6.5	61.0
23			81	45	210	18		166		7	87.6	0.0	6.5	61.0
24			64	37	199	13		162		13	104.8	0.0	6.8	60.0
25			49	28	210	18		124		4	105.3	0.0	6.8	61.0
26			67	24	113	13		114		0	95.9	0.0	6.3	59.0
27			159	33	348	40		133		1	114.1	0.0	5.0	59.0
28			129	41	270	24		120		0	118.4	0.0	7.0	58.0
29			76	41	151	14		155		-1	105.0	0.0	2.5	58.0
30			60	29	133	19		210		1	96.4	0.0	5.5	57.0
31			67	18	146	7		171		-4	122.3	0.0	6.0	57.0

<b>TOTAL</b>		<b>6,358</b>	<b>3,311</b>	<b>7,346</b>	<b>893</b>		<b>8,079</b>		<b>546</b>		<b>95.5</b>	<b>0.0</b>	<b>6.7</b>	<b>62.8</b>
<b>AVG</b>		<b>205</b>	<b>107</b>	<b>237</b>	<b>29</b>		<b>261</b>		<b>18</b>					

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
	<b>SPRING</b>	20,169 397
	<b>SUMMER</b>	17,631 1,900
	<b>FALL</b>	170,168 32,889
<b>TOTAL</b>	<b>207,968</b>	<b>35,186</b>

<b>COHO ADULT</b>	<b>COHO JACK</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JK</b>	<b>PINK</b>	<b>CHUM</b>
19,897	2,476	12,678	161,189	1,557,555	21,348	5	4

The Bradford Island ladder counted 1 Chum on the 29th and 1 Pink on the 2nd.  
The Washington shore ladder counted 1 Chum on the 30th.

TABLE 16

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT  
NOVEMBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT				SOCKEYE	STEELHEAD	CHUM	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK							SECCHI	DEG F
1			15	9		105	0	-1	128.7	0.0	4.4	57.0
2			34	2		26	0	0	119.8	0.0	1.6	56.0
3			26	6		68	3	1	137.3	0.0	3.5	56.0
4			17	4		96	2	0	113.0	0.0	4.0	56.0
5			28	8		71	0	0	108.8	0.0	5.5	56.0
6			23	3		67	1	0	95.9	0.0	5.0	55.0
7			24	6		58	0	4	106.9	0.0	6.5	54.0
8			8	15		28	1	5	120.4	0.0	7.0	54.0
9			17	1		44	4	5	121.8	0.0	6.5	54.0
10			10	7		52	1	23	104.7	0.0	6.5	54.0
11			9	1		39	1	12	105.3	0.0	7.0	54.0
12			11	1		32	2	8	89.4	0.0	7.0	54.0
13			8	4		26	1	3	93.3	0.0	7.0	53.0
14			-1	2		46	1	4	111.9	0.0	7.0	56.0
15			0	-2		31	5	5	118.0	0.0	5.5	53.0
16									110.6	0.0	6.0	53.0
17									132.9	0.0	7.5	52.0
18									139.4	0.0	4.5	51.0
19									92.5	0.0	4.5	52.0
20									93.9	0.0	4.5	51.0
21									129.1	0.0	6.0	51.0
22									128.0	0.0	7.0	50.0
23									117.4	0.0	7.0	50.0
24									95.4	0.0	7.0	49.0
25									91.0	0.0	7.0	48.0
26									98.6	0.0	7.0	48.0
27									89.3	0.0	7.0	48.0
28									119.4	0.0	6.0	48.0
29									137.2	0.0	7.0	48.0
30									124.2	0.0	5.6	48.0

<b>TOTAL</b>	229	67	394	27	789	22	69	112.5	0.0	5.9	52.3
<b>AVG</b>	15	4	26	2	53	5					

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
	SPRING	20,169
	SUMMER	17,631
	FALL	170,397
<b>TOTAL</b>	<b>208,197</b>	<b>35,253</b>

<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JK</b>	<b>PINK</b>	<b>CHUM</b>
20,291	2,503	12,678	161,978	1,557,555	21,417	6	26

TABLE 16

TABLE 17

## BONNEVILLE PROJECT - 1994

DECEMBER

DATE	DISCH		TURBIDITY	
	KCFS	SPILL KCFS	SECCHI	DEG F
1	152.5	0.0	4.3	48.0
2	130.1	0.0	4.0	47.0
3	114.3	0.0	5.5	47.0
4	105.2	0.0	5.0	47.0
5	150.0	0.0	4.2	47.0
6	158.6	0.0	6.5	45.0
7	145.3	0.0	6.5	45.0
8	135.3	0.0	7.5	45.0
9	132.2	0.0	7.0	45.0
10	124.9	0.0	6.8	45.0
11	105.8	0.0	7.0	45.0
12	138.9	0.0	6.0	45.0
13	138.6	0.0	7.0	45.0
14	155.2	0.0	7.0	45.0
15	157.2	0.0	7.0	45.0
16	127.8	0.0	7.0	44.0
17	127.8	0.0	5.5	45.0
18	103.8	0.0	6.0	44.0
19	138.4	0.0	5.8	44.0
20	128.4	0.0	5.8	44.0
21	113.0	0.0	7.0	45.0
22	136.9	0.0	6.0	45.0
23	126.3	0.0	5.8	44.0
24	100.3	0.0	6.5	44.0
25	97.8	0.0	5.8	44.0
26	98.3	0.0	7.0	44.0
27	125.1	0.0	5.6	44.0
28	120.4	0.0	5.0	44.0
29	145.7	0.0	5.5	44.0
30	150.9	0.0	5.3	44.0
31	144.4	0.0	4.9	44.0
AVG.	130.0	0.0	6.0	44.9

TABLE 18

**YEARLY TOTALS OF SALMONIDS COUNTED OVER BONNEVILLE DAM  
1938 - 1994**

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	CHUM	PINK	TOTAL SALMONID
1938	271,799	107,003	75,040	15,185	2,117		471,144
1939	286,189	122,032	73,382	14,383	1,168		497,154
1940	391,587	185,174	148,807	11,917	1,729		739,214
1941	461,443	118,089	65,741	17,911	5,269	4	668,457
1942	401,942	151,800	55,464	12,402	1,865	11	623,484
1943	313,123	92,133	39,845	2,547	788		448,436
1944	240,764	100,518	15,072	4,207	954	1	361,516
1945	297,478	120,133	9,501	790	728	1	428,631
1946	446,052	142,807	74,376	3,898	1,178	2	668,313
1947	480,377	135,444	171,139	11,174	199	3	798,336
1948	419,555	139,062	131,541	4,081	3,636	2	697,877
1949	277,697	119,285	51,444	1,004	2,028	6	451,464
1950	357,375	114,087	77,993	10,151	1,069	8	560,683
1951	331,788	140,689	169,428	5,201	1,044	7	648,157
1952	420,879	260,990	184,645	7,768	1,505	9	875,796
1953	332,479	223,914	235,215	13,018	1,728	10	806,364
1954	320,947	176,260	130,107	4,062	1,569	4	632,949
1955	359,853	198,411	237,748	3,725	318	9	800,064
1956	300,917	131,116	156,418	6,127	693	4	595,275
1957	403,286	139,183	82,915	4,675	569	12	630,640
1958	426,419	131,437	122,389	3,673	455	6	684,379
1959	345,028	129,026	86,560	2,695	906	22	564,237
1960	256,049	113,676	59,713	3,268	1,026		433,732
1961	281,980	139,719	17,111	3,456	896	12	443,174
1962	286,625	164,025	28,179	14,788	1,013	27	494,657
1963	278,560	129,418	60,319	12,658	739	34	481,728
1964	344,422	117,252	99,856	53,602	632	45	615,809
1965	317,957	166,453	55,125	76,032	496	64	616,127
1966	340,111	143,661	156,661	71,891	872	58	713,254
1967	366,237	121,872	144,158	96,488	352	50	729,157
1968	341,154	106,974	108,207	63,488	79	21	619,923
1969	507,543	140,782	59,636	49,378	143	86	757,568
1970	384,780	113,510	70,762	80,116	209	150	649,527
1971	405,702	193,966	87,447	75,989	29	176	763,309
1972	394,456	185,886	56,323	65,932	1	51	702,649
1973	398,635	157,823	58,979	54,609	43	12	670,101
1974	366,759	137,054	43,837	60,955	23	2	608,630
1975	425,566	85,540	58,212	58,307	11	309	627,945
1976	507,773	124,177	43,611	53,150	11	2	728,724
1977	366,657	193,437	99,829	19,408	17		679,348
1978	394,600	104,431	18,436	52,590	28		570,085
1979	276,306	113,979	52,628	45,328	1	23	488,265
1980	245,518	129,254	58,882	22,052	44		455,750
1981	285,650	159,270	56,037	30,510	4	20	531,491
1982	322,809	157,640	50,219	73,832	12		604,512
1983	244,346	218,439	100,545	15,173	50	52	578,605
1984	324,425	315,560	152,541	29,487	64	8	822,085
1985	463,873	343,987	166,340	56,857	97	147	1,031,301
1986	570,881	379,891	58,123	130,853	77	23	1,139,848
1987	547,494	303,081	116,993	27,635	147	20	995,370
1988	494,025	279,072	79,714	39,620	60	6	892,497
1989	416,117	287,798	41,884	39,281	16	12	785,108
1990	340,990	183,027	49,581	24,845	26		598,469
1991	274,622	274,545	76,481	64,057	5	550	690,260
1992	256,299	314,975	84,992	18,126	39	24	674,455
1993	277,657	188,386	80,178	11,732	17	15	557,985
1994	243,450	161,978	12,678	22,794	26	5	440,931
<b>Total</b>	<b>20,437,005</b>	<b>9,629,131</b>	<b>4,958,987</b>	<b>1,778,881</b>	<b>38,820</b>	<b>2,125</b>	<b>36,844,949</b>
<b>10-Year Average</b>	<b>388,541</b>	<b>271,674</b>	<b>76,696</b>	<b>43,580</b>	<b>51</b>	<b>80</b>	<b>780,622</b>

\*Jacks included

TABLE 19

MONTHLY COUNT OF CHINOOK SALMON

BONNEVILLE DAM - 1938 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL
														Jan1- May 31	Jun 1- Jul 31	Aug - Dec 31
1938					22,371	8,221	6,556	34,765	197,294	2,302	263	27	271,799	22,371	14,777	234,651
1939	6	12	121	51,410	25,159	5,602	17,828	32,909	150,851	2,197	78	16	286,189	76,708	23,430	186,051
1940			504	37,253	28,621	7,027	14,938	58,643	240,515	3,765	287	34	391,587	66,378	21,965	303,244
1941	4		1,360	51,486	19,446	7,013	9,395	12,590	351,967	7,179	866	138	461,443	72,295	16,408	372,740
1942	1	15	34	9,506	30,915	11,816	12,821	27,581	303,939	4,485	639	190	401,752	40,471	24,637	336,644
1943	11	6	43	12,172	53,268	5,440	8,044	28,985	201,414	3,354	365	21	313,123	65,500	13,484	234,139
1944	1	2	65	15,671	15,127	4,363	8,241	55,468	139,254	2,388	164	20	240,764	30,866	12,604	197,294
1945	6	4	81	17,148	26,276	11,293	16,317	32,254	189,675	4,281	137	6	297,478	43,515	27,610	226,353
1946	1	2	25	14,196	53,313	30,253	20,967	45,422	277,152	4,523	173	25	446,052	67,537	51,220	327,295
1947		2	141	83,520	49,899	25,502	13,358	43,062	260,385	3,945	526	37	480,377	133,562	38,860	307,955
1948	10		251	21,205	20,262	44,137	23,100	35,934	270,238	3,928	467	23	419,555	41,728	67,237	310,590
1949			5	5,765	44,304	24,232	22,500	41,500	137,599	1,571	215	6	277,697	50,074	46,732	180,891
1950			21	6,630	50,638	16,667	32,937	40,462	205,521	4,356	143		357,375	57,289	49,604	250,482
1951			32	28,801	86,055	54,889	24,394	33,785	97,131	6,489	212		331,788	114,888	79,283	137,617
1952			255	8,130	107,807	62,491	21,800	82,290	135,053	2,576	477		420,879	116,192	84,291	220,396
1953			1,254	126,450	42,583	27,228	30,593	27,398	75,145	1,495	333		332,479	170,287	57,821	104,371
1954		2	657	82,877	51,230	46,801	32,596	24,969	80,426	1,189	200		320,947	134,766	79,397	106,784
1955			1,391	84,436	85,769	45,502	37,437	32,833	70,558	1,803	124		359,853	171,596	82,939	105,318
1956			161	8,850	54,438	64,262	36,938	42,203	92,030	1,854	179	2	300,917	63,449	101,200	136,268
1957			328	90,984	45,128	104,243	30,790	34,829	95,457	1,352	175		403,286	136,440	135,033	131,813
1958			468	15,361	59,377	74,375	27,524	19,735	227,504	1,948	127		426,419	75,206	101,899	249,314
1959			182	26,944	34,007	39,581	49,371	24,945	168,187	1,643	168		345,028	61,133	88,952	194,943
1960			184	37,064	32,349	65,247	19,923	22,719	76,327	2,012	224		256,049	69,597	85,170	101,282
1961			476	72,526	25,693	41,302	25,159	22,675	90,688	3,108	353		281,980	98,695	66,461	116,824
1962			1,278	56,201	33,637	52,392	25,093	23,526	91,320	2,759	419		286,625	91,116	77,485	118,024
1963			2,802	43,859	28,810	36,836	27,178	28,586	104,415	5,571	503		278,560	75,471	64,014	139,075
1964			2,418	69,031	19,979	35,814	44,717	26,546	141,525	4,157	235		344,422	91,428	80,531	172,463
1965			1,238	47,083	35,945	38,482	37,515	38,727	112,664	6,074	229		317,957	84,266	75,997	157,694

TABLE 19

(Continued)

MONTHLY COUNT OF CHINOOK SALMON  
BONNEVILLE DAM - 1938 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL
														Jan1- May 31	Jun 1- Jul 31	Aug - Dec 31
1966			2,168	92,637	17,864	40,233	31,764	20,608	128,421	6,052	364		340,111	112,669	71,997	155,445
1967			1,620	71,957	11,358	41,847	53,812	25,760	154,323	5,405	155		366,237	84,935	95,659	185,643
1968			1,342	69,420	28,425	46,793	36,126	27,779	126,994	4,010	265		341,154	99,187	82,919	159,048
1969			1,910	65,371	106,281	59,177	42,976	38,456	187,502	5,511	359		507,543	173,562	102,153	231,828
1970			2,020	78,605	30,351	35,091	29,811	44,559	159,710	4,364	269		384,780	110,976	64,902	208,902
1971			683	60,849	63,985	37,757	40,154	26,749	166,346	8,820	359		405,702	125,517	77,911	202,274
1972			426	154,443	31,271	36,758	34,072	23,577	109,820	3,939	150		394,456	186,140	70,830	137,486
1973			1,585	128,495	12,068	24,164	21,196	31,513	170,895	8,457	262		398,635	142,148	45,360	211,127
1974			434	57,516	76,585	13,424	32,472	15,554	156,543	13,923	308		366,759	134,535	45,896	186,328
1975			162	48,295	55,647	16,989	27,362	37,907	234,145	4,847	212		425,566	104,104	44,351	277,111
1976			587	58,978	53,883	39,130	29,883	48,776	262,615	13,395	526		507,773	113,448	69,013	325,312
1977			3,569	98,710	17,229	21,790	19,233	21,992	171,303	11,805	1,026		366,657	119,508	41,023	206,126
1978			4,291	100,712	44,860	27,125	17,198	23,513	165,411	11,104	386		394,600	149,863	44,323	200,414
1979			790	29,751	20,921	15,924	18,293	41,273	142,241	6,865	248		276,306	51,462	34,217	190,627
1980			535	30,732	29,720	15,384	15,681	26,106	118,669	8,404	287		245,518	60,987	31,065	153,466
1981			1,853	41,917	21,239	13,262	13,667	32,519	154,696	6,288	209		285,650	65,009	26,929	193,712
1982			312	30,282	45,450	15,439	11,175	34,058	174,348	11,487	258		322,809	76,044	26,614	220,151
1983			144	25,423	31,154	12,793	10,665	26,147	116,879	20,458	683		244,346	56,721	23,458	164,167
1984			351	27,185	23,509	13,060	15,447	41,909	180,867	21,673	424		324,425	51,045	28,507	244,873
1985			2,036	52,145	36,780	16,763	13,107	64,899	255,020	22,099	1,024		463,873	90,961	29,870	343,042
1986			2,292	82,356	38,395	18,365	12,676	38,737	337,721	39,511	828		570,881	123,043	31,041	416,797
1987			2,727	68,866	30,214	22,728	14,979	82,500	298,865	25,614	1,001		547,494	101,807	37,707	407,980
1988			2,663	69,689	22,394	18,191	18,333	111,905	236,662	13,656	532		494,025	94,746	36,524	362,755
1989			36	56,583	30,640	15,659	17,316	102,573	181,691	11,218	401		416,117	87,259	32,975	295,883
1990			677	67,536	28,039	16,990	11,031	59,066	149,404	8,015	232		340,990	96,252	28,021	216,717
1991			601	41,431	19,196	12,755	9,198	21,959	159,068	10,116	298		274,622	61,228	21,953	191,441
1992			2,188	68,073	20,321	11,871	7,374	28,537	107,620	10,043	272		256,299	90,582	19,245	146,472
1993			226	77,174	34,772	15,968	7,648	37,893	97,693	6,036	247		277,657	112,172	23,616	141,869
1994			505	13,499	6,562	9,418	10,113	47,587	145,801	9,669	296		243,450	20,566	19,531	203,353
<b>TOTAL</b>	<b>40</b>	<b>45</b>	<b>54,508</b>	<b>2,993,189</b>	<b>2,171,518</b>	<b>1,675,859</b>	<b>1,300,792</b>	<b>2,159,752</b>	<b>9,635,507</b>	<b>425,088</b>	<b>20,162</b>	<b>355</b>	<b>20,436,815</b>	<b>5,219,300</b>	<b>2,976,651</b>	<b>12,240,864</b>
<b>10-Year Average</b>	<b>1,395</b>	<b>59,735</b>	<b>26,731</b>	<b>15,871</b>	<b>12,178</b>	<b>59,566</b>	<b>196,955</b>	<b>15,598</b>	<b>513</b>	<b>388,541</b>	<b>87,862</b>	<b>28,048</b>	<b>272,631</b>			

\*Jacks included

TABLE 20

## MONTHLY COUNT OF SOCKEYE SALMON

'BONNEVILLE DAM; 1938 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1938					1,025	17,811	53,864	2,097	235	6	2		75,040
1939				48	189	29,386	43,124	616	19				73,382
1940					206	59,639	85,885	3,063	13	1			148,807
1941				299	1,052	23,536	39,193	1,615	46				65,741
1942					13	12,624	41,301	1,477	49				55,464
1943					9	4,525	33,613	1,697	1				39,845
1944			1		16	3,099	11,171	659	126				15,072
1945			10	51	521	1,507	6,903	498	10	1			9,501
1946				9	67	7,815	64,715	1,747	21	2			74,376
1947					5	59,378	108,175	3,564	15	1		1	171,139
1948						12,023	117,652	1,849	13	4			131,541
1949					151	9,013	41,619	655	6				51,444
1950						341	75,784	1,826	42				77,993
1951					25	81,045	87,104	1,214	40				169,428
1952			7	1	3	136,939	47,188	467	30	2	8		184,645
1953			57	27	663	45,711	186,933	1,774	50				235,215
1954			1		13	52,359	76,505	1,212	17				130,107
1955					79	21,923	214,860	866	11	9			237,748
1956					10	29,649	125,185	1,564	7	3			156,418
1957					21	38,616	43,938	323	14	3			82,915
1958					25	38,736	82,719	878	23	8			122,389
1959				2	153	10,155	75,325	906	14	5			86,560
1960					4	41,758	17,615	321	15				59,713
1961				3	22	7,960	9,059	56	9	2			17,111
1962				1	21	9,713	18,310	82	47	5			28,179
1963					492	25,010	34,275	216	304	17	5		60,319
1964				3	570	32,079	66,857	213	110	10	14		99,856
1965					457	21,860	31,776	744	285	3			55,125
1966				10	338	57,509	97,845	800	155	4			156,661
1967				18	38	36,091	107,558	344	106	3			144,158
1968				54	372	74,226	33,245	199	101	9	1		108,207
1969				5	165	24,238	34,970	120	124	13	1		59,636
1970				5	269	22,977	46,062	1,147	290	12			70,762

TABLE 20

(Continued)

MONTHLY COUNT OF SOCKEYE SALMON

'BONNEVILLE DAM; 1938 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1971					70	14,789	72,203	313	69	2	1		87,447	
1972					614	16,505	37,939	1,254	9	2			56,323	
1973					17	29,314	29,308	337	3				58,979	
1974					14	8,073	35,407	340	3				43,837	
1975					2	17,961	40,050	192	7				58,212	
1976					94	22,532	20,661	297	26	1			43,611	
1977				1	38	74,551	25,178	61					99,829	
1978				1	2	12,442	5,884	101	6				18,436	
1979					1	25,474	26,297	826	30				52,628	
1980						22,949	35,764	164	4	1			58,882	
1981					1	36,931	19,001	100	4				56,037	
1982					12	20,731	29,207	264	4	1			50,219	
1983						52,134	48,004	400	5	2			100,545	
1984					6	106,892	45,141	494	7	1			152,541	
1985				3	13	112,054	53,842	422	4	2			166,340	
1986					2	27,303	30,279	475	63	1			58,123	
1987					1	75,674	40,930	383	5				116,993	
1988					11	44,409	35,168	121	5				79,714	
1989					3	24,638	17,000	231	11	1			41,884	
1990						26,141	23,244	195	1				49,581	
1991						22,318	53,699	457	7				76,481	
1992					20	54,292	30,409	271					84,992	
1993					7	49,667	30,377	127					80,178	
1994					2	9,514	3,152	10					12,678	
<b>TOTAL</b>				<b>76</b>	<b>541</b>	<b>7,924</b>	<b>1,956,539</b>	<b>2,948,472</b>	<b>42,644</b>	<b>2,621</b>	<b>137</b>	<b>32</b>	<b>1</b>	<b>4,958,987</b>
<b>10-Year Average</b>					<b>6</b>	<b>44,601</b>	<b>31,810</b>	<b>269</b>						<b>76,696</b>

TABLE 21

MONTHLY COUNT OF COHO SALMON  
BONNEVILLE DAM; 1938-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	JACKS
1938	3							3,070	10,995	972	141	7	15,188	
1939	3							1,811	12,226	310	15	18	14,383	
1940	2							1,451	10,212	213	33	5	11,916	
1941								1,317	16,061	369	160	2	17,909	
1942								1,193	11,062	147			12,402	
1943								762	1,676	89	20		2,547	
1944								1,052	3,021	103	29	2	4,207	
1945							2	239	533	15		1	790	
1946		10	4				22	228	3,609	1		24	3,898	
1947	12	2	1					217	10,928	10	3	1	11,174	
1948	1						11	158	3,893	10	3	5	4,081	
1949							17	270	703	5	8	1	1,004	
1950								1,570	8,545	36			10,151	
1951								197	4,773	225	6		5,201	
1952							10	2,581	5,131	22	24		7,768	
1953							1	7,094	5,890	22	11		13,018	
1954								668	3,319	74	1		4,062	
1955								443	3,188	94			3,725	
1956							7	1,158	4,879	83			6,127	
1957								1,564	3,046	63	2		4,675	
1958								341	3,220	99	13		3,673	
1959								122	2,551	22			2,695	
1960								538	2,502	224	4		3,268	
1961								277	2,867	306	6		3,456	
1962							1	1,116	13,091	543	37		14,788	
1963							4	1,071	8,664	2,724	195		12,658	
1964							23	3,776	46,535	3,069	199		53,602	
1965						2	21	5,911	61,335	8,566	197		76,032	
1966						46	874	4,921	59,457	6,361	232		71,891	34,919
1967						33	715	3,814	87,254	4,560	112		96,488	47,893
1968						48	124	10,450	50,900	1,868	98		63,488	20,435
1969						38	443	4,671	41,176	2,998	52		49,378	25,216
1970						2	128	6,604	70,631	2,631	120		80,116	25,248

TABLE 21

(Continued)

## MONTHLY COUNT OF COHO SALMON

BONNEVILLE DAM; 1938-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	JACKS
1971							57	7,292	58,235	9,753	652		75,989	22,172
1972							66	9,481	52,456	3,792	137		65,932	31,716
1973							636	12,656	33,736	6,715	866		54,609	28,760
1974							539	8,805	40,761	8,631	2,219		60,955	29,350
1975							56	5,373	39,167	11,892	1,819		58,307	25,535
1976							143	5,970	40,505	5,417	1,115		53,150	16,484
1977							55	1,134	15,163	2,582	474		19,408	10,083
1978				1			2	2,643	38,308	10,531	1,105		52,590	22,312
1979							68	7,324	28,732	7,583	1,621		45,328	15,716
1980							10	781	13,601	3,327	4,333		22,052	9,078
1981							4	3,162	23,962	3,108	274		30,510	8,575
1982							79	3,687	55,743	13,182	1,141		73,832	18,016
1983							44	319	7,237	5,020	2,553		15,173	6,775
1984							41	1,394	20,174	6,229	1,649		29,487	12,728
1985			1			7	92	3,977	46,749	5,670	361		56,857	18,307
1986							181	2,502	110,714	14,436	3,020		130,853	22,204
1987							464	2,364	21,002	3,556	249		27,635	9,713
1988							78	3,377	26,303	8,614	1,248		39,620	12,566
1989							60	2,353	24,089	9,543	3,236		39,281	11,863
1990							9	587	18,202	5,230	817		24,845	13,218
1991							5	941	46,331	13,713	3,067		64,057	5,189
1992							19	222	10,304	5,953	1,628		18,126	3,757
1993							15	448	8,191	2,786	292		11,732	1,090
1994							5	1,608	12,521	8,239	421		22,794	2,503
<b>TOTAL</b>	<b>21</b>	<b>12</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>176</b>	<b>5,131</b>	<b>159,055</b>	<b>1,366,059</b>	<b>212,336</b>	<b>36,018</b>	<b>66</b>	<b>1,778,881</b>	<b>511,421</b>
<b>10 Year Average</b>							<b>93</b>	<b>1,838</b>	<b>32,441</b>	<b>7,774</b>	<b>1,434</b>		<b>43,580</b>	<b>10,041</b>

\*Jacks included

TABLE 22

**MONTHLY COUNT OF STEELHEAD  
BONNEVILLE DAM; 1938-1994**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	A-Run Jan 1- Aug 25	B-Run Aug 26- Dec 31
1938					6,622	2,382	19,455	29,231	46,618	2,264	339	92	107,003	49,306	57,697
1939	23	19	570	8,110	1,587	1,490	36,681	38,062	33,891	1,264	216	119	122,032	80,096	41,936
1940	5	96	1,688	4,125	998	4,489	61,188	46,071	64,377	1,786	292	59	185,174	106,724	78,450
1941	37	76	1,641	6,392	1,518	996	21,940	29,600	50,542	3,980	1,063	304	118,089	58,109	59,980
1942	4	37	256	3,642	4,159	1,588	19,905	41,973	77,076	2,412	566	182	151,800	65,219	86,581
1943	14	18	654	3,374	4,698	1,564	7,755	29,894	41,051	2,444	573	94	92,133	41,219	50,914
1944	50	157	1,019	6,142	2,224	1,169	21,868	24,508	35,907	6,129	1,119	226	100,518	51,585	48,933
1945	1,003	1,078	3,008	4,685	1,557	1,109	24,537	40,593	40,194	1,925	302	142	120,133	72,685	47,448
1946	64	551	3,040	9,839	5,482	3,265	20,600	58,466	38,399	2,070	262	769	142,807	93,422	49,385
1947	197	321	1,968	6,889	2,025	1,595	28,134	40,819	50,025	2,905	443	123	135,444	75,035	60,409
1948	154	119	1,631	4,473	1,170	1,895	33,191	53,621	40,609	1,742	381	76	139,062	87,453	51,609
1949	1		1,689	3,293	1,712	1,264	34,314	54,281	20,786	1,161	686	98	119,285	90,762	28,523
1950	13	8	1,156	4,537	1,667	691	25,142	53,904	24,226	1,932	811		114,087	80,191	33,896
1951			375	2,338	1,568	5,187	74,980	39,712	15,357	947	225		140,689	121,100	19,589
1952			278	1,248	1,751	8,202	118,110	79,735	48,293	2,735	638		260,990	190,012	70,978
1953			1,310	5,308	1,456	5,313	106,712	64,006	36,107	2,797	905		223,914	173,135	50,779
1954		6	679	5,511	1,571	6,115	59,443	65,234	34,941	2,209	551		176,260	126,085	50,175
1955			1,006	2,100	1,149	2,418	79,124	84,746	24,239	3,361	268		198,411	161,614	36,797
1956			1,409	2,718	1,582	3,122	48,306	47,148	23,343	2,846	635	7	131,116	99,692	31,424
1957			926	2,081	760	8,434	66,738	34,915	24,029	1,069	231		139,183	105,179	34,004
1958			495	651	1,457	5,645	53,734	22,827	44,478	1,859	291		131,437	79,533	51,904
1959			219	746	1,236	2,562	60,549	38,417	23,579	1,540	178		129,026	98,198	30,828
1960			412	904	1,090	4,314	44,026	33,571	28,058	1,090	211		113,676	77,141	36,535
1961			374	1,161	692	2,246	44,379	41,237	47,409	1,561	660		139,719	79,269	60,450
1962			381	1,957	1,491	3,737	49,789	40,177	64,084	1,798	611		164,025	86,990	77,035
1963			503	1,035	1,385	4,192	51,951	31,441	35,446	2,920	545		129,418	83,858	45,560
1964			490	1,609	769	1,940	50,640	26,892	32,406	1,954	552		117,252	76,135	41,117
1965			211	1,516	1,419	4,265	89,405	29,506	37,529	1,971	631		166,453	120,560	45,893

TABLE 22

(Continued)  
 MONTHLY COUNT OF STEELHEAD  
 BONNEVILLE DAM - 1938-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	Jan 1- Aug 25	Aug 26- Dec 31
1966			658	2,682	2,389	13,051	57,975	25,779	37,733	2,657	737		143,661	97,545	46,116
1967			416	1,182	899	3,062	40,881	36,787	35,472	2,701	472		121,872	78,794	43,078
1968			340	861	1,315	3,664	29,773	41,006	27,865	1,645	505		106,974	68,423	38,551
1969			911	2,164	2,897	6,889	63,222	36,077	26,565	1,484	573		140,782	104,051	36,731
1970			244	1,267	1,331	4,208	30,866	46,307	27,073	1,909	305		113,510	78,106	35,404
1971			463	1,377	1,810	4,469	84,877	58,249	38,619	3,739	363		193,966	141,054	52,912
1972			492	2,562	2,137	3,444	59,933	48,223	65,523	3,432	140		185,886	107,227	78,659
1973			830	2,534	1,367	5,360	53,820	46,399	43,275	3,918	320		157,823	100,011	57,812
1974			1,292	4,127	5,547	6,349	57,212	44,266	14,654	3,080	527		137,054	84,402	52,652
1975			1,080	4,284	4,324	6,058	30,825	28,623	9,106	904	338		85,540	71,586	13,954
1976			1,285	3,459	3,677	9,130	38,907	44,204	21,084	1,953	478		124,177	92,370	31,807
1977			1,159	4,121	4,115	11,395	67,554	35,161	66,084	3,298	550		193,437	113,682	79,755
1978			1,750	3,327	4,587	10,883	25,284	25,637	30,461	2,168	334		104,431	64,188	40,243
1979			1,333	1,905	1,785	7,585	33,379	39,399	23,592	4,710	291		113,979	79,472	34,507
1980			1,139	3,378	1,409	7,790	28,448	51,073	32,277	3,233	507		129,254	85,010	44,244
1981			1,031	3,812	3,887	12,628	56,787	52,435	25,737	2,650	303		159,270	121,785	37,485
1982			1,239	4,188	5,335	8,636	39,159	51,329	44,456	3,146	152		157,640	103,159	54,481
1983			458	1,253	1,638	6,017	69,036	86,066	48,920	4,636	415		218,439	148,853	69,586
1984			579	2,106	4,216	14,454	92,546	93,866	102,877	4,463	453		315,560	189,365	126,195
1985			977	2,956	3,997	13,036	102,256	152,455	63,575	4,088	647		343,987	251,723	92,264
1986			2,712	3,674	4,500	16,655	136,622	129,089	76,532	9,280	827		379,891	279,154	100,737
1987			1,189	2,112	3,233	12,443	104,615	115,481	58,815	4,331	862		303,081	227,013	79,120
1988			1,158	3,728	5,016	13,615	72,718	113,791	63,864	4,421	761		279,072	190,030	89,042
1989			630	2,213	3,343	10,176	62,913	117,686	84,665	5,419	753		287,798	176,965	110,833
1990			966	2,563	4,501	11,643	37,140	52,327	65,813	7,522	552		183,027	89,144	93,883
1991			640	2,082	2,196	6,601	52,187	110,027	93,152	6,947	713		274,545	150,542	124,003
1992			646	1,964	3,239	9,708	55,090	135,162	103,792	4,918	456		314,975	175,218	139,757
1993			771	1,744	2,691	9,923	34,148	64,062	69,129	5,531	387		188,386	99,941	88,445
1994			422	1,976	3,132	7,225	26,719	58,780	54,856	8,079	789		161,978	82,822	79,156
<b>TOTAL</b>	<b>1,565</b>	<b>2,486</b>	<b>54,198</b>	<b>171,985</b>	<b>145,308</b>	<b>347,286</b>	<b>2,997,486</b>	<b>3,160,333</b>	<b>2,538,565</b>	<b>178,933</b>	<b>28,695</b>	<b>2,291</b>	<b>9,629,131</b>	<b>6,281,942</b>	<b>3,350,241</b>
<b>10-Year Average</b>	<b>1,011</b>	<b>2,501</b>	<b>3,585</b>	<b>11,103</b>	<b>68,441</b>	<b>104,886</b>	<b>73,419</b>	<b>6,054</b>	<b>675</b>				<b>271,674</b>	<b>172,255</b>	<b>99,724</b>

TABLE 23

WILD STEELHEAD COUNTED AT  
BONNEVILLE DAM 1994

BONNEVILLE DAM		Bradford Isl Ladder	Washington Ladder
Mar-94	Wild Steelhead		
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15	7	0	7
16	11	4	7
17	11	1	10
18	14	0	14
19	14	10	4
20	15	4	11
21	3	2	1
22	9	7	2
23	9	7	2
24	12	8	4
25	7	5	2
26	6	6	0
27	6	4	2
28	6	2	4
29	0	0	0
30	14	12	2
31	0	0	0
<b>TOTAL</b>	<b>144</b>	<b>72</b>	<b>72</b>
<b>AVG.</b>	<b>8</b>	<b>4</b>	<b>4</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 144</b>		

BONNEVILLE DAM		Bradford Isl Ladder	Washington Ladder
Apr-94	Wild Steelhead		
1	24	17	7
2	24	18	6
3	23	18	5
4	21	13	8
5	16	6	10
6	13	5	8
7	18	13	5
8	26	7	19
9	15	8	7
10	14	14	0
11	23	17	6
12	16	8	8
13	14	7	7
14	16	10	6
15	16	10	6
16	23	10	13
17	9	4	5
18	29	19	10
19	26	14	12
20	14	8	6
21	13	12	1
22	6	4	2
23	17	6	11
24	18	5	13
25	3	2	1
26	5	0	5
27	11	7	4
28	7	1	6
29	10	4	6
30	8	4	4
<b>TOTAL</b>	<b>478</b>	<b>271</b>	<b>207</b>
<b>AVG.</b>	<b>16</b>	<b>9</b>	<b>7</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 622</b>		

TABLE 2/1

**WILD STEELHEAD COUNTED AT  
BONNEVILLE DAM 1994**

BONNEVILLE DAM		Bradford Isl Ladder	Washington Ladder
May-94	Wild Steelhead		
1	7	5	2
2	10	2	8
3	6	1	5
4	14	10	4
5	14	10	4
6	14	1	13
7	8	2	6
8	11	4	7
9	14	6	8
10	12	6	6
11	6	5	1
12	3	2	1
13	1	1	0
14	14	4	10
15	13	7	6
16	13	2	11
17	2	1	1
18	9	5	4
19	9	4	5
20	10	5	5
21	10	4	6
22	11	7	4
23	13	8	5
24	10	6	4
25	11	1	10
26	12	5	7
27	14	6	8
28	9	5	4
29	6	4	2
30	15	10	5
31	8	1	7
<b>TOTAL</b>	<b>309</b>	<b>140</b>	<b>169</b>
<b>AVG.</b>	<b>10</b>	<b>5</b>	<b>5</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 931</b>		

BONNEVILLE DAM		Bradford Isl Ladder	Washington Ladder
Jun-94	Wild Steelhead		
1	17	10	7
2	19	12	7
3	23	6	17
4	14	7	7
5	23	6	17
6	14	6	8
7	26	10	16
8	31	19	12
9	17	6	11
10	14	6	8
11	15	8	7
12	37	17	20
13	25	12	13
14	38	10	28
15	40	10	30
16	29	13	16
17	40	17	23
18	39	22	17
19	31	13	18
20	41	25	16
21	62	20	42
22	39	20	19
23	59	28	31
24	74	31	43
25	107	60	47
26	112	62	50
27	100	35	65
28	131	70	61
29	155	91	64
30	121	60	61
<b>TOTAL</b>	<b>1493</b>	<b>712</b>	<b>781</b>
<b>AVG.</b>	<b>50</b>	<b>24</b>	<b>26</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 2,424</b>		

TABLE 25

**WILD STEELHEAD COUNTED AT  
BONNEVILLE DAM 1994**

BONNEVILLE DAM		Bradford Isl Ladder	Washington Ladder
Jul-94	Wild Steelhead		
1	133	66	67
2	169	80	89
3	118	74	44
4	177	113	64
5	188	92	96
6	189	86	103
7	295	191	104
8	307	162	145
9	276	136	140
10	347	221	126
11	309	190	119
12	306	178	128
13	340	170	170
14	425	203	222
15	436	232	204
16	406	220	186
17	367	212	155
18	495	241	254
19	410	220	190
20	416	218	198
21	637	325	312
22	484	250	234
23	480	325	155
24	345	250	95
25	288	175	113
26	267	134	133
27	210	119	91
28	246	158	88
29	384	229	155
30	375	214	161
31	370	234	136
<b>TOTAL</b>	<b>10,195</b>	<b>5,718</b>	<b>4,477</b>
<b>AVG.</b>	<b>329</b>	<b>184</b>	<b>144</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 12,619</b>		

BONNEVILLE DAM		Bradford Isl Ladder	Washington Ladder
Aug-94	Wild Steelhead		
1	370	216	154
2	454	290	164
3	494	350	144
4	299	156	143
5	472	353	119
6	241	134	107
7	194	118	76
8	316	208	108
9	345	245	100
10	323	190	133
11	315	188	127
12	463	342	121
13	416	326	90
14	358	282	76
15	315	230	85
16	296	192	104
17	243	160	83
18	209	157	52
19	195	115	80
20	167	109	58
21	223	169	54
22	214	167	47
23	219	175	44
24	249	214	35
25	265	239	26
26	356	306	50
27	391	288	103
28	331	240	91
29	324	274	50
30	252	200	52
31	254	208	46
<b>TOTAL</b>	<b>9,563</b>	<b>6,841</b>	<b>2,722</b>
<b>AVG.</b>	<b>308</b>	<b>221</b>	<b>88</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 22,182</b>		

TABLE 26

WILD STEELHEAD COUNTED AT  
BONNEVILLE DAM 1994

BONNEVILLE DAM		Bradford Isl Ladder	Washington Ladder
Sep-94	Wild Steelhead		
1	166	89	77
2	203	130	73
3	216	142	74
4	163	115	48
5	275	187	88
6	441	254	187
7	442	281	161
8	466	276	190
9	354	246	108
10	259	176	83
11	231	154	77
12	202	132	70
13	229	143	86
14	234	155	79
15	187	114	73
16	189	100	89
17	162	95	67
18	148	88	60
19	153	83	70
20	192	104	88
21	149	90	59
22	197	83	114
23	102	84	18
24	102	84	18
25	99	80	19
26	98	66	32
27	64	46	18
28	61	47	14
29	76	68	8
30	69	62	7

TOTAL	5,929	3,774	2,155
AVG.	198	126	72

TOTAL	WILD STEELHEAD
TO DATE	28,111

BONNEVILLE DAM		Bradford Isl Ladder	Washington Ladder
Oct-94	Wild Steelhead		
1	53	41	12
2	39	34	5
3	51	43	8
4	48	29	19
5	36	29	7
6	43	26	17
7	39	29	10
8	29	25	4
9	41	34	7
10	18	13	5
11	50	42	8
12	26	25	1
13	13	12	1
14	15	13	2
15	22	20	2
16	29	12	17
17	62	49	13
18	69	58	11
19	54	46	8
20	24	22	2
21	23	18	5
22	31	18	13
23	37	26	11
24	37	35	2
25	27	20	7
26	29	17	12
27	31	6	25
28	25	7	18
29	59	24	35
30	66	38	28
31	35	25	10

TOTAL	1,161	836	325
AVG.	37	27	10

TOTAL	WILD STEELHEAD
TO DATE	29,272

TABLE 27

**WILD STEELHEAD COUNTED AT  
BONNEVILLE DAM 1994**

BONNEVILLE DAM		Bradford Isl Ladder	Washington Ladder
Nov-94	Wild Steelhead		
1	26	10	16
2	6	2	4
3	14	0	14
4	20	10	10
5	15	8	7
6	15	7	8
7	16	6	10
8	10	6	4
9	0	1	-1
10	18	5	13
11	11	6	5
12	11	6	5
13	1	-1	2
14	6	2	4
15	10	4	6
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
<b>TOTAL</b>	<b>179</b>	<b>72</b>	<b>107</b>
<b>AVG.</b>	<b>12</b>	<b>5</b>	<b>7</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 29,451</b>		

TABLE 28

MONTHLY COUNT OF SHAD at  
BONNEVILLE DAM 1938-1994

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1938						39	3,184	1,502	527	21			5,273
1939					14	1,539	3,065	157	28				4,803
1940					48	12,931	9,178	72	1				22,230
1941					5	2,417	16,010	197	12	16			18,657
1942					2	38	11,341	1,473	5				12,859
1943						18	2,545	265	20				2,848
1944						287	16,568	248					17,103
1945						2,801	90,773	948	4				94,526
1946						3,895	16,073	415					20,383
1947					8	5,645	20,280	105	3				26,041
1948						8	6,458	1,953	2	1			8,422
1949						2,647	19,609	322	1				22,579
1950							7,265	548	3				7,816
1951						1,269	6,792	277	15				8,353
1952						487	2,595	45	4				3,131
1953						53	14,856	1,502	19				16,430
1954						34	3,848	1,136	11				5,029
1955						21	4,411	1,358	18				5,808
1956					1	67	6,838	1,168	11				8,085
1957						1,695	11,039	422	1	2			13,159
1958						3,885	6,257	59					10,201
1959					3	32	6,315	369	1				6,720
1960						35,259	57,443	594	72				93,368
1961						18,952	245,471	1,236	33	5			265,697
1962						43,689	387,554	4,657	82	4	2		435,988
1963					70	77,961	307,466	4,044	217	14			389,772
1964					19	3,203	236,321	13,008	121	2			252,674
1965					1	33,815	570,432	12,844	194	35	2		617,323
1966					94	181,187	367,643	7,988	545	51	5		557,513
1967			1	1		6,673	212,681	2,944	152	8			222,460
1968					800	107,881	183,878	1,387	121	10	1		294,078
1969			2	5	158	233,018	81,159	2,846	163	7			317,358
1970				2	250	228,519	99,659	566	262	18			329,276

TABLE 28  
(Continued)

MONTHLY COUNT OF SHAD at  
BONNEVILLE DAM 1938-1994

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1971					30	34,345	154,215	951	55	1			189,597
1972					38	16,689	192,608	5,301	88	1			214,725
1973					116,057	377,830	24,701	577	38	4			519,207
1974					7	6,122	91,302	1,496	17	1			98,945
1975					11	43,712	219,133	1,349	38	3			264,246
1976					4	123,053	179,994	2,112	49	7			305,219
1977					51,709	431,540	11,818	568	76	12			495,723
1978					30	802,110	57,997	991	33	5			861,166
1979					800	994,253	43,734	658	258	141	13		1,039,857
1980					1,460	766,473	170,705	685	51	15	1		939,390
1981				2	20,976	708,295	150,730	1,080	79	17			881,179
1982				1	6,888	655,037	117,325	914	37	9	1		780,212
1983					78,105	1,224,342	118,975	1,103	112	37			1,422,674
1984					553	950,406	320,526	4,097	153	55	1		1,275,791
1985					101,770	816,288	55,233	1,410	206	39	5		974,951
1986					104,724	722,443	29,622	1,164	166	47	4		858,170
1987				28	254,326	678,850	10,254	379	32	5	1		943,875
1988				20	408,822	734,635	20,146	697					1,164,320
1989				1	199,327	1,651,338	24,697	2,041					1,877,404
1990				4	532,617	2,296,098	116,799	2,347					2,947,865
1991				1	37,677	1,566,933	307,835	1,971					1,914,417
1992				256	685,939	1,767,696	93,446	4,102					2,551,439
1993			11	10	111,459	1,883,831	167,900	3,463					2,166,674
1994				53	136,547	1,223,421	195,894	1,640					1,557,555
<b>TOTAL</b>			<b>14</b>	<b>384</b>	<b>2,851,349</b>	<b>21,485,705</b>	<b>5,910,596</b>	<b>107,751</b>	<b>4,136</b>	<b>593</b>	<b>36</b>		<b>30,360,564</b>
<b>10 Year Average</b>					<b>257,321</b>	<b>1,334,153</b>	<b>102,183</b>	<b>1,921</b>					<b>1,695,667</b>

TABLE 29

U.S. ARMY ENGINEER DISTRICT, PORTLAND  
FISH COUNTS

NIGHT COUNTS @ BONNEVILLE  
JUNE 1994

DATE	SPRING	CHINOOK ADULT SUMMER	FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD
1		5		0			0	10
2		2		0			0	6
3		7		0			0	6
4		4		0			1	4
5		1		0			0	6
6		4		0			0	7
7		9		0			0	2
8		9		0			1	5
9		9		1			-1	9
10		7		2			0	9
11		9		1			2	3
12		9		0			1	5
13		6		0			2	8
14		4		1			7	4
15		4		1			3	2
16		22		0			1	9
17		3		0			5	3
18		16		1			29	15
19		25		1			24	10
20		11		0			10	8
21		18		0			37	15
22		14		0			37	21
23		9		1			29	9
24		14		2			26	27
25		13		0			14	19
26		15		0			33	21
27		18		1			9	12
28		15		1			15	15
29		12		0			18	10
30		16		2			18	6
<b>TOTAL</b>		<b>310</b>		<b>15</b>			<b>321</b>	<b>286</b>
<b>AVG</b>		<b>10</b>					<b>11</b>	<b>10</b>
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>				<b>SOCKEYE</b>	<b>STEELHEAD</b>
		<b>310</b>	<b>15</b>				<b>321</b>	<b>286</b>

Video counts from 2100 - 0500 PST  
 FL is the ladder on Bradford Island \ FR is the ladder on the Washington shore.  
 Video counts were done all season but because some of the data could not be verified  
 because of missing tapes, only June, July and August are included.

TABLE 30

U.S. ARMY ENGINEER DISTRICT, PORTLAND

NIGHT COUNTS @ BONNEVILLE

FISH COUNTS

JULY 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD		
	SPRING	SUMMER	FALL							
1		8		1			23	16		
2		8		2			21	20		
3		9		3			14	9		
4		11		0			18	2		
5		7		0			13	8		
6		24		2			6	15		
7		13		1			12	16		
8		12		1			8	13		
9		21		2			13	15		
10		7		2			3	12		
11		11		2			4	10		
12		8		1			6	7		
13		18		1			3	12		
14		12		1			1	3		
15		8		1			1	8		
16		12		3			3	21		
17		8		3			0	10		
18		7		5			0	9		
19		1		-1			0	9		
20		5		1			2	17		
21		19		4			0	31		
22		7		0			0	7		
23		8		6			0	35		
24		6		0			0	8		
25		-5		0			0	18		
26		10		1			2	17		
27		3		2			0	15		
28		10		1			0	16		
29		13		2			1	48		
30		5		1			0	21		
31		11		0			0	35		
<b>TOTAL</b>		<b>297</b>		<b>48</b>			<b>154</b>	<b>483</b>		
<b>AVG</b>		<b>10</b>		<b>2</b>			<b>5</b>	<b>16</b>		
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>			<b>SOCKEYE</b>		<b>STEELHEAD</b>	
	<b>SUMMER</b>	<b>607</b>	<b>63</b>				<b>475</b>	<b>769</b>		

Video counts from 2100 - 0500 PST  
 FL is the ladder on Bradford Island \ FR is the ladder on the Washi

TABLE 31

U.S. ARMY ENGINEER DISTRICT, PORTLAND

NIGHT COUNTS @ BONNEVILLE

FISH COUNTS

AUGUST 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD
	SPRING	SUMMER	FALL					
1			9	2			0	10
2			7	0			0	29
3			2	0			1	14
4			6	0			0	1
5			1	0			0	10
6			5	0			0	8
7			21	2			0	24
8			10	0			0	11
9			20	0			0	31
10			12	0			0	24
11			12	1			0	39
12			22	2			0	35
13			36	1			0	48
14			13	-2			0	49
15			16	2			0	42
16			0	0			0	2
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
<b>TOTAL</b>			192	8			1	377
<b>AVG</b>								
<b>TOTALS TO DATE</b>								
			CHINOOK ADULT	CHINOOK JACK			SOCKEYE	STEELHEAD
	SUMMER		607	63			476	1,146
	FALL		192	8				
<b>TOTAL</b>			799	71				

Video counts from 2000 - 0400 PST  
 FL is the ladder on Bradford Island \ FR is the ladder on the Washi

TABLE 32

## MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER THE DALLES DAM

1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				6,573	4,938	7,376	8,360	22,910	98,997	12,604			161,758
STEELHEAD				1,327	391	2,263	11,434	11,703	55,247	29,889			112,254
SOCKEYE						6,752	2,594	8	2				9,356
COHO*							1	121	2,922	1,332			4,376
CHUM													
PINK													
MINI-JACKS**				2	10	3,187	3,083	430	1,457	382			8,551
<b>TOTAL</b>				<b>7,902</b>	<b>5,339</b>	<b>19,578</b>	<b>25,472</b>	<b>35,172</b>	<b>158,625</b>	<b>44,207</b>			<b>296,295</b>
<b>SHAD</b>				<b>478</b>	<b>166,041</b>	<b>1,397,024</b>	<b>236,133</b>	<b>1,869</b>					<b>1,801,545</b>

\*Jacks included

\*\*Salmonid fish under 12 inches in length.

TABLE 33

DISCHARGE AND WATER QUALITY DATA  
THE DALLES PROJECT - 1994

JANUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	75.6	0.0		
2	91.0	0.0		
3	83.7	0.0		
4	82.9	0.0		
5	115.8	0.0		
6	114.9	0.0		
7	103.4	0.0		
8	121.6	0.0		
9	80.4	0.0		
10	114.8	0.0		
11	104.3	0.0		
12	108.8	0.0		
13	114.1	0.0		
14	111.4	0.0		
15	110.0	0.0		
16	90.1	0.0		
17	116.8	0.0		
18	148.8	0.0		
19	139.0	0.0		
20	134.8	0.0		
21	130.3	0.0		
22	111.3	0.0		
23	74.4	0.0		
24	116.1	0.0		
25	119.1	0.0		
26	135.0	0.0		
27	137.5	0.0		
28	142.4	0.0		
29	141.8	0.0		
30	119.8	0.0		
31	145.0	0.0		
AVG.	114.0	0.0		

FEBRUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	160.4	0.0		
2	169.6	0.0		
3	162.7	0.0		
4	154.3	0.0		
5	158.8	0.0		
6	150.2	0.0		
7	153.9	0.0		
8	159.6	0.0		
9	169.2	0.0		
10	152.1	0.0		
11	129.8	0.0		
12	152.9	0.0		
13	112.6	0.0		
14	139.2	0.0		
15	130.4	0.0		
16	124.8	0.0		
17	124.8	0.0		
18	137.1	0.0		
19	132.9	0.0		
20	101.5	0.0		
21	122.3	0.0		
22	139.7	0.0		
23	125.0	0.0		
24	153.6	0.0		
25	140.9	0.0		
26	139.8	0.0		
27	100.1	0.0		
28	100.4	0.0		
AVG.	139.2	0.0		

MARCH				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	101.6	0.0		
2	126.7	0.0		
3	125.4	0.0		
4	106.9	0.0		
5	117.8	0.0		
6	91.3	0.0		
7	130.6	0.0		
8	148.3	0.0		
9	128.5	0.0		
10	118.2	0.0		
11	114.6	0.0		
12	119.4	0.0		
13	84.3	0.0		
14	131.9	0.0		
15	115.2	0.0		
16	120.0	0.0		
17	129.3	0.0		
18	152.9	0.0		
19	155.9	0.0		
20	149.5	0.0		
21	144.3	0.0		
22	153.0	0.0		
23	148.0	0.0		
24	151.2	0.0		
25	138.5	0.0		
26	106.1	0.0		
27	94.3	0.0		
28	98.2	0.0		
29	133.4	0.0		
30	125.7	0.0		
31	132.0	0.2		
AVG.	125.6	0.0		

TABLE 34

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT

APRIL 1994

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1	39			0				71	0	0	133.3	1.3	2.5	46.0	
2	52			0				73	0	0	119.7	0.0	2.0	46.0	
3	50			0				100	0	0	82.6	0.2	2.6	46.0	
4	28			1				105	0	0	144.6	1.3	2.5	47.0	
5	31			0				88	0	0	170.7	0.2	2.8	47.0	
6	94			0				113	0	0	143.2	1.5	3.0	46.0	
7	57			0				68	0	0	147.8	1.3	3.5	46.0	
8	47			0				56	0	0	147.2	0.0	3.5	48.0	
9	85			1				78	0	0	127.7	0.2	2.5	48.0	
10	47			0				78	17	0	100.2	1.3	3.2	50.0	
11	78			1				48	0	0	144.5	0.2	3.0	49.0	
12	108			0				59	4	0	130.5	1.3	2.8	49.0	
13	172			0				52	1	0	147.5	0.2	3.0	49.0	
14	120			0				42	0	0	138.5	1.5	2.8	49.0	
15	233			0				41	0	0	146.6	1.3	2.6	49.0	
16	278			0				15	5	0	123.7	0.2	3.5	50.0	
17	336			0				36	1	0	96.2	1.3	3.2	50.0	
18	287			0				18	6	0	118.4	0.1	3.0	51.0	
19	183			2				29	23	0	146.5	1.1	2.5	50.0	
20	248			2				18	16	0	160.8	0.0	3.0	53.0	
21	281			2				21	7	0	164.6	0.1	3.2	53.0	
22	546			2				15	19	0	175.9	1.2	3.4	51.0	
23	467			2				26	30	0	169.0	1.3	3.5	53.0	
24	415			7				18	19	0	152.1	0.0	3.5	53.0	
25	429			7				17	6	0	155.4	0.2	3.5	53.0	
26	266			2				8	28	1	167.4	1.5	2.0	51.0	
27	348			4				16	30	0	177.3	1.3	3.5	52.0	
28	289			0				2	72	1	193.6	0.2	2.7	56.0	
29	460			2				12	63	0	187.4	1.3	3.2	54.0	
30	461			3				4	131	0	203.0	0.2	2.7	54.0	
<b>TOTAL</b>	<b>6,535</b>			<b>38</b>				<b>1,327</b>	<b>478</b>	<b>2</b>					
<b>AVG.</b>	<b>218</b>			<b>1</b>				<b>44</b>	<b>16</b>		<b>147.2</b>	<b>0.7</b>	<b>3.0</b>	<b>50.0</b>	

TABLE 35

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT  
MAY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1	367			9				14	121	0	203.9	7.3	3.5	54.0
2	342			8				7	80	0	208.1	21.0	2.5	53.0
3	235			7				11	108	0	205.9	21.1	3.0	55.0
4	319			11				9	135	0	206.2	21.8	2.8	53.0
5	181			10				10	85	0	213.4	23.4	2.5	53.0
6	305			8				2	131	0	218.5	34.5	2.8	53.0
7	155			8				9	242	0	207.2	35.9	2.2	55.0
8	176			9				12	385	0	201.2	22.2	2.7	53.0
9	156			9				10	859	0	201.5	24.1	2.4	55.0
10	220			12				15	1,049	1	207.3	26.1	3.0	54.0
11	290			7				16	455	0	216.5	53.4	2.5	52.0
12	163			6				2	701	0	224.3	52.3	3.0	54.0
13	139			9				6	672	0	210.6	46.6	3.0	55.0
14	102			6				11	1,095	0	208.3	53.6	3.0	55.0
15	144			7				10	851	0	178.1	61.8	3.0	55.0
16	106			6				7	832	0	186.9	58.6	5.7	56.0
17	87			8				12	1,185	1	207.6	69.8	2.5	55.0
18	102			5				15	1,972	0	198.5	62.7	3.0	57.0
19	86			3				22	2,389	0	197.9	63.4	3.5	57.0
20	83			7				10	2,929	0	199.8	67.1	3.6	57.0
21	87			6				12	5,481	1	186.2	72.6	3.2	57.0
22	65			5				14	5,772	0	185.2	71.6	2.9	57.0
23	110			11				13	9,213	1	196.8	63.4	2.2	58.0
24	93			10				18	12,802	0	212.6	69.5	2.9	57.0
25	113			6				15	13,095	1	211.6	68.4	3.0	58.0
26	89			1				23	14,820	0	214.8	69.3	3.5	59.0
27	92			6				10	11,356	2	220.1	72.7	2.8	58.0
28	81			2				10	24,048	3	210.0	81.8	3.0	55.0
29	89			5				17	13,991	0	179.4	71.3	2.9	58.0
30	70			1				24	12,314	0	184.2	74.2	3.5	58.0
31	80			3				25	26,873	0	209.0	82.1	3.5	58.0

TOTAL 4,727

211

391 166,041 10

AVG. 152

7

13 5,356

203.6 52.4 3.0 55.6

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	11,262	249

STEELHEAD	SHAD	MINI-JCK
1,718	166,519	12

TABLE 36

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT  
JUNE 1993

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1	99			1			0	18	31,272	1	207.3	82.8	3.5	60.0
2	83			2			0	15	38,079	2	192.0	77.2	2.6	60.0
3	99			3			0	30	45,859	0	207.7	81.6	3.5	60.0
4		129		4			0	31	40,213	4	201.0	81.0	3.6	59.0
5		163		4			1	37	36,102	9	183.9	73.8	3.5	58.0
6		83		7			0	13	21,577	10	193.9	77.8	2.8	60.0
7		152		6			3	42	19,410	15	202.0	81.7	2.8	60.0
8		189		14			4	26	26,359	15	215.0	85.4	3.2	60.0
9		127		9			14	37	28,077	27	208.2	83.4	3.5	60.0
10		148		11			19	28	43,662	27	208.9	82.9	2.6	61.0
11		160		9			13	50	61,415	45	190.9	77.2	3.3	60.0
12		175		13			16	41	82,999	35	178.4	69.8	3.0	61.0
13		239		9			25	54	63,000	70	197.2	79.3	3.0	61.0
14		192		6			34	50	52,850	96	217.4	86.4	2.2	62.0
15		240		20			56	39	33,430	88	224.2	89.2	2.6	61.0
16		211		21			76	86	34,591	111	199.0	80.5	2.4	61.0
17		239		19			152	48	55,603	118	186.9	74.3	2.4	61.0
18		239		15			225	61	79,466	140	188.2	75.6	2.5	61.0
19		224		14			220	83	55,001	162	162.5	65.9	2.4	62.0
20		258		14			359	63	55,521	140	171.4	56.7	2.4	62.0
21		351		16			461	86	61,600	181	187.6	49.7	3.0	62.0
22		439		18			449	94	47,138	135	188.2	12.3	3.5	63.0
23		383		25			570	154	60,624	176	183.0	10.6	3.0	62.0
24		353		18			699	113	57,723	157	182.7	9.4	3.0	62.0
25		384		34			767	118	53,632	289	178.8	10.5	3.0	62.0
26		437		36			858	159	62,224	341	149.7	10.0	3.0	62.0
27		301		24			554	159	40,943	225	170.8	8.7	3.2	62.0
28		259		16			467	156	29,183	160	157.7	9.5	2.5	65.0
29		277		29			442	181	44,028	210	155.8	9.5	3.5	62.0
30		312		14			268	191	35,443	198	168.2	9.2	3.5	62.0
<b>TOTAL</b>	<b>281</b>	<b>6,664</b>		<b>431</b>			<b>6,752</b>	<b>2,263</b>	<b>1,397,024</b>	<b>3,187</b>				
<b>AVG.</b>	<b>94</b>	<b>247</b>		<b>14</b>			<b>225</b>	<b>75</b>	<b>46,567</b>	<b>106</b>	<b>188.6</b>	<b>56.7</b>	<b>3.0</b>	<b>61.1</b>

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
	SPRING	11,543 255
	SUMMER	6,664 425
<b>TOTAL</b>	<b>18,207</b>	<b>680</b>

SOCKEYE	STEELHEAD	SHAD	MINI-JCK
6,752	3,981	1,563,543	3,199



TABLE 38

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

THE DALLES PROJECT  
 AUGUST 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1		197		17	0	0	0	297	288	25	98.3	5.3	3.5	70.0
2		194		12	0	0	0	247	170	23	99.4	6.0	4.7	73.0
3		110		18	1	0	0	190	166	30	100.1	7.5	3.5	70.0
4			175	17	0	0	1	250	64	21	100.9	5.8	4.0	72.0
5			151	18	0	0	0	261	66	12	102.2	6.1	4.0	72.0
6			113	22	0	0	0	281	59	14	107.5	8.1	5.5	73.0
7			245	20	0	0	1	275	199	14	73.1	6.0	5.0	71.0
8			212	13	2	0	0	236	115	8	100.1	5.8	5.0	70.0
9			202	19	0	0	0	129	96	0	103.9	5.3	3.2	70.0
10			394	24	0	0	2	197	95	3	88.7	6.8	3.0	70.0
11			252	36	0	0	0	207	34	10	90.7	4.6	3.8	73.0
12			494	19	0	0	2	301	85	17	92.2	5.6	5.5	72.0
13			604	29	0	0	0	259	31	11	94.7	5.6	5.0	72.0
14			490	24	1	0	0	241	29	22	85.5	5.9	5.0	72.0
15			427	34	0	0	0	204	11	18	85.1	5.0	7.0	71.0
16			153	19	0	0	0	140	19	10	114.3	5.8	3.5	72.0
17			246	39	1	1	0	333	70	14	106.0	5.1	2.8	72.0
18			410	36	7	3	0	270	39	8	88.8	5.1	3.3	72.0
19			505	38	0	0	0	325	15	7	93.1	4.3	3.0	71.0
20			401	28	0	0	0	275	22	9	101.7	4.8	3.5	71.0
21			493	53	0	0	0	478	7	8	61.0	3.9	4.0	71.0
22			872	56	0	0	0	381	31	1	74.6	3.3	3.5	71.0
23			785	91	4	0	0	484	32	15	88.9	2.0	2.6	72.0
24			732	59	4	0	0	340	20	8	69.3	0.0	4.5	71.0
25			993	95	3	1	0	506	12	12	79.5	0.0	3.0	70.0
26			1,116	116	5	0	0	725	22	16	78.3	0.2	4.5	70.0
27			2,124	163	5	2	0	619	22	15	101.6	0.0	3.5	71.0
28			2,039	246	8	1	0	686	9	31	73.5	2.6	5.0	71.0
29			1,863	271	14	2	2	1,163	0	11	83.8	0.0	3.5	71.0
30			1,889	223	21	4	0	650	28	19	89.2	2.6	5.5	71.0
31			1,912	262	22	9	0	753	13	18	86.0	0.0	2.7	70.0
<b>TOTAL</b>		<b>501</b>	<b>20,292</b>	<b>2,117</b>	<b>98</b>	<b>23</b>	<b>8</b>	<b>11,703</b>	<b>1,869</b>	<b>430</b>				
<b>AVG.</b>		<b>167</b>	<b>725</b>	<b>140</b>	<b>7</b>			<b>762</b>	<b>109</b>	<b>27</b>	<b>90.7</b>	<b>4.2</b>	<b>4.1</b>	<b>71.2</b>
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>		<b>COHO ADULTS</b>	<b>COHO JACKS</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>				
<b>SPRING</b>		<b>11,543</b>	<b>255</b>		<b>99</b>	<b>23</b>	<b>9,354</b>	<b>27,118</b>	<b>1,801,545</b>	<b>6,712</b>				
<b>SUMMER</b>		<b>14,776</b>	<b>1,221</b>											
<b>FALL</b>		<b>20,292</b>	<b>2,070</b>											
<b>TOTAL</b>		<b>46,611</b>	<b>3,546</b>											

TABLE 38

TABLE 39

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

THE DALLES PROJECT  
 SEPTEMBER 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			1,585	295	13	4	0	685		13	72.4	2.6	5.5	71.0
2			1,890	277	33	6	0	1,072		24	64.1	0.0	5.5	70.0
3			2,494	245	34	11	0	1,272		42	66.4	2.6	5.4	69.0
4			4,091	449	50	12	0	2,187		44	62.7	2.6	5.6	69.0
5			3,981	367	45	10	2	2,744		47	64.9	0.0	5.6	69.0
6			3,887	500	64	11	0	2,197		33	71.2	2.6	5.7	69.0
7			5,270	528	126	18	0	2,155		26	81.1	0.0	5.4	69.0
8			5,208	748	131	12	0	2,374		35	78.8	2.6	4.2	69.0
9			4,889	709	115	6	0	2,111		33	73.8	0.0	4.4	69.0
10			3,457	623	114	8	0	2,139		24	67.8	0.0	4.6	69.0
11			3,307	664	102	5	0	2,259		35	59.3	2.6	4.6	68.0
12			3,655	771	145	6	0	2,920		31	75.8	2.6	4.6	68.0
13			2,548	555	110	20	0	2,460		17	74.9	0.0	3.9	69.0
14			2,885	610	146	17	0	2,772		42	76.1	2.6	3.8	69.0
15			3,085	680	161	40	0	3,228		49	59.4	0.0	3.0	69.0
16			2,668	784	112	9	0	1,950		39	68.8	2.6	3.5	69.0
17			3,314	1,030	166	66	0	2,026		42	78.5	0.0	3.0	68.0
18			3,521	1,045	146	17	0	2,479		66	61.0	2.6	3.2	68.0
19			3,383	1,017	150	44	0	2,179		151	79.2	0.0	3.5	68.0
20			2,813	1,053	104	8	0	1,602		42	79.4	2.6	5.8	67.0
21			2,171	1,079	84	17	0	1,370		51	80.0	0.0	2.0	69.0
22			1,416	703	37	11	0	835		30	88.5	2.6	3.2	68.0
23			1,433	857	34	8	0	1,457		71	85.7	0.0	4.0	69.0
24			1,400	680	66	26	0	1,217		108	77.0	2.6	3.6	69.0
25			1,255	551	34	10	0	1,020		51	61.6	0.0	3.5	69.0
26			1,226	476	30	11	0	1,291		151	70.2	2.6	4.0	68.0
27			1,128	411	37	8	0	1,262		40	88.7	2.6	5.0	69.0
28			884	344	22	11	0	937		61	89.6	2.6	3.5	69.0
29			729	295	25	5	0	1,179		29	77.8	2.6	5.5	68.0
30			781	297	43	6	0	1,868		30	78.1	2.6	5.5	68.0

<b>TOTAL</b>			80,354	18,643	2,479	443	2	55,247		1,457
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<b>AVG.</b>			2,678	621	83	15		1,842		49	73.8	1.6	4.4	68.7
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<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
SPRING		11,543	255
SUMMER		14,776	1,221
FALL		100,646	20,713
<b>TOTAL</b>		126,965	22,189

	<b>COHO ADULT</b>	<b>COHO JACK</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
	2,578	466	9,356	82,365	1,801,545	8,169

TABLE 40

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT  
OCTOBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT				SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK							ADULT	JACK
1			734	233	58	6		28	63.3	2.6	4.5	67.0
2			939	294	45	6		33	64.9	2.6	5.0	67.0
3			737	222	25	3		26	85.9	2.6	3.7	64.0
4			1,124	220	35	7		38	69.7	2.6	5.5	67.0
5			538	217	22	1		27	86.7	2.6	3.7	62.0
6			711	239	43	7		42	76.4	2.6	6.0	62.0
7			540	249	59	5		27	73.3	2.6	4.0	65.0
8			452	203	37	12		38	89.5	2.6	6.0	66.0
9			285	134	38	5		10	62.7	2.6	3.5	66.0
10			324	138	20	5		8	82.3	2.6	5.5	62.0
11			316	103	25	5		10	99.4	2.6	5.5	62.0
12			375	126	43	2		6	109.9	2.6	5.1	62.0
13			197	69	22	2		5	101.8	2.6	4.1	62.0
14			175	66	11	2		10	83.1	2.6	4.0	63.0
15			108	57	11	2		4	123.8	2.6	3.5	62.0
16			181	109	153	5		11	114.3	2.6	3.8	62.0
17			116	64	97	7		9	82.6	2.6	3.9	62.0
18			173	99	48	1		8	89.1	2.6	4.5	61.0
19			116	38	13	1		8	100.0	2.6	3.0	61.0
20			134	53	22	1		7	103.1	2.6	4.1	61.0
21			89	49	35	6		5	88.7	2.6	4.0	61.0
22			95	34	53	6		4	110.7	2.6	4.0	61.0
23			141	44	76	7		4	80.6	2.6	3.9	61.0
24			89	36	52	3		1	105.6	2.6	4.3	60.0
25			93	37	24	5		0	104.3	2.6	4.5	61.0
26			73	14	7	0		4	90.8	2.6	3.5	58.0
27			65	17	20	2		1	95.9	2.6	3.5	60.0
28			88	26	77	5		4	109.0	2.6	3.5	58.0
29			145	39	23	1		3	100.2	2.6	2.5	58.0
30			116	31	9	2		0	89.4	2.6	3.5	57.0
31			54	21	5	2		1	104.7	2.6	3.0	58.0

<b>TOTAL</b>			9,323	3,281	1,208	124		29,889		382		91.7	2.6	4.2	61.9
<b>AVG.</b>			301	106	39	4		964		12					

<b>TOTALS TO DATE</b>															
			<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>		<b>COHO ADULT</b>	<b>COHO JACK</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>				
	<b>SPRING</b>		11,543	255		3,786	590	9,356	112,254	1,801,545	8,551				
	<b>SUMMER</b>		14,776	1,221											
	<b>FALL</b>		109,969	23,994											
	<b>TOTAL</b>		136,288	25,470											

TABLE 40

TABLE 41

DISCHARGE AND WATER QUALITY DATA  
THE DALLES PROJECT - 1994

NOVEMBER				
DATE	DISCH	SPILL	TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F
1	90.8	0.0		
2	106.6	0.0		
3	128.4	0.0		
4	105.3	0.0		
5	107.3	0.0		
6	77.2	0.0		
7	97.6	0.0		
8	117.4	0.0		
9	107.6	0.0		
10	103.9	0.0		
11	103.6	0.0		
12	74.9	0.0		
13	85.8	0.0		
14	96.0	0.0		
15	111.5	0.0		
16	102.0	0.0		
17	121.0	0.0		
18	128.6	0.0		
19	95.8	0.0		
20	62.0	0.0		
21	117.4	0.0		
22	126.7	0.0		
23	115.3	0.0		
24	76.5	0.0		
25	95.1	0.0		
26	90.5	0.0		
27	75.7	0.0		
28	122.2	0.0		
29	121.4	0.0		
30	113.9	0.0		

AVG. 102.6 0.0

DECEMBER				
DATE	DISCH	SPILL	TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F
1	116.7	0.0		
2	118.1	0.0		
3	113.8	0.0		
4	100.1	0.0		
5	143.1	0.0		
6	152.4	0.0		
7	141.7	0.0		
8	137.6	0.0		
9	125.9	0.0		
10	127.1	0.0		
11	98.5	0.0		
12	133.8	0.0		
13	131.7	0.0		
14	142.6	0.0		
15	158.2	0.0		
16	136.7	0.0		
17	96.0	0.0		
18	81.4	0.0		
19	128.2	0.0		
20	108.7	0.0		
21	103.5	0.0		
22	123.4	0.0		
23	115.5	0.0		
24	95.2	0.0		
25	75.6	0.0		
26	93.5	0.0		
27	98.9	0.0		
28	102.9	0.0		
29	130.2	0.0		
30	137.5	0.0		

31 134.5 0.0  
AVG. 119.5 0.0

TABLE 42

**YEARLY TOTALS OF SALMONIDS COUNTED OVER THE DALLES DAM  
1957-1994**

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	CHUM	PINK	TOTALS
1957	312,678	129,361	90,201	6,793	75	4	539,112
1958	301,960	121,420	111,039	2,395	31	5	536,850
1959	207,461	156,090	86,259	2,709	25	9	452,553
1960	196,962	111,189	59,441	3,000	35	5	370,632
1961	201,335	134,572	16,689	2,139		4	354,739
1962	187,132	163,301	27,127	3,696		5	381,261
1963	180,969	118,957	56,931	3,716	23	3	360,599
1964	183,842	110,033	79,042	5,978		5	378,900
1965	195,049	141,052	44,279	17,468	1	3	397,852
1966	240,671	146,172	147,886	32,279		1	567,009
1967	280,112	121,614	120,589	32,015	1	4	554,335
1968	262,975	147,481	116,897	42,687		1	570,041
1969	314,258	112,529	37,226	17,054		1	481,068
1970	261,457	99,187	77,678	23,219		4	461,545
1971	250,528	151,348	76,103	29,061		3	507,043
1972	268,628	135,303	44,671	16,562			465,164
1973	280,945	100,082	52,303	11,152		1	444,483
1974	217,181	70,875	28,827	14,655			331,538
1975	217,283	57,675	43,198	13,976			332,132
1976	216,163	82,568	27,747	19,392			345,870
1977	224,950	133,882	86,252	10,021			455,105
1978	199,228	60,485	11,845	18,877			290,435
1979	150,647	83,364	32,791	8,726		4	275,532
1980	113,951	93,963	42,088	6,326			256,328
1981	135,176	113,268	35,447	6,941		1	290,833
1982	172,682	117,434	33,331	7,383			330,830
1983	156,190	171,055	84,204	3,459	1		414,909
1984	203,920	219,123	101,177	3,142		1	527,363
1985	370,982	276,025	117,254	4,625		5	768,891
1986	443,013	281,953	48,477	4,842	3	4	778,292
1987	421,190	217,768	87,599	3,310	1	2	729,870
1988	378,080	198,499	55,802	9,226			641,607
1989	282,168	235,639	39,672	12,611			570,090
1990	207,556	129,271	40,230	4,645			381,702
1991	153,023	199,853	63,405	9,601		103	425,985
1992	168,507	232,179	66,384	3,825		3	470,898
1993	184,953	124,829	62,252	4,360			376,394
1994	161,758	112,253	9,356	4,376			287,743
<b>Totals</b>	<b>8,905,563</b>	<b>5,411,652</b>	<b>2,361,699</b>	<b>426,242</b>	<b>196</b>	<b>181</b>	<b>17,105,533</b>
<b>10-Year Average</b>	<b>277,123</b>	<b>200,827</b>	<b>59,043</b>	<b>6,142</b>			<b>543,147</b>

\*Jacks included

TABLE 43

YEAR	MONTHLY COUNT OF CHINOOK SALMON THE DALLES DAM 1957 - 1994											TOTAL*	SPRING	SUMMER	FALL	JACKS	
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV		DEC	1 JAN- 3 JUN	4 JUN- 3 AUG		4 AUG- 31 DEC
1957			22	42,161	59,410	86,096	35,643	28,828	56,753	3,564	201		312,678	109,723	116,661	86,294	37,374
1958		114		8,268	47,862	59,955	24,381	17,211	141,262	2,788	119		301,960	61,747	80,139	160,074	19,747
1959			8	16,771	32,634	27,799	42,817	20,142	65,229	2,022	39		207,461	50,874	71,362	85,225	39,857
1960				17,073	40,091	52,577	22,549	15,225	46,453	2,720	274		196,962	58,406	75,315	63,241	30,847
1961				43,822	35,059	24,478	24,596	16,866	53,371	3,143			201,335	79,183	50,824	71,328	35,409
1962				33,069	35,629	34,488	21,515	13,461	46,135	2,835			187,132	69,139	57,007	60,986	17,835
1963				19,119	33,207	25,063	20,414	21,865	57,248	4,053			180,969	52,937	47,333	80,699	54,749
1964			340	35,551	24,447	16,801	37,697	17,452	49,811	1,743			183,842	60,691	56,360	66,791	30,900
1965			190	17,870	24,930	17,900	31,072	25,119	74,904	3,064			195,049	43,617	50,527	100,905	67,552
1966		1,068		72,267	22,837	25,530	33,712	14,978	65,380	4,899			240,671	96,628	61,062	82,981	36,482
1967				48,744	22,817	24,718	45,346	23,927	107,427	7,133			280,112	71,976	72,582	135,554	98,817
1968			100	52,144	45,057	32,827	33,272	22,361	72,209	4,800	205		262,975	98,742	67,391	96,842	64,644
1969			65	19,025	80,162	33,432	27,750	29,330	118,890	5,604			314,258	100,482	61,978	151,798	96,244
1970				53,370	29,670	22,903	23,318	34,906	93,633	3,657			261,457	83,549	48,115	129,793	85,471
1971				28,227	44,181	22,011	29,655	16,190	103,370	6,894			250,528	73,655	51,847	125,026	75,329
1972				68,955	33,508	17,354	29,756	21,828	91,666	5,561			268,628	103,107	48,660	116,861	81,668
1973				94,334	15,040	19,548	19,181	23,341	101,771	7,730			280,945	111,088	38,774	131,083	72,088
1974				13,415	41,902	7,141	22,709	13,964	103,804	14,246			217,181	56,397	30,273	130,511	79,840
1975				18,526	32,869	12,155	26,447	28,973	90,193	8,120			217,283	52,483	39,062	125,738	74,418
1976				20,266	35,434	17,828	20,129	17,278	90,933	14,295			216,163	56,570	38,733	120,860	74,275
1977				72,726	16,672	22,084	22,059	12,266	69,927	9,216			224,950	90,373	44,378	90,199	55,067
1978				52,425	30,472	19,477	15,978	11,251	57,786	11,839			199,228	84,924	34,396	79,908	32,503
1979				13,993	12,569	14,310	17,687	20,458	61,757	9,516	357		150,647	27,297	32,298	91,052	42,886
1980				12,434	15,441	7,948	12,832	12,881	43,675	8,740			113,951	28,237	21,133	64,581	20,016
1981				24,227	16,335	8,491	10,779	15,802	53,840	5,702			135,176	41,160	19,676	74,340	33,919
1982				10,569	33,296	10,058	9,554	17,466	79,487	12,252			172,682	44,750	19,342	108,590	60,165
1983				13,270	22,893	8,766	8,430	12,501	73,942	16,388			156,190	36,856	17,051	102,283	41,335
1984				9,326	23,784	9,992	12,332	23,495	105,786	19,205			203,920	33,848	22,472	147,600	70,798
1985				36,035	39,173	15,785	10,332	37,806	203,470	27,058	1,323		370,982	76,514	25,385	269,083	145,007
1986			175	48,892	36,928	14,175	10,452	22,684	264,091	45,616			443,013	87,004	24,826	331,183	176,461
1987				48,812	27,586	17,923	12,145	50,680	236,216	27,828			421,190	77,453	30,804	312,933	65,115
1988				51,680	20,756	16,644	13,494	66,509	193,490	15,507			378,080	73,663	29,892	274,525	69,631
1989				24,474	27,477	15,539	13,899	68,674	130,931	10,438	736		282,168	53,014	30,555	198,599	28,671
1990			115	36,062	20,749	13,390	9,099	22,152	96,538	9,451			207,556	57,424	22,615	127,517	32,794
1991				14,513	17,313	10,949	7,638	8,384	84,861	9,365			153,023	32,359	18,467	102,197	36,820
1992				38,141	19,414	9,595	5,797	14,589	71,281	9,690			168,507	58,451	14,976	95,080	27,160
1993				42,391	25,824	14,165	6,481	19,297	71,395	5,400			184,953	69,356	20,063	95,534	12,298
1994				6,573	4,938	7,376	8,360	22,910	98,997	12,604			161,758	11,798	15,997	133,963	25,470
Total			2,197	1,279,520	1,148,366	817,271	779,307	873,050	3,627,912	374,686	3,254		8,905,563	2,475,475	1,608,331	4,821,757	2,149,662
10-Year Average				34,757	24,016	13,554	9,770	32,369	145,127	17,296	206		277,123	59,704	23,358	194,061	61,943

\*Jacks included

TABLE 44

MONTHLY COUNT OF SOCKEYE SALMON  
THE DALLES DAM; 1957 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1957					125	33,476	54,294	2,081	221	4			90,201
1958					29	28,854	80,324	1,583	248	1			111,039
1959					413	7,176	76,347	2,245	77	1			86,259
1960					2	36,907	22,228	297	7				59,441
1961					66	5,863	10,629	116	15				16,689
1962					55	8,333	18,545	180	14				27,127
1963					199	17,914	38,633	185					56,931
1964					23	9,984	68,205	758	72				79,042
1965					184	11,023	31,622	1,438	12				44,279
1966					65	36,539	109,167	2,106	9				147,886
1967					114	15,713	103,862	892	8				120,589
1968					5	77,878	38,542	462	10				116,897
1969					22	15,165	21,933	102	3	1			37,226
1970					1	18,309	56,903	2,387	75	3			77,678
1971						8,887	66,841	369	6				76,103
1972						9,276	34,924	466	5				44,671
1973					8	19,510	32,674	105	6				52,303
1974					4	3,935	24,790	98					28,827
1975						7,679	35,291	225	2	1			43,198
1976					1	10,988	16,637	121					27,747
1977					5	60,049	26,146	52					86,252
1978					24	7,158	4,559	104					11,845
1979						14,750	17,734	307					32,791
1980						11,096	30,046	927	19				42,088
1981						17,692	17,686	68	1				35,447
1982						11,430	21,742	144	15				33,331
1983					1	34,684	49,302	197	19	1			84,204
1984						62,500	37,926	745	6				101,177
1985				1	17	75,603	41,107	521	4		1		117,254
1986					12	17,224	30,686	550	4	1			48,477
1987					1	48,798	38,443	348	8	1			87,599
1988					5	30,443	25,096	208	50				55,802
1989					1	22,196	17,321	152	2				39,672
1990						17,603	22,406	218	3				40,230
1991					1	14,106	48,824	443	27	4			63,405
1992					16	38,319	27,812	232	4	1			66,384
1993					2	36,517	25,584	146	3				62,252
1994						6,752	2,594	8	2				9,356
<b>Total</b>					<b>1</b>	<b>1,401</b>	<b>910,329</b>	<b>1,427,405</b>	<b>21,586</b>	<b>957</b>	<b>19</b>	<b>1</b>	<b>2,361,699</b>
<b>10-Year Average</b>					<b>6</b>	<b>30,756</b>	<b>27,987</b>	<b>283</b>	<b>11</b>	<b>1</b>			<b>59,043</b>

TABLE 45

MONTHLY COUNT OF COHO SALMON  
THE DALLES DAM; 1957-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	JACKS
1957							220	605	5,615	342	11		6,793	
1958								96	2,132	161	6		2,395	
1959								46	2,428	234	1		2,709	
1960								475	2,288	227	10		3,000	
1961							4	5	1,898	232			2,139	
1962							5	258	3,194	239			3,696	
1963							2	361	2,931	422			3,716	
1964								506	4,723	749			5,978	
1965							7	200	13,064	4,197			17,468	
1966							225	3,850	25,476	2,728			32,279	
1967							192	494	27,860	3,469			32,015	20,456
1968							372	3,319	36,568	2,346	82		42,687	13,035
1969							412	970	13,179	2,493			17,054	11,218
1970							96	2,064	19,983	1,076			23,219	11,327
1971							1	1,589	26,066	1,405			29,061	11,174
1972							3	1,090	14,564	905			16,562	10,272
1973								793	9,443	916			11,152	5,256
1974								522	10,715	3,418			14,655	9,054
1975								465	10,356	3,155			13,976	8,534
1976								608	14,609	4,175			19,392	13,083
1977							1	91	8,131	1,798			10,021	6,096
1978								355	13,069	5,453			18,877	13,533
1979								211	7,109	1,367	39		8,726	4,836
1980								287	5,064	975			6,326	2,970
1981								295	6,061	585			6,941	4,405
1982								336	5,792	1,255			7,383	3,047
1983								65	2,343	1,051			3,459	2,256
1984								24	2,521	597			3,142	1,282
1985							4	208	3,537	828	48		4,625	1,555
1986							2	1	3,772	1,067			4,842	1,458
1987							12	91	2,409	798			3,310	1,953
1988								232	7,082	1,912			9,226	2,701
1989								283	9,027	3,173	128		12,611	4,781
1990								60	3,229	1,356			4,645	2,340
1991								30	7,714	1,857			9,601	1,053
1992								11	3,119	695			3,825	1,239
1993								18	3,256	1,086			4,360	3,416
1994							1	121	2,922	1,332			4,376	590
<b>Total</b>							<b>1,559</b>	<b>21,035</b>	<b>343,249</b>	<b>60,074</b>	<b>325</b>		<b>426,242</b>	<b>172,920</b>
<b>10-Year Average</b>							<b>2</b>	<b>106</b>	<b>4,607</b>	<b>1,410</b>			<b>6,142</b>	<b>2,109</b>

\*Includes Jacks

TABLE 16

## MONTHLY COUNT OF STEELHEAD

THE DALLES DAM; 1957 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1957			1,603	951	977	4,782	45,445	33,319	35,396	6,545	343		129,361
1958			122	274	1,898	4,906	20,384	11,442	75,036	6,846	512		121,420
1959			1	541	502	2,227	46,271	60,841	41,026	4,502	179		156,090
1960				289	557	2,591	28,218	32,667	42,447	4,021	399		111,189
1961				305	307	1,396	21,906	17,850	87,344	5,464			134,572
1962				528	252	1,068	36,609	31,507	87,463	5,874			163,301
1963				153	451	1,361	30,485	25,360	48,066	13,081			118,957
1964			50	369	127	493	36,773	31,742	38,197	2,282			110,033
1965			36	502	484	896	60,522	21,132	53,389	4,091			141,052
1966		25	788	933	600	3,816	52,975	26,382	53,721	6,932			146,172
1967				258	183	435	27,914	22,746	56,082	13,996			121,614
1968			23	691	344	973	20,974	58,866	57,666	7,456	488		147,481
1969			54	953	414	1,442	33,952	22,963	44,146	8,605			112,529
1970				337	172	733	15,905	32,752	44,823	4,465			99,187
1971				408	233	821	40,712	31,812	69,602	7,760			151,348
1972				463	159	604	35,569	30,631	63,748	4,129			135,303
1973				723	326	1,981	29,067	25,437	38,017	4,531			100,082
1974				529	1,362	1,859	24,779	21,835	15,059	5,452			70,875
1975				1,018	1,334	1,973	18,046	20,531	11,519	3,254			57,675
1976				768	1,604	3,357	22,021	30,386	21,586	2,846			82,568
1977				1,666	1,332	5,038	42,859	13,022	61,678	8,287			133,882
1978				834	1,378	3,459	13,493	11,457	26,189	3,675			60,485
1979				478	244	1,942	23,054	21,974	20,961	14,079	632		83,364
1980				2,885	790	2,134	15,114	30,755	34,447	7,838			93,963
1981				1,389	1,632	3,768	34,242	36,537	26,837	8,863			113,268
1982				729	1,289	2,710	22,607	31,410	49,050	9,639			117,434
1983				438	324	1,492	37,029	47,521	75,210	9,041			171,055
1984				846	894	3,715	52,825	36,859	107,377	16,607			219,123
1985				2,405	1,511	5,679	41,534	102,866	107,574	13,337	1,119		276,025
1986			1,395	610	712	4,492	78,494	60,458	111,066	24,726			281,953
1987				1,069	366	3,280	55,395	58,850	76,461	22,347			217,768
1988				2,520	969	3,984	34,612	54,986	85,061	16,367			198,499
1989				1,810	849	3,950	35,167	45,694	119,322	25,880	2,967		235,639
1990			1,169	1,515	920	3,078	17,942	17,772	58,805	28,070			129,271
1991				1,826	630	1,755	25,686	37,560	104,833	27,563			199,853
1992				1,104	743	3,494	18,753	37,269	157,216	13,600			232,179
1993				2,367	731	3,847	17,962	20,194	61,600	18,128			124,829
1994				1,327	391	2,263	11,434	11,703	55,247	29,889			112,254
Total		25	5,241	36,811	27,991	97,794	1,226,729	1,267,088	2,323,267	420,068	6,639		5,411,653
10-Year Average			1,655	782	3,582	33,698	44,735	93,719	21,991				200,827

TABLE 47

**WILD STEELHEAD COUNTED AT  
THE DALLES DAM 1994**

THE DALLES DAM		Oregon Ladder	Washington Ladder
Apr-94	Wild Steelhead		
1	12	10	2
2	25	25	0
3	24	14	10
4	23	23	0
5	23	19	4
6	25	20	5
7	22	16	6
8	12	11	1
9	13	12	1
10	21	19	2
11	7	7	0
12	16	12	4
13	16	11	5
14	16	14	2
15	12	12	0
16	2	2	0
17	20	16	4
18	10	8	2
19	4	4	0
20	7	7	0
21	9	8	1
22	8	8	0
23	9	8	1
24	5	5	0
25	7	7	0
26	1	1	0
27	6	4	2
28	0	1	-1
29	1	1	0
30	2	2	0
<b>TOTAL</b>	<b>358</b>	<b>307</b>	<b>51</b>
<b>AVG.</b>	<b>12</b>	<b>10</b>	<b>2</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 358</b>		

TABLE 43

WILD STEELHEAD COUNTED AT  
THE DALLES DAM 1994

THE DALLES DAM		Oregon Ladder	Washington Ladder
May-94	Wild Steelhead		
1	1	2	-1
2	2	1	1
3	2	0	2
4	2	2	0
5	1	1	0
6	-3	2	-5
7	0	0	0
8	2	2	0
9	1	1	0
10	1	1	0
11	0	0	0
12	0	0	0
13	0	0	0
14	2	2	0
15	0	0	0
16	0	0	0
17	1	1	0
18	1	0	1
19	0	0	0
20	0	0	0
21	0	1	-1
22	2	2	0
23	2	2	0
24	0	0	0
25	0	0	0
26	1	1	0
27	0	0	0
28	0	0	0
29	1	0	1
30	1	1	0
31	0	0	0
<b>TOTAL</b>	<b>20</b>	<b>22</b>	<b>-2</b>
<b>AVG.</b>	<b>1</b>	<b>1</b>	<b>0</b>

<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 378</b>
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THE DALLES DAM		Oregon Ladder	Washington Ladder
Jun-94	Wild Steelhead		
1	1	1	0
2	2	1	1
3	7	6	1
4	1	0	1
5	2	2	0
6	2	2	0
7	5	5	0
8	2	2	0
9	2	2	0
10	6	2	4
11	6	6	0
12	4	4	0
13	9	7	2
14	8	8	0
15	2	2	0
16	37	35	2
17	7	6	1
18	8	7	1
19	18	17	1
20	10	8	2
21	19	17	2
22	18	17	1
23	24	18	6
24	38	36	2
25	30	24	6
26	59	58	1
27	47	46	1
28	56	54	2
29	49	48	1
30	68	67	1
<b>TOTAL</b>	<b>547</b>	<b>508</b>	<b>39</b>
<b>AVG.</b>	<b>18</b>	<b>17</b>	<b>1</b>

<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 925</b>
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TABLE 19

WILD STEELHEAD COUNTED AT  
THE DALLES DAM 1994

THE DALLES DAM		Oregon Ladder	Washington Ladder	THE DALLES DAM		Oregon Ladder	Washington Ladder
Jul-94	Wild Steelhead			Aug-94	Wild Steelhead		
1	91	62	29	1	118	112	6
2	59	58	1	2	74	70	4
3	56	54	2	3	45	42	3
4	96	94	2	4	84	82	2
5	90	85	5	5	66	61	5
6	103	96	7	6	68	64	4
7	111	110	1	7	60	54	6
8	128	127	1	8	56	50	6
9	175	173	2	9	32	32	0
10	160	155	5	10	58	54	4
11	159	152	7	11	39	37	2
12	174	170	4	12	59	58	1
13	207	199	8	13	34	32	2
14	204	198	6	14	46	38	8
15	184	176	8	15	38	36	2
16	306	300	6	16	24	19	5
17	282	266	16	17	38	37	1
18	281	276	5	18	60	58	2
19	260	259	1	19	41	41	0
20	224	223	1	20	29	25	4
21	167	162	5	21	77	67	10
22	245	234	11	22	59	58	1
23	158	144	14	23	86	84	2
24	112	106	6	24	43	42	1
25	80	72	8	25	93	91	2
26	159	158	1	26	122	108	14
27	112	108	4	27	103	102	1
28	87	83	4	28	124	112	12
29	90	88	2	29	173	162	11
30	53	48	5	30	88	82	6
31	148	143	5	31	94	90	4
TOTAL	4,761	4,579	182	TOTAL	2,131	2,000	131
AVG.	154	148	6	AVG.	69	65	4
TOTAL TO DATE	WILD STEELHEAD			TOTAL TO DATE	WILD STEELHEAD		
	5,686				7,817		

TABLE 50

**WILD STEELHEAD COUNTED AT  
THE DALLES DAM 1994**

THE DALLES DAM		Oregon Ladder	Washington Ladder
Sep-94	Wild Steelhead		
1	88	80	8
2	130	110	20
3	160	146	14
4	305	269	36
5	446	409	37
6	303	283	20
7	334	292	42
8	331	264	67
9	306	251	55
10	283	254	29
11	360	329	31
12	423	400	23
13	348	312	36
14	359	299	60
15	446	421	25
16	244	238	6
17	269	253	16
18	290	264	26
19	297	286	11
20	233	228	5
21	154	149	5
22	99	97	2
23	150	140	10
24	143	138	5
25	113	101	12
26	173	169	4
27	165	160	5
28	111	109	2
29	126	110	16
30	264	242	22

TOTAL	7,453	6,803	650
AVG.	248	227	22

TOTAL TO DATE	WILD STEELHEAD 15,270
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THE DALLES DAM		Oregon Ladder	Washington Ladder
Oct-94	Wild Steelhead		
1	372	335	37
2	284	254	30
3	356	322	34
4	374	326	48
5	249	209	40
6	332	298	34
7	228	212	16
8	169	164	5
9	133	122	11
10	129	110	19
11	130	118	12
12	142	136	6
13	60	55	5
14	71	66	5
15	60	59	1
16	468	456	12
17	198	186	12
18	148	138	10
19	67	66	1
20	88	82	6
21	101	96	5
22	89	83	6
23	110	106	4
24	65	64	1
25	54	47	7
26	38	30	8
27	40	38	2
28	127	119	8
29	156	142	14
30	68	61	7
31	83	72	11

TOTAL	4,989	4,572	417
AVG.	161	147	13

TOTAL TO DATE	WILD STEELHEAD 20,259
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TABLE 51

## MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER JOHN DAY DAM

1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*
CHINOOK*				4,436	4,937	6,305	6,397	13,345	79,538	11,687			126,645
STEELHEAD				2,286	413	1,647	6,961	7,140	44,175	30,453			93,075
SOCKEYE						7,004	4,141	22	2	1			11,170
COHO*								164	1,892	786			2,842
MINI-JACKS**				1	66	1,136	2,417	504	2,519	960			7,603
CHUM													
PINK													
<b>TOTAL</b>				<b>6,723</b>	<b>5,416</b>	<b>16,092</b>	<b>19,916</b>	<b>21,175</b>	<b>128,126</b>	<b>43,887</b>			<b>241,335</b>
<b>SHAD</b>				<b>1</b>	<b>52,129</b>	<b>687,550</b>	<b>195,625</b>	<b>653</b>					<b>935,958</b>

\*Jacks Included

\*\*Salmonid fish under 12 inches in length

TABLE 52

## DISCHARGE AND WATER QUALITY DATA

## JOHN DAY PROJECT - 1994

## JANUARY

DATE	DISCH		TURBIDITY	
	KCFS	SPILL KCFS	SECCHI	DEG F
1	74.3	0.0		
2	90.0	0.0		
3	81.1	0.0		
4	81.5	0.0		
5	110.7	0.0		
6	114.4	0.0		
7	103.8	0.0		
8	120.2	0.0		
9	80.0	0.0		
10	116.2	0.0		
11	102.9	0.0		
12	110.7	0.0		
13	109.8	0.0		
14	113.4	0.0		
15	109.2	0.0		
16	90.6	0.0		
17	115.9	0.0		
18	150.8	0.0		
19	142.4	0.0		
20	134.0	0.0		
21	132.8	0.0		
22	108.5	0.0		
23	75.3	0.0		
24	114.5	0.0		
25	118.3	0.0		
26	135.3	0.0		
27	139.9	0.0		
28	142.2	0.0		
29	143.8	0.0		
30	119.2	0.0		
31	149.3	0.0		
AVG.	113.9	0.0		

## FEBRUARY

DATE	DISCH		TURBIDITY	
	KCFS	SPILL KCFS	SECCHI	DEG F
1	158.7	0.0		
2	173.6	0.0		
3	163.5	0.0		
4	154.5	0.0		
5	163.3	0.0		
6	153.3	0.0		
7	153.1	0.0		
8	162.8	0.0		
9	167.8	0.0		
10	154.6	0.0		
11	130.8	0.0		
12	156.1	0.0		
13	111.6	0.0		
14	142.8	0.0		
15	135.3	0.0		
16	125.7	0.0		
17	123.5	0.0		
18	142.2	0.0		
19	135.9	0.0		
20	101.9	0.0		
21	124.0	0.0		
22	145.7	0.0		
23	125.1	0.0		
24	151.7	0.0		
25	139.7	0.0		
26	138.9	0.0		
27	100.7	0.0		
28	93.8	0.0		
AVG.	140.4	0.0		

## MARCH

DATE	DISCH		TURBIDITY	
	KCFS	SPILL KCFS	SECCHI	DEG F
1	104.4	0.0		
2	126.5	0.0		
3	123.9	0.0		
4	106.5	0.0		
5	116.0	0.0		
6	90.5	0.0		
7	129.6	0.0		
8	148.5	0.0		
9	130.1	0.0		
10	116.6	0.0		
11	113.0	0.0		
12	121.1	0.0		
13	81.8	0.0		
14	131.7	0.0		
15	115.5	0.0		
16	114.5	0.0		
17	119.9	0.0		
18	153.1	0.0		
19	154.7	0.0		
20	149.0	0.0		
21	143.4	0.0		
22	154.3	0.0		
23	154.0	0.0		
24	146.3	0.0		
25	148.4	0.0		
26	111.6	0.0		
27	90.2	0.0		
28	99.8	0.0		
29	132.5	0.0		
30	124.6	0.0		
31	132.8	0.0		
AVG.	125.3	0.0		

TABLE 53

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT  
APRIL 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1	7			0				153	0	0	133.6	0.2	2.3	44.0	
2	14			0				88	0	0	117.8	1.6	3.5	46.0	
3	11			0				58	0	0	79.3	0.2	4.4	44.0	
4	11			0				117	0	0	146.7	1.6	2.8	44.0	
5	13			0				90	0	0	164.1	0.1	2.8	46.0	
6	7			0				165	0	0	145.7	1.6	3.0	46.0	
7	2			0				47	0	0	149.3	0.2	2.8	47.0	
8	14			0				195	0	0	147.1	1.8	4.0	47.0	
9	129			0				83	0	0	125.7	1.6	3.5	45.0	
10	68			0				144	0	1	99.4	0.2	3.5	46.0	
11	28			0				159	0	0	141.3	1.6	3.5	44.0	
12	27			0				52	0	0	131.7	0.0	2.8	48.0	
13	49			0				71	0	0	148.3	0.2	2.9	50.0	
14	19			0				58	0	0	143.3	1.6	2.4	50.0	
15	129			0				118	0	0	151.4	0.2	4.0	51.0	
16	100			0				127	0	0	115.5	1.6	3.1	54.0	
17	184			0				42	0	0	95.0	0.2	2.0	52.0	
18	98			1				35	0	0	120.5	1.8	3.0	50.0	
19	194			0				72	0	0	146.6	1.6	3.0	50.0	
20	216			0				68	0	0	163.2	0.2	2.5	50.0	
21	338			1				76	0	0	164.8	1.6	2.8	50.0	
22	242			1				61	0	0	180.8	0.2	4.1	51.0	
23	317			0				48	1	0	174.5	1.6	3.2	52.0	
24	339			2				43	0	0	146.8	0.0	3.8	53.0	
25	138			1				36	0	0	161.5	0.2	2.8	52.0	
26	94			1				9	0	0	171.1	1.8	2.6	53.0	
27	397			5				9	0	0	179.6	1.1	3.0	54.0	
28	382			4				6	0	0	198.5	0.2	2.0	53.0	
29	703			2				30	0	0	189.3	1.6	3.0	54.0	
30	146			2				26	0	0	210.6	0.0	4.0	54.0	
<b>TOTAL</b>	<b>4,416</b>			<b>20</b>				<b>2,286</b>	<b>1</b>	<b>1</b>					
<b>AVG.</b>	<b>147</b>			<b>1</b>				<b>76</b>			<b>148.1</b>	<b>0.9</b>	<b>3.1</b>	<b>49.3</b>	

TABLE 54

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT  
MAY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1	568			1				21	1	-1	209.9	0.2	3.0	56.0	
2	187			3				34	0	0	203.5	1.8	2.0	54.0	
3	176			3				13	7	0	211.5	1.6	3.5	56.0	
4	154			5				10	21	0	212.7	8.0	3.0	54.0	
5	210			1				10	13	0	218.3	17.3	2.0	56.0	
6	522			11				8	22	0	223.4	11.0	3.5	56.0	
7	248			8				10	17	0	207.3	0.2	3.2	58.0	
8	160			2				11	26	0	197.7	1.8	3.0	56.0	
9	54			8				14	31	0	209.2	1.6	2.3	58.0	
10	271			3				10	72	0	217.3	7.0	2.1	58.0	
11	146			7				7	196	0	221.6	34.0	3.0	50.0	
12	278			6				10	153	0	229.2	17.8	2.4	58.0	
13	256			6				5	84	2	219.9	17.2	4.0	58.0	
14	103			0				6	111	0	211.7	12.7	3.5	58.0	
15	79			8				11	343	0	182.2	8.0	4.0	58.0	
16	77			10				9	266	0	201.0	5.1	2.0	56.0	
17	88			5				4	241	0	208.2	5.3	2.0	58.0	
18	113			8				19	610	0	203.2	7.4	2.0	57.0	
19	68			2				7	599	-1	208.4	8.9	2.4	58.0	
20	158			5				22	597	5	205.6	10.7	3.2	60.0	
21	82			2				10	940	0	197.5	10.6	2.5	58.0	
22	83			7				8	1,512	0	190.1	9.0	3.3	60.0	
23	53			0				8	1,314	0	197.5	10.7	2.3	58.0	
24	51			7				10	1,770	1	219.0	12.2	0.8	60.0	
25	72			3				32	2,764	0	218.2	12.6	1.8	60.0	
26	116			10				20	1,980	4	223.2	13.4	1.8	60.0	
27	144			6				22	3,128	8	225.8	10.8	2.0	60.0	
28	76			2				27	9,809	6	215.7	9.2	3.1	62.0	
29	79			2				7	8,047	19	181.5	8.4	2.5	60.0	
30	64			1				9	8,456	11	192.6	9.3	3.4	60.0	
31	53			6				19	8,999	12	210.6	8.4	2.5	60.0	
<b>TOTAL</b>	<b>4,789</b>			<b>148</b>				<b>413</b>	<b>52,129</b>	<b>66</b>					
<b>AVG.</b>	<b>154</b>			<b>5</b>				<b>13</b>	<b>1,682</b>	<b>2</b>	<b>208.8</b>	<b>9.4</b>	<b>2.6</b>	<b>57.8</b>	
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>					<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>					
	<b>SPRING</b>	<b>9,205</b>	<b>168</b>					<b>2,699</b>	<b>52,130</b>	<b>67</b>					

TABLE 54

TABLE 55

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

JOHN DAY PROJECT  
 JUNE 1993  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	66			12			0	30	9,261	19	212.4	9.4	2.6	58.0
2	56			0			0	8	15,491	16	198.7	9.3	2.6	60.0
3	51			2			0	1	15,997	6	210.8	8.5	2.5	57.0
4	73			1			0	8	13,295	5	209.7	8.6	5.0	60.0
5	100			11			0	21	16,471	13	191.1	9.4	4.0	60.0
6		91		1			1	30	14,083	1	201.5	8.6	2.2	60.0
7		116		2			1	29	21,560	8	205.3	8.6	2.6	58.0
8		114		4			1	16	18,733	12	223.7	8.5	3.0	58.0
9		63		8			1	17	22,335	2	209.9	8.7	4.0	60.0
10		152		4			6	35	17,498	12	214.9	8.6	3.4	60.0
11		132		9			11	30	26,488	18	195.4	8.5	5.0	60.0
12		114		11			9	23	35,665	21	181.7	8.5	3.5	60.0
13		168		11			33	60	37,514	21	203.6	8.5	2.8	60.0
14		233		16			31	59	29,704	7	222.1	8.8	2.8	60.0
15		176		12			27	51	23,468	27	231.7	9.4	4.0	60.0
16		179		11			41	37	20,475	13	200.5	9.4	4.0	60.0
17		172		13			91	24	29,413	39	190.9	9.4	4.5	60.0
18		249		20			157	31	20,693	45	196.8	9.4	4.5	60.0
19		162		12			204	26	27,785	54	164.9	9.5	4.5	60.0
20		160		14			212	33	40,046	43	182.5	9.4	4.5	60.0
21		250		25			475	102	36,764	81	189.7	8.2	3.0	60.0
22		206		12			413	116	29,609	48	193.6	6.8	4.5	60.0
23		522		30			717	138	19,762	65	180.5	6.7	3.0	60.0
24		292		18			576	46	20,934	52	187.8	6.7	3.5	60.0
25		331		17			658	53	24,450	49	179.3	6.8	3.5	60.0
26		410		37			866	105	19,702	94	152.1	6.8	3.5	60.0
27		335		34			779	138	19,750	84	174.4	6.7	3.1	64.0
28		318		8			650	94	27,206	75	159.3	6.8	3.1	64.0
29		377		22			670	170	14,037	157	157.1	6.8	3.5	63.0
30		250		10			374	116	19,361	49	175.4	6.8	2.9	63.0

<b>TOTAL</b>	346	5,572		387			7,004	1,647	687,550	1,136				
<b>AVG.</b>	69	223		13			233	55	22,918	38	193.2	8.3	3.5	60.2

<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
SPRING		9,551	194
SUMMER		5,572	361
<b>TOTAL</b>		15,123	555

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
7,004	4,346	739,680	1,203

TABLE 56

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT  
JULY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1		316		17			438	156	24,287	124	163.8	6.7	3.4	64.0
2		275		25			341	134	13,635	73	149.9	6.7	4.0	63.0
3		291		19			401	143	14,880	85	127.8	6.7	3.8	63.0
4		318		12			240	119	11,841	60	121.5	6.7	2.6	64.0
5		189		14			288	119	11,381	78	151.2	6.7	3.0	64.0
6		180		21			251	127	14,394	94	173.2	6.7	3.1	63.8
7		223		14			258	134	13,843	84	158.0	7.1	3.0	65.2
8		255		20			283	173	12,326	119	159.9	7.6	2.5	65.8
9		360		23			302	222	9,565	144	175.9	7.6	4.0	65.0
10		277		22			203	255	12,421	130	136.0	7.6	4.0	66.0
11		226		23			140	269	11,218	137	172.7	7.7	3.0	65.8
12		425		40			190	296	7,200	160	162.5	7.6	3.1	65.0
13		213		8			164	265	5,422	54	157.5	7.7	2.4	65.0
14		138		16			89	274	5,229	56	149.9	7.7	2.8	67.6
15		113		11			57	233	7,037	97	157.1	7.6	4.0	69.4
16		124		14			133	293	4,953	79	148.3	7.5	5.0	69.6
17		166		4			62	486	2,989	81	128.8	7.6	3.9	66.3
18		168		17			58	249	2,766	52	152.1	7.5	2.8	70.0
19		133		16			60	372	3,165	125	161.2	7.6	5.0	69.0
20		66		10			19	277	1,624	104	156.3	7.6	4.0	71.0
21		73		4			27	174	842	54	151.9	7.6	3.6	72.0
22		78		4			30	380	1,264	48	151.1	8.0	3.0	72.0
23		161		14			29	336	991	40	155.8	9.2	6.5	72.0
24		66		9			16	215	544	53	120.8	8.7	3.5	74.0
25		243		18			19	384	498	45	157.6	8.2	6.5	70.0
26		192		11			20	229	377	63	153.2	8.2	4.0	75.0
27		139		11			7	191	233	49	141.5	9.5	4.0	74.0
28		78		10			11	123	200	41	139.9	8.1	3.0	71.0
29		267		24			2	154	241	33	132.7	9.4	4.0	72.0
30		108		13			2	83	161	29	140.4	9.5	4.0	74.0
31		66		6			1	96	98	26	102.9	8.1	4.2	73.0
<b>TOTAL</b>		<b>5,927</b>		<b>470</b>			<b>4,141</b>	<b>6,961</b>	<b>195,625</b>	<b>2,417</b>				
<b>AVG</b>		<b>191</b>		<b>15</b>			<b>134</b>	<b>225</b>	<b>6,310</b>	<b>78</b>	<b>148.8</b>	<b>7.8</b>	<b>3.7</b>	<b>68.4</b>
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>			<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>				
<b>SPRING</b>		<b>9,551</b>		<b>194</b>			<b>11,145</b>	<b>11,307</b>	<b>935,305</b>	<b>3,620</b>				
<b>SUMMER</b>		<b>11,499</b>		<b>831</b>										
<b>TOTAL</b>		<b>21,050</b>		<b>1,025</b>										

TABLE 57

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT  
AUGUST 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1		52		19	-1	0	2	125	97	22	99.1	7.5	2.8	70.0
2		92		26	0	0	0	194	110	31	98.9	7.6	3.0	71.6
3		80		14	0	0	4	150	82	15	101.7	7.6	3.0	71.2
4		168		12	0	0	1	216	78	23	100.1	7.5	3.2	71.0
5		134		8	1	0	3	181	40	24	102.7	7.2	3.0	71.0
6			101	7	0	0	2	153	47	12	106.2	8.3	4.0	71.0
7			60	16	0	0	1	150	15	4	73.7	7.1	4.0	71.0
8			42	4	0	0	0	97	9	11	86.0	7.3	3.0	70.0
9			38	0	0	0	0	68	10	8	105.7	8.0	3.5	70.6
10			70	6	0	0	3	166	-1	21	91.8	7.5	3.0	71.0
11			192	15	0	0	2	128	41	17	93.7	7.9	3.5	71.0
12			194	14	0	0	0	174	47	12	94.8	7.4	3.0	69.8
13			278	18	0	0	0	110	17	16	95.5	7.3	4.0	70.6
14			246	13	0	0	0	186	17	8	81.8	6.0	3.5	70.2
15			463	14	0	0	0	133	6	24	81.5	6.5	2.7	70.0
16			330	24	0	0	0	172	0	8	113.7	7.2	2.7	71.0
17			207	22	0	1	2	141	6	13	102.3	7.6	3.4	71.0
18			167	18	1	0	0	180	-4	20	93.3	7.7	3.0	71.0
19			295	36	0	1	0	210	2	13	96.7	8.0	5.0	70.8
20			126	18	0	0	0	120	0	7	95.6	7.8	3.6	71.0
21			235	12	2	0	0	216	1	15	59.8	6.0	4.5	71.2
22			355	26	2	0	0	168	5	8	74.4	6.9	3.0	70.0
23			614	57	0	0	0	306	4	19	85.2	4.8	2.7	71.0
24			415	43	0	0	0	279	9	34	66.2	2.0	2.8	66.0
25			280	31	0	0	1	331	0	14	78.5	1.7	2.3	70.0
26			758	29	10	8	0	304	1	4	78.9	1.4	3.5	71.0
27			1,084	37	22	14	0	350	4	22	97.9	3.0	5.5	71.0
28			1,569	89	18	6	0	463	6	9	74.4	0.0	3.5	70.0
29			1,828	122	23	21	0	496	4	30	80.4	0.0	3.5	70.0
30			661	95	10	5	0	567	0	20	87.7	2.5	3.5	70.0
31			1,129	237	13	7	1	606	0	20	83.8	1.1	2.0	70.0

<b>TOTAL</b>	526	11,737	1,082	101	63	22	7,140	653	504
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<b>AVG.</b>	105	451	35	3.3	2.0		230	21	16
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89.7	5.8	3.3	70.5
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<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
SPRING	9,551	194
SUMMER	12,025	910
FALL	11,737	1,003
<b>TOTAL</b>	<b>33,313</b>	<b>2,107</b>

<b>COHO ADULT</b>	<b>COHO JACK</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
101	63	11,167	18,447	935,958	4,124

TABLE 58

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

JOHN DAY PROJECT  
 SEPTEMBER 1993  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			1,026	148	7	17	2	421		33	70.9	2.7	3.0	70.0
2			1,141	236	8	11	0	565		34	63.2	2.7	4.1	70.0
3			893	137	7	5	0	428		43	62.5	1.3	3.5	70.0
4			3,236	262	32	13	0	1,182		42	61.6	3.0	3.5	70.0
5			3,207	181	29	17	0	1,158		85	60.6	1.3	3.5	71.0
6			4,099	255	30	12	0	1,454		34	70.5	1.3	4.0	70.0
7			2,458	231	44	9	0	1,480		56	80.9	3.2	4.0	71.0
8			4,331	306	37	12	0	1,508		41	76.7	1.3	4.2	70.0
9			2,931	423	50	7	0	1,639		56	73.0	3.0	4.0	67.0
10			3,301	466	55	7	0	1,298		16	63.5	0.9	3.3	67.0
11			3,185	558	87	6	0	1,494		46	59.7	3.1	3.8	70.0
12			2,092	308	61	10	0	1,484		111	72.5	3.1	3.7	67.0
13			3,078	683	66	2	0	1,888		76	69.8	1.2	3.0	69.0
14			2,914	517	107	6	0	3,173		97	73.1	1.3	3.9	67.0
15			2,735	560	111	4	0	2,639		84	60.3	2.4	3.5	67.0
16			2,727	491	122	6	0	2,694		68	66.6	1.2	6.0	66.0
17			2,916	680	119	12	0	3,248		56	78.0	3.2	4.5	67.6
18			2,456	660	108	6	0	2,467		98	57.5	3.1	5.5	67.0
19			2,594	897	102	12	0	2,404		63	76.0	0.9	4.4	67.0
20			3,365	612	125	14	0	1,737		284	78.8	1.2	3.8	67.0
21			2,416	868	76	6	0	1,875		108	78.5	2.5	4.5	67.6
22			1,824	526	44	19	0	1,246		116	89.1	1.1	4.0	67.5
23			1,128	566	31	16	0	818		110	81.1	3.1	4.9	66.0
24			1,072	454	34	16	0	884		107	77.0	3.1	4.5	70.0
25			1,359	722	45	17	0	831		115	57.8	1.3	4.7	67.0
26			537	398	24	9	0	819		115	68.3	1.3	4.1	65.0
27			809	287	7	8	0	672		134	85.6	3.2	3.5	68.0
28			940	413	11	3	0	807		118	91.4	3.2	3.8	68.0
29			734	308	13	2	0	756		64	75.0	2.9	3.0	68.0
30			533	348	14	2	0	1,106		109	75.9	3.0	5.0	67.8

<b>TOTAL</b>			66,037	13,501	1,606	286	2	44,175		2,519				
<b>AVG.</b>			2,201	450	54	10		1,473		84	71.8	2.2	4.0	68.2

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
	9,551	194
<b>SPRING</b>		
<b>SUMMER</b>	12,025	910
<b>FALL</b>	77,774	14,504
<b>TOTAL</b>	99,350	15,608

<b>COHO ADULT</b>	<b>COHO JACK</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
1,707	349	11,169	62,622	935,958	6,643

TABLE 59

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

OCTOBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1			728	364	18	2	0	1,481		137	61.6	2.9	3.5	68.6
2			460	258	23	2	0	1,740		96	65.0	3.0	5.5	67.4
3			686	181	34	1	0	1,408		77	82.8	2.8	3.6	64.0
4			654	302	30	1	1	1,503		95	69.5	3.0	3.5	62.0
5			906	231	18	0	0	1,300		87	83.4	2.9	3.7	62.0
6			815	365	42	1	0	2,315		63	76.1	3.0	3.6	63.0
7			601	180	29	0	0	1,556		40	73.3	2.8	5.0	63.0
8			424	115	29	1	0	993		21	88.3	3.0	3.5	63.0
9			559	161	24	0	0	1,244		33	61.4	2.7	5.0	63.0
10			276	101	20	0	0	615		36	80.8	2.7	4.0	63.0
11			283	73	11	0	0	864		26	99.1	2.8	3.7	61.0
12			267	116	22	1	0	748		23	109.9	2.8	3.6	61.0
13			193	50	8	0	0	647		36	101.8	2.8	4.0	61.0
14			111	89	4	0	0	495		23	82.3	2.8	3.7	61.0
15			130	43	4	0	0	541		26	123.4	2.8	2.2	61.0
16			72	80	4	0	0	710		20	112.0	2.8	3.9	64.0
17			100	52	24	0	0	1,233		27	83.2	2.8	4.0	64.0
18			160	86	79	5	0	1,526		6	89.5	2.9	3.9	60.0
19			89	65	44	1	0	648		15	99.3	3.3	4.0	60.0
20			77	42	32	6	0	701		1	101.1	3.4	3.9	61.0
21			77	58	32	0	0	939		24	90.4	3.4	5.5	60.0
22			115	52	23	0	0	800		8	108.7	3.3	3.0	61.0
23			51	32	45	0	0	733		2	78.8	3.3	3.8	60.0
24			59	28	29	0	0	553		12	103.6	2.8	4.0	58.0
25			91	28	36	0	0	553		13	101.2	3.3	4.0	58.0
26			111	25	19	17	0	532		12	91.9	3.7	4.4	59.8
27			62	13	11	0	0	336		0	95.8	3.3	3.8	58.8
28			48	15	4	0	0	920		0	106.8	3.3	3.4	59.2
29			74	15	35	0	0	1,053		0	100.4	3.3	3.0	58.8
30			126	23	10	0	0	1,247		1	82.2	3.3	4.7	59.0
31			23	16	5	0	0	519		0	110.8	3.2	3.0	57.0

TOTAL

8,428	3,259	748	38	1	30,453	960
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AVG.

272	105	24	1	982	31
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90.8	3.0	3.9	61.4
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TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	9,551	194
SUMMER	12,025	910
FALL	86,202	17,763
TOTAL	107,778	18,867

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK
2,455	387	11,170	93,075	935,958	7,603

TABLE 60

DISCHARGE AND WATER QUALITY DATA

JOHN DAY PROJECT - 1994

NOVEMBER					DECEMBER				
DATE	DISCH	SPILL	TURBIDITY		DATE	DISCH	SPILL	TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F		KCFS	KCFS	SECCHI	DEG F
1	91.5	0.0			1	116.1	0.0		
2	107.1	0.0			2	117.8	0.0		
3	123.5	0.0			3	113.1	0.0		
4	106.5	0.0			4	95.7	0.0		
5	109.5	0.0			5	141.3	0.0		
6	76.0	0.0			6	152.3	0.0		
7	97.5	0.0			7	139.2	0.0		
8	116.7	0.0			8	136.8	0.0		
9	110.6	0.0			9	126.1	0.0		
10	105.1	0.0			10	129.2	0.0		
11	100.7	0.0			11	98.6	0.0		
12	77.4	0.0			12	133.8	0.0		
13	87.4	0.0			13	130.3	0.0		
14	96.2	0.0			14	147.0	0.0		
15	111.0	0.0			15	157.8	0.0		
16	100.1	0.0			16	135.9	0.0		
17	120.5	0.0			17	100.2	0.0		
18	135.4	0.0			18	79.5	0.0		
19	95.2	0.0			19	125.1	0.0		
20	64.5	0.0			20	107.3	0.0		
21	114.8	0.0			21	101.9	0.0		
22	129.8	0.0			22	125.0	0.0		
23	116.9	0.0			23	112.3	0.0		
24	77.7	0.0			24	93.2	0.0		
25	92.3	0.0			25	74.5	0.0		
26	90.7	0.0			26	94.4	0.0		
27	77.3	0.0			27	98.4	0.0		
28	120.9	0.0			28	102.1	0.0		
29	120.7	0.0			29	130.6	0.0		
30	114.1	0.0			30	135.7	0.0		
					31	134.8	0.0		
AVG.	102.9	0.0			AVG.	118.4	0.0		

TABLE 61

YEARLY TOTALS OF SALMONIDS COUNTED OVER JOHN DAY DAM  
1968 - 1994

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTAL SALMONIDS
1968	233,654	121,256	87,847	38,233	480,990
1969	276,051	86,348	39,847	13,589	415,835
1970	222,506	82,440	78,133	19,543	402,622
1971	193,881	115,977	72,232	40,830	422,920
1972	225,631	141,628	51,793	17,533	436,585
1973	249,492	101,440	64,744	13,359	429,035
1974	167,888	43,756	33,121	14,651	259,416
1975	159,079	32,651	50,774	6,305	248,809
1976	175,911	59,808	30,446	5,806	271,971
1977	194,931	102,558	85,701	1,123	384,313
1978	174,852	44,188	13,778	8,355	241,173
1979	118,154	55,877	43,630	5,061	222,722
1980	100,664	78,199	50,675	1,924	231,462
1981	114,359	95,172	46,146	2,562	258,239
1982	144,082	108,603	37,970	4,063	294,718
1983	139,866	154,425	91,917	1,640	387,848
1984	188,373	201,154	107,951	2,080	499,558
1985	337,624	247,093	124,941	1,652	711,310
1986	346,700	238,010	46,327	1,933	632,970
1987	327,752	170,654	75,529	3,355	577,290
1988	277,251	164,650	48,095	6,813	496,809
1989	208,254	193,460	39,374	9,663	450,751
1990	156,313	107,849	42,077	3,023	309,262
1991	118,921	160,257	63,760	8,021	350,959
1992	132,025	195,194	669,731	2,633	999,583
1993	141,705	95,642	61,218	2,995	301,560
1994	126,645	93,075	11,170	2,842	233,732
<b>TOTALS</b>	<b>5,252,564</b>	<b>3,291,364</b>	<b>2,168,927</b>	<b>239,587</b>	<b>10,952,442</b>
<b>10-Year Average</b>	<b>217,319</b>	<b>166,588</b>	<b>118,222</b>	<b>4,293</b>	<b>506,423</b>

\*Jacks included

TABLE 62

MONTHLY COUNT OF CHINOOK SALMON  
JOHN DAY DAM, 1968 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL	JACKS
														Apr 1- Jun 5	Jun 6- Aug 5	Aug 6- Oct 31	
1968				29,973	46,272	30,702	42,212	16,726	62,709	4,851	209		233,654	77,482	75,494	80,678	67,284
1969			6	4,266	72,966	35,899	31,071	18,523	103,778	9,542			276,051	81,724	64,732	129,595	93,928
1970				35,750	35,248	20,439	21,542	24,784	80,969	3,774			222,506	72,555	43,093	106,858	74,090
1971				13,995	40,620	24,364	25,692	10,403	73,157	5,650			193,881	56,625	50,030	87,228	61,380
1972				28,535	41,882	15,833	27,484	14,208	90,181	7,508			225,631	71,569	44,542	109,520	82,646
1973				67,467	27,091	18,972	15,067	16,995	89,913	13,987			249,492	96,710	34,206	118,576	73,687
1974				5,174	38,058	8,115	18,985	8,112	77,296	12,148			167,888	46,191	25,865	95,832	61,669
1975				7,727	27,989	11,058	21,359	18,250	65,367	7,329			159,079	37,716	32,179	89,184	62,403
1976				10,428	32,985	17,836	18,506	10,114	72,467	13,575			175,911	45,419	36,037	94,455	62,793
1977				55,061	19,422	15,674	13,764	7,853	71,302	11,855			194,931	75,782	29,194	89,955	60,386
1978				34,735	35,206	15,104	16,764	8,149	52,975	11,919			174,852	72,723	30,371	71,758	36,289
1979				8,224	12,568	9,537	13,580	14,128	50,977	8,566	574		118,154	21,981	23,572	72,601	41,364
1980				7,995	18,311	7,125	12,522	9,063	37,023	8,625			100,664	27,202	19,664	53,798	25,877
1981				18,178	18,325	7,292	8,992	8,524	44,626	8,422			114,359	37,677	15,813	60,869	34,547
1982				3,396	30,444	11,031	7,359	10,881	67,271	13,700			144,082	36,530	16,360	91,192	56,966
1983				7,123	25,391	7,990	7,064	8,195	66,078	18,025			139,866	33,480	14,834	91,552	43,440
1984				4,329	26,561	9,706	12,892	15,422	96,399	22,255	809		188,373	32,035	22,795	133,543	69,874
1985				27,539	42,487	15,585	9,663	27,387	178,322	34,192	2,449		337,624	72,389	23,489	241,746	149,281
1986			21	38,075	37,959	13,227	9,703	10,797	194,928	41,990			346,700	77,884	22,051	246,765	133,827
1987				33,985	26,852	13,641	8,948	24,363	196,596	23,367			327,752	62,313	22,244	243,195	53,794
1988				33,323	20,170	14,731	9,648	37,002	147,553	14,824			277,251	55,195	23,569	198,487	51,330
1989				12,510	23,983	12,793	10,124	35,985	101,794	11,065			208,254	37,773	23,868	146,613	25,092
1990				23,689	18,854	11,209	9,199	13,542	71,508	8,312			156,313	43,127	20,532	92,654	22,195
1991				7,419	13,668	8,868	8,390	4,879	64,950	10,747			118,921	21,847	16,872	80,202	28,646
1992				27,538	16,623	9,452	5,263	7,677	58,140	7,332			132,025	45,457	13,910	72,658	22,084
1993				26,309	28,204	13,295	6,311	10,703	51,667	5,216			141,705	56,144	18,364	87,197	9,621
1994				4,436	4,937	6,305	6,397	13,345	79,538	11,687			126,645	9,745	12,935	103,965	18,867
TOTAL			27	577,179	783,076	385,783	398,501	406,010	2,347,484	350,463	4,041		5,252,564	1,405,275	776,615	3,070,674	1,523,360
10-Year Average				23,482	23,374	11,911	8,365	18,568	114,500	16,873	245		217,319	48,187	19,783	149,348	51,474

\*Jacks included

TABLE 63

MONTHLY COUNT OF SOCKEYE SALMON  
JOHN DAY DAM - 1968 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1968						42,175	44,942	690	32	7	1		87,847
1969						13,383	26,174	245	37	8			39,847
1970						18,029	58,176	1,909	19				78,133
1971						5,219	66,183	787	38	5			72,232
1972						6,762	43,704	1,257	68	2			51,793
1973					2	21,283	42,588	864	6	1			64,744
1974						2,024	30,687	403	6	1			33,121
1975						6,154	44,454	163	2	1			50,774
1976						8,907	21,278	258	1	2			30,446
1977					6	52,852	32,269	537	34	3			85,701
1978						5,633	8,006	119	20				13,778
1979						13,466	29,603	560	1				43,630
1980						9,596	40,536	530	13				50,675
1981						17,064	28,975	94	13				46,146
1982						8,708	28,974	286	2				37,970
1983						27,372	63,995	506	37	7			91,917
1984						54,975	51,728	1,230	16	2			107,951
1985						78,326	46,184	421	10				124,941
1986						13,472	32,116	738		1			46,327
1987						35,022	39,983	513	11				75,529
1988						25,001	22,855	225	12	2			48,095
1989						18,883	20,330	148	12	1			39,374
1990					1	15,247	26,580	245	4				42,077
1991						10,917	52,130	699	9	5			63,760
1992					1	38,618	30,788	303	20	1			69,731
1993					1	30,668	30,348	198	2	1			61,218
1994						7,004	4,141	22	2	1			11,170
<b>TOTAL</b>					<b>11</b>	<b>586,760</b>	<b>967,727</b>	<b>13,950</b>	<b>427</b>	<b>51</b>	<b>1</b>		<b>1,568,927</b>
<b>10-Year Average</b>						<b>27,316</b>	<b>30,546</b>	<b>351</b>	<b>8</b>				<b>58,222</b>

TABLE 64

**MONTHLY COUNT OF COHO SALMON  
JOHN DAY DAM; 1968-1994**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*
1968							4	1,311	32,882	3,848	188		38,233
1969							25	308	9,879	3,377			13,589
1970							14	1,026	17,272	1,231			19,543
1971								944	36,401	3,485			40,830
1972								1,253	14,965	1,315			17,533
1973								788	11,350	1,221			13,359
1974								730	11,253	2,668			14,651
1975								85	4,266	1,954			6,305
1976								57	3,739	2,010			5,806
1977								8	534	581			1,123
1978								6	2,676	5,673			8,355
1979							1	132	2,853	1,753	322		5,061
1980								27	1,431	466			1,924
1981								90	2,030	442			2,562
1982								145	3,032	886			4,063
1983								99	1,353	188			1,640
1984								4	1,736	331	9		2,080
1985								95	1,140	395	22		1,652
1986									1,527	406			1,933
1987							1	16	3,205	133			3,355
1988							3	241	5,170	1,399			6,813
1989								264	6,832	2,567			9,663
1990								1	1,890	1,132			3,023
1991								5	6,140	1,876			8,021
1992									2,153	480			2,633
1993								11	2,233	751			2,995
1994								164	1,892	786			2,842
<b>TOTAL</b>							<b>48</b>	<b>7,810</b>	<b>189,834</b>	<b>41,354</b>	<b>541</b>		<b>239,587</b>
<b>10-Year Average</b>							<b>80</b>	<b>3,218</b>	<b>993</b>				<b>4,293</b>

\*Jacks included

TABLE 65

MONTHLY COUNT OF STEELHEAD  
JOHN DAY DAM; 1968-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1968				3,939	2,659	151	6,094	26,824	68,791	11,405	1,393		121,256
1969			314	3,986	3,691	714	12,004	13,267	40,082	12,290			86,348
1970				1,987	1,279	253	7,373	19,412	46,036	6,100			82,440
1971				1,472	592	263	17,459	19,693	63,868	12,630			115,977
1972				1,523	1,966	356	17,656	20,502	78,138	21,487			141,628
1973				8,019	3,546	785	12,134	15,608	46,566	14,782			101,440
1974				1,713	2,363	1,361	9,713	8,419	12,479	7,708			43,756
1975				760	428	648	6,251	8,583	9,977	6,004			32,651
1976				929	1,248	1,868	9,254	17,964	22,754	5,791			59,808
1977				1,319	418	2,341	18,366	7,088	56,134	16,892			102,558
1978				741	631	1,601	5,573	6,911	22,896	5,835			44,188
1979				602	136	253	8,012	10,717	16,202	18,072	1,883		55,877
1980				4,131	555	577	5,850	18,114	34,700	14,272			78,199
1981				2,061	1,539	2,515	15,999	18,283	34,098	20,677			95,172
1982				3,393	1,698	1,167	10,168	19,693	50,725	21,759			108,603
1983				1,492	434	560	15,088	31,453	83,215	22,183			154,425
1984				3,316	1,787	2,101	21,442	19,743	100,437	46,506	5,822		201,154
1985				6,821	1,723	3,583	19,631	64,456	109,488	37,227	4,164		247,093
1986			3,611	2,040	887	2,362	37,732	31,576	107,002	52,800			238,010
1987				3,926	-747	942	23,614	34,203	69,585	39,131			170,654
1988				4,290	525	2,188	17,649	25,741	81,859	32,398			164,650
1989				2,940	508	2,445	18,254	22,548	104,521	42,244			193,460
1990				3,339	600	1,902	10,544	9,445	42,888	39,131			107,849
1991				2,547	660	1,256	12,827	18,310	87,277	37,380			160,257
1992				1,334	406	2,337	10,732	17,326	143,823	19,236			195,194
1993				3,453	808	2,845	9,434	11,018	46,447	21,637			95,642
1994				2,286	413	1,647	6,961	7,140	44,175	30,453			93,075
<b>TOTAL</b>			<b>3,925</b>	<b>74,359</b>	<b>30,753</b>	<b>39,021</b>	<b>365,814</b>	<b>524,037</b>	<b>1,624,163</b>	<b>616,030</b>	<b>13,262</b>		<b>3,291,364</b>
<b>10-YR Average</b>			<b>3,298</b>	<b>578</b>	<b>2,151</b>	<b>16,738</b>	<b>24,176</b>	<b>83,707</b>	<b>35,164</b>				<b>166,588</b>

TABLE 66

WILD STEELHEAD COUNTED AT  
JOHN DAY DAM 1994

JOHN DAY DAM		Oregon Ladder	Washington Ladder
Apr-94	Wild Steelhead		
1	64	44	20
2	41	13	28
3	30	6	24
4	42	6	36
5	25	12	13
6	62	22	40
7	23	7	16
8	56	31	25
9	42	18	24
10	54	14	40
11	40	12	28
12	15	13	2
13	30	7	23
14	27	11	16
15	46	11	35
16	30	4	26
17	18	5	13
18	10	5	5
19	28	4	24
20	44	22	22
21	50	16	34
22	23	12	11
23	14	2	12
24	15	5	10
25	12	2	10
26	3	4	-1
27	2	4	-2
28	0	4	-4
29	12	-1	13
30	4	-4	8
TOTAL.	862	311	551
AVG.	29	10	18
TOTAL TO DATE	WILD STEELHEAD 862		

TABLE 67

**WILD STEELHEAD COUNTED AT  
JOHN DAY DAM 1994**

JOHN DAY DAM		Oregon Ladder	Washington Ladder
May-94	Wild Steelhead		
1	12	10	2
2	12	8	4
3	-1	4	-5
4	2	1	1
5	-4	0	-4
6	0	-1	1
7	3	1	2
8	5	1	4
9	8	7	1
10	2	0	2
11	1	1	0
12	1	1	0
13	0	0	0
14	1	1	0
15	2	2	0
16	0	0	0
17	1	1	0
18	0	0	0
19	0	0	0
20	6	4	2
21	2	1	1
22	5	5	0
23	3	1	2
24	1	1	0
25	9	-1	10
26	3	2	1
27	2	2	0
28	4	4	0
29	1	1	0
30	-3	2	-5
31	5	1	4
<b>TOTAL</b>	<b>83</b>	<b>60</b>	<b>23</b>
<b>AVG.</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 945</b>		

JOHN DAY DAM		Oregon Ladder	Washington Ladder
Jun-94	Wild Steelhead		
1	8	7	1
2	1	1	0
3	0	0	0
4	1	1	0
5	5	5	0
6	8	8	0
7	5	4	1
8	2	2	0
9	6	7	-1
10	10	8	2
11	6	7	-1
12	5	5	0
13	11	6	5
14	6	6	0
15	7	2	5
16	8	8	0
17	3	2	1
18	7	7	0
19	5	5	0
20	9	8	1
21	21	7	14
22	29	29	0
23	33	14	19
24	12	11	1
25	22	20	2
26	26	26	0
27	46	46	0
28	23	22	1
29	47	46	1
30	32	28	4
<b>TOTAL</b>	<b>404</b>	<b>348</b>	<b>56</b>
<b>AVG.</b>	<b>13</b>	<b>12</b>	<b>2</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 1,349</b>		

TABLE 63

WILD STEELHEAD COUNTED AT  
JOHN DAY DAM 1994

JOHN DAY DAM		Oregon Ladder	Washington Ladder
Jul-94	Wild Steelhead		
1	56	7	49
2	42	17	25
3	37	6	31
4	41	7	34
5	40	4	36
6	21	4	17
7	4	4	0
8	59	11	48
9	67	8	59
10	103	13	90
11	114	8	106
12	98	10	88
13	17	17	0
14	108	13	95
15	92	10	82
16	89	19	70
17	189	19	170
18	90	16	74
19	110	18	92
20	102	17	85
21	53	34	19
22	124	86	38
23	101	36	65
24	69	34	35
25	137	52	85
26	83	23	60
27	62	37	25
28	28	16	12
29	52	10	42
30	27	2	25
31	28	8	20
<b>TOTAL</b>	<b>2,243</b>	<b>566</b>	<b>1,677</b>
<b>AVG.</b>	<b>72</b>	<b>18</b>	<b>54</b>

<b>TOTAL</b>	<b>WILD STEELHEAD</b>
<b>TO DATE</b>	<b>3,592</b>

JOHN DAY DAM		Oregon Ladder	Washington Ladder
Aug-94	Wild Steelhead		
1	43	30	13
2	78	41	37
3	59	23	36
4	41	37	4
5	42	32	10
6	41	34	7
7	33	26	7
8	14	2	12
9	11	7	4
10	44	26	18
11	27	13	14
12	42	25	17
13	31	24	7
14	43	35	8
15	38	25	13
16	38	25	13
17	29	17	12
18	43	30	13
19	32	19	13
20	24	17	7
21	32	22	10
22	32	25	7
23	54	26	28
24	54	37	17
25	48	34	14
26	57	37	20
27	91	67	24
28	69	43	26
29	86	68	18
30	62	43	19
31	100	53	47
<b>TOTAL</b>	<b>1,438</b>	<b>943</b>	<b>495</b>
<b>AVG.</b>	<b>46</b>	<b>30</b>	<b>16</b>

<b>TOTAL</b>	<b>WILD STEELHEAD</b>
<b>TO DATE</b>	<b>5,030</b>

TABLE 69

**WILD STEELHEAD COUNTED AT  
JOHN DAY DAM 1994**

JOHN DAY DAM		Oregon Ladder	Washington Ladder
Sep-94	Wild Steelhead		
1	69	37	32
2	100	84	16
3	73	50	23
4	199	127	72
5	213	128	85
6	240	145	95
7	244	155	89
8	237	167	70
9	215	157	58
10	268	112	156
11	218	164	54
12	183	143	40
13	327	226	101
14	442	341	101
15	408	284	124
16	389	269	120
17	480	352	128
18	316	239	77
19	378	228	150
20	215	145	70
21	250	186	64
22	176	144	32
23	201	106	95
24	138	96	42
25	168	119	49
26	203	118	85
27	103	84	19
28	131	84	47
29	102	76	26
30	157	103	54

<b>TOTAL</b>	<b>6,843</b>	<b>4,669</b>	<b>2,174</b>
<b>AVG.</b>	<b>228</b>	<b>156</b>	<b>72</b>

<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 11,873</b>
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JOHN DAY DAM		Oregon Ladder	Washington Ladder
Oct-94	Wild Steelhead		
1	262	174	88
2	251	142	109
3	186	118	68
4	229	122	107
5	200	134	66
6	372	253	119
7	262	149	113
8	168	74	94
9	202	128	74
10	105	55	50
11	113	66	47
12	143	73	70
13	109	68	41
14	68	43	25
15	93	56	37
16	138	96	42
17	237	172	65
18	216	134	82
19	126	34	92
20	130	82	48
21	136	102	34
22	158	120	38
23	116	92	24
24	145	103	42
25	105	56	49
26	119	83	36
27	96	25	71
28	184	119	65
29	270	209	61
30	371	221	150
31	150	88	62

<b>TOTAL</b>	<b>5,460</b>	<b>3,391</b>	<b>2,069</b>
<b>AVG.</b>	<b>176</b>	<b>109</b>	<b>67</b>

<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 17,333</b>
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TABLE 70

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER McNARY DAM  
1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*
CHINOOK*				2,940	5,513	5,486	8,242	11,085	80,693	14,909			128,868
STEELHEAD				2,622	336	1,169	7,436	5,468	40,871	36,525			94,427
SOCKEYE					1	5,910	4,672	20					10,603
COHO*								9	978	748			1,735
MINI-JACKS**					77	1,190	3,041	729	1,129	372			6,538
CHUM													
PINK													
<b>TOTAL</b>				<b>5,562</b>	<b>5,927</b>	<b>13,755</b>	<b>23,391</b>	<b>17,311</b>	<b>123,671</b>	<b>52,554</b>			<b>242,171</b>
<b>SHAD</b>				<b>1</b>	<b>7,673</b>	<b>434,038</b>	<b>224,246</b>	<b>2,570</b>					<b>668,528</b>

\*Jacks Included

\*\*Salmonid fish under 12 inches in length.

TABLE 71

## DISCHARGE AND WATER QUALITY DATA

## MCNARY PROJECT 1994

JANUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	71.2	0.0		
2	68.9	0.0		
3	74.8	0.0		
4	83.4	0.0		
5	102.2	0.0		
6	100.9	0.0		
7	103.0	0.0		
8	108.5	0.0		
9	79.0	0.0		
10	107.7	0.0		
11	102.4	0.0		
12	98.3	0.0		
13	100.9	0.0		
14	108.4	0.0		
15	105.3	0.0		
16	85.0	0.0		
17	104.3	0.0		
18	148.4	0.0		
19	140.0	0.0		
20	121.3	0.0		
21	119.8	0.0		
22	102.3	0.0		
23	73.0	0.0		
24	113.8	0.0		
25	109.8	0.0		
26	133.9	0.0		
27	125.7	0.0		
28	131.1	0.0		
29	136.7	0.0		
30	113.1	0.0		
31	144.0	0.0		
AVG.	107.0	0.0		

FEBRUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	148.6	0.0		
2	160.7	0.0		
3	155.5	0.0		
4	153.3	0.0		
5	158.8	0.0		
6	151.3	0.0		
7	147.7	0.0		
8	161.0	0.0		
9	151.7	0.0		
10	141.0	0.0		
11	136.8	0.0		
12	133.5	0.0		
13	114.1	0.0		
14	126.0	0.0		
15	129.5	0.0		
16	123.2	0.0		
17	119.5	0.0		
18	129.3	0.0		
19	121.9	0.0		
20	108.8	0.0		
21	112.7	0.0		
22	132.8	0.0		
23	123.0	0.0		
24	146.9	0.0		
25	119.7	0.0		
26	127.6	0.0		
27	93.8	0.0		
28	89.5	0.0		
AVG.	132.8	0.0		

MARCH				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	103.9	0.0		
2	108.7	0.0		
3	110.5	0.0		
4	98.3	0.0		
5	106.9	0.0		
6	85.9	0.0		
7	120.0	0.0		
8	134.8	0.0		
9	108.1	0.0		
10	110.4	0.0		
11	115.0	0.0		
12	104.6	0.0		
13	88.9	0.0		
14	121.1	0.0		
15	96.1	0.0		
16	118.1	0.0		
17	119.9	0.0		
18	140.6	0.0		
19	141.1	0.0		
20	141.1	0.0		
21	140.2	0.0		
22	140.8	0.0		
23	134.7	0.0		
24	145.3	0.0		
25	140.0	0.0		
26	101.8	0.0		
27	88.6	0.0		
28	95.9	0.0		
29	126.5	0.0		
30	106.3	0.0		
31	125.8	0.0		
AVG.	116.8	0.0		

TABLE 72

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT  
APRIL 1994

FISH COUNTS

RIVER CONDITIONS

DATE	FISH COUNTS				RIVER CONDITIONS									
	SPRING	CHINOOK ADULT SUMMER	FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	0			0				137	0		132.4	0.0	5.0	45.0
2	5			0				317	0		113.9	0.0	3.8	45.0
3	7			0				197	0		94.3	0.0	4.0	45.0
4	6			0				139	0		135.4	0.0	4.0	45.0
5	13			0				129	0		139.4	0.0	4.0	45.0
6	5			0				92	0		143.5	0.0	4.0	45.0
7	4			0				146	0		144.4	0.0	3.7	45.0
8	15			0				187	0		143.1	0.0	3.6	47.0
9	7			0				99	0		134.5	0.0	4.0	47.0
10	10			0				183	0		89.3	0.0	4.0	47.0
11	25			0				77	0		117.6	0.0	4.0	47.0
12	46			0				121	0		140.5	0.0	4.0	48.0
13	47			0				106	0		146.4	0.0	4.0	48.0
14	20			0				118	0		136.5	0.0	4.0	50.0
15	78			0				57	0		139.6	0.0	4.0	50.0
16	40			2				72	0		96.4	0.0	4.0	50.0
17	36			1				37	0		99.3	0.0	4.0	50.0
18	126			0				65	0		130.4	0.0	3.8	50.0
19	130			0				72	0		141.5	0.0	5.0	52.0
20	107			0				54	0		147.1	0.0	4.7	52.0
21	186			0				41	0		153.6	0.0	4.8	53.0
22	227			0				43	0		167.4	0.0	4.8	53.0
23	199			1				36	0		160.9	0.0	4.9	53.0
24	257			2				12	0		151.2	0.0	4.8	53.0
25	208			2				11	0		155.0	0.0	4.8	53.0
26	165			0				7	0		163.8	0.0	4.8	53.0
27	107			1				11	0		166.6	0.0	4.8	53.0
28	240			2				23	0		187.2	0.0	4.8	53.0
29	233			2				19	0		192.0	0.0	4.8	53.0
30	377			1				14	1		202.3	4.8	3.8	53.0
<b>TOTAL</b>	<b>2,926</b>			<b>14</b>				<b>2,622</b>	<b>1</b>					
<b>AVG.</b>	<b>98</b>							<b>87</b>			<b>142.2</b>	<b>0.2</b>	<b>4.3</b>	<b>49.4</b>

TABLE 72

TABLE 73

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

MAY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1	568			1			0	14	0	0	193.1	0.0	3.6	53.0	
2	308			1			0	14	0	0	202.2	9.9	3.6	53.0	
3	149			0			0	9	3	0	198.2	8.2	3.6	53.0	
4	365			17			0	15	6	0	204.4	9.0	3.8	53.0	
5	295			17			0	15	2	1	210.0	16.5	3.5	53.0	
6	180			1			0	6	5	0	219.1	25.9	4.5	53.0	
7	258			3			0	8	5	0	191.5	0.0	4.5	53.0	
8	271			1			0	1	5	0	190.5	0.0	4.5	53.0	
9	340			5			0	3	6	2	201.3	11.0	4.5	53.0	
10	205			14			0	8	16	0	209.6	20.1	4.5	54.0	
11	195			3			1	6	37	0	215.7	28.8	4.0	54.0	
12	114			6			0	14	24	0	221.7	39.0	4.3	55.0	
13	201			11			0	13	12	2	211.0	33.2	4.6	55.0	
14	176			5			0	16	36	2	203.0	40.3	4.6	55.0	
15	243			11			0	8	58	0	169.5	44.0	4.3	55.0	
16	172			7			0	8	17	0	198.3	42.9	4.0	55.0	
17	155			6			0	5	101	2	204.9	42.6	4.0	55.0	
18	129			7			0	10	84	2	194.5	35.9	4.0	55.0	
19	59			2			0	6	34	0	200.8	39.4	4.0	55.0	
20	111			8			0	10	71	10	199.7	39.3	4.0	56.0	
21	92			13			0	15	214	0	186.0	33.1	4.4	56.0	
22	112			3			0	11	171	1	181.0	41.8	4.5	56.0	
23	84			5			0	14	281	0	197.7	34.8	4.4	57.0	
24	56			1			0	8	376	4	208.7	39.6	4.3	57.0	
25	54			2			0	14	854	4	207.1	34.2	4.3	57.0	
26	53			3			0	12	731	11	219.4	45.8	4.2	57.0	
27	74			5			0	11	742	5	209.9	36.7	4.2	57.0	
28	115			6			0	20	437	5	192.6	26.7	4.2	57.0	
29	95			2			0	15	798	12	183.8	26.7	4.4	57.0	
30	56			6			0	13	998	8	191.2	26.7	4.4	57.0	
31	50			6			0	14	1549	6	193.3	23.3	4.4	57.0	
<b>TOTAL</b>	<b>5,335</b>			<b>178</b>			<b>1</b>	<b>336</b>	<b>7,673</b>	<b>77</b>					
<b>AVG.</b>	<b>172</b>			<b>6</b>				<b>11</b>	<b>248</b>	<b>2</b>	<b>200.3</b>	<b>27.6</b>	<b>4.2</b>	<b>55.0</b>	
<b>TOTALS TO DATE</b>				<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>		<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>					
	<b>SPRING</b>			<b>8,261</b>	<b>192</b>		<b>1</b>	<b>2,958</b>	<b>7,674</b>	<b>77</b>					

TABLE 74

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT  
JUNE 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	83			0			0	7	1405	6	210.1	23.3	4.4	57.0
2	74			0			0	15	2011	18	199.3	30.0	4.0	58.0
3	73			5			0	15	2988	7	199.5	40.2	5.1	58.0
4	44			8			0	13	4528	14	201.2	40.4	5.2	58.0
5	63			4			0	25	6767	38	188.7	39.8	5.2	58.0
6	54			1			0	16	4374	34	211.0	40.4	4.5	59.0
7	56			5			0	21	5771	17	201.2	40.1	4.5	59.0
8	60			4			1	18	6644	22	207.7	40.1	4.5	59.0
9		73		4			0	21	5500	16	203.9	40.4	4.5	59.0
10		104		11			1	13	7332	13	204.3	40.4	4.5	59.0
11		123		2			1	21	6093	10	195.3	40.2	4.5	59.0
12		90		12			8	14	13106	13	190.4	38.3	4.5	61.0
13		128		12			9	31	11935	10	210.9	40.3	4.5	60.0
14		84		11			10	24	7022	19	217.8	40.1	4.5	59.0
15		106		13			5	25	10867	26	211.4	40.2	5.8	59.0
16		136		18			27	29	16291	23	195.8	40.0	5.0	59.0
17		222		27			38	47	15098	41	188.4	20.0	5.0	59.0
18		197		14			40	38	16157	47	184.3	0.0	4.5	60.0
19		174		12			87	38	14788	50	165.4	0.0	4.4	60.0
20		193		13			92	35	19183	49	175.1	0.0	4.4	62.0
21		188		14			195	32	27867	42	190.9	0.0	4.8	62.0
22		172		9			170	40	25282	63	174.9	0.0	4.8	65.0
23		232		11			338	43	21595	48	186.6	0.0	4.8	64.0
24		288		21			452	77	25042	66	181.6	0.0	4.8	63.0
25		408		20			546	81	24317	58	167.0	0.0	4.8	63.0
26		439		18			686	77	11102	61	154.4	0.0	4.8	63.0
27		322		22			773	53	29540	98	164.6	0.0	4.6	64.0
28		288		22			826	87	27332	62	158.8	0.0	4.8	64.0
29		252		26			869	78	29537	102	149.8	0.0	4.3	64.0
30		403		18			736	135	34564	117	176.1	0.0	5.0	65.0

TOTAL	507	4,622		357			5,910	1,169	434,038	1,190
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AVG.	63	210		12			197	39	14,468	40	188.9	21.1	4.7	60.6
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TOTAL TO DATE		CHINOOK ADULT	CHINOOK JACK
SPRING		8,768	219
SUMMER		4,622	330
TOTAL		13,390	549

SOCKEYE	STEELHEAD	SHAD	MINI-JCK
5,911	4,127	441,712	1,267



TABLE 76

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

MCNARY PROJECT  
 AUGUST 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1		141		1	0	0	1	117	415	26	97.1	0.0	4.2	71.0
2		68		17	0	0	0	93	273	41	96.7	0.0	4.2	71.0
3		102		6	0	0	0	107	169	39	96.6	0.0	6.0	70.0
4		84		12	1	0	6	137	184	36	106.7	0.0	6.0	70.0
5		152		11	0	0	1	177	178	27	103.9	0.0	5.0	70.0
6		196		19	0	0	2	206	141	33	101.4	0.0	5.5	70.0
7		167		8	0	0	3	167	96	14	77.1	0.0	5.5	70.0
8		118		17	0	0	2	186	109	29	78.3	0.0	5.0	70.0
9			53	12	0	0	0	158	101	16	101.7	0.0	5.0	70.0
10			88	14	0	0	1	163	209	26	91.9	0.0	5.7	70.0
11			84	1	0	0	0	125	177	14	98.2	0.0	5.0	70.0
12			93	10	0	0	0	93	94	26	107.0	0.0	5.0	70.0
13			281	13	0	0	0	115	59	39	91.0	0.0	4.8	70.0
14			245	18	0	0	1	129	55	22	78.1	0.0	4.8	70.0
15			300	12	0	0	0	123	23	25	86.1	0.0	4.6	69.0
16			303	20	0	0	0	153	37	30	111.0	0.0	5.7	69.0
17			352	18	0	0	0	149	25	14	97.5	0.0	4.4	69.0
18			319	28	0	0	1	139	7	18	102.2	0.0	4.8	70.0
19			274	30	0	0	1	137	21	19	100.5	0.0	4.8	70.0
20			151	32	0	0	0	160	23	24	87.2	0.0	4.8	70.0
21			402	39	0	0	0	170	32	26	61.8	0.0	4.8	69.0
22			182	33	0	0	0	162	35	16	67.4	0.0	4.8	69.0
23			279	26	0	0	1	181	33	13	83.4	0.0	4.8	70.0
24			446	30	0	0	0	159	22	25	75.6	0.0	4.8	69.0
25			563	30	0	0	0	198	6	11	91.6	0.0	4.8	70.0
26			496	56	0	0	0	222	13	17	78.4	0.0	5.0	70.0
27			312	34	0	0	0	186	8	10	92.3	2.3	5.0	70.0
28			719	58	1	1	0	279	7	8	77.0	2.3	5.0	69.0
29			900	70	0	3	0	320	5	25	77.4	2.3	5.0	69.0
30			1412	118	1	1	0	462	12	35	86.5	2.3	4.2	69.0
31			903	107	1	0	0	295	1	25	81.5	2.3	5.0	69.0

<b>TOTAL</b>	1,028	9,157	900	4	5	20	5,468	2,570	729
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<b>AVG.</b>	129	398	29			1	176	83	24
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89.8	0.4	5.0	69.7
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<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
SPRING	8,768	219
SUMMER	13,189	1,124
FALL	9,157	809
<b>TOTAL</b>	<b>31,114</b>	<b>2,152</b>

<b>COHO ADULT</b>	<b>COHO JACK</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
4	5	10,603	17,031	668,528	5,037

TABLE 76

TABLE 77

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

MCNARY PROJECT  
 SEPTEMBER '1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			654	103	10	15		222		30	83.1	2.3	5.0	69.0
2			551	141	6	8		386		40	69.2	2.3	5.0	69.0
3			1210	149	2	5		503		38	67.2	2.3	5.0	69.0
4			627	178	6	4		467		23	61.2	2.3	5.0	69.0
5			1088	221	1	8		372		35	58.8	2.3	5.0	69.0
6			1541	146	11	1		337		34	83.5	2.3	5.5	69.0
7			3487	269	0	2		678		51	93.7	2.3	5.5	69.0
8			4681	581	7	4		1503		130	71.6	2.8	5.6	69.0
9			3482	407	11	9		2243		25	74.6	2.3	5.0	69.0
10			1121	289	13	7		1166		19	70.0	2.3	5.0	69.0
11			2091	432	21	15		1219		41	55.8	2.3	5.0	69.0
12			3933	545	21	15		1527		32	76.2	2.3	4.8	69.0
13			3426	516	23	12		1322		8	66.3	2.3	5.0	69.0
14			2613	552	45	10		1715		16	68.3	2.3	4.8	69.0
15			3117	604	42	10		2022		6	58.3	2.3	5.0	69.0
16			2860	530	17	5		1928		35	77.2	2.3	5.0	69.0
17			2424	460	18	3		1899		7	85.1	2.3	5.0	69.0
18			3067	547	20	6		1771		24	55.2	2.3	5.0	69.0
19			2290	530	48	8		1492		26	72.7	2.3	5.0	69.0
20			2316	524	45	14		1635		52	83.4	2.3	4.8	69.0
21			2395	666	30	21		1712		41	83.6	2.3	5.0	69.0
22			2924	621	37	16		1800		51	92.4	2.3	5.0	69.0
23			3307	840	33	22		2375		29	82.8	2.3	5.0	69.0
24			2906	798	39	21		2128		32	71.2	2.3	5.0	69.0
25			1869	685	20	12		1571		43	56.6	2.3	5.0	69.0
26			1490	592	28	17		1248		60	67.4	2.3	5.0	69.0
27			1381	658	28	15		1148		78	88.7	2.3	5.0	69.0
28			1095	694	24	6		1377		41	90.6	2.3	5.1	68.0
29			841	451	36	6		1229		35	76.3	2.3	5.0	68.0
30			1531	646	29	10		1876		47	70.0	2.3	5.0	68.0

<b>TOTAL</b>			66,318	14,375	671	307		40,871		1,129					
<b>AVG.</b>			2,211	479	22	10		1,362		38		73.7	2.3	5.0	68.9

<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
SPRING		8,768	219
SUMMER		13,189	1,124
FALL		75,475	15,184
<b>TOTAL</b>		<b>97,432</b>	<b>16,527</b>

<b>COHO ADULTS</b>	<b>COHO JACKS</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
675	312	10,603	57,902	668,528	6,166

TABLE 78

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

MCNARY PROJECT  
 OCTOBER 1994

DATE	FISH COUNTS					RIVER CONDITIONS								
	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK ADULT JACK	COHO ADULT	COHO ADULT JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFs	SPILL KCFs	TURBIDITY SECCHI	DEG F
1			940	453	27	9		1436		69	62.3	2.3	5.4	68.0
2			761	418	24	18		1644		24	66.7	2.3	5.5	68.0
3			695	234	12	2		1363		34	77.9	2.3	3.9	67.0
4			647	268	24	6		1607		30	77.9	2.3	3.2	67.0
5			663	224	11	2		1489		11	70.9	2.3	3.5	67.0
6			781	233	14	4		1124		6	72.0	2.3	4.0	66.0
7			961	307	14	2		1822		15	81.9	2.3	3.8	65.0
8			709	183	21	3		1643		15	90.5	2.3	3.8	65.0
9			518	181	16	1		1266		10	61.6	2.3	3.8	65.0
10			463	122	6	4		1153		14	88.7	2.3	4.0	64.0
11			697	244	30	5		2335		17	102.1	2.3	4.2	63.0
12			416	179	29	1		2095		17	107.5	2.3	4.0	63.0
13			316	183	23	1		1285		11	93.0	2.2	4.0	63.0
14			312	127	24	0		1536		24	81.5	2.3	4.3	63.0
15			165	122	11	0		1028		6	111.2	2.3	5.0	63.0
16			92	91	8	1		959		5	104.8	2.3	5.0	63.0
17			102	80	6	0		774		12	79.5	2.3	5.0	63.0
18			135	101	13	2		836		7	92.2	2.3	4.5	63.0
19			90	68	18	1		994		3	97.7	2.3	4.4	63.0
20			98	70	37	1		1194		2	97.0	2.3	4.4	61.0
21			105	94	74	6		1809		4	97.1	2.3	4.6	61.0
22			92	61	25	1		1299		1	98.8	2.3	4.5	61.0
23			71	70	27	1		850		2	77.0	2.3	4.5	61.0
24			57	46	16	0		435		1	91.5	2.3	4.5	60.0
25			72	41	24	0		729		8	89.2	2.3	4.4	60.0
26			56	44	40	1		598		1	90.1	2.3	4.5	60.0
27			88	51	19	0		621		4	106.0	2.3	5.0	60.0
28			117	40	22	2		934		1	104.8	2.3	5.0	60.0
29			90	26	15	0		645		5	100.9	2.3	4.5	60.0
30			84	23	16	1		457		5	89.8	2.3	5.2	59.0
31			64	68	26	1		565		8	95.6	2.3	5.2	58.0
<b>TOTAL</b>			<b>10,457</b>	<b>4,452</b>	<b>672</b>	<b>76</b>		<b>36,525</b>		<b>372</b>				

AVG.	337	144	22	2	1,178	12	89.0	2.3	4.4	62.9
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TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	8,768	219
SUMMER	13,189	1,124
FALL	85,932	19,636
<b>TOTAL</b>	<b>107,889</b>	<b>20,979</b>

COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	MINI-JCK
1,347	388	10,603	94,427	668,528	6,538

TABLE 78

TABLE 79

## DISCHARGE AND WATER QUALITY DATA

## MCNARY PROJECT - 1994

NOVEMBER				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
1	87.7	0.0		
2	99.7	0.0		
3	102.5	0.0		
4	100.1	0.0		
5	96.5	0.0		
6	86.9	0.0		
7	87.1	0.0		
8	98.6	0.0		
9	100.8	0.0		
10	87.6	0.0		
11	95.7	0.0		
12	84.2	0.0		
13	86.3	0.0		
14	83.3	0.0		
15	94.3	0.0		
16	99.3	0.0		
17	100.8	0.0		
18	117.8	0.0		
19	89.1	0.0		
20	93.3	0.0		
21	93.1	0.0		
22	123.0	0.0		
23	104.9	0.0		
24	94.0	0.0		
25	76.0	0.0		
26	82.6	0.0		
27	82.4	0.0		
28	107.8	0.0		
29	109.2	0.0		
30	109.7	0.0		

AVG.      95.8    0.0

DECEMBER				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
1	104.5	0.0		
2	111.1	0.0		
3	101.1	0.0		
4	100.3	0.0		
5	131.0	0.0		
6	137.5	0.0		
7	119.8	0.0		
8	122.4	0.0		
9	133.1	0.0		
10	114.4	0.0		
11	107.1	0.0		
12	117.3	0.0		
13	123.4	0.0		
14	138.7	0.0		
15	140.1	0.0		
16	139.2	0.0		
17	102.7	0.0		
18	78.3	0.0		
19	108.1	0.0		
20	100.7	0.0		
21	84.1	0.0		
22	114.8	0.0		
23	108.2	0.0		
24	83.3	0.0		
25	77.1	0.0		
26	88.7	0.0		
27	95.9	0.0		
28	102.7	0.0		
29	122.9	0.0		
30	132.5	0.0		
31	115.3	0.0		

AVG.      111.5    0.0

TABLE 80

**YEARLY TOTALS OF SALMONIDS COUNTED OVER MCNARY DAM  
1954-1994**

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS*
1954	126,555	75,059	108,181	950	310,745
1955	108,915	85,575	173,758	643	368,891
1956	114,342	42,554	102,145	683	259,724
1957	292,696	105,728	85,460	2,855	486,739
1958	226,092	87,890	102,397	1,350	417,729
1959	171,490	110,475	83,977	1,970	367,912
1960	176,767	96,895	55,372	1,580	330,614
1961	154,996	103,743	16,388	2,045	277,172
1962	152,756	163,181	29,372	3,195	348,504
1963	154,459	113,646	59,744	3,113	330,962
1964	167,934	100,742	83,931	3,317	355,924
1965	150,907	118,960	42,052	2,700	314,619
1966	223,141	145,130	173,028	8,525	549,824
1967	195,653	77,700	105,635	27,226	406,214
1968	200,488	112,522	101,007	39,518	453,535
1969	213,407	76,681	29,787	53,716	373,591
1970	168,892	69,759	59,636	36,399	334,686
1971	171,448	109,630	52,867	39,358	373,303
1972	168,821	93,820	26,422	45,635	334,698
1973	184,112	64,620	42,731	17,682	309,145
1974	127,858	26,932	26,505	13,746	195,041
1975	133,150	23,663	43,143	3,975	203,931
1976	163,314	54,000	24,632	7,539	249,485
1977	183,581	87,712	80,781	4,622	356,696
1978	144,148	34,740	18,511	20,356	217,755
1979	95,275	50,304	37,792	12,800	196,171
1980	80,773	66,524	44,301	571	192,169
1981	80,619	61,985	26,644	3,736	172,984
1982	102,225	75,099	15,077	3,119	195,520
1983	121,636	125,254	40,903	2,470	290,263
1984	159,071	135,515	56,906	2,841	354,333
1985	288,483	188,204	98,457	6,917	582,061
1986	342,417	193,481	46,443	1,374	583,715
1987	286,638	148,811	72,190	615	508,254
1988	243,608	151,765	50,080	2,010	447,463
1989	176,407	170,467	41,318	3,383	391,575
1990	147,439	95,061	46,145	2,059	290,704
1991	114,841	168,692	69,365	2,272	355,170
1992	135,707	194,026	68,737	1,801	400,271
1993	143,412	93,183	66,485	481	303,561
1994	128,868	94,427	10,603	1,735	235,633
<b>Totals</b>	<b>6,923,341</b>	<b>4,194,155</b>	<b>2,518,908</b>	<b>390,882</b>	<b>14,027,286</b>
<b>10-Year Average</b>	<b>200,782</b>	<b>149,812</b>	<b>56,982</b>	<b>2,265</b>	<b>409,841</b>

\*Jacks included

TABLE 81

MONTHLY COUNT OF CHINOOK SALMON  
MCNARY DAM - 1954 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL
														MAR 15-	JUN 9-	AUG 9-
														JUN 8	AUG 8	OCT 31
1954			14	919	42,625	28,510	35,993	9,287	8,626	568	13		126,555	52,014	61,065	13,476
1955				86	12,778	26,125	46,021	14,773	7,220	1,648	264		108,915	21,309	71,180	16,426
1956			7	307	10,746	34,360	60,409	11,073	5,636	1,360	444		114,342	12,717	90,335	11,290
1957			6	14,489	67,939	91,473	41,485	25,621	48,685	2,998			292,696	99,511	122,578	70,607
1958				1,864	36,684	61,898	25,140	11,120	82,890	6,496			226,092	54,910	73,654	97,528
1959				3,914	31,923	23,461	51,478	14,929	42,756	3,029			171,490	40,775	74,985	55,730
1960				4,808	44,721	49,506	25,710	13,376	35,329	3,317			176,767	52,490	76,940	47,337
1961				21,669	44,260	19,722	23,192	10,661	31,447	4,045			154,996	68,539	45,257	41,200
1962				10,527	44,053	28,621	21,008	11,751	33,541	3,255			152,756	55,884	52,756	44,116
1963				7,765	42,804	22,454	18,659	13,757	43,731	5,289			154,459	52,336	44,760	57,363
1964				19,856	33,310	10,893	39,334	14,930	45,514	4,097			167,934	54,279	55,062	58,593
1965				6,114	20,559	14,094	28,599	12,856	60,185	8,500			150,907	29,206	45,375	76,326
1966				63,484	32,282	21,161	35,895	13,811	58,275	8,233			223,141	87,195	60,827	75,119
1967				32,790	28,174	13,244	44,612	10,788	54,314	11,731			195,653	62,591	59,975	73,087
1968				13,328	51,443	20,456	37,127	15,713	53,597	8,824			200,488	67,092	60,639	72,757
1969				809	60,241	39,074	30,556	12,200	59,889	10,638			213,407	70,079	63,953	79,375
1970				28,015	34,027	18,661	23,132	13,773	44,635	6,649			168,892	63,982	43,356	61,554
1971				5,642	32,688	24,007	35,152	9,680	55,297	8,982			171,448	42,601	59,129	69,718
1972				25,911	41,609	12,553	35,322	10,154	37,131	6,141			168,821	69,023	50,491	49,307
1973				44,878	31,727	16,836	14,520	10,400	57,716	8,035			184,112	79,047	31,812	73,253
1974				1,918	34,767	7,976	18,181	6,251	45,845	12,920			127,858	40,037	25,812	62,009
1975				4,694	24,752	11,590	20,497	12,485	53,125	6,007			133,150	32,718	31,713	68,719
1976				4,868	30,435	16,714	19,821	9,143	64,863	17,470			163,314	38,505	36,818	87,991
1977				40,692	23,895	16,768	16,256	7,348	64,785	13,837			183,581	66,934	32,277	84,370
1978				27,191	37,613	14,505	18,095	7,799	30,273	7,296	1,376		144,148	68,414	31,589	44,145
1979			6	5,424	13,696	9,763	14,601	8,030	34,702	8,171	882		95,275	21,153	24,161	49,961
1980			3	3,481	18,108	6,705	12,166	7,001	24,409	8,284	616		80,773	23,001	18,862	38,910
1981			3	12,923	16,904	8,288	8,243	5,584	23,323	4,926	425		80,619	32,330	15,141	33,148
1982			3	1,638	23,487	10,357	8,749	5,091	44,276	8,624			102,225	28,352	16,574	57,299
1983				4,481	25,074	9,202	7,882	5,217	54,339	15,441			121,636	31,636	16,199	73,801
1984				1,772	23,806	9,235	12,256	8,845	79,004	23,391	767		159,076	27,474	21,201	110,401
1985			18	18,267	41,962	14,117	9,912	17,222	140,034	46,951			288,483	63,265	22,029	203,189
1986			2	28,739	44,459	14,515	12,315	9,636	168,230	64,521			342,417	76,077	25,798	240,542
1987				26,258	32,171	12,889	11,219	19,123	151,410	33,568			286,638	60,396	25,353	200,889
1988				26,267	22,245	14,605	9,282	30,714	115,878	24,617			243,608	51,178	23,621	168,809
1989				9,625	24,281	12,484	11,112	23,034	80,089	15,782			176,407	35,954	24,708	115,745
1990				19,309	23,861	11,007	11,148	7,306	61,718	13,090			147,439	44,499	22,248	80,692
1991				4,942	15,838	9,289	9,409	4,328	56,251	13,674	1,074	36	114,841	22,631	17,588	74,622
1992				25,549	22,799	9,511	6,159	5,846	51,961	13,882			135,707	50,590	14,414	70,703
1993				18,649	37,255	14,880	8,119	8,414	48,093	8,002			143,412	59,556	20,374	63,482
1994				2,940	5,513	5,486	8,242	11,085	80,693	14,909			128,868	8,987	14,313	105,568
Total			62	586,802	1,287,514	816,995	917,008	480,155	2,339,715	489,198	5,861	36	6,923,346	2,019,267	1,724,922	3,179,157
10-Year Average				18,055	27,038	11,878	9,692	13,671	95,436	24,900	107		200,782	47,313	21,045	132,424

\*Jacks Included

TABLE 82

**MONTHLY COUNT OF SOCKEYE SALMON  
MCNARY DAM; 1954 - 1994**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
1954					1	1,107	93,452	11,382	2,214	25			108,181	
1955					43	287	163,902	9,402	121	3			173,758	
1956					1	639	94,352	6,882	262	7	2		102,145	
1957					13	6,318	74,874	4,233	22				85,460	
1958						12,542	82,547	5,474	1,819	15			102,397	
1959					21	2,031	73,735	7,981	209				83,977	
1960						9,374	43,749	2,241	8				55,372	
1961						1,088	14,149	1,138	11	2			16,388	
1962						1,721	27,134	511	6				29,372	
1963					78	8,712	50,415	535	4				59,744	
1964						770	81,536	1,617	8				83,931	
1965						328	40,790	923	10	1			42,052	
1966						6,202	162,267	4,548	11				173,028	
1967						1,935	101,044	2,647	9				105,635	
1968						28,928	70,413	1,666					101,007	
1969						5,787	23,353	647					29,787	
1970						7,152	47,339	5,134	11				59,636	
1971						317	50,568	1,982					52,867	
1972						366	24,452	1,604					26,422	
1973						9,011	32,301	999	420				42,731	
1974						188	25,816	486	15				26,505	
1975						1,517	41,011	615					43,143	
1976						4,461	19,319	415	437				24,632	
1977					8	36,708	43,077	739	207	42			80,781	
1978						3,211	10,376	714	1,583	2,627			18,511	
1979						6,317	29,571	1,547	321	36			37,792	
1980						3,400	40,469	432					44,301	
1981						4,419	22,042	180	1	2			26,644	
1982						812	13,489	281	292	203			15,077	
1983						5,897	33,851	997	142	16			40,903	
1984						18,762	37,409	637	85	11	2		56,906	
1985				1		60,067	36,567	522	593	707			98,457	
1986						8,362	36,863	819	348	51			46,443	
1987					4	28,742	42,464	889	85	6			72,190	
1988						23,466	25,984	599	14	17			50,080	
1989					1	14,721	26,239	334	21	2			41,318	
1990					1	8,922	36,791	427	0	4			46,145	
1991					1	6,509	61,780	1,024	38	11	1	1	69,365	
1992					7	30,339	37,915	448	28				68,737	
1993						26,492	39,607	377	9				66,485	
1994					1	5,910	4,672	20					10,603	
<b>Total</b>					<b>1</b>	<b>180</b>	<b>403,837</b>	<b>2,017,684</b>	<b>84,048</b>	<b>9,364</b>	<b>3,788</b>	<b>5</b>	<b>1</b>	<b>2,518,908</b>
<b>10-Year Average</b>						<b>21,353</b>	<b>34,888</b>	<b>546</b>	<b>114</b>	<b>80</b>				<b>56,982</b>

TABLE 83

MONTHLY COUNT OF COHO SALMON  
MCNARY DAM; 1954-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS*
1954								4	751	180	14	1	950
1955									350	260	33		643
1956								16	462	157	48		683
1957							18	208	2,364	265			2,855
1958								29	1,091	230			1,350
1959								32	1,892	46			1,970
1960								24	1,432	124			1,580
1961								22	1,731	292			2,045
1962							5	106	2,884	200			3,195
1963							5	437	2,259	412			3,113
1964							3	307	2,734	273			3,317
1965							22	105	2,264	309			2,700
1966								811	7,195	519			8,525
1967							11	11	22,492	4,712			27,226
1968								1,010	36,260	2,248			39,518
1969								1,643	45,497	6,576			53,716
1970								3,576	31,161	1,662			36,399
1971								927	33,828	4,603			39,358
1972								2,433	38,747	4,455			45,635
1973							66	1,768	14,452	1,396			17,682
1974								1,160	10,052	2,534			13,746
1975							1	268	3,675	31			3,975
1976								373	5,201	1,965			7,539
1977						2		274	2,698	1,648			4,622
1978						1		138	10,445	7,459	2,313		20,356
1979				1		4	194	652	9,058	2,431	460		12,800
1980								2	180	203	186		571
1981								421	2,840	435	40		3,736
1982							141	235	2,148	595			3,119
1983								229	1,536	705			2,470
1984						6		147	2,506	154	28		2,841
1985					14	37	44	2,040	4,493	289			6,917
1986								1	851	522			1,374
1987							3	24	377	211			615
1988								17	1,210	783			2,010
1989								35	2,043	1,305			3,383
1990								1	1,007	1,051			2,059
1991									1,105	937	211	19	2,272
1992								1	1,130	670			1,801
1993								2	254	225			481
1994								9	978	748			1,735
<b>TOTAL</b>				1	14	50	513	19,498	313,633	53,820	3,333	20	390,882
<b>10-Year Average</b>							5	213	1,345	674	21		2,265

\*Jacks included

TABLE 3/1

MONTHLY COUNT OF STEELHEAD  
MCNARY DAM; 1954-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1954			376	5,569	2,307	128	2,628	20,939	26,944	11,627	2,937	1,604	75,059
1955	931	35	70	3,279	1,791	162	5,257	36,035	17,463	16,941	2,874	737	85,575
1956	66	753	563	2,365	1,218	276	5,440	14,492	8,245	6,787	2,349		42,554
1957			840	2,084	147	334	18,100	28,926	34,478	20,775	8	36	105,728
1958	62	137	1,069	877	334	1,265	9,967	6,535	50,229	17,415			87,890
1959				1,317	685	748	10,508	32,872	49,542	14,803			110,475
1960				1,579	1,236	908	8,475	22,443	51,749	10,505			96,895
1961				896	580	1,281	7,469	11,428	64,521	17,568			103,743
1962				1,650	762	1,108	11,321	28,288	98,042	22,010			163,181
1963				813	1,751	2,639	8,252	26,282	47,982	25,927			113,646
1964				1,789	805	486	7,602	25,918	53,180	10,962			100,742
1965				1,361	363	231	11,749	31,155	54,450	19,651			118,960
1966				2,279	954	1,476	18,241	26,062	71,180	24,938			145,130
1967				1,434	1,130	152	5,771	14,894	32,310	22,009			77,700
1968				5,451	3,361	247	4,058	22,268	61,167	15,970			112,522
1969				2,304	1,792	711	7,668	13,641	35,836	14,729			76,681
1970				1,347	1,001	340	5,183	15,236	39,150	7,502			69,759
1971				813	374	271	8,931	21,324	62,083	15,834			109,630
1972				1,614	393	130	8,155	20,548	46,393	16,587			93,820
1973				3,178	846	270	6,898	11,121	32,701	9,606			64,620
1974				847	715	681	4,093	5,242	8,648	6,706			26,932
1975				612	209	254	3,623	6,708	9,329	2,928			23,663
1976				936	1,372	1,949	5,772	16,145	22,423	5,403			54,000
1977				1,730	987	2,916	13,132	7,833	43,792	17,322			87,712
1978				1,266	701	1,832	3,444	4,863	15,627	5,708	1,299		34,740
1979			970	681	156	93	4,955	9,970	14,648	15,580	3,251		50,304
1980			1,753	3,355	608	381	2,740	14,431	27,706	12,776	2,774		66,524
1981			861	1,479	809	878	7,212	12,839	19,961	15,652	2,294		61,985
1982			1,530	1,764	825	321	4,279	12,621	36,282	17,477			75,099
1983				1,051	215	137	7,746	25,821	70,369	19,915			125,254
1984				1,858	860	653	13,165	14,944	68,837	33,608	1,590		135,515
1985			1,583	6,483	1,383	2,949	13,818	46,632	87,026	28,330			188,204
1986			1,282	1,184	414	1,193	27,563	32,339	74,769	54,737			193,481
1987				2,082	413	885	16,658	35,661	59,326	33,786			148,811
1988				4,176	1,095	2,117	11,609	25,875	69,259	37,634			151,765
1989				3,269	598	1,921	16,002	20,819	87,722	40,136			170,467
1990				2,754	660	1,489	9,105	10,368	33,452	37,233			95,061
1991				2,245	630	846	9,921	17,752	78,363	46,941	9,388	2,876	168,962
1992				1,427	642	1,921	10,989	15,504	127,626	35,917			194,026
1993				5,194	588	2,197	9,692	10,003	35,287	30,222			93,183
1994				2,622	336	1,169	7,436	5,468	40,871	36,525			94,427
Total	1,059	925	10,897	89,014	36,046	39,945	374,627	782,245	1,968,968	856,682	28,764	5,253	4,194,425
10-Year Avg.				3,144	676	1,669	13,279	22,042	69,370	38,146			149,839

TABLE 35

WILD STEELHEAD COUNTED AT  
MC NARY DAM 1994

Apr-94	MCNARY DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	48	44	4
2	106	95	11
3	77	72	5
4	49	48	1
5	61	61	0
6	30	32	-2
7	46	40	6
8	62	61	1
9	37	41	-4
10	64	59	5
11	24	24	0
12	53	43	10
13	37	31	6
14	38	37	1
15	21	17	4
16	35	25	10
17	13	11	2
18	38	32	6
19	34	32	2
20	23	18	5
21	17	17	0
22	20	16	4
23	16	17	-1
24	7	7	0
25	8	12	-4
26	5	5	0
27	5	5	0
28	17	17	0
29	9	8	1
30	7	7	0
<b>TOTAL</b>	<b>1,007</b>	<b>934</b>	<b>73</b>
<b>AVG.</b>	<b>34</b>	<b>31</b>	<b>2</b>

TOTAL TO DATE	WILD STEELHEAD
	1,007

May-94	MCNARY DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	10	10	0
2	7	8	-1
3	3	4	-1
4	6	5	1
5	6	2	4
6	0	0	0
7	0	0	0
8	1	1	0
9	1	0	1
10	3	1	2
11	1	1	0
12	2	1	1
13	1	1	0
14	5	5	0
15	1	1	0
16	1	0	1
17	1	1	0
18	0	0	0
19	0	0	0
20	0	0	0
21	2	1	1
22	0	0	0
23	2	0	2
24	0	0	0
25	2	2	0
26	-1	-1	0
27	0	0	0
28	2	0	2
29	1	0	1
30	1	0	1
31	1	0	1
<b>TOTAL</b>	<b>59</b>	<b>43</b>	<b>16</b>
<b>AVG.</b>	<b>2</b>	<b>1</b>	<b>1</b>

TOTAL TO DATE	WILD STEELHEAD
	1,066

TABLE 86

WILD STEELHEAD COUNTED AT  
MC NARY DAM 1994

Jun-94	MCNARY DAM Wild Steelhead	Oregon Ladder	Washington Ladder
1	0	0	0
2	0	0	0
3	1	0	1
4	2	1	1
5	3	2	1
6	1	1	0
7	1	1	0
8	5	5	0
9	1	1	0
10	1	1	0
11	4	4	0
12	3	1	2
13	7	6	1
14	2	1	1
15	3	2	1
16	6	4	2
17	10	6	4
18	4	4	0
19	11	6	5
20	7	5	2
21	8	8	0
22	1	0	1
23	6	5	1
24	12	4	8
25	17	10	7
26	12	10	2
27	15	10	5
28	31	20	11
29	11	6	5
30	32	16	16
<b>TOTAL</b>	<b>217</b>	<b>140</b>	<b>77</b>
<b>AVG.</b>	<b>7</b>	<b>5</b>	<b>3</b>

<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 1,283</b>
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Jul-94	MCNARY DAM Wild Steelhead	Oregon Ladder	Washington Ladder
1	44	28	16
2	43	23	20
3	21	13	8
4	33	20	13
5	36	29	7
6	31	20	11
7	63	53	10
8	29	22	7
9	30	23	7
10	49	26	23
11	49	32	17
12	64	46	18
13	63	53	10
14	81	58	23
15	125	78	47
16	121	102	19
17	96	82	14
18	89	66	23
19	139	108	31
20	113	91	22
21	116	90	26
22	110	92	18
23	114	91	23
24	108	91	17
25	108	54	54
26	158	73	85
27	154	107	47
28	155	108	47
29	177	82	95
30	137	65	72
31	114	72	42
<b>TOTAL</b>	<b>2,770</b>	<b>1,898</b>	<b>872</b>
<b>AVG.</b>	<b>89</b>	<b>61</b>	<b>28</b>

<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 4,053</b>
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TABLE 37

WILD STEELHEAD COUNTED AT  
MC NARY DAM 1994

Aug-94	MCNARY DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	45	35	10
2	35	19	16
3	35	17	18
4	36	11	25
5	56	31	25
6	56	30	26
7	43	29	14
8	57	40	17
9	43	12	31
10	39	20	19
11	33	19	14
12	30	20	10
13	30	22	8
14	30	16	14
15	24	12	12
16	45	26	19
17	28	16	12
18	27	10	17
19	36	16	20
20	30	18	12
21	27	19	8
22	21	17	4
23	23	16	7
24	14	10	4
25	34	22	12
26	33	19	14
27	29	17	12
28	38	20	18
29	66	37	29
30	100	36	64
31	46	26	20
<b>TOTAL</b>	<b>1,189</b>	<b>658</b>	<b>531</b>
<b>AVG.</b>	<b>38</b>	<b>21</b>	<b>17</b>

<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 5,242</b>
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Sep-94	MCNARY DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	38	12	26
2	44	22	22
3	79	25	54
4	71	48	23
5	59	37	22
6	54	24	30
7	162	23	139
8	299	96	203
9	355	162	193
10	157	73	84
11	209	85	124
12	243	109	134
13	193	91	102
14	258	118	140
15	357	154	203
16	268	89	179
17	246	103	143
18	275	149	126
19	267	143	124
20	264	142	122
21	272	193	79
22	312	182	130
23	354	268	86
24	368	259	109
25	248	162	86
26	168	114	54
27	138	60	78
28	216	106	110
29	196	108	88
30	304	190	114
<b>TOTAL</b>	<b>6,474</b>	<b>3,347</b>	<b>3,127</b>
<b>AVG.</b>	<b>216</b>	<b>112</b>	<b>104</b>

<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 11,716</b>
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TABLE 88

WILD STEELHEAD COUNTED AT  
MC NARY DAM 1994

Oct-94	MCNARY DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	197	131	66
2	215	148	67
3	178	119	59
4	204	140	64
5	230	151	79
6	161	97	64
7	301	192	109
8	284	198	86
9	190	140	50
10	192	133	59
11	373	284	89
12	328	287	41
13	177	148	29
14	238	179	59
15	126	108	18
16	130	112	18
17	96	67	29
18	106	68	38
19	143	109	34
20	161	137	24
21	325	295	30
22	168	118	50
23	125	94	31
24	46	40	6
25	121	90	31
26	96	76	20
27	107	82	25
28	169	128	41
29	129	113	16
30	77	64	13
31	93	68	25
TOTAL	5,486	4,116	1,370
AVG.	177	133	44
TOTAL TO DATE	WILD STEELHEAD 17,202		

# **SNAKE RIVER TABLES**

TABLE 89

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER ICE HARBOR DAM  
1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				717	2,268	1,183	289	170	1,693	1,257			7,577
STEELHEAD				3,040	126	394	3,295	3,162	16,702	24,985			51,704
SOCKEYE													
COHO										1			1
PINK													
MINI-JACK**						50	455	194	8			2	709
<b>TOTAL</b>				<b>3,757</b>	<b>2,394</b>	<b>1,627</b>	<b>4,039</b>	<b>3,526</b>	<b>18,403</b>	<b>26,245</b>			<b>59,991</b>
<b>SHAD</b>					<b>9</b>	<b>17,215</b>	<b>14,605</b>	<b>899</b>					<b>32,728</b>

\*Jacks included

\*\*Salmonid fish under 12 inches in length

TABLE 90

DISCHARGE AND WATER QUALITY DATA  
ICE HARBOR PROJECT - 1994

JANUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	18.3	0.0		
2	15.3	0.0		
3	17.1	0.0		
4	18.0	0.0		
5	21.0	0.0		
6	26.1	0.0		
7	21.1	0.0		
8	24.2	0.0		
9	20.4	0.0		
10	23.1	0.0		
11	20.1	0.0		
12	24.7	0.0		
13	22.9	0.0		
14	24.9	0.0		
15	24.9	0.0		
16	18.4	0.0		
17	27.5	0.0		
18	31.3	0.0		
19	39.2	0.0		
20	20.6	0.0		
21	17.1	0.0		
22	22.4	0.0		
23	13.8	0.0		
24	28.9	0.0		
25	23.3	0.0		
26	22.1	0.0		
27	23.3	0.0		
28	28.2	0.0		
29	18.8	0.0		
30	12.4	0.0		
31	20.6	0.0		

AVG. 22.3 0.0

FEBRUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	18.2	0.0		
2	24.6	0.0		
3	18.3	0.0		
4	17.8	0.0		
5	14.6	0.0		
6	16.4	0.0		
7	20.3	0.0		
8	32.3	0.0		
9	21.9	0.0		
10	23.7	0.0		
11	19.1	0.0		
12	21.8	0.0		
13	19.4	0.0		
14	21.2	0.0		
15	22.4	0.0		
16	24.4	0.0		
17	19.9	0.0		
18	21.5	0.0		
19	24.0	0.0		
20	24.0	0.0		
21	24.9	0.0		
22	19.2	0.0		
23	19.9	0.0		
24	26.2	0.0		
25	22.4	0.0		
26	25.7	0.0		
27	13.8	0.0		
28	19.3	0.0		

AVG. 21.3 0.0

MARCH			
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI
1	23.9	0.0	
2	21.4	0.0	
3	37.4	0.0	
4	34.7	0.0	
5	37.0	0.0	
6	38.2	0.0	
7	34.6	0.0	
8	43.6	0.0	
9	23.5	0.0	
10	22.7	0.0	
11	24.0	0.0	
12	27.5	0.0	
13	27.3	0.0	
14	28.1	0.0	
15	28.0	0.0	
16	26.6	0.0	
17	33.2	0.0	
18	39.4	0.0	
19	39.6	0.0	
20	35.5	0.0	
21	32.3	0.0	
22	34.2	0.0	
23	27.5	0.0	
24	25.2	0.0	
25	32.2	0.0	
26	16.3	0.0	
27	16.9	0.0	
28	25.6	0.0	
29	20.1	0.0	
30	20.7	0.0	
31	19.2	0.0	

AVG. 28.9 0.0

TABLE 91

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT  
APRIL 1994

DATE	FISH COUNTS						RIVER CONDITIONS							
	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	0			2				119			24.3	0.0	3.5	45.0
2	0			0				203			30.0	0.0	3.5	45.0
3	0			0				252			31.4	0.0	3.5	46.0
4	1			0				289			35.7	0.0	3.5	46.0
5	0			0				172			33.9	0.0	3.5	46.0
6	0			0				172			36.6	0.0	3.5	47.0
7	1			0				120			35.4	0.0	3.5	47.0
8	1			0				137			38.5	0.0	3.5	47.0
9	1			0				188			37.4	0.0	3.5	48.0
10	5			0				143			35.0	6.3	4.5	48.0
11	2			0				158			31.4	12.6	4.5	48.0
12	4			0				117			52.3	12.7	4.5	48.0
13	4			0				102			54.7	12.6	4.5	48.0
14	7			0				106			52.7	12.7	4.5	48.0
15	4			0				103			42.0	12.6	4.5	49.0
16	4			0				67			35.1	12.6	4.5	49.0
17	9			0				73			33.5	12.6	4.5	49.0
18	44			0				72			42.9	12.7	4.5	49.0
19	18			0				89			51.9	12.8	4.5	49.0
20	24			0				63			56.9	12.6	4.5	48.0
21	21			0				59			69.7	17.1	5.5	50.0
22	18			0				37			74.8	21.3	5.5	50.0
23	3			0				36			85.4	30.7	5.5	50.0
24	3			0				26			79.7	27.7	4.5	52.0
25	133			0				30			79.6	25.7	4.5	52.0
26	108			0				30			68.3	20.9	5.0	52.0
27	93			0				25			67.7	17.7	5.0	52.0
28	112			0				25			67.4	22.0	4.8	52.0
29	40			0				11			74.9	24.1	4.8	54.0
30	55			0				16			81.8	27.0	4.8	54.0
<b>TOTAL</b>	<b>715</b>			<b>2</b>				<b>3,040</b>			<b>51.4</b>	<b>12.2</b>	<b>4.4</b>	<b>48.9</b>
<b>AVG.</b>	<b>24</b>							<b>101</b>						

TABLE 92

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

FISH COUNTS

ICE HARBOR PROJECT  
MAY 1994  
RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1	76			1				10	0		80.6	25.1	4.5	55.0	
2	53			0				13	0		74.3	22.8	4.5	54.0	
3	147			0				7	0		73.4	25.1	4.1	54.0	
4	115			1				12	0		77.3	25.3	3.8	54.0	
5	68			0				10	0		76.8	23.4	3.8	53.0	
6	97			0				10	0		82.0	30.4	3.8	52.0	
7	102			0				4	0		75.3	22.0	3.7	53.0	
8	65			2				5	0		81.0	25.3	3.9	53.0	
9	57			0				1	0		88.7	33.3	4.8	53.0	
10	91			0				3	0		86.6	35.3	5.6	53.0	
11	120			0				2	0		94.0	37.8	5.6	54.0	
12	103			1				7	0		90.1	26.9	5.6	54.0	
13	136			4				6	0		90.3	25.0	5.6	53.0	
14	58			0				6	0		87.4	25.1	6.8	54.0	
15	46			0				1	0		74.1	25.1	6.8	55.0	
16	76			1				1	0		85.6	25.1	6.5	56.0	
17	73			0				1	1		73.1	25.1	6.5	56.0	
18	82			1				2	0		79.1	25.1	4.6	56.0	
19	78			1				0	0		70.4	25.1	4.6	58.0	
20	59			2				2	0		74.7	25.1	4.7	58.0	
21	46			0				0	0		71.2	25.1	5.1	58.0	
22	69			1				2	0		72.4	25.1	6.2	58.0	
23	67			2				2	0		72.5	25.1	6.0	57.0	
24	55			1				1	0		70.1	25.1	5.8	57.0	
25	35			5				1	1		80.5	25.1	5.8	57.0	
26	48			1				2	2		74.4	25.1	5.9	57.0	
27	30			1				2	0		73.5	25.1	5.9	57.0	
28	28			1				6	3		71.9	25.1	4.0	57.0	
29	59			1				6	0		62.9	25.1	4.0	57.0	
30	47			2				1	0		59.4	25.1	4.3	57.0	
31	53			0				0	2		57.3	25.1	4.3	57.0	
<b>TOTAL</b>	<b>2,239</b>			<b>29</b>				<b>126</b>	<b>9</b>						

AVG. 72

1

4

76.8 26.1 5.1 55.4

TOTALS TO DATE

CHINOOK ADULT	CHINOOK JACK
2,954	31

STEELHEAD	SHAD
3,166	9

SPRING	2,954	31
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TABLE 93

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT  
JUNE 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1	56			3				1	2	0	52.4	25.1	5.0	56.0	
2	48			2				5	1	0	50.8	25.1	5.2	56.0	
3	51			1				2	1	0	50.2	25.1	5.4	57.0	
4	49			3				8	5	0	47.4	25.1	5.0	57.0	
5	33			0				1	17	0	50.1	25.1	5.0	57.0	
6	37			1				3	24	0	45.4	25.0	4.5	58.0	
7	40			1				6	34	0	44.1	25.0	4.8	58.0	
8	21			2				3	96	2	44.1	25.1	4.5	58.0	
9	29			1				3	139	1	39.3	25.0	6.5	59.0	
10	40			5				8	126	4	40.0	25.0	6.3	59.0	
11	58			6				3	337	0	34.5	25.1	6.3	59.0	
12		51		1				4	575	0	35.2	25.0	6.3	60.0	
13		42		0				6	240	0	31.7	25.0	6.3	60.0	
14		35		5				11	256	4	49.5	25.0	6.3	60.0	
15		40		4				13	420	4	42.0	21.9	6.3	60.0	
16		26		4				12	457	0	44.0	12.5	6.3	60.0	
17		40		1				13	529	2	38.6	12.4	6.3	61.0	
18		44		2				12	522	2	41.0	12.4	6.6	61.0	
19		41		0				12	677	4	34.3	12.5	6.6	61.0	
20		32		1				7	756	1	35.4	12.5	6.6	61.0	
21		32		0				16	852	1	31.8	10.2	6.6	61.0	
22		25		2				16	1128	0	34.0	10.1	5.2	62.0	
23		36		2				20	983	0	32.6	8.8	5.2	62.0	
24		37		4				11	1291	3	31.7	5.0	5.2	62.0	
25		24		1				18	2160	1	26.6	5.0	5.7	62.0	
26		46		7				28	1378	6	28.4	5.0	5.7	63.0	
27		23		4				26	1050	0	25.6	5.0	6.8	62.0	
28		28		5				36	1238	5	30.7	5.0	6.6	61.0	
29		16		7				42	1101	5	21.2	5.0	6.8	64.0	
30		26		2				48	820	5	26.2	5.0	6.3	64.0	
<b>TOTAL</b>	<b>462</b>	<b>644</b>		<b>77</b>				<b>394</b>	<b>17,215</b>	<b>50</b>					
<b>AVG.</b>	<b>42</b>	<b>34</b>		<b>3</b>				<b>13</b>	<b>574</b>	<b>2</b>	<b>38.0</b>	<b>16.6</b>	<b>5.9</b>	<b>60.0</b>	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
	3,416	56
	644	52
<b>TOTAL</b>	<b>4,060</b>	<b>108</b>

STEELHEAD	SHAD	MINI-JCK
3,560	17,224	50

The camera on the north shore ladder was out of service from 1200 hrs on 16 June until 0900 hrs on 21 June.



TABLE 95

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

AUGUST 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1		0		0				187	83	27	12.4	0.0	6.0	68.0
2		5		0				106	73	21	12.1	0.0	7.7	68.0
3		3		1				75	49	8	10.9	0.0	7.7	68.0
4		2		0				57	73	10	10.9	0.0	7.2	69.0
5		2		0				72	63	7	11.1	0.0	7.3	69.0
6		0		1				53	94	13	12.3	0.0	7.5	68.0
7		0		0				85	94	2	12.1	0.0	7.5	68.0
8		0		1				84	56	11	12.4	0.0	7.5	67.0
9		0		0				123	43	5	17.3	0.0	7.0	67.0
10		0		0				89	47	14	12.3	0.0	7.0	67.0
11		3		0				99	45	6	12.4	0.0	7.2	67.0
12			1	0				111	46	2	11.4	0.0	7.0	67.0
13			1	0				44	30	5	11.6	0.0	7.3	67.0
14			2	0				55	14	7	12.4	0.0	7.6	67.0
15			4	0				77	14	5	11.8	0.0	7.7	67.0
16			2	1				78	14	0	11.4	0.0	7.2	67.0
17			5	0				98	21	5	13.3	0.0	7.2	67.0
18			2	0				106	9	10	13.2	0.0	7.6	66.0
19			6	1				144	8	4	12.9	0.0	7.4	67.0
20			6	4				107	5	2	14.3	0.0	7.4	67.0
21			6	0				115	7	0	13.8	0.0	7.4	67.0
22			6	1				118	5	5	11.8	0.0	7.4	67.0
23			6	2				92	0	6	12.1	0.0	7.4	67.0
24			5	0				80	4	1	13.1	0.0	7.6	67.0
25			12	1				86	0	0	16.2	0.0	7.6	67.0
26			6	0				78	0	4	14.2	0.0	7.6	67.0
27			8	4				106	0	2	14.2	0.0	7.6	67.0
28			13	1				137	0	6	12.6	0.0	7.6	67.0
29			22	2				156	0	4	12.7	0.0	7.6	67.0
30			1	1				147	2	2	13.0	0.0	7.6	67.0
31			19	1				197	0	0	12.8	0.0	7.7	67.0

TOTAL	15	133	22
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AVG.	1	7	
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TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	3,416	56
SUMMER	922	81
FALL	133	19
<b>TOTAL</b>	<b>4,471</b>	<b>156</b>

3,162	899	194
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102	29	6
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STEELHEAD	SHAD	MINI-JCK
10,017	32,728	699

12.7	0.0	7.4	67.3
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TABLE 96

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT  
SEPTEMBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			17	1				201		1	11.9	0.0	7.6	67.0
2			18	6				224		0	11.5	0.0	7.6	67.0
3			26	4				162		0	11.7	0.0	7.6	67.0
4			19	4				243		0	11.4	0.0	6.8	67.0
5			11	2				122		0	12.3	0.0	6.8	67.0
6			20	5				198		0	13.0	0.0	7.7	67.0
7			35	7				237		0	12.0	0.0	7.7	67.0
8			21	1				251		1	11.4	0.0	7.6	67.0
9			66	8				371		0	12.4	0.0	7.6	67.0
10			79	8				756		0	12.7	0.0	7.5	66.0
11			41	11				657		0	12.0	0.0	7.5	66.0
12			25	4				495		0	12.1	0.0	7.5	66.0
13			39	5				628		2	12.0	0.0	7.3	67.0
14			18	6				400		2	14.2	0.0	7.4	67.0
15			45	9				794		0	12.5	0.0	5.8	68.0
16			50	15				648		0	12.6	0.0	6.4	68.0
17			49	11				847		0	12.7	0.0	6.4	68.0
18			54	17				663		0	13.4	0.7	6.8	68.0
19			34	4				579		0	13.0	0.7	6.8	68.0
20			33	7				909		0	13.0	0.0	6.8	68.0
21			28	20				705		0	11.2	0.0	7.0	68.0
22			55	18				547		0	15.2	0.7	7.0	68.0
23			61	27				888		0	17.6	0.0	7.6	68.0
24			82	47				671		0	13.9	0.7	7.6	68.0
25			61	17				802		0	12.0	0.7	7.6	68.0
26			88	42				668		2	13.2	0.0	7.6	68.0
27			34	24				480		0	14.3	0.7	7.6	68.0
28			57	21				657		0	13.0	0.0	7.6	68.0
29			35	31				894		0	12.3	0.7	7.6	68.0
30			67	43				1005		0	10.4	0.0	7.6	68.0
<b>TOTAL</b>			<b>1,268</b>	<b>425</b>				<b>16,702</b>		<b>8</b>				
<b>AVG.</b>			<b>48</b>	<b>14</b>				<b>557</b>			<b>12.7</b>	<b>0.2</b>	<b>7.3</b>	<b>67.4</b>

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	3,416	56
SUMMER	922	81
FALL	1,401	444
<b>TOTAL</b>	<b>5,739</b>	<b>581</b>

STEELHEAD	SHAD	MINI-JCK
26,719	32,728	707

TABLE 97

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT  
OCTOBER 1994

DATE	FISH COUNTS					RIVER CONDITIONS								
	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			42	31	0			676		0	11.8	0.0	7.0	68.0
2			79	34	0			880		0	11.3	0.7	7.0	67.0
3			46	24	0			890		0	10.5	0.0	7.0	67.0
4			32	32	0			631		0	11.4	0.7	5.0	66.0
5			31	23	0			903		0	11.6	0.0	5.0	66.0
6			35	30	0			809		0	12.6	0.7	5.0	66.0
7			23	27	0			703		0	15.1	0.0	5.0	66.0
8			68	30	0			618		0	15.5	0.7	5.0	66.0
9			31	35	0			701		0	12.9	0.0	5.0	66.0
10			32	36	0			1023		0	12.9	0.7	5.0	66.0
11			16	26	0			1179		0	17.1	0.0	5.8	66.0
12			31	21	0			1089		0	16.4	0.7	5.8	66.0
13			19	21	0			1078		0	19.7	0.0	6.0	66.0
14			10	12	0			960		0	18.4	0.7	5.2	66.0
15			8	21	0			1286		0	20.5	0.0	5.0	65.0
16			18	22	0			899		0	29.0	0.7	5.0	65.0
17			15	21	0			861		0	22.7	0.7	5.0	64.0
18			12	17	0			1049		1	26.4	0.0	5.0	64.0
19			13	18	0			841		0	21.8	0.0	5.4	63.0
20			12	13	1			1126		1	13.0	0.7	5.4	62.0
21			16	14	0			878		0	25.4	0.0	5.4	62.0
22			15	10	0			942		0	19.9	0.7	6.0	61.0
23			8	8	0			1133		0	13.7	0.7	5.6	61.0
24			9	10	0			482		0	14.9	0.0	5.6	61.0
25			11	8	0			441		0	15.2	0.0	5.6	61.0
26			6	14	0			641		0	15.5	0.5	5.6	60.0
27			6	4	0			403		0	14.9	0.0	5.6	60.0
28			4	11	0			625		0	18.1	0.6	5.6	59.0
29			7	4	0			453		0	14.7	0.0	5.6	59.0
30			8	6	0			408		0	17.3	0.6	5.6	59.0
31			5	6	0			377		0	21.4	0.0	5.6	58.0

TOTAL

668 589 1

24,985

2

AVG.

22 19

806

16.8 0.3 5.5 63.6

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	3,416	56
SUMMER	922	81
FALL	2,069	1,033
TOTAL	6,407	1,170

COHO ADULT
1

STEELHEAD	SHAD	MINI-JCK
51,704	32,728	709

TOTAL

6,407 1,170

TABLE 98

DISCHARGE AND WATER QUALITY DATA  
ICE HARBOR PROJECT - 1994

NOVEMBER				DECEMBER			
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SEC/DEG F	DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SEC/DEG F
1	16.5	0.6		1	14.5	0.7	
2	17.2	0.0		2	17.6	0.0	
3	19.9	0.7		3	14.3	0.0	
4	15.3	0.7		4	18.1	0.0	
5	12.9	0.0		5	21.5	0.0	
6	14.8	0.0		6	18.6	0.0	
7	14.1	0.7		7	16.0	0.0	
8	14.0	0.0		8	16.3	0.0	
9	14.4	0.7		9	17.1	0.0	
10	16.6	0.0		10	18.1	0.0	
11	17.6	0.7		11	15.7	0.0	
12	8.5	0.7		12	16.2	0.0	
13	11.3	0.0		13	16.2	0.0	
14	17.3	0.0		14	17.6	0.0	
15	15.7	0.7		15	20.3	0.0	
16	19.6	0.0		16	20.7	0.0	
17	17.9	0.7		17	19.6	0.0	
18	17.0	0.6		18	15.6	0.0	
19	9.9	0.0		19	27.5	0.0	
20	9.8	0.0		20	21.8	0.0	
21	12.2	0.6		21	15.8	0.0	
22	12.1	0.6		22	23.7	0.0	
23	11.4	0.0		23	23.5	0.0	
24	9.4	0.6		24	18.2	0.0	
25	10.0	0.0		25	15.8	0.0	
26	15.4	0.0		26	21.1	0.0	
27	9.1	0.6		27	22.1	0.0	
28	14.1	0.6		28	25.2	0.0	
29	14.7	0.0		29	20.2	0.0	
30	17.6	0.0		30	22.4	0.0	
				31	25.6	0.0	
AVG.	14.2	0.3		AVG.	19.3	0.0	

TABLE 99

**YEARLY TOTALS OF SALMONIDS COUNTED OVER  
ICE HARBOR DAM  
1962-1994**

<b>YEAR</b>	<b>CHINOOK *</b>	<b>STEELHEAD</b>	<b>SOCKEYE</b>	<b>COHO *</b>	<b>TOTALS*</b>
1962	94,301	115,796	38	3,207	213,342
1963	61,190	74,539	1,118	1,933	138,780
1964	60,097	58,860	1,276	2,071	122,304
1965	39,233	62,873	317	320	102,743
1966	75,882	65,798	278	878	142,836
1967	84,930	44,205	717	3,770	133,622
1968	98,681	82,383	1,165	6,227	188,456
1969	100,514	63,889	745	5,316	170,464
1970	77,698	53,870	797	3,636	136,001
1971	70,248	67,029	532	2,969	140,778
1972	82,632	63,593	363	2,522	149,110
1973	81,821	38,311	233	2,443	122,808
1974	32,444	12,528	204	1,334	46,510
1975	31,686	16,218	243	1,559	49,706
1976	36,556	23,885	771	1,991	63,203
1977	56,514	54,820	582	1,561	113,477
1978	61,352	27,142	86	652	89,232
1979	13,929	23,117	30	398	37,474
1980	14,717	50,221	36	58	65,032
1981	22,092	41,290	142	82	63,606
1982	22,646	73,405	174	348	96,573
1983	20,259	88,475	216	465	109,415
1984	17,757	94,030	105	22	111,914
1985	47,981	128,481	24	10	176,496
1986	52,615	144,292	20		196,927
1987	47,477	74,491	13		121,981
1988	48,066	99,714	22		147,802
1989	27,234	151,101	4		178,339
1990	31,841	54,758	1	1	86,601
1991	23,175	123,762	9	1	146,947
1992	36,021	160,614	33		196,668
1993	34,991	73,107	17		108,115
1994	7,577	51,704		1	59,282
<b>Totals</b>	<b>1,614,157</b>	<b>2,358,301</b>	<b>10,311</b>	<b>43,775</b>	<b>4,026,544</b>
<b>10-Year Average</b>	<b>35,698</b>	<b>106,202</b>	<b>14</b>		<b>141,916</b>

\*Jacks included

TABLE 100

MONTHLY COUNT OF CHINOOK SALMON  
ICE HARBOR DAM; 1962 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL
														1 APR- 11 JUN	12 JUN- 11 AUG	12 AUG- 31 OCT
1962				2,579	28,951	23,250	8,315	3,547	20,578	7,081			94,301	33,613	30,639	30,049
1963				3,434	21,790	14,001	7,591	1,415	9,342	2,918			61,190	26,778	20,875	13,537
1964		1	2	4,048	19,611	5,409	18,832	2,161	8,159	1,701	677	22	60,097	24,304	24,696	11,097
1965			4	1,677	9,649	5,072	10,209	803	9,318	2,152	156	17	39,233	12,178	14,701	12,354
1966				23,382	19,294	10,611	7,166	1,933	10,756	2,740			75,882	43,881	16,983	15,018
1967				15,973	18,137	9,020	22,218	820	11,947	6,815			84,930	35,593	30,315	19,022
1968				1,595	41,398	12,119	17,751	3,433	16,588	5,275	493	29	98,681	44,773	29,531	24,377
1969			195	697	43,181	24,918	12,861	2,369	12,027	3,555	708	3	100,514	52,090	30,917	17,507
1970				12,167	33,881	12,338	8,185	1,747	7,702	1,456	219	3	77,698	47,931	19,382	10,385
1971				1,104	25,089	19,265	13,364	873	8,960	1,593			70,248	32,638	26,606	11,004
1972				14,535	34,734	7,544	15,177	1,869	6,089	2,684			82,632	50,350	22,846	9,436
1973				34,277	23,627	10,925	4,254	840	6,657	1,241			81,821	60,639	12,829	8,353
1974				842	16,670	5,315	6,494	483	2,066	574			32,444	19,361	10,269	2,814
1975				1,314	17,796	5,817	3,972	506	1,875	406			31,686	21,401	7,727	2,558
1976				3,146	19,269	8,544	3,921	349	1,123	204			36,556	25,056	10,026	1,474
1977				24,003	17,626	9,328	3,606	297	1,370	284			56,514	44,421	10,337	1,756
1978				14,891	29,333	9,999	4,888	892	1,064	269	16		61,352	49,303	10,440	1,609
1979				1,731	6,528	2,234	1,216	379	1,489	333	19		13,929	9,247	2,608	2,074
1980				1,678	7,321	2,285	1,569	301	1,034	504	25		14,717	9,668	3,305	1,744
1981			1	6,744	8,542	2,884	1,751	161	1,530	470		9	22,092	16,167	3,814	2,111
1982			3	656	11,543	4,522	2,347	283	2,601	691			22,646	14,600	4,527	3,519
1983				1,925	9,418	4,132	1,921	316	1,945	602			20,259	12,602	4,922	2,735
1984				823	7,292	5,353	1,943	223	1,762	361			17,757	9,183	6,307	2,267
1985				12,245	18,334	6,885	1,294	546	5,414	3,263			47,981	33,527	5,290	9,164
1986			1	14,764	22,026	8,299	1,672	169	3,664	2,021			52,615	39,087	7,745	5,783
1987				11,141	18,821	6,550	2,437	329	6,089	2,110			47,477	32,083	6,982	8,412
1988				14,274	17,196	8,609	1,904	702	3,621	1,760			48,066	34,394	7,790	5,882
1989				3,307	11,724	4,946	1,143	776	3,917	1,421			27,234	17,029	4,215	5,990
1990				7,578	12,166	5,353	1,337	320	3,315	1,773			31,842	20,730	5,794	5,317
1991				1,639	7,953	5,367	2,101	155	4,053	1,907			23,175	11,288	5,861	6,026
1992				11,462	12,001	5,791	1,189	228	3,716	1,634			36,021	26,114	4,377	5,530
1993				5,776	15,879	8,705	1,405	338	2,087	801			34,991	24,935	6,919	3,137
1994				717	2,268	1,183	289	170	1,693	1,257			7,577	3,472	1,003	3,102
<b>TOTAL</b>		<b>1</b>	<b>206</b>	<b>256,124</b>	<b>609,047</b>	<b>276,573</b>	<b>194,322</b>	<b>29,733</b>	<b>183,551</b>	<b>61,856</b>	<b>2,671</b>	<b>74</b>	<b>1,814,158</b>	<b>938,436</b>	<b>410,578</b>	<b>265,143</b>
<b>10-Year Avg.</b>				<b>8,290</b>	<b>13,837</b>	<b>6,169</b>	<b>1,477</b>	<b>373</b>	<b>3,757</b>	<b>1,795</b>			<b>35,698</b>	<b>24,266</b>	<b>5,598</b>	<b>5,834</b>

\*Jacks included

TABLE 101

MONTHLY COUNT OF STEELHEAD  
ICE HARBOR DAM  
1962-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
1962				8,758	716	261	2,384	7,450	75,924	20,303			115,796
1963				969	895	163	2,157	6,514	35,382	24,070	4,042	347	74,539
1964	105	136	796	2,269	807	153	1,596	9,462	34,435	7,357	1,347	397	58,860
1965	31	110	673	1,976	488	439	3,739	4,497	33,595	13,522	3,803		62,873
1966				2,161	810	413	1,383	2,517	40,185	18,329			65,798
1967				1,266	894	345	972	953	18,914	20,861			44,205
1968				2,558	2,933	357	952	8,107	45,552	17,270	3,692	962	82,383
1969	132	41	807	4,971	2,430	321	3,348	5,715	27,219	14,953	3,874	78	63,889
1970				1,597	1,067	389	2,620	7,611	30,101	8,290	1,891	304	53,870
1971			458	1,938	843	215	3,064	2,996	42,481	15,034			67,029
1972				1,853	553	152	3,062	6,503	34,134	17,336			63,593
1973				1,570	827	254	1,785	2,699	22,021	9,155			38,311
1974				972	359	104	1,482	2,202	3,661	3,748			12,528
1975				564	409	76	1,223	3,878	6,816	3,252			16,218
1976				508	142	165	1,714	5,138	11,141	5,077			23,885
1977				685	220	308	3,654	3,017	30,610	16,326			54,820
1978				908	88	43	1,308	2,907	15,094	6,092	702		27,142
1979			454	538	114	60	1,995	1,778	6,136	9,717	2,325		23,117
1980			1,420	2,796	563	39	1,303	4,333	22,064	15,424	2,279		50,221
1981			797	1,106	433	137	2,305	1,431	16,563	16,669	1,849		41,290
1982			1,471	1,931	918	45	2,564	8,895	30,574	27,007			73,405
1983				1,001	150	36	3,773	9,875	48,519	25,121			88,475
1984				2,218	488	49	4,103	4,554	50,638	31,980			94,030
1985			1,892	7,353	439	306	3,070	14,468	75,378	25,575			128,481
1986			2,561	1,642	187	174	6,600	8,679	63,598	60,851			144,292
1987				2,136	235	262	3,292	4,972	28,491	35,103			74,491
1988				4,865	580	671	3,251	5,955	46,838	37,554			99,714
1989				4,326	355	487	7,399	8,916	80,799	48,819			151,101
1990				2,793	148	252	2,631	2,000	18,728	28,206			54,758
1991				2,297	256	166	3,254	1,275	55,447	61,067			123,762
1992				1,433	232	742	4,190	8,137	89,281	56,599			160,614
1993				7,418	287	745	5,896	8,086	21,614	29,061			73,107
1994				3,040	126	394	3,295	3,162	16,702	24,985			51,704
Totals	268	287	#####	82,416	19,992	8,723	95,364	178,682	1,178,635	754,713	25,804	2,088	2,358,301
10-Year Average				3,730	285	420	4,288	6,565	49,688	40,782			106,202

TABLE 102

WILD STEELHEAD COUNTED AT  
ICE HARBOR DAM 1994

Apr-94	ICE HARBOR DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	49	47	2
2	62	52	10
3	77	70	7
4	77	72	5
5	52	50	2
6	52	47	5
7	30	30	0
8	40	35	5
9	59	54	5
10	52	50	2
11	45	43	2
12	47	41	6
13	26	22	4
14	46	42	4
15	27	25	2
16	26	25	1
17	24	19	5
18	33	29	4
19	20	19	1
20	27	26	1
21	25	20	5
22	22	10	12
23	19	11	8
24	7	7	0
25	13	6	7
26	16	8	8
27	15	8	7
28	12	11	1
29	7	6	1
30	10	6	4
<b>TOTAL.</b>	<b>1,017</b>	<b>891</b>	<b>126</b>
<b>AVG.</b>	<b>34</b>	<b>30</b>	<b>4</b>

<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 1,017</b>
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May-94	ICE HARBOR DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	4	2	2
2	10	4	6
3	5	1	4
4	6	5	1
5	6	4	2
6	6	2	4
7	3	2	1
8	2	0	2
9	0	0	0
10	1	1	0
11	1	0	1
12	6	4	2
13	6	2	4
14	3	2	1
15	0	0	0
16	1	1	0
17	1	1	0
18	1	1	0
19	0	0	0
20	0	0	0
21	0	0	0
22	1	1	0
23	1	0	1
24	0	0	0
25	0	0	0
26	1	0	1
27	1	1	0
28	0	0	0
29	1	0	1
30	0	0	0
31	0	0	0
<b>TOTAL</b>	<b>67</b>	<b>34</b>	<b>33</b>
<b>AVG.</b>	<b>2</b>	<b>1</b>	<b>1</b>

<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 1,084</b>
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TABLE 103

WILD STEELHEAD COUNTED AT  
ICE HARBOR DAM 1994

Jun-94	ICE HARBOR DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	0	0	0
2	1	1	0
3	0	0	0
4	1	1	0
5	0	0	0
6	0	0	0
7	0	0	0
8	2	1	1
9	0	0	0
10	0	0	0
11	0	0	0
12	1	0	1
13	4	4	0
14	0	0	0
15	2	2	0
16	4	4	0
17	1	1	0
18	1	1	0
19	0	0	0
20	2	2	0
21	1	1	0
22	8	7	1
23	4	4	0
24	4	4	0
25	2	1	1
26	2	0	2
27	6	4	2
28	6	6	0
29	9	8	1
30	16	11	5
TOTAL	77	63	14
AVG.	3	2	0
TOTAL TO DATE	WILD STEELHEAD 1,161		

Jul-94	ICE HARBOR DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	12	11	1
2	11	10	1
3	19	17	2
4	14	12	2
5	15	14	1
6	18	14	4
7	14	7	7
8	13	7	6
9	17	11	6
10	23	16	7
11	34	18	16
12	25	20	5
13	20	16	4
14	17	12	5
15	32	25	7
16	30	16	14
17	31	24	7
18	22	18	4
19	21	16	5
20	23	17	6
21	26	18	8
22	32	19	13
23	27	11	16
24	34	11	23
25	41	16	25
26	24	17	7
27	43	17	26
28	31	17	14
29	33	19	14
30	47	22	25
31	51	23	28
TOTAL	800	491	309
AVG.	26	16	10
TOTAL TO DATE	WILD STEELHEAD 1,961		

TABLE 104

WILD STEELHEAD COUNTED AT  
ICE HARBOR DAM 1994

Aug-94	ICE HARBOR DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	32	24	8
2	12	10	2
3	13	13	0
4	8	6	2
5	11	10	1
6	13	11	2
7	19	13	6
8	18	13	5
9	18	11	7
10	9	7	2
11	20	18	2
12	14	12	2
13	5	5	0
14	10	6	4
15	17	16	1
16	18	13	5
17	24	20	4
18	10	8	2
19	23	16	7
20	25	24	1
21	23	18	5
22	30	29	1
23	13	13	0
24	8	7	1
25	11	10	1
26	14	13	1
27	10	10	0
28	14	12	2
29	22	22	0
30	31	30	1
31	31	30	1
<b>TOTAL</b>	<b>526</b>	<b>450</b>	<b>76</b>
<b>AVG.</b>	<b>17</b>	<b>15</b>	<b>2</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 2,487</b>		

Sep-94	ICE HARBOR DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	28	23	5
2	20	18	2
3	17	17	0
4	27	26	1
5	13	11	2
6	37	35	2
7	29	28	1
8	39	38	1
9	53	53	0
10	144	139	5
11	96	91	5
12	61	61	0
13	86	82	4
14	58	50	8
15	94	90	4
16	100	94	6
17	139	125	14
18	100	90	10
19	96	58	38
20	101	94	7
21	92	74	18
22	81	65	16
23	122	109	13
24	97	80	17
25	128	121	7
26	108	98	10
27	50	42	8
28	96	82	14
29	121	109	12
30	113	97	16
<b>TOTAL</b>	<b>2,346</b>	<b>2,100</b>	<b>246</b>
<b>AVG.</b>	<b>78</b>	<b>70</b>	<b>8</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 4,833</b>		

TABLE 105

WILD STEELHEAD COUNTED AT  
ICE HARBOR DAM 1994

Oct-94	ICE HARBOR DAM	Oregon Ladder	Washington Ladder
	Wild Steelhead		
1	81	67	14
2	114	109	5
3	102	84	18
4	81	53	28
5	92	78	14
6	93	73	20
7	88	83	5
8	64	56	8
9	78	76	2
10	152	148	4
11	170	162	8
12	157	151	6
13	138	128	10
14	125	113	12
15	187	185	2
16	153	139	14
17	85	79	6
18	147	145	2
19	126	124	2
20	156	150	6
21	134	130	4
22	163	157	6
23	181	161	20
24	68	66	2
25	60	56	4
26	86	82	4
27	59	58	1
28	106	100	6
29	68	67	1
30	59	54	5
31	59	55	4
TOTAL	3,432	3,189	243
AVG.	111	103	8
TOTAL TO DATE	WILD STEELHEAD 8,265		

TABLE 106

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Night Counts @ Ice Harbor

April 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JK
	SPRING	SUMMER	FALL							
1	0						4	32		
2	0						7	43		
3	0						16	67		
4	0						6	22		
5	0						5	30		
6	0						4	18		
7	1						8	24		
8	0						6	36		
9	0						8	15		
10	1						8	21		
11	1						11	29		
12	0						2	7		
13	0						4	17		
14	0						5	18		
15	0						5	14		
16	0						3	12		
17	0						5	11		
18	0						6	18		
19	3						11	18		
20	0						2	4		
21	0						2	4		
22	0						1	5		
23	2						1	2		
24	0						1	2		
25	0						1	2		
26	0						2	4		
27	0						2	4		
28	0						0	1		
29	0						2	3		
30	0						3	3		
<b>TOTAL</b>	<b>20</b>						<b>141</b>	<b>486</b>		
<b>AVG</b>							<b>5</b>	<b>16</b>		
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>				<b>WILD STEELHEAD</b>	<b>STEELHEAD</b>		
	<b>SPRING</b>	<b>20</b>	<b>0</b>				<b>141</b>	<b>486</b>		

Video counting took place between 2000 and 0400 hrs. PST.

TABLE 107

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Night Counts @ Ice Harbor

May 1994

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JK
1	2			0			0	1	0	
2	0			0			0	2	0	
3	2			0			0	1	0	
4	3			0			2	2	0	
5	3			0			1	3	0	
6	6			0			0	1	0	
7	2			0			0	0	0	
8	2			0			0	1	0	
9	2			0			0	1	0	
10	5			0			0	0	0	
11	5			0			0	0	0	
12	3			0			0	2	0	
13	4			1			0	1	0	
14	4			0			1	1	0	
15	5			0			0	0	0	
16	0			0			0	3	0	
17	4			2			1	2	0	
18	6			0			0	0	2	
19	2			0			0	0	1	
20	2			0			0	0	1	
21	3			0			1	1	0	
22	3			1			0	0	2	
23	2			0			0	0	1	
24	4			0			0	1	1	
25	1			0			0	0	0	
26	1			1			0	0	1	
27	1			0			0	1	0	
28	0			0			0	2	1	
29	2			1			0	1	0	
30	1			0			1	1	0	
31	2			0			0	0	0	
<b>TOTAL</b>	<b>82</b>			<b>6</b>			<b>7</b>	<b>28</b>	<b>10</b>	
<b>AVG</b>	<b>3</b>							<b>1</b>		
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>				<b>WILD STEELHEAD</b>	<b>STEELHEAD</b>	<b>SHAD</b>	
	<b>SPRING</b>	<b>102</b>	<b>6</b>				<b>148</b>	<b>514</b>	<b>10</b>	

Video counting took place between 2000 and 0400 hrs. PST.

TABLE 108

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Night Counts @ Ice Harbor

June 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JK
	SPRING	SUMMER	FALL							
1	3			1			0	1	5	0
2	0			0			0	3	2	0
3	4			0			0	1	3	0
4	3			0			0	0	1	0
5	2			1			0	0	9	0
6	1			0			0	1	5	0
7	7			0			0	0	56	0
8	0			0			0	0	49	0
9	0			0			0	3	73	0
10	0			0			0	2	57	0
11	0			0			0	2	122	1
12		0		0			0	1	150	0
13		4		0			0	2	59	0
14		1		0			1	3	93	0
15		1		0			0	2	118	0
16		2		0			0	0	130	0
17		0		0			0	1	133	1
18		1		0			0	2	141	0
19		1		0			0	0	294	0
20		2		0			0	0	276	0
21		0		0			0	2	354	1
22		2		0			0	1	493	0
23		2		0			0	0	324	0
24		2		0			0	1	523	0
25		1		0			0	1	558	1
26		11		1			0	2	559	0
27		0		0			0	2	305	0
28		0		0			0	1	304	2
29		0		0			0	2	383	0
30		1		0			0	2	657	2
<b>TOTAL</b>	<b>20</b>	<b>56</b>		<b>3</b>			<b>1</b>	<b>38</b>	<b>6,236</b>	<b>8</b>
<b>AVG</b>	<b>2</b>	<b>2</b>						<b>21</b>	<b>99</b>	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	SOCKEYE
SPRING	122	9	1
SUMMER	56	3	
<b>TOTAL</b>	<b>178</b>	<b>12</b>	

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JK	SOCKEYE
149	552	6,246	8	1

Video counting took place between 2000 and 0400 hrs. PST.  
There was one sockeye salmon in the south llder on 22 June.

TABLE 109

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Night Counts @ Ice Harbor

July 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JK
	SPRING	SUMMER	FALL							
1		1		0			0	4	512	0
2		1		0			0	3	504	0
3		1		0			0	3	705	0
4		1		0			0	2	637	2
5		0		0			1	2	404	3
6		1		0			0	1	398	2
7		0		0			0	1	512	3
8		0		0			0	1	463	4
9		1		0			1	2	501	1
10		0		1			1	7	420	1
11		0		0			0	3	391	1
12		2		0			0	0	529	2
13		0		0			0	2	604	1
14		1		0			0	0	375	3
15		0		0			1	1	292	5
16		0		0			4	8	341	5
17		0		0			2	8	401	3
18		1		0			2	2	305	2
19		1		0			0	0	323	2
20		0		0			3	11	198	3
21		0		0			1	4	243	2
22		0		0			3	3	191	0
23		0		0			0	0	246	4
24		0		0			2	2	116	6
25		0		0			0	0	135	1
26		0		0			3	3	132	2
27		0		0			0	2	121	3
28		0		0			0	0	109	2
29		0		0			0	0	56	5
30		0		0			1	2	98	3
31		0		0			2	2	66	4
<b>TOTAL</b>		<b>11</b>		<b>1</b>			<b>27</b>	<b>79</b>	<b>10,328</b>	<b>75</b>

AVG

1 3 333 2

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	122	9
SUMMER	67	4
<b>TOTAL</b>	<b>189</b>	<b>13</b>

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK	SOCKEYE
176	631	16,564	83	1

Video counting took place between 2000 and 0400 hrs. PST.

TABLE 110

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Night Counts @ Ice Harbor

August 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JK
	SPRING	SUMMER	FALL							
1		0		0			0	1	68	4
2		0		0			0	1	89	2
3		0		0			0	1	123	4
4		0		0			0	1	78	2
5		0		0			0	1	51	2
6		0		0			0	3	45	6
7		0		0			1	3	91	2
8		0		0			2	1	52	1
9		0		0			0	4	100	0
10		0		0			2	12	49	1
11		0		0			0	1	41	5
12			1	0			0	3	29	2
13			0	0			0	0	34	3
14			0	0			0	0	26	4
15			0	0			0	1	38	1
16			0	0			0	16	42	0
17			1	0			0	3	29	2
18			0	0			0	2	45	3
19			0	1			0	4	20	4
20			0	0			1	4	26	2
21			0	0			0	3	6	1
22			0	0			0	2	32	4
23			0	0			1	7	23	2
24			0	0			1	7	36	3
25			0	0			0	5	13	3
26			0	0			0	3	7	5
27			0	0			0	5	6	1
28			0	0			1	7	41	4
29			0	0			2	4	22	1
30			0	0			1	8	17	2
31			1	0			0	17	13	3
<b>TOTAL</b>			<b>3</b>	<b>1</b>			<b>12</b>	<b>130</b>	<b>1,292</b>	<b>79</b>

AVG

4 42 3

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	122	9
SUMMER	67	5
FALL	3	1

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK	SOCKEYE
188	761	17,856	162	1

<b>TOTAL</b>	<b>TOTAL</b>	<b>192</b>	<b>15</b>
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Video counting took place between 2000 and 0400 hrs. PST.

TABLE 111

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Night Counts @ Ice Harbor

September 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JK
	SPRING	SUMMER	FALL							
1			3	0			0	5		2
2			0	0			0	6		0
3			2	0			2	22		1
4			5	0			0	9		2
5			2	0			5	18		7
6			0	0			0	10		2
7			0	0			0	16		3
8			2	0			0	19		4
9			0	0			6	50		3
10			1	1			5	36		2
11			3	1			3	35		4
12			0	0			12	38		2
13			2	0			3	37		2
14			1	2			9	76		3
15			3	1			9	60		4
16			4	0			6	27		1
17			2	1			4	53		0
18			0	1			3	42		1
19			3	0			8	61		0
20			2	0			10	50		1
21			3	1			9	42		0
22			2	1			4	42		3
23			3	2			14	102		0
24			4	2			6	46		0
25			3	0			13	75		3
26			0	5			7	76		1
27			1	3			5	109		0
28			5	4			6	66		2
29			6	4			9	73		0
30			2	1			3	52		1
<b>TOTAL</b>			<b>64</b>	<b>30</b>			<b>161</b>	<b>1,353</b>		<b>54</b>
<b>AVG</b>			<b>2</b>	<b>1</b>			<b>5</b>	<b>45</b>		<b>2</b>

TOTALS TO DATE	CHINOOK	
	ADULT	JACK
SPRING	122	30
SUMMER	67	5
FALL	67	31
<b>TOTAL</b>	<b>256</b>	<b>66</b>

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK	SOCKEYE
349	2,114	17,856	216	1

Video counting took place between 2000 and 0400 hrs. PST.

TABLE 112

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Night Counts @ Ice Harbor

October 1994

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI JCK
	SPRING	SUMMER							
1			5		3	6	44		1
2			3		2	7	79		0
3			1		0	11	111		2
4			3		5	0	141		0
5			2		0	20	234		0
6			4		1	14	118		0
7			5		2	11	110		0
8			2		1	12	76		0
9			0		1	7	64		3
10			3		0	12	101		0
11			1		1	11	144		0
12			2		0	6	82		0
13			0		5	4	68		0
14			0		4	13	145		2
15			2		0	38	238		1
16			2		5	10	107		0
17			1		1	12	86		1
18			0		0	23	144		0
19			1		0	10	96		0
20			3		1	10	91		0
21			1		0	15	110		0
22			0		1	20	182		0
23			3		2	5	73		1
24			3		3	9	81		0
25			1		0	5	59		0
26			0		0	6	35		0
27			4		0	14	127		0
28			2		0	6	36		0
29			1		0	18	111		0
30			1		1	3	50		0
31			0		0	3	20		0
<b>TOTAL</b>			<b>56</b>		<b>39</b>	<b>367</b>	<b>3,163</b>		<b>11</b>
<b>AVG</b>			<b>2</b>		<b>1</b>	<b>11</b>	<b>102</b>		

TOTALS TO DATE	CHINOOK	
	ADULT	JACK
SPRING	122	30
SUMMER	67	5
FALL	123	70
<b>TOTAL</b>	<b>312</b>	<b>105</b>

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK	SOCKEYE
716	5,277	17,856	227	1

Video counting took place between 2000 and 0400 hrs. PST.

TABLE 113

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Night Counts @ Ice Harbor

November 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD		SHAD	MINI-JK
	SPRING	SUMMER	FALL				STEELHEAD	SHAD		
1			9	0			83	585		0
2			4	3			49	268		0
3			4	2			66	361		1
4			4	2			82	477		0
5			6	5			83	662		0
6			2	0			64	416		0
7			1	3			30	212		0
8			3	0			36	289		0
9			4	0			64	400		0
10			0	1			53	379		1
11			1	1			42	225		0
12			0	1			47	245		0
13			1	0			45	257		0
14			1	0			45	259		0
15			0	1			40	247		0
16			1	0			53	265		0
17			3	0			58	253		0
18			3	1			43	213		1
19			2	0			28	164		2
20			1	0			28	228		0
21			0	0			23	143		0
22			1	0			24	110		0
23			0	0			13	99		0
24			0	0			20	83		0
25			0	0			8	43		0
26			1	0			13	63		0
27			0	0			5	31		0
28			0	0			4	29		0
29			1	0			2	42		0
30			0	0			4	38		0
<b>TOTAL</b>			<b>53</b>	<b>20</b>			<b>1,155</b>	<b>7,086</b>		<b>5</b>

AVG

2

39

236

TOTALS TO DATE

	CHINOOK	
	ADULT	JACK
SPRING	122	30
SUMMER	67	5
FALL	176	90
<b>TOTAL</b>	<b>365</b>	<b>125</b>

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK	SOCKEYE
1,871	12,363	17,856	232	1

Video counting took place between 2000 and 0400 hrs. PST.

TABLE 114

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Night Counts @ Ice Harbor

December 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI JCK
	SPRING	SUMMER	FALL							
1			0				5	39		0
2			0				11	56		0
3			0				3	31		0
4			0				0	28		0
5			0				5	33		0
6			1				5	41		1
7			0				6	30		0
8			0				7	38		0
9			0				11	52		0
10			0				3	27		0
11			0				8	46		0
12			0				5	41		0
13			0				15	64		0
14			0				7	66		1
15			0				2	20		1
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										

TOTAL		1		96	612	3
AVG				6	41	

TOTALS TO DATE	CHINOOK	
	ADULT	JACK
SPRING	122	30
SUMMER	67	5
FALL	177	90
TOTAL	366	125

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK	SOCKEYE
1,967	12,975	17,856	235	1

Video counting took place between 2000 and 0400 hrs. PST.

TABLE 115

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OER LOWER MONUMENTAL DAM  
1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				574	2,448	1,287	322	156	1,308	1,124			7,219
STEELHEAD				2,844	76	186	2,595	2,998	14,901	26,317			49,917
SOCKEYE							2	4	1				7
COHO*													
PINK													
MINI-JACK**						4	302	225	140	145			816
<b>TOTAL</b>				<b>3,418</b>	<b>2,524</b>	<b>1,473</b>	<b>2,919</b>	<b>3,158</b>	<b>16,210</b>	<b>27,441</b>			<b>57,959</b>
<b>SHAD</b>					<b>1</b>	<b>5,007</b>	<b>12,651</b>	<b>1,293</b>					<b>18,952</b>

\*Jacks included

\*\*Salmonid fish under 12 inches in length

TABLE 116

## DISCHARGE AND WATER QUALITY DATA

## LOWER MONUMENTAL PROJECT - 1994

JANUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
1	19.3	0.0		
2	15.5	0.0		
3	18.5	0.0		
4	18.1	0.0		
5	21.5	0.0		
6	27.7	0.0		
7	21.0	0.1		
8	24.3	0.0		
9	22.1	0.0		
10	25.0	0.0		
11	20.4	0.0		
12	23.9	0.0		
13	23.0	0.0		
14	25.8	0.0		
15	27.2	0.0		
16	21.1	0.0		
17	28.4	0.0		
18	32.2	0.0		
19	37.5	0.0		
20	20.1	0.0		
21	17.0	0.0		
22	21.3	0.0		
23	15.9	0.0		
24	26.7	0.0		
25	22.7	0.0		
26	22.7	0.0		
27	23.4	0.0		
28	27.4	0.0		
29	20.3	0.0		
30	10.0	0.0		
31	21.7	0.0		
AVG.	22.6	0.0		

FEBRUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
1	16.4	0.0		
2	20.7	0.0		
3	21.1	0.0		
4	18.0	0.0		
5	15.0	0.0		
6	14.2	0.0		
7	19.0	0.0		
8	33.4	0.0		
9	22.4	0.0		
10	23.6	0.0		
11	18.2	0.0		
12	21.2	0.0		
13	19.7	0.0		
14	19.3	0.0		
15	20.2	0.0		
16	22.8	0.0		
17	22.4	0.0		
18	20.6	0.0		
19	25.7	0.0		
20	23.2	0.0		
21	22.8	0.0		
22	19.8	0.0		
23	18.5	0.0		
24	25.8	0.0		
25	21.7	0.0		
26	22.1	0.0		
27	16.4	0.0		
28	18.2	0.0		
AVG.	20.8	0.0		

MARCH				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
1	22.3	0.0		
2	21.7	0.0		
3	36.0	0.0		
4	34.7	0.0		
5	37.2	0.0		
6	36.2	0.0		
7	37.7	0.0		
8	41.0	0.0		
9	24.9	0.0		
10	21.1	0.0		
11	23.9	0.0		
12	25.0	0.0		
13	26.5	0.0		
14	24.7	0.0		
15	29.5	0.0		
16	28.2	0.0		
17	39.1	0.0		
18	38.2	0.0		
19	37.3	0.0		
20	36.5	0.0		
21	33.5	0.0		
22	35.3	0.0		
23	27.1	0.0		
24	27.5	0.0		
25	34.5	0.0		
26	25.2	0.0		
27	21.2	0.0		
28	27.8	0.0		
29	14.8	0.0		
30	22.7	0.0		
31	25.3	0.0		
AVG.	29.6	0.0		

TABLE 117

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJ.  
APRIL 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT		FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS				
	SPRING	SUMMER									DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F	
1	1							75				25.5	0.0	3.0	46.0
2	0							100				29.2	0.0	3.0	46.0
3	0							160				29.6	0.0	3.0	46.0
4	0							146				37.0	0.0	3.0	46.0
5	1							256				32.6	0.0	3.0	46.0
6	0							108				35.7	0.0	4.4	46.0
7	1							150				37.8	0.0	4.4	46.0
8	0							132				36.0	0.0	3.8	46.0
9	0							125				35.8	0.0	3.8	46.0
10	0							164				34.9	0.0	3.8	47.0
11	0							168				31.9	0.0	3.8	47.0
12	2							165				47.5	0.0	3.8	48.0
13	1							198				52.5	0.0	3.8	48.0
14	6							122				50.9	0.0	3.8	48.0
15	6							115				39.9	0.0	3.8	48.0
16	5							93				34.0	0.0	3.8	48.0
17	7							72				34.5	0.0	3.8	48.0
18	6							69				41.5	0.0	3.8	48.0
19	17							63				51.7	0.0	3.8	50.0
20	13							61				56.4	0.0	3.8	50.0
21	8							56				68.2	0.0	3.8	50.0
22	35							32				72.2	0.0	3.8	51.0
23	35							46				83.7	0.0	3.8	51.0
24	0							33				79.7	0.0	3.8	51.0
25	14							30				77.1	0.0	3.8	52.0
26	12							21				67.0	0.0	3.8	53.0
27	118							19				66.2	0.0	3.0	53.0
28	135							30				65.3	0.0	3.0	53.0
29	78							22				72.4	0.0	3.0	53.0
30	73							13				81.1	0.0	3.0	53.0
<b>TOTAL</b>	<b>574</b>							<b>2,844</b>				<b>50.3</b>	<b>0.0</b>	<b>3.6</b>	<b>48.8</b>
<b>AVG.</b>	<b>37</b>							<b>95</b>							

TABLE 118

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJ.  
MAY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT				COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK									SECCHI	DEG F
1	68			0			6	0			78.8	0.0	3.0	52.0
2	61			0			9	0			74.7	0.0	3.0	52.0
3	74			1			13	0			71.6	0.0	3.0	52.0
4	54			0			6	0			74.6	0.0	3.0	52.0
5	127			0			6	0			75.6	0.0	3.0	52.0
6	62			2			8	0			80.2	0.0	3.0	52.0
7	72			1			2	0			74.9	0.0	3.0	52.0
8	52			0			5	0			79.0	0.0	3.0	52.0
9	188			2			1	0			87.8	0.0	3.0	53.0
10	109			3			1	0			85.8	0.0	3.5	53.0
11	105			1			-1	0			93.1	12.3	3.5	55.0
12	82			0			-1	0			86.4	10.8	3.5	55.0
13	197			8			6	0			89.9	11.2	3.8	55.0
14	81			5			4	0			83.7	15.1	3.8	57.0
15	118			4			1	0			73.4	12.4	3.8	57.0
16	82			4			1	0			84.9	14.9	3.8	57.0
17	77			0			5	0			72.2	9.5	3.8	57.0
18	71			4			2	0			76.0	13.0	3.8	57.0
19	50			2			0	0			69.6	11.5	3.8	57.0
20	128			2			0	0			72.6	13.8	3.8	57.0
21	49			1			0	0			70.0	15.7	3.8	57.0
22	54			2			-2	0			69.8	16.1	3.8	57.0
23	28			1			0	0			70.8	16.0	3.8	57.0
24	72			2			0	0			68.5	16.2	3.8	57.0
25	54			0			-2	0			76.7	15.7	3.8	57.0
26	60			3			0	0			73.8	17.2	3.8	56.0
27	68			2			1	0			71.4	12.9	3.8	55.0
28	36			2			1	0			71.2	11.6	3.8	55.0
29	27			1			4	0			60.6	11.1	3.8	55.0
30	42			2			0	0			57.7	11.2	3.8	55.0
31	44			1			0	1			54.9	11.1	3.8	55.0
<b>TOTAL</b>	<b>2,392</b>			<b>56</b>			<b>76</b>	<b>1</b>						

AVG. 77

2

2

75.2 9.0 3.5 54.9

TOTALS TO DATE

CHINOOK ADULT 2,966  
CHINOOK JACK 56

STEELHEAD 2,920  
SHAD 1

SPRING

TABLE 119

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJ.  
JUNE 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1	49			1				1	0	0	51.3	10.3	3.8	56.0
2	69			4				-1	1	0	49.0	10.5	3.0	57.0
3	43			0				0	2	0	50.3	11.6	3.0	57.0
4	73			0				4	1	0	46.3	10.5	3.0	57.0
5	70			3				5	7	0	48.2	11.2	4.0	58.0
6	39			0				-1	1	0	42.3	9.7	4.0	59.0
7	44			2				2	0	0	44.3	10.9	4.0	59.0
8	47			0				2	2	0	42.6	9.9	4.0	59.0
9	36			1				0	2	0	38.0	9.5	4.0	59.0
10	36			2				-1	1	1	37.6	9.9	4.0	59.0
11	16			1				-1	12	1	34.0	9.5	4.0	59.0
12	40			4				0	6	0	34.4	8.1	4.0	59.0
13	27			1				1	2	0	31.9	8.8	4.0	59.0
14		42		4				2	10	0	48.3	9.5	4.0	59.0
15		49		7				4	25	0	42.5	4.7	4.0	59.0
16		43		2				0	10	0	42.9	0.0	4.0	60.0
17		35		1				4	18	0	39.1	0.0	4.0	61.0
18		50		0				12	35	2	39.1	0.0	4.0	61.0
19		41		1				5	43	0	33.2	0.0	4.0	62.0
20		51		5				19	76	0	35.4	0.0	4.0	62.0
21		48		4				9	92	0	32.6	0.0	4.0	62.0
22		26		1				6	114	0	32.4	0.0	4.0	62.0
23		27		1				9	261	0	31.5	0.0	4.0	62.0
24		30		0				12	284	0	30.9	5.7	4.0	62.0
25		38		1				17	1158	0	26.9	0.4	4.0	62.0
26		35		2				13	479	0	27.4	0.0	4.0	64.0
27		35		4				14	649	0	24.9	0.0	4.0	64.0
28		34		2				16	813	0	27.7	0.0	4.0	64.0
29		24		1				9	452	0	22.0	0.0	4.0	64.0
30		31		4				24	451	0	24.9	0.0	4.0	64.0

TOTAL	589	639		59				186	5,007	4
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AVG.	45	38		2				6	167	
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37.1	5.0	3.9	60.4
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TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	3,555	75
SUMMER	639	40
TOTAL	4,194	115

STEELHEAD	SHAD	MINI-JCK
3,106	5,008	4

TABLE 120

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJ.  
JULY 1994

DATE	FISH COUNTS					RIVER CONDITIONS								
	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1		26		2			0	34	643	0	19.3	0.0	4.0	64.0
2		31		1			0	55	693	0	26.4	0.0	4.0	64.0
3		16		0			0	41	967	0	25.3	0.0	4.0	64.0
4		16		0			0	34	1074	0	25.0	0.0	4.0	64.0
5		26		2			0	46	434	0	27.4	0.0	4.0	64.0
6		23		1			0	36	794	0	34.9	0.0	4.0	64.0
7		22		1			0	56	1388	2	41.7	0.0	4.0	64.0
8		8		0			0	54	1488	0	46.9	0.0	4.0	66.0
9		6		4			0	49	692	0	44.7	0.0	4.0	66.0
10		6		0			0	60	464	2	44.7	0.0	4.0	67.0
11		13		0			1	55	480	2	44.6	0.0	4.0	67.0
12		17		1			1	63	472	3	45.7	0.0	4.0	68.0
13		1		0			0	61	497	10	42.4	0.0	4.0	69.0
14		12		0			0	86	468	2	44.3	0.0	4.0	69.0
15		11		0			0	49	401	3	41.4	0.0	3.0	69.0
16		3		0			0	41	354	2	46.1	0.0	3.0	69.0
17		5		0			0	64	222	6	42.3	0.0	3.0	69.0
18		7		2			0	119	189	10	43.9	0.0	3.0	70.0
19		2		0			0	89	114	1	46.3	0.0	3.5	69.0
20		0		0			0	53	76	5	45.6	0.0	4.5	69.0
21		1		1			0	64	88	1	44.5	0.0	5.0	71.0
22		2		1			0	74	65	16	42.4	0.0	4.5	68.0
23		6		0			0	180	123	33	44.0	0.0	4.5	68.0
24		1		0			0	90	122	9	45.0	0.0	4.5	68.0
25		5		3			0	182	49	32	44.7	0.0	4.5	68.0
26		5		5			0	130	68	20	41.6	0.0	4.5	68.0
27		3		1			0	122	76	33	41.3	0.0	4.5	68.0
28		1		2			0	133	57	26	43.8	0.0	4.5	68.0
29		4		2			0	158	32	38	45.2	0.0	4.5	68.0
30		8		1			0	154	25	38	33.4	0.0	4.5	68.0
31		5		0			0	163	36	8	20.1	0.0	4.5	68.0
<b>TOTAL</b>		<b>292</b>		<b>30</b>			<b>2</b>	<b>2,595</b>	<b>12,651</b>	<b>302</b>				
<b>AVG.</b>		<b>9</b>		<b>1</b>				<b>84</b>	<b>408</b>	<b>10</b>	<b>39.5</b>	<b>0.0</b>	<b>4.1</b>	<b>67.3</b>
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>			<b>SOCKEYE</b>		<b>STEELHEAD</b>		<b>SHAD</b>		<b>MINI-JCK</b>	
	<b>SPRING</b>	3,555		75			2		5,701		17,659		306	
	<b>SUMMER</b>	931		70										
<b>TOTAL</b>		<b>4,486</b>		<b>145</b>										

TABLE 121

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

LOWER MONUMENTAL PROJ.  
 AUGUST 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1		7		2			2	93	35	19	13.2	0.0	4.5	65.0
2		2		0			0	75	57	11	13.0	0.0	4.5	65.0
3		5		0			0	85	63	15	13.1	0.0	4.5	65.0
4		5		0			0	93	115	22	13.6	0.0	4.5	65.0
5		1		3			0	103	122	19	13.2	0.0	4.5	65.0
6		2		1			0	149	76	7	13.3	0.0	4.5	65.0
7		2		0			0	61	270	12	12.2	0.0	4.5	65.0
8		2		0			0	79	46	6	13.2	0.0	4.5	65.0
9		1		0			0	111	26	6	12.0	0.0	4.5	65.0
10		0		0			0	69	57	0	12.0	3.1	4.5	66.0
11		0		1			0	116	51	0	10.3	4.3	4.5	66.0
12		0		0			0	155	82	10	11.1	0.0	4.5	66.0
13		0		0			0	60	38	2	11.5	0.0	4.5	66.0
14			2	0			0	89	18	6	11.7	0.0	4.5	66.0
15			4	0			0	115	24	6	11.9	0.0	4.5	66.0
16			6	0			0	90	40	2	12.3	0.0	4.5	66.0
17			3	1			0	99	43	0	13.1	0.0	4.5	66.0
18			1	1			1	80	27	2	13.2	0.0	4.5	66.0
19			6	2			0	113	14	2	12.8	0.0	4.5	67.0
20			5	1			1	87	13	2	14.5	0.0	4.5	67.0
21			8	1			0	95	21	1	13.2	0.0	4.2	67.0
22			5	4			0	119	22	5	11.2	0.0	4.2	67.0
23			6	0			0	102	9	1	13.0	0.0	4.2	67.0
24			1	0			0	73	2	7	12.2	0.0	4.2	67.0
25			4	6			0	78	2	6	15.7	0.0	4.2	67.0
26			10	0			0	86	6	9	14.9	0.0	4.2	68.0
27			1	4			0	78	7	12	14.5	0.0	4.2	68.0
28			6	0			0	104	4	16	12.2	0.0	4.2	68.0
29			8	0			0	122	3	4	11.9	0.0	4.2	68.0
30			13	3			0	127	0	10	13.0	0.0	4.2	68.0
31			8	2			0	92	0	5	11.8	0.0	4.2	69.0

TOTAL	27	97	32
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4	2,998	1,293	225
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12.7	0.2	4.4	66.4
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AVG.	2	5
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97	42
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TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
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SOCKEYE	STEELHEAD	SHAD	MINI-JCK
6	8,699	18,952	531

SPRING	3,555	75
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SUMMER	958	77
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FALL	97	25
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TOTAL	4,610	177
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TABLE 122

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJ.  
SEPTEMBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT		FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER											SECCHI	DEG F
1			6	0			0	104		6	11.4	0.0	4.2	69.0
2			9	1			0	139		5	12.7	0.0	4.2	69.0
3			18	2			0	296		4	11.3	0.0	4.2	69.0
4			17	2			0	331		3	11.0	0.0	4.2	69.0
5			11	1			0	149		3	12.8	0.0	4.2	68.0
6			9	1			0	169		2	12.8	0.0	4.2	68.0
7			19	3			1	150		2	13.1	0.0	4.2	68.0
8			23	5			0	164		14	14.8	0.0	4.2	69.0
9			26	7			0	340		2	12.9	0.0	4.2	69.0
10			38	2			0	412		6	12.9	0.0	4.2	69.0
11			44	12			0	409		2	11.3	0.0	4.2	69.0
12			44	12			0	549		5	12.4	0.0	4.2	69.0
13			40	11			0	666		1	11.5	0.0	4.2	69.0
14			24	7			0	552		0	13.2	0.0	4.2	69.0
15			23	12			0	568		3	12.6	0.0	4.2	69.0
16			32	6			0	589		6	11.8	0.0	4.2	69.0
17			35	10			0	466		5	13.0	0.0	4.2	69.0
18			35	14			0	456		0	12.9	0.0	4.2	69.0
19			31	11			0	568		7	13.0	0.0	4.2	69.0
20			19	7			0	612		3	12.3	0.8	4.2	69.0
21			15	10			0	483		0	11.5	0.7	4.2	68.0
22			36	20			0	798		9	14.4	0.0	4.2	68.0
23			23	16			0	739		2	17.3	0.0	4.2	68.0
24			53	15			0	803		5	13.8	0.8	4.2	68.0
25			49	33			0	760		4	11.2	0.0	4.2	68.0
26			59	22			0	768		2	13.0	0.8	4.2	68.0
27			58	36			0	811		9	12.8	0.8	4.2	68.0
28			53	35			0	795		12	14.6	0.0	4.2	68.0
29			36	24			0	602		7	13.4	0.8	4.2	68.0
30			63	23			0	653		11	11.1	0.0	4.2	68.0

<b>TOTAL</b>			<b>948</b>	<b>360</b>			<b>1</b>	<b>14,901</b>		<b>140</b>					
<b>AVG.</b>			<b>38</b>	<b>12</b>				<b>497</b>		<b>5</b>	<b>12.8</b>	<b>0.2</b>	<b>4.2</b>	<b>68.6</b>	

<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
SPRING		3,555	75
SUMMER		958	77
FALL		1,045	385
<b>TOTAL</b>		<b>5,558</b>	<b>537</b>

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
7	23,600	18,952	671

TABLE 123

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJ.  
OCTOBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT		FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER											SECCHI	DEG F
1			64	19				936		11	13.1	0.8	4.2	68.0
2			29	26				888		15	12.3	0.0	4.2	68.0
3			57	30				932		12	11.3	0.0	4.2	68.0
4			33	13				1,039		2	12.7	0.8	4.2	67.0
5			23	17				515		0	12.8	0.0	4.2	67.0
6			33	34				960		5	13.4	0.8	4.2	67.0
7			37	25				956		12	16.0	0.0	4.2	67.0
8			16	17				773		6	16.2	0.8	4.2	67.0
9			33	24				771		5	14.7	0.0	4.2	67.0
10			39	14				604		9	14.3	0.8	4.2	66.0
11			37	26				951		17	18.0	0.0	4.2	66.0
12			32	29				1,021		13	17.2	0.8	4.2	65.0
13			14	13				1,100		2	20.4	0.0	4.2	64.0
14			17	20				1,188		4	20.1	0.8	4.2	64.0
15			12	16				928		2	21.7	0.0	4.2	63.0
16			15	11				944		3	29.1	0.8	4.2	64.0
17			17	14				1,095		5	23.5	0.0	4.2	62.0
18			7	10				988		1	27.1	0.8	4.2	62.0
19			15	9				843		5	22.1	0.8	4.2	62.0
20			15	13				1,191		5	14.2	0.0	4.2	62.0
21			16	17				1,170		1	25.4	0.0	4.2	61.0
22			14	10				856		0	21.9	0.8	4.2	61.0
23			22	7				673		0	15.4	0.0	4.2	61.0
24			10	11				1,007		0	16.6	0.8	4.2	60.0
25			3	11				695		0	16.1	0.8	4.2	60.0
26			7	6				577		2	15.8	0.0	4.2	60.0
27			8	7				551		0	16.9	0.0	3.5	59.0
28			5	6				502		0	18.3	0.9	3.5	59.0
29			7	4				720		2	16.5	0.0	3.5	59.0
30			11	3				399		2	18.3	0.8	3.0	58.0
31			12	2				544		4	21.5	0.0	3.0	57.0

<b>TOTAL</b>			<b>660</b>	<b>464</b>				<b>26,317</b>		<b>145</b>					
<b>AVG.</b>			<b>21</b>	<b>15</b>				<b>849</b>		<b>5</b>		<b>17.8</b>	<b>0.4</b>	<b>4.1</b>	<b>63.3</b>

<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
<b>SPRING</b>		<b>3,555</b>	<b>75</b>
<b>SUMMER</b>		<b>958</b>	<b>77</b>
<b>FALL</b>		<b>1,705</b>	<b>849</b>
<b>TOTAL</b>		<b>6,218</b>	<b>1,001</b>

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
<b>7</b>	<b>49,917</b>	<b>18,952</b>	<b>816</b>

TABLE 124

DISCHARGE AND WATER QUALITY DATA				
LOWER MONUMENTAL PROJECT - 1994				
NOVEMBER				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	18.9	0.8		
2	20.0	0.0		
3	23.9	0.8		
4	17.5	0.0		
5	16.8	0.8		
6	16.8	0.8		
7	16.2	0.0		
8	16.9	0.0		
9	17.4	0.8		
10	19.4	0.0		
11	21.2	0.8		
12	12.4	0.0		
13	14.6	0.8		
14	20.3	0.8		
15	19.0	0.0		
16	21.4	0.0		
17	22.0	0.8		
18	20.9	0.0		
19	13.4	0.8		
20	13.0	0.8		
21	14.9	0.0		
22	16.0	0.0		
23	15.7	0.8		
24	12.8	0.8		
25	12.1	0.0		
26	18.1	0.8		
27	14.5	0.0		
28	18.0	0.0		
29	17.8	0.8		
30	20.3	0.8		
AVG.	17.4	0.4		

DECEMBER				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	16.8	0.0		
2	19.9	0.0		
3	15.9	0.0		
4	21.0	0.0		
5	22.6	0.0		
6	18.4	0.0		
7	15.8	0.0		
8	16.8	0.0		
9	16.1	0.0		
10	18.6	0.0		
11	14.9	0.0		
12	16.3	0.0		
13	15.8	0.0		
14	15.5	0.0		
15	19.3	0.0		
16	18.3	0.0		
17	16.5	0.0		
18	15.3	0.0		
19	27.8	0.0		
20	18.6	0.0		
21	19.3	0.0		
22	23.2	0.0		
23	23.8	0.0		
24	17.1	0.0		
25	15.3	0.0		
26	19.5	0.0		
27	19.3	0.0		
28	25.8	0.0		
29	20.6	0.0		
30	24.3	0.0		
31	24.1	0.0		
AVG.	19.1	0.0		

TABLE 125

YEARLY TOTALS OF SALMONIDS COUNTED OVER  
LOWER MONUMENTAL DAM  
1969 - 1994

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS
1969	86,700	71,436	1,127	6,466	165,729
1970	75,310	62,167	240	2,972	140,689
1971	68,885	70,114	808	2,171	141,978
1972	72,220	66,857	415	733	140,225
1973	80,557	39,530	206	1,333	121,626
1974	31,728	15,139	114	812	47,793
1975	33,013	17,363	146	572	51,094
1976	34,395	21,822	364	361	56,942
1977	49,301	47,749	293	122	97,465
1978	56,835	20,540	96	218	77,689
1979	11,288	17,794	31	194	29,307
1980	10,885	34,322	48	73	45,328
1981	19,991	35,923	136	63	56,113
1982	21,965	62,772	154	89	84,980
1983	19,082	80,562	118	110	99,872
1984	17,866	88,655	63	26	106,610
1985	42,437	109,718	68	24	152,247
1986	50,584	120,479	26	9	171,098
1987	42,434	62,586	16	6	105,042
1988	44,262	84,746	35	3	129,046
1989	25,590	129,618	9	17	155,234
1990	28,215	24,238	0	1	52,454
1991	18,210	98,315	6	5	116,536
1992	30,145	130,429	15		160,589
1993	34,195	70,992	18		105,205
1994	7,219	49,917	7		57,143
<b>Total</b>	<b>1,013,312</b>	<b>1,633,783</b>	<b>4,559</b>	<b>16,380</b>	<b>2,668,034</b>
<b>10-Year Average</b>	<b>32,329</b>	<b>88,104</b>	<b>20</b>	<b>7</b>	<b>120,459</b>

\*Jacks included

TABLE 126

MONTHLY COUNT OF CHINOOK SALMON  
LOWER MONUMENTAL DAM, 1969 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS*
1969			1	67	38,702	25,289	13,832	1,776	5,069	1,619	340	5	86,700
1970	1		1	9,194	32,623	15,818	9,369	1,720	5,178	1,281	122	3	75,310
1971				358	19,340	23,842	14,492	857	8,599	1,397			68,885
1972				6,838	36,448	6,989	15,501	1,835	3,737	872			72,220
1973				27,168	31,973	11,282	4,343	678	4,273	840			80,557
1974				327	15,796	4,904	7,241	602	1,972	886			31,728
1975				704	17,421	6,648	4,884	548	2,428	380			33,013
1976				1,995	19,292	7,731	3,172	175	1,609	421			34,395
1977				19,125	17,093	7,884	3,092	300	1,321	486			49,301
1978				12,324	30,067	8,941	3,853	831	536	283			56,835
1979				1,332	5,637	2,010	922	211	916	260			11,288
1980				1,008	5,198	2,318	1,315	319	405	322			10,885
1981				4,039	9,012	3,349	1,924	97	1,100	470			19,991
1982				372	11,319	5,031	2,773	264	1,631	575			21,965
1983				1,250	10,262	3,841	2,103	220	1,008	398			19,082
1984				513	7,186	6,297	2,549	205	789	327			17,866
1985				7,360	20,572	7,303	1,279	402	2,451	3,070			42,437
1986				10,893	25,454	7,436	1,821	123	2,786	2,071			50,584
1987				8,706	21,166	5,492	2,400	278	2,625	1,767			42,434
1988				11,451	19,823	7,851	1,832	607	1,752	946			44,262
1989				159	14,924	4,858	1,615	476	1,852	706			24,590
1990				6,830	12,127	5,197	1,594	181	1,205	1,081			28,215
1991				925	6,537	5,491	1,936	127	2,177	1,017			18,210
1992				10,529	10,822	5,001	1,220	188	1,729	656			30,145
1993				3,848	16,154	9,720	2,016	313	1,591	509	44		34,195
1994				574	2,448	1,287	322	156	1,308	1,124			7,219
Total	1		2	147,889	457,396	201,810	107,400	13,489	60,047	23,764	506	8	1,012,312
10-Year Average				6,128	15,003	5,964	1,604	285	1,948	1,295			32,229

\*Jacks included

TABLE 127

**MONTHLY COUNT OF STEELHEAD  
LOWER MONUMENTAL DAM  
1969-1994**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
1969		5	1,525	9,235	5,475	248	2,141	6,410	26,647	15,195	4,189	366	71,436
1970	252	1,025	1,519	3,143	2,134	232	1,989	7,947	30,701	11,194	1,615	416	62,167
1971			422	2,404	1,510	131	2,199	2,992	42,438	18,018			70,114
1972				2,182	744	86	2,336	7,184	32,417	21,908			66,857
1973				2,061	658	82	2,060	3,505	21,241	9,923			39,530
1974				1,221	256	17	1,237	2,835	4,929	4,644			15,139
1975				745	444	24	873	4,417	7,437	3,423			17,363
1976				806	256	146	1,092	4,409	10,328	4,785			21,822
1977				849	192	127	3,026	2,991	22,494	18,070			47,749
1978				1,324	128	16	719	2,522	10,477	5,354			20,540
1979				643	118	28	1,314	1,937	4,898	8,856			17,794
1980				2,467	573	70	754	3,725	14,078	12,655			34,322
1981				996	321	75	1,783	1,632	12,416	18,700			35,923
1982				2,026	1,123	35	1,851	7,373	22,426	27,938			62,772
1983				1,021	131	14	3,027	10,101	40,004	26,264			80,562
1984				2,663	482	52	3,150	4,820	42,788	34,700			88,655
1985				6,889	548	189	1,888	10,086	63,734	26,384			109,718
1986				1,914	205	89	5,082	7,751	46,876	58,562			120,479
1987				2,483	264	142	2,531	4,692	20,766	31,708			62,586
1988				4,274	604	411	1,903	5,725	35,290	36,539			84,746
1989				1,067	389	304	6,364	8,093	63,026	50,375			129,618
1990				2,691	197	189	1,804	1,579	14,209	24,238			44,907
1991				2,211	288	70	2,275	1,497	41,894	50,080			98,315
1992				1,456	182	285	2,890	7,223	68,606	49,787			130,429
1993				7,752	277	564	5,367	8,197	16,146	30,228	2,461		70,992
1994				2,844	76	186	2,595	2,998	14,901	26,317			49,917
<b>Total</b>	<b>252</b>	<b>1,030</b>	<b>3,466</b>	<b>67,367</b>	<b>17,575</b>	<b>3,812</b>	<b>62,250</b>	<b>132,641</b>	<b>731,167</b>	<b>625,845</b>	<b>8,265</b>	<b>782</b>	<b>1,654,452</b>
<b>10-Yr. Average</b>				<b>3,358</b>	<b>303</b>	<b>243</b>	<b>3,270</b>	<b>5,784</b>	<b>38,545</b>	<b>38,422</b>			<b>3,105,187</b>

TABLE 128

WILD STEELHEAD COUNTED AT LOWER MONUMENTAL DAM 1994

LOWER MONUMENTAL DAM		Oregon Ladder	Washington Ladder
Apr-94	Wild Steelhead		
1	28	6	22
2	24	2	22
3	47	10	37
4	45	16	29
5	62	18	44
6	38	13	25
7	53	12	41
8	38	13	25
9	49	6	43
10	43	18	25
11	69	20	49
12	52	16	36
13	63	26	37
14	23	12	11
15	44	13	31
16	25	7	18
17	25	5	20
18	24	7	17
19	27	2	25
20	30	6	24
21	21	7	14
22	13	1	12
23	28	5	23
24	18	5	13
25	12	1	11
26	6	2	4
27	12	5	7
28	11	4	7
29	12	2	10
30	9	1	8
TOTAL	951	261	690
AVG.	32	9	23

TOTAL TO DATE	WILD STEELHEAD
	951

LOWER MONUMENTAL DAM		Oregon Ladder	Washington Ladder
May-94	Wild Steelhead		
1	4	2	2
2	4	2	2
3	6	2	4
4	4	0	4
5	5	4	1
6	5	1	4
7	3	2	1
8	1	0	1
9	0	0	0
10	1	0	1
11	2	0	2
12	0	0	0
13	1	1	0
14	0	0	0
15	1	0	1
16	0	0	0
17	3	1	2
18	2	1	1
19	0	0	0
20	0	0	0
21	0	0	0
22	0	0	0
23	0	0	0
24	0	0	0
25	0	0	0
26	0	0	0
27	0	0	0
28	0	0	0
29	0	0	0
30	0	0	0
31	0	0	0
TOTAL	42	16	26
AVG.	1	1	1

TOTAL TO DATE	WILD STEELHEAD
	993

TABLE 129

WILD STEELHEAD COUNTED AT  
LOWER MONUMENTAL DAM 1994

LOWER MONUMENTAL DAM		Oregon Ladder	Washington Ladder
Jun-94	Wild Steelhead		
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	1	0	1
6	0	0	0
7	0	0	0
8	1	0	1
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	1	0	1
15	1	1	0
16	0	0	0
17	1	0	1
18	4	0	4
19	0	0	0
20	2	0	2
21	1	1	0
22	1	0	1
23	1	0	1
24	5	0	5
25	4	0	4
26	0	0	0
27	0	0	0
28	4	0	4
29	0	0	0
30	3	1	2

TOTAL	30	3	27
AVG.	1		1

TOTAL	WILD STEELHEAD
TO DATE	1,023

LOWER MONUMENTAL DAM		Oregon Ladder	Washington Ladder
Jul-94	Wild Steelhead		
1	8	1	7
2	17	4	13
3	13	0	13
4	6	1	5
5	14	2	12
6	11	0	11
7	8	0	8
8	9	4	5
9	11	0	11
10	14	2	12
11	18	5	13
12	16	2	14
13	20	4	16
14	25	1	24
15	13	0	13
16	7	1	6
17	14	1	13
18	23	0	23
19	34	12	22
20	15	4	11
21	20	2	18
22	20	1	19
23	41	5	36
24	27	1	26
25	34	8	26
26	41	7	34
27	29	7	22
28	36	11	25
29	32	4	28
30	31	6	25
31	41	7	34

TOTAL	648	103	545
AVG.	21	3	18

TOTAL	WILD STEELHEAD
TO DATE	1,671

TABLE 130

WILD STEELHEAD COUNTED AT  
LOWER MONUMENTAL DAM 1994

LOWER MONUMENTAL DAM		Oregon Ladder	Washington Ladder
Aug-94	Wild Steelhead		
1	26	10	16
2	11	1	10
3	20	2	18
4	17	5	12
5	23	0	23
6	22	8	14
7	13	1	12
8	12	4	8
9	19	1	18
10	9	7	2
11	24	10	14
12	21	4	17
13	8	1	7
14	14	0	14
15	16	2	14
16	16	5	11
17	15	2	13
18	16	4	12
19	17	0	17
20	22	2	20
21	19	2	17
22	17	1	16
23	22	5	17
24	20	4	16
25	8	0	8
26	16	2	14
27	14	0	14
28	14	1	13
29	18	0	18
30	20	7	13
31	13	1	12
TOTAL	522	92	430
AVG.	17	3	14
TOTAL TO DATE	WILD STEELHEAD 2,193		

LOWER MONUMENTAL DAM		Oregon Ladder	Washington Ladder
Sep-94	Wild Steelhead		
1	13	1	12
2	20	2	18
3	42	8	34
4	49	7	42
5	27	2	25
6	30	8	22
7	23	4	19
8	27	5	22
9	47	6	41
10	60	11	49
11	76	14	62
12	112	35	77
13	100	12	88
14	79	11	68
15	58	8	50
16	90	19	71
17	56	10	46
18	76	12	64
19	100	10	90
20	81	17	64
21	76	35	41
22	109	13	96
23	123	28	95
24	139	54	85
25	111	11	100
26	143	42	101
27	125	41	84
28	102	19	83
29	66	17	49
30	95	18	77
TOTAL	2,255	480	1,775
AVG.	75	16	59
TOTAL TO DATE	WILD STEELHEAD 4,448		

TABLE 131

WILD STEELHEAD COUNTED AT  
LOWER MONUMENTAL DAM 1994

LOWER MONUMENTAL DAM		Oregon Ladder	Washington Ladder
Oct-94	Wild Steelhead		
1	127	32	95
2	118	12	106
3	112	29	83
4	138	52	86
5	65	17	48
6	96	30	66
7	125	42	83
8	82	41	41
9	73	17	56
10	81	29	52
11	154	44	110
12	136	40	96
13	144	26	118
14	185	65	120
15	131	37	94
16	134	37	97
17	148	40	108
18	169	55	114
19	98	26	72
20	171	37	134
21	147	32	115
22	133	29	104
23	110	40	70
24	179	96	83
25	124	58	66
26	88	24	64
27	98	38	60
28	66	10	56
29	116	37	79
30	50	13	37
31	103	23	80
TOTAL	3,701	1,108	2,593
AVG.	119	36	84
TOTAL TO DATE	WILD STEELHEAD 8,149		

TABLE 132

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER LITTLE GOOSE DAM  
1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				294	2,307	1,281	282	98	540	610	45		5,457
STEELHEAD				771	148	162	1,522	2,239	8,828	25,830	6,315		45,815
SOCKEYE							6	15	11	12			44
COHO													
PINK													
MINI-JACK**					6	22	241	318	105	85	7		784
<b>TOTAL</b>				<b>1,065</b>	<b>2,455</b>	<b>1,443</b>	<b>1,810</b>	<b>2,352</b>	<b>9,379</b>	<b>26,452</b>	<b>6,360</b>		<b>52,100</b>
<b>SHAD</b>						<b>2,399</b>	<b>7,007</b>	<b>660</b>					<b>10,066</b>

\*Jacks included

\*\*Salmonid fish under 12 inches in length

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

TABLE 133

LITTLE GOOSE PROJECT  
APRIL 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1	BEGIN COUNTING 15 APRIL											25.8	0.0		
2											28.2	0.0			
3											29.1	0.0			
4											38.5	0.0			
5											31.6	0.0			
6											34.6	0.0			
7											36.1	0.0			
8											34.9	0.0			
9											36.2	0.0			
10											32.9	0.0			
11											31.9	0.0			
12											45.3	4.3			
13											51.6	5.4			
14											48.8	2.7			
15	4			0				107			37.7	0.0			
16	1			0				79			34.2	0.0	4.0	52.0	
17	6			0				60			34.5	0.0	4.0	52.0	
18	0			0				58			40.0	0.0	4.0	53.0	
19	1			0				58			50.7	0.0	4.0	53.0	
20	7			0				48			58.7	4.8	4.6	53.0	
21	12			0				96			69.1	15.2	4.2	54.0	
22	7			0				46			74.7	21.0	3.8	54.0	
23	13			0				35			83.8	30.0	3.8	54.0	
24	12			0				29			81.4	23.4	4.0	55.0	
25	18			0				44			77.1	21.6	4.0	56.0	
26	5			0				25			67.8	13.8	4.0	56.0	
27	35			0				25			67.6	12.8	4.0	56.0	
28	48			1				26			64.9	9.4	4.0	56.0	
29	40			1				24			75.9	21.6	4.0	56.0	
30	82			1				11			81.8	25.3	4.0	56.0	
<b>TOTAL</b>	<b>291</b>			<b>3</b>				<b>771</b>							
<b>AVG.</b>	<b>22</b>							<b>40</b>			<b>50.2</b>	<b>7.0</b>	<b>4.0</b>	<b>54.4</b>	

TABLE 134

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LITTLE GOOSE PROJECT  
MAY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1	34			1				10		0	78.0	22.4	4.0	56.0
2	38			0				20		4	75.6	19.6	4.0	56.0
3	71			0				6		0	72.6	18.2	4.4	57.0
4	19			0				7		0	76.4	21.6	4.4	57.0
5	29			1				11		0	76.4	20.3	4.4	57.0
6	59			0				10		0	81.1	24.8	4.8	56.0
7	41			0				6		0	77.0	23.4	4.9	56.0
8	80			4				6		0	80.5	24.0	5.4	56.0
9	168			4				8		0	90.8	25.3	5.0	57.0
10	160			7				11		0	86.7	23.6	5.0	57.0
11	68			2				6		0	94.0	29.5	5.6	57.0
12	149			1				4		2	88.2	28.3	5.6	57.0
13	97			0				4		0	91.2	25.2	5.6	57.0
14	152			2				5		0	84.2	28.7	5.0	58.0
15	100			5				2		0	75.8	22.2	5.0	59.0
16	136			5				5		0	85.6	29.4	4.9	59.0
17	62			1				0		0	74.8	26.4	4.7	58.0
18	58			0				1		0	76.3	26.7	4.8	58.0
19	41			0				5		0	72.1	23.4	4.0	58.0
20	65			2				6		0	74.0	23.0	4.8	58.0
21	65			1				1		0	70.9	23.4	4.8	58.0
22	103			4				1		0	71.8	22.8	4.0	58.0
23	46			1				1		0	71.9	21.5	3.8	58.0
24	54			2				0		0	71.6	27.9	4.0	58.0
25	66			1				0		0	77.3	29.5	4.0	58.0
26	37			1				1		0	74.9	24.3	4.6	57.0
27	68			6				2		0	76.7	20.0	4.4	56.0
28	54			2				2		0	68.4	17.7	4.4	57.0
29	59			0				1		0	63.3	16.7	4.4	57.0
30	52			2				2		0	58.6	12.8	4.4	58.0
31	20			1				4		0	57.2	19.0	4.8	58.0

TOTAL 2,251

56

148

6

AVG. 73

2

5

76.6 23.3 4.6 57.3

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	2,542	59

STEELHEAD 919

MINI-JCK 6

TABLE 135

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LITTLE GOOSE PROJECT  
JUNE 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1	30			0				2	0	0	53.1	10.3	4.9	58.0	
2	50			0				2	8	0	51.2	9.9	4.9	58.0	
3	47			5				1	1	0	51.1	11.0	5.1	59.0	
4	65			4				0	1	1	47.5	10.0	5.1	60.0	
5	54			1				1	0	0	48.7	9.8	5.1	60.0	
6	62			2				1	5	0	43.4	9.6	5.0	60.0	
7	41			6				2	0	0	45.0	9.7	5.0	60.0	
8	52			2				4	0	0	43.0	9.5	5.4	59.0	
9	40			0				1	0	0	39.9	9.1	5.0	60.0	
10	56			2				8	2	0	39.2	9.5	5.6	60.0	
11	32			5				4	4	2	34.1	7.8	6.0	60.0	
12	36			1				4	53	1	37.0	8.7	6.0	60.0	
13	14			4				1	2	2	32.6	8.2	6.0	60.0	
14	62			0				4	6	0	48.8	9.2	6.0	62.0	
15	53			1				0	18	0	44.3	4.4	5.6	62.0	
16		34		1				2	13	0	40.6	0.0	5.6	62.0	
17		42		7				1	13	2	39.5	0.0	5.2	62.0	
18		32		1				6	23	1	38.5	0.0	5.2	62.0	
19		31		2				8	16	0	32.9	0.0	5.2	62.0	
20		43		4				8	44	4	35.0	0.0	5.2	64.0	
21		34		7				11	64	2	32.5	0.0	5.2	64.0	
22		18		1				5	145	1	31.5	0.0	5.2	64.0	
23		61		2				6	202	1	31.4	0.0	5.2	64.0	
24		28		1				7	78	0	31.4	0.0	5.2	65.0	
25		34		4				13	126	0	26.8	0.0	5.2	65.0	
26		37		4				11	264	0	27.0	0.0	5.4	66.0	
27		36		1				17	426	5	25.1	0.0	5.4	65.0	
28		18		4				13	310	0	25.9	0.0	5.6	65.0	
29		31		6				13	358	0	21.8	0.0	5.4	65.0	
30		23		7				6	217	0	24.5	0.0	5.4	65.0	
<b>TOTAL</b>	<b>694</b>	<b>502</b>		<b>85</b>				<b>162</b>	<b>2,399</b>	<b>22</b>					
<b>AVG.</b>	<b>46</b>	<b>33</b>		<b>3</b>				<b>5</b>	<b>80</b>		<b>37.4</b>	<b>4.6</b>	<b>5.3</b>	<b>61.9</b>	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
	SPRING	3,236 92
	SUMMER	502 52
<b>TOTALS</b>	<b>3,738</b>	<b>144</b>

STEELHEAD	SHAD	MINI-JCK
1,081	2,399	28

TABLE 136

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LITTLE GOOSE PROJECT  
JULY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1		19		5			0	25	372	1	20.5	0.0	5.4	64.0
2		19		6			0	23	271	1	26.0	0.0	5.4	65.0
3		18		0			0	31	342	1	25.9	0.0	5.4	65.0
4		22		1			0	41	484	0	25.4	0.0	5.2	66.0
5		7		0			0	16	313	0	25.9	0.0	4.8	66.0
6		17		1			0	10	365	0	33.6	0.0	4.4	66.0
7		16		1			0	41	533	1	42.1	0.0	4.6	67.0
8		18		4			0	35	670	4	46.3	0.0	4.5	69.0
9		6		0			0	22	576	1	43.8	0.0	4.5	68.0
10		7		4			1	17	442	1	44.7	0.0	4.5	68.0
11		8		4			0	28	575	6	45.7	0.0	5.0	68.0
12		7		0			0	32	415	7	45.3	0.0	5.0	69.0
13		5		6			1	20	148	2	42.7	0.0	4.8	69.0
14		2		2			1	34	173	7	43.5	0.0	4.8	69.0
15		6		0			0	38	158	2	41.7	0.0	5.0	70.0
16		8		0			0	26	196	4	45.7	0.0	5.0	70.0
17		4		0			0	32	104	4	42.6	0.0	5.0	70.0
18		4		1			0	77	79	7	43.9	0.0	5.0	69.0
19		5		1			0	54	91	14	46.7	0.0	5.0	70.0
20		5		0			0	16	94	13	45.2	0.0	5.0	70.0
21		2		0			0	17	91	7	43.6	0.0	5.0	71.0
22		1		1			0	23	79	4	42.0	0.0	5.0	71.0
23		1		2			0	96	68	7	44.2	0.0	5.2	71.0
24		1		1			0	32	53	5	44.0	0.0	5.8	71.0
25		11		0			0	78	70	16	43.6	0.0	5.8	70.0
26		5		1			1	108	55	28	41.5	0.0	5.5	69.0
27		2		0			0	67	43	13	41.6	0.0	5.5	69.0
28		4		0			0	53	59	7	43.7	0.0	5.5	69.0
29		6		2			2	176	37	28	44.4	0.0	5.5	69.0
30		1		1			0	158	20	34	33.2	0.0	5.6	69.0
31		1		0			0	96	31	16	19.4	0.0	5.6	69.0

<b>TOTAL</b>		<b>238</b>		<b>44</b>			<b>6</b>	<b>1,522</b>	<b>7,007</b>	<b>241</b>				
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<b>AVG.</b>		<b>8</b>		<b>1</b>				<b>49</b>	<b>226</b>	<b>8</b>	<b>39.3</b>	<b>0.0</b>	<b>5.1</b>	<b>68.6</b>
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<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
<b>SPRING</b>	<b>3,236</b>	<b>92</b>
<b>SUMMER</b>	<b>740</b>	<b>96</b>

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
<b>6</b>	<b>2,603</b>	<b>9,406</b>	<b>269</b>

<b>TOTAL</b>	<b>3,976</b>	<b>188</b>
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TABLE 137

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LITTLE GOOSE PROJECT  
AUGUST 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1		4		0			1	58	26	14	14.1	0.0	5.8	70.0
2		1		1			2	56	22	8	13.5	0.0	6.4	68.0
3		6		0			0	58	29	6	12.7	0.0	6.4	68.0
4		4		4			0	95	43	18	13.4	0.0	6.0	69.0
5		4		0			0	97	36	18	13.6	0.0	6.0	67.0
6		2		0			0	77	12	4	13.3	0.0	6.0	65.0
7		1		0			0	76	31	11	12.6	0.0	6.0	65.0
8		1		0			1	86	8	17	11.6	0.0	6.0	64.0
9		1		0			0	95	42	10	12.0	0.0	6.0	65.0
10		1		0			0	109	89	8	12.1	0.0	6.0	66.0
11		1		2			1	106	22	10	11.9	0.0	6.0	66.0
12		2		0			0	49	34	6	11.3	0.0	6.0	67.0
13		1		0			0	76	29	7	12.3	0.0	6.0	67.0
14		1		0			0	70	32	5	11.2	0.0	6.0	67.0
15		0		0			0	40	71	8	11.7	0.0	6.0	66.0
16			4	0			2	77	13	4	12.2	0.0	6.0	66.0
17			6	0			0	70	10	0	14.2	0.0	6.0	66.0
18			0	0			0	60	17	2	13.0	0.0	6.0	68.0
19			4	0			0	61	13	12	12.9	0.0	6.0	68.0
20			2	0			1	92	11	16	14.1	0.0	6.0	68.0
21			5	0			2	108	6	30	13.1	0.0	6.0	68.0
22			5	0			1	54	10	14	10.9	0.0	6.0	68.0
23			2	2			0	78	2	8	12.9	0.0	6.0	68.0
24			4	1			0	61	12	8	11.0	0.0	6.0	69.0
25			1	0			1	44	12	20	16.7	0.0	6.0	70.0
26			0	1			0	66	1	7	15.0	0.0	6.0	71.0
27			2	0			0	53	4	12	14.1	0.0	6.0	71.0
28			2	0			0	49	10	20	12.0	0.0	6.0	71.0
29			1	0			0	78	6	2	11.9	0.0	6.0	72.0
30			7	0			1	80	5	6	12.7	0.0	6.0	71.0
31			12	0			2	60	2	7	11.3	0.0	6.0	71.0

<b>TOTAL</b>	30	57	11
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15	2,239	660	318
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<b>AVG.</b>	2	3	
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72	21	10	
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12.8	0.0	6.0	67.9
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<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
SPRING	3,236	92
SUMMER	770	103
FALL	57	4
<b>TOTALS</b>	<b>4,063</b>	<b>199</b>

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
21	4,842	10,066	587

TABLE 138

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LITTLE GOOSE PROJECT  
SEPTEMBER 1994

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			4	0			0	72		4	12.5	0.0	6.0	71.0
2			1	4			0	47		5	12.2	0.0	5.6	72.0
3			1	0			0	82		8	13.5	0.0	5.6	71.0
4			8	2			0	114		14	13.0	0.0	5.6	71.0
5			14	0			0	98		10	11.8	0.0	5.8	71.0
6			4	1			0	96		1	12.6	0.0	6.0	71.0
7			13	0			1	104		1	14.1	0.0	6.0	71.0
8			8	0			0	76		5	18.0	0.0	6.0	71.0
9			10	0			0	79		2	13.0	0.0	5.8	71.0
10			12	5			0	114		19	12.9	0.0	6.0	71.0
11			12	4			0	170		5	11.3	0.0	6.0	71.0
12			17	2			0	212		0	11.7	0.0	5.4	70.0
13			12	4			0	296		5	11.8	0.0	5.4	71.0
14			19	0			1	420		1	13.1	0.0	4.8	70.0
15			14	6			0	284		0	12.8	0.0	4.4	70.0
16			18	4			0	373		1	11.3	0.0	4.4	70.0
17			18	0			0	236		0	13.1	0.0	5.2	71.0
18			8	1			1	233		0	12.8	0.0	5.2	72.0
19			19	1			4	325		2	12.9	0.0	5.2	71.0
20			14	0			1	322		1	11.3	0.0	6.0	70.0
21			14	4			0	444		2	13.0	0.0	6.0	70.0
22			10	6			0	511		0	14.8	0.0	6.0	70.0
23			24	4			0	496		1	16.6	0.0	6.0	70.0
24			13	4			0	484		1	13.2	0.0	6.0	70.0
25			17	5			0	481		0	11.8	0.0	6.0	70.0
26			20	5			1	522		4	12.5	0.0	6.0	70.0
27			20	5			1	371		6	12.8	0.0	6.0	70.0
28			41	11			0	708		1	14.7	0.0	6.0	70.0
29			11	8			0	342		5	12.5	0.0	6.0	70.0
30			44	14			1	716		1	10.7	0.0	6.0	70.0

<b>TOTAL</b>		440	100			11	8,828		105		12.9	0.0	5.7	70.6
<b>AVG.</b>		15	3				294		4					

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
	SPRING	3,236 92
	SUMMER	770 103
	FALL	497 104
<b>TOTALS</b>	4,503	299

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
32	13,670	10,066	692

TABLE 139

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

LITTLE GOOSE PROJECT  
 OCTOBER 1994

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			17	11			0	713		0	12.4	0.0	6.0	70.0
2			19	12			0	972		8	11.9	0.0	5.8	69.0
3			35	18			0	1084		2	11.2	0.0	5.5	68.0
4			34	10			1	956		2	12.6	0.0	5.0	68.0
5			32	8			0	680		2	12.6	0.0	5.0	68.0
6			26	11			0	1280		5	13.2	0.0	5.0	68.0
7			23	7			4	1007		0	16.5	0.0	5.0	67.0
8			13	4			4	744		2	15.2	0.0	4.8	67.0
9			17	6			1	558		2	14.6	0.0	4.3	67.0
10			19	5			0	997		1	13.6	0.0	4.3	67.0
11			12	2			1	838		4	18.5	0.0	4.6	66.0
12			16	7			0	793		0	15.8	0.0	4.6	66.0
13			23	8			0	1194		4	20.1	0.0	4.6	65.0
14			17	2			0	782		1	20.4	0.0	4.6	65.0
15			8	4			0	1266		2	20.9	0.0	4.2	64.0
16			11	4			1	986		4	27.8	0.0	4.2	64.0
17			2	1			0	940		1	23.4	0.0	4.2	64.0
18			12	6			0	780		5	25.4	0.0	4.6	64.0
19			2	2			0	553		1	21.7	0.0	5.0	63.0
20			12	7			0	1145		4	14.0	0.0	4.6	63.0
21			28	10			0	1277		8	24.9	0.0	4.2	61.0
22			4	0			0	828		4	21.3	0.0	4.2	61.0
23			12	6			0	844		6	15.2	0.0	4.0	60.0
24			5	2			0	544		4	16.2	0.0	4.0	60.0
25			11	0			0	779		4	15.4	0.0	4.5	60.0
26			8	5			0	821		2	15.7	0.0	4.5	60.0
27			4	0			0	271		4	16.5	0.0	4.5	60.0
28			13	1			0	532		0	18.2	0.0	4.5	60.0
29			4	1			0	576		2	16.4	0.0	4.5	60.0
30			5	2			0	784		1	16.8	0.0	4.5	60.0
31			2	2			0	306		0	21.6	0.0	4.5	60.0
<b>TOTAL</b>			<b>446</b>	<b>164</b>			<b>12</b>	<b>25,830</b>		<b>85</b>				
<b>AVG.</b>			<b>14</b>	<b>5</b>				<b>833</b>		<b>3</b>	<b>17.4</b>	<b>0.0</b>	<b>4.6</b>	<b>64.0</b>

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	3,236	92
SUMMER	770	103
FALL	943	268

SOCKEYE	STEELHEAD	SHAD	MINI-JCK
44	39,500	10,066	777

TOTALS

<b>4,949</b>	<b>463</b>
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TABLE 140

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## FISH COUNTS

LITTLE GOOSE PROJECT

NOVEMBER 1994

## RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1			4	2				374		2	18.1	0.0	3.5	58.0	
2			8	2				324		1	20.0	0.0	3.5	56.0	
3			5	0				503		0	22.8	0.0	4.2	56.0	
4			2	2				319		0	17.7	0.0	4.2	56.0	
5			5	1				260		1	15.7	0.0	4.2	56.0	
6			1	0				149		1	16.4	0.0	4.2	56.0	
7			1	1				264		1	16.6	0.0	4.5	56.0	
8			2	2				366		0	17.4	0.0	4.5	56.0	
9			1	0				272		0	16.6	0.0	4.5	56.0	
10			0	0				242		0	18.4	0.0	3.8	55.0	
11			0	1				304		0	20.6	0.0	3.8	55.0	
12			0	0				367		0	12.3	0.0	3.8	55.0	
13			1	0				313		0	14.1	0.0	3.8	55.0	
14			0	1				233		0	19.7	0.0	4.5	55.0	
15			0	0				143		1	18.4	0.0	4.5	55.0	
16			0	1				167		0	20.7	0.0	4.5	55.0	
17			1	0				244		0	20.7	0.0	4.5	55.0	
18			0	0				214		0	20.6	0.0	5.0	54.0	
19			0	0				259		0	12.4	0.0	5.0	54.0	
20			0	0				114		0	12.4	0.0	4.8	52.0	
21			0	0				124		0	15.6	0.0	4.8	52.0	
22			1	0				242		0	15.1	0.0	5.4	50.0	
23			0	0				66		0	15.2	0.0	5.0	50.0	
24			0	0				134		0	12.0	0.0	5.0	50.0	
25			0	0				100		0	11.9	0.0	5.0	50.0	
26			0	0				55		0	16.8	0.0	5.0	50.0	
27			0	0				65		0	15.5	0.0	5.0	50.0	
28			0	0				38		0	18.3	0.0	5.0	48.0	
29			0	0				31		0	15.7	0.0	5.0	46.0	
30			0	0				29		0	20.1	0.0	5.0	45.0	
<b>TOTAL</b>			<b>32</b>	<b>13</b>				<b>6,315</b>		<b>7</b>					

AVG.			<b>2</b>					<b>296</b>			<b>16.9</b>	<b>0.0</b>	<b>4.1</b>	<b>55.7</b>
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TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
	SPRING	3,236
SUMMER	770	103
FALL	975	281
<b>TOTALS</b>	<b>4,981</b>	<b>476</b>

SOCKEYE	STEELHEAD	SHAD	MINI-JCK
44	45,815	10,066	784

TABLE 141

YEARLY TOTALS OF SALMONIDS COUNTED OVER  
LITTLE GOOSE DAM  
1970 - 1981, 1991-94

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS
1970	72,971	59,640	163	2,480	135,254
1971	61,402	70,013	891	2,701	135,007
1972	64,211	63,638	408	799	129,056
1973	70,605	38,820	192	1,157	110,774
1974	26,787	14,784	124	532	42,227
1975	26,960	15,225	173	697	43,055
1976	32,359	20,894	644	733	54,630
1977	49,176	47,388	574	438	97,576
1978	56,069	24,927	168	307	81,471
1979	12,515	21,049	72	390	34,026
1980	10,605	38,627	88	124	49,444
1981	19,086	38,680	200	120	58,086
**					
1991	13,737	96,830	10	1	110,578
1992	26,746	117,698	12		144,456
1993	32,384	59,740	16		92,140
1994	5,457	45,815	44		51,316
<b>Total</b>	<b>581,070</b>	<b>773,768</b>	<b>3,779</b>	<b>10,479</b>	<b>1,369,096</b>
<b>1972-1981</b>					
<b>10-Yr Avg</b>	<b>36,837</b>	<b>32,403</b>	<b>264</b>	<b>530</b>	<b>70,035</b>
<b>1991-1994</b>					
<b>Average</b>	<b>19,581</b>	<b>80,021</b>	<b>21</b>		<b>99,623</b>

\*Jacks included

\*\*1981 is the last year visual counts were made at Little Goose Project until 1991.

TABLE 142

MONTHLY COUNT OF CHINOOK SALMON  
LITTLE GOOSE DAM; 1970-1981, 1991-94

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS*
1970				6,765	32,616	15,204	11,200	1,529	4,508	965	178	6	72,971
1971				133	16,012	24,096	14,473	707	5,319	606	55	1	61,402
1972				2,226	37,991	5,585	14,747	1,614	1,445	576	27		64,211
1973				17,490	34,570	10,661	4,344	520	2,472	528	19	1	70,605
1974				136	14,224	4,451	6,213	556	749	449	9		26,787
1975				152	14,161	6,487	4,182	540	1,143	295			26,960
1976				612	17,403	9,470	3,575	302	642	355			32,359
1977				16,973	19,936	6,707	4,181	182	842	355			49,176
1978				8,190	29,195	10,676	6,172	717	621	498			56,069
1979				947	4,436	4,396	1,391	254	802	289			12,515
1980				508	5,250	2,560	1,488	191	368	240			10,605
1981				2,798	9,399	3,214	2,217	108	724	626			19,086
**													
1991				469	4,968	5,066	1,949	85	715	394	91		13,737
1992				8,000	11,108	4,932	1,217	94	959	331	105		26,746
1993				2,032	16,308	10,018	2,425	241	989	317	54		32,384
1994				294	2,307	1,281	282	98	540	610	45		5,457
<b>Total</b>				<b>65,693</b>	<b>253,576</b>	<b>114,786</b>	<b>77,631</b>	<b>7,497</b>	<b>21,849</b>	<b>7,117</b>	<b>529</b>	<b>8</b>	<b>548,686</b>
<b>**1972-1981 10-Year Average</b>				<b>5,003</b>	<b>18,657</b>	<b>6,421</b>	<b>4,851</b>	<b>498</b>	<b>981</b>	<b>421</b>			<b>36,837</b>
<b>**1991-1994 Average</b>				<b>2,699</b>	<b>8,673</b>	<b>5,324</b>	<b>1,468</b>	<b>130</b>	<b>801</b>	<b>413</b>	<b>74</b>		<b>19,581</b>

\*\*1981 is the last year visual counts were made at Little Goose Project until 1991.

\*Jacks included

TABLE 143

MONTHLY COUNT OF STEELHEAD

LITTLE GOOSE DAM

1970 - 1981, 1991 - 94

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1970			3,346	4,148	1,762	167	1,485	7,487	27,898	11,931	1,136	280	59,640
1971			586	1,968	1,319	85	1,286	3,337	38,988	19,674	2,161	609	70,013
1972	248	251	943	2,565	720	54	1,209	6,637	25,089	24,323	1,258	341	63,638
1973	133	80	1,029	2,051	829	65	1,249	2,856	16,650	12,420	1,129	319	38,810
1974	191	294	543	1,105	278	5	726	2,203	3,970	4,721	583	165	14,784
1975	96	75	70	732	472	16	390	3,433	6,230	3,711			15,225
1976				1,052	345	133	678	3,556	8,988	6,142			20,894
1977				1,340	272	155	1,951	2,738	18,753	22,179			47,388
1978				1,625	216	20	593	2,617	11,547	8,309			24,927
1979				742	222	16	1,614	2,326	5,278	10,851			21,049
1980				3,063	668	43	821	3,858	15,305	14,869			38,627
1981				1,360	424	119	1,740	2,024	11,559	21,454			38,680
**													
1991				804	266	99	1,637	559	31,818	53,734	7,913		96,830
1992				472	189	141	997	2,652	54,585	48,870	9,792		117,698
1993				1,569	343	322	3,601	5,891	12,770	32,357	2,887		59,740
1994				771	148	162	1,522	2,239	8,828	25,830	6,315		45,815
<b>Total</b>	<b>668</b>	<b>700</b>	<b>6,517</b>	<b>25,367</b>	<b>8,473</b>	<b>1,602</b>	<b>21,499</b>	<b>54,413</b>	<b>298,256</b>	<b>321,375</b>	<b>33,174</b>	<b>1,714</b>	<b>773,758</b>
<b>1972-1981 10-Yr Avg</b>			<b>646</b>	<b>1,564</b>	<b>445</b>	<b>63</b>	<b>1,097</b>	<b>3,225</b>	<b>12,337</b>	<b>12,898</b>	<b>990</b>		<b>32,402</b>
<b>1991-1994 Average</b>			<b>904</b>	<b>237</b>	<b>181</b>	<b>1,939</b>	<b>2,835</b>	<b>27,000</b>	<b>40,198</b>	<b>6,727</b>			<b>80,021</b>

\*\* 1981 is the last year visual counts were made at Little Goose Project until 1991.

TABLE 144

WILD STEELHEAD COUNTED AT  
LITTLE GOOSE DAM 1994

LITTLE GOOSE DAM	
Apr-94	Wild Steelhead

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	44
16	22
17	29
18	30
19	23
20	19
21	38
22	24
23	16
24	14
25	23
26	17
27	16
28	18
29	19
30	8

TOTAL	360
AVG.	23

TOTAL TO DATE	WILD STEELHEAD 360
---------------	-----------------------

LITTLE GOOSE DAM	
May-94	Wild Steelhead

1	6
2	17
3	5
4	6
5	7
6	6
7	6
8	6
9	8
10	8
11	6
12	4
13	2
14	4
15	1
16	5
17	0
18	1
19	4
20	1
21	0
22	0
23	0
24	0
25	0
26	1
27	0
28	0
29	0
30	1
31	1

TOTAL	106
AVG.	3

TOTAL TO DATE	WILD STEELHEAD 466
---------------	-----------------------

LITTLE GOOSE DAM	
Jun-94	Wild Steelhead

1	0
2	1
3	1
4	0
5	0
6	0
7	0
8	0
9	0
10	5
11	0
12	2
13	1
14	1
15	0
16	1
17	0
18	1
19	2
20	1
21	6
22	2
23	2
24	4
25	5
26	2
27	5
28	4
29	1
30	6

TOTAL	53
AVG.	2

TOTAL TO DATE	WILD STEELHEAD 519
---------------	-----------------------

TABLE 145

WILD STEELHEAD COUNTED AT  
LITTLE GOOSE DAM 1994

LITTLE GOOSE DAM	
Jul-94	Wild Steelhead
1	7
2	6
3	7
4	12
5	2
6	4
7	16
8	14
9	6
10	4
11	13
12	8
13	11
14	10
15	16
16	10
17	12
18	28
19	20
20	6
21	12
22	12
23	41
24	16
25	26
26	40
27	29
28	14
29	53
30	44
31	28
TOTAL	527
AVG.	17
TOTAL TO DATE	WILD STEELHEAD 1,046

LITTLE GOOSE DAM	
Aug-94	Wild Steelhead
1	20
2	19
3	22
4	30
5	23
6	19
7	19
8	28
9	26
10	28
11	22
12	11
13	24
14	16
15	4
16	24
17	20
18	18
19	11
20	16
21	28
22	17
23	23
24	13
25	12
26	18
27	11
28	8
29	19
30	16
31	8
TOTAL	573
AVG.	18
TOTAL TO DATE	WILD STEELHEAD 1,619

LITTLE GOOSE DAM	
Sep-94	Wild Steelhead
1	17
2	13
3	17
4	22
5	22
6	19
7	17
8	17
9	14
10	28
11	28
12	42
13	53
14	96
15	65
16	76
17	43
18	41
19	58
20	62
21	77
22	79
23	103
24	84
25	91
26	91
27	66
28	133
29	71
30	120
TOTAL	1,665
AVG.	56
TOTAL TO DATE	WILD STEELHEAD 3,284

TABLE 146

WILD STEELHEAD COUNTED AT  
LITTLE GOOSE DAM 1994

LITTLE GOOSE DAM		LITTLE GOOSE DAM	
Oct-94	Wild Steelhead	Nov-94	Wild Steelhead
1	108	1	55
2	144	2	47
3	180	3	86
4	168	4	56
5	120	5	50
6	205	6	24
7	175	7	50
8	96	8	55
9	76	9	43
10	158	10	36
11	101	11	58
12	121	12	74
13	173	13	62
14	120	14	40
15	206	15	32
16	157	16	25
17	143	17	40
18	130	18	30
19	89	19	43
20	197	20	25
21	185	21	29
22	122	22	43
23	103	23	10
24	88	24	23
25	131	25	14
26	140	26	10
27	43	27	13
28	89	28	6
29	95	29	5
30	138	30	4
31	49		
TOTAL	4,050	TOTAL	1,088
AVG.	131	AVG.	36
TOTAL TO DATE	WILD STEELHEAD 7,334	TOTAL TO DATE	WILD STEELHEAD 8,422

TABLE 147

MONTHLY TOTALS OF SALMONIDS AND SHAD  
COUNTED OVER LOWER GRANITE DAM IN 1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				99	2,283	1,180	436	73	422	539	45		5,077
STEELHEAD			1,644	3,007	132	97	888	1,693	7,089	25,913	6,772	315	47,550
SOCKEYE							2	3					5
COHO													
PINK													
MINI-JACK**						3	95	435	76	70	11		690
<b>TOTAL</b>			<b>1,644</b>	<b>3,106</b>	<b>2,415</b>	<b>1,277</b>	<b>1,326</b>	<b>1,769</b>	<b>7,511</b>	<b>26,452</b>	<b>6,817</b>	<b>315</b>	<b>53,322</b>
<b>SHAD</b>						<b>425</b>	<b>2,777</b>	<b>200</b>					<b>3,402</b>

\*Jacks included

\*\*Salmonid fish under 12 inches in length

TABLE 148

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT  
MARCH 1994

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS					
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F		
1								2				21.4	0.0	5.0	40.0	
2								2				22.0	0.0	5.0	40.0	
3								2				34.0	0.0	5.0	41.0	
4								2				34.2	0.0	5.0	41.0	
5								10				36.1	0.0	5.0	41.0	
6								19				35.5	0.0	5.0	41.0	
7								24				32.9	0.0	5.0	43.0	
8								58				33.0	0.0	1.5	43.0	
9								56				30.1	0.0	1.2	44.0	
10								55				25.1	0.0	1.2	44.0	
11								60				24.7	0.0	1.2	44.0	
12								28				25.3	0.0	1.2	43.0	
13								48				25.4	0.0	1.5	43.0	
14								44				24.9	0.0	2.0	42.0	
15								32				31.1	0.0	2.0	42.0	
16								67				29.6	0.0	2.0	43.0	
17								106				37.9	0.0	3.6	44.0	
18								98				40.3	0.0	3.6	44.0	
19								149				34.1	0.0	3.6	44.0	
20								46				36.7	0.0	3.5	44.0	
21								67				34.1	0.0	3.5	44.0	
22								40				30.8	0.0	3.5	44.0	
23								46				27.8	0.0	3.5	45.0	
24								62				27.2	0.0	3.5	45.0	
25								94				31.3	0.0	4.0	45.0	
26								92				23.4	0.0	4.0	45.0	
27								77				21.4	0.0	4.0	45.0	
28								67				23.8	0.0	4.0	45.0	
29								72				22.0	0.0	4.1	45.0	
30								52				23.4	0.0	4.1	45.0	
31								67				24.9	0.0	4.1	46.0	
<b>TOTAL</b>								<b>1,644</b>								
<b>AVG.</b>								<b>30</b>					<b>29.2</b>	<b>0.0</b>	<b>3.4</b>	<b>43.4</b>

TABLE 149

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT  
APRIL 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY			
	SPRING	SUMMER	FALL										SECCHI	DEG F		
1	0							175			25.2	0.0	4.1	46.0		
2	0							148			27.7	0.0	4.0	47.0		
3	0							139			28.5	0.0	4.0	48.0		
4	0							113			39.1	0.0	4.0	46.0		
5	0							149			32.0	0.0	4.0	48.0		
6	0							127			32.8	0.0	4.0	49.0		
7	0							227			35.6	0.0	4.0	49.0		
8	0							146			36.1	0.0	3.8	49.0		
9	1							146			35.3	0.0	3.5	50.0		
10	0							191			32.0	0.0	3.8	48.0		
11	0							134			33.4	0.0	3.8	49.0		
12	0							109			40.6	0.0	3.8	49.0		
13	0							180			43.4	0.0	3.8	49.0		
14	1							134			41.2	0.0	3.8	49.0		
15	1							157			35.8	0.0	3.0	49.0		
16	1							103			33.5	0.0	3.0	50.0		
17	4							80			33.5	0.0	3.6	50.0		
18	0							54			39.8	0.0	3.6	50.0		
19	0							52			52.8	0.0	3.6	50.0		
20	1							80			57.6	0.0	3.8	54.0		
21	1							54			66.5	0.0	3.6	55.0		
22	2							65			72.2	0.0	3.6	54.0		
23	1							47			79.8	0.0	3.7	54.0		
24	2							40			81.0	0.0	3.8	54.0		
25	2							24			72.8	0.0	3.0	52.0		
26	1							24			68.1	0.0	4.0	50.0		
27	2							24			65.0	0.0	4.0	51.0		
28	12							36			64.8	0.0	4.0	51.0		
29	24							24			74.3	0.0	4.0	51.0		
30	43							25			79.2	0.0	4.0	51.0		
<b>TOTAL</b>	<b>99</b>							<b>3,007</b>					<b>48.7</b>	<b>0.0</b>	<b>3.8</b>	<b>50.1</b>
<b>AVG.</b>	<b>3</b>							<b>100</b>								
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>				<b>STEELHEAD</b>								
		99		0				4,651								

TABLE 149

TABLE 150

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT  
MAY 1994

DATE	FISH COUNTS						RIVER CONDITIONS							
	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	41			0				17			75.8	0.0	4.0	51.0
2	28			0				13			74.6	0.0	4.0	51.0
3	8			0				13			70.6	0.0	4.0	51.0
4	22			0				7			72.5	0.0	4.0	51.0
5	48			0				11			76.1	0.0	4.0	51.0
6	56			0				6			79.3	0.0	4.0	52.0
7	64			0				6			73.8	0.0	5.0	52.0
8	60			0				5			79.1	0.0	5.0	53.0
9	56			2				12			89.1	0.0	5.0	55.0
10	107			2				5			86.1	0.1	5.0	55.0
11	139			1				7			93.4	17.1	5.0	55.0
12	168			1				5			89.0	24.5	5.0	55.0
13	163			1				5			92.1	26.0	5.0	56.0
14	103			0				2			85.9	29.6	5.0	56.0
15	106			0				5			80.0	29.0	5.0	55.0
16	71			2				1			85.4	29.8	5.0	54.0
17	79			2				4			78.0	26.4	5.0	53.0
18	115			1				0			77.9	29.7	5.0	53.0
19	114			0				0			74.5	27.7	5.0	53.0
20	76			0				1			75.5	25.8	5.0	53.0
21	73			0				1			72.9	25.6	5.0	53.0
22	77			0				4			75.9	25.9	5.0	53.0
23	70			4				1			72.7	26.1	4.5	53.0
24	48			2				0			73.8	25.9	4.8	53.0
25	52			0				0			79.4	25.6	5.0	54.0
26	44			1				0			76.3	25.7	5.0	55.0
27	47			0				0			77.3	21.4	5.0	56.0
28	65			1				0			68.7	14.3	5.0	57.0
29	60			5				0			64.3	17.2	5.0	57.0
30	52			2				1			59.8	17.5	5.0	59.0
31	43			1				0			58.0	17.0	5.0	58.0
<b>TOTAL</b>	<b>2,255</b>			<b>28</b>				<b>132</b>						
<b>AVG.</b>	<b>73</b>			<b>1</b>				<b>4</b>			<b>77.0</b>	<b>16.4</b>	<b>4.8</b>	<b>54.0</b>
<b>TOTALS TO DATE</b>				<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>			<b>STEELHEAD</b>						
	<b>SPRING</b>			<b>2,354</b>	<b>28</b>			<b>4,783</b>						

TABLE 151

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT  
JUNE 1994

DATE	FISH COUNTS						RIVER CONDITIONS							
	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	36			1				0	0	0	54.0	17.4	5.0	56.0
2	43			0				1	0	0	52.1	17.3	5.0	56.0
3	58			0				0	0	0	52.4	17.3	5.0	57.0
4	47			2				2	0	0	49.7	16.9	5.0	57.0
5	60			1				2	0	0	49.5	15.0	5.0	58.0
6	37			0				1	0	0	46.0	16.8	5.0	58.0
7	62			2				2	1	0	45.9	16.7	5.0	58.0
8	41			2				2	1	0	45.3	17.0	5.0	60.0
9	36			2				2	0	2	41.4	14.5	5.0	60.0
10	38			0				2	1	0	40.3	15.7	5.0	62.0
11	36			2				1	0	0	36.5	12.4	5.0	62.0
12	59			1				4	0	0	37.3	14.0	5.0	62.0
13	35			2				4	0	0	34.4	13.2	5.0	62.0
14	24			1				1	4	0	49.3	15.6	5.0	62.0
15	58			0				0	0	0	45.7	8.6	5.0	62.0
16	59			2				1	0	0	39.7	0.0	5.0	62.0
17	37			1				1	1	0	40.5	0.0	5.0	63.0
18		30		2				2	1	0	37.8	0.0	5.0	63.0
19		25		1				2	0	0	34.0	0.0	5.0	63.0
20		8		0				0	0	0	33.9	0.0	5.0	63.0
21		42		2				2	1	0	32.3	0.0	5.0	59.0
22		40		1				2	4	0	31.1	0.0	5.0	59.0
23		24		2				7	12	0	30.9	0.0	5.0	59.0
24		44		1				7	6	0	31.5	0.0	5.0	60.0
25		25		0				8	12	0	27.9	0.0	5.0	65.0
26		34		0				8	25	0	26.2	0.0	5.0	65.0
27		23		-1				7	36	1	25.1	0.0	5.0	65.0
28		20		5				2	38	0	24.5	0.0	5.0	69.0
29		28		2				14	164	0	23.2	0.0	5.0	67.0
30		32		5				10	118	0	22.9	0.0	5.0	67.0

TOTAL	766	375	39				97	425	3
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AVG.	45	29	1				3	14		38.0	7.6	5.0	61.4
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TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	3,120	47
SUMMER	375	20
TOTAL	3,495	67

STEELHEAD	SHAD	MINI-JCK
4,880	425	3

TABLE 151

TABLE 152

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT  
JULY 1994

DATE	FISH COUNTS					RIVER CONDITIONS								
	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1		37		2			0	12	109	0	22.4	0.0	5.0	67.0
2		37		4			0	23	79	2	26.0	0.0	5.0	65.0
3		25		5			0	26	103	1	26.1	0.0	5.0	65.0
4		25		2			0	18	116	0	24.7	0.0	5.0	67.0
5		35		4			0	37	260	1	26.1	0.0	5.0	67.0
6		18		4			0	23	204	0	32.7	0.0	5.0	67.0
7		26		2			0	31	196	1	43.3	0.0	5.0	67.0
8		25		4			0	24	224	1	46.1	0.0	5.0	67.0
9		28		1			0	46	263	1	43.5	0.0	5.0	67.0
10		14		1			0	44	84	6	44.8	0.0	5.0	67.0
11		12		2			0	26	127	1	45.9	0.0	5.0	67.0
12		8		4			0	19	138	2	44.6	0.0	5.0	67.0
13		8		0			0	24	145	1	43.1	0.0	5.0	67.0
14		12		2			0	18	94	4	42.1	0.0	5.0	67.0
15		11		2			1	23	82	2	42.9	0.0	5.0	67.0
16		1		-1			0	4	67	0	44.3	0.0	5.0	68.0
17		2		1			0	23	55	0	42.4	0.0	5.0	69.0
18		7		0			0	25	20	0	44.3	0.0	5.0	69.0
19		10		1			1	37	70	5	45.9	0.0	5.0	69.0
20		0		0			0	20	62	2	44.7	0.0	5.0	61.0
21		4		0			0	19	20	0	42.8	0.0	5.0	62.0
22		6		0			0	11	14	2	42.1	0.0	5.0	62.0
23		11		2			0	40	52	10	44.6	0.0	5.0	65.0
24		-2		1			0	5	32	5	43.9	0.0	5.0	65.0
25		1		0			0	34	20	2	43.2	0.0	5.0	61.0
26		4		2			0	30	26	4	41.4	0.0	5.0	61.0
27		5		1			0	48	29	11	41.9	0.0	5.0	61.0
28		5		0			0	42	26	8	44.2	0.0	5.0	59.0
29		7		0			0	64	24	10	44.7	0.0	5.0	59.0
30		6		1			0	56	18	7	32.8	0.0	5.0	59.0
31		1		0			0	36	18	6	18.5	0.0	5.0	59.0

<b>TOTAL</b>	<b>389</b>	<b>47</b>	<b>2</b>	<b>888</b>	<b>2,777</b>	<b>95</b>	<b>39.2</b>	<b>0.0</b>	<b>5.0</b>	<b>64.8</b>
<b>AVG.</b>	<b>13</b>	<b>2</b>	<b>29</b>	<b>90</b>	<b>3</b>					

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
<b>SPRING</b>	<b>3,120</b>	<b>47</b>
<b>SUMMER</b>	<b>764</b>	<b>67</b>
<b>TOTAL</b>	<b>3,884</b>	<b>114</b>

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
<b>2</b>	<b>5,768</b>	<b>3,202</b>	<b>98</b>

TABLE 153

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT  
AUGUST 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1		2		0			0	30	20	7	15.4	0.0	5.0	60.0
2		2		0			1	25	24	12	13.4	0.0	5.0	60.0
3		1		0			0	29	24	17	12.3	0.0	5.0	61.0
4		0		0			0	17	12	6	12.6	0.0	5.0	59.0
5		5		0			0	44	14	5	12.5	0.0	5.0	60.0
6		2		0			0	53	10	2	13.2	0.0	5.0	60.0
7		1		1			0	37	18	7	12.4	0.0	5.0	60.0
8		1		0			0	42	11	4	12.6	0.0	5.0	60.0
9		1		0			1	49	2	8	11.7	0.0	5.0	62.0
10		0		0			0	28	5	5	12.0	0.0	5.0	62.0
11		1		0			0	42	8	17	11.9	0.0	5.0	67.0
12		0		1			0	49	1	35	12.4	0.0	5.0	62.0
13		1		0			0	41	4	40	12.0	0.0	5.0	73.0
14		2		0			1	66	5	54	11.1	0.0	5.0	73.0
15		5		0			0	126	11	32	11.3	0.0	5.0	68.0
16		6		0			0	144	2	22	13.3	0.0	5.0	71.0
17		1		0			0	89	7	24	14.9	0.0	5.0	71.0
18			4	0			0	80	2	30	13.0	0.0	5.0	72.0
19			4	0			0	44	11	19	13.0	0.0	5.0	72.0
20			1	0			0	52	1	5	13.1	0.0	5.0	72.0
21			4	0			0	46	0	11	12.7	0.0	5.0	72.0
22			1	2			0	92	1	8	10.8	0.0	5.0	71.0
23			5	0			0	68	1	10	11.6	3.5	5.0	71.0
24			2	0			0	43	2	11	12.6	3.7	5.0	71.0
25			1	1			0	50	1	8	18.4	5.7	5.0	71.0
26			6	0			0	64	2	5	14.2	0.0	5.0	70.0
27			0	0			0	25	1	8	13.9	0.0	5.0	71.0
28			4	1			0	40	0	12	11.5	0.0	5.0	70.0
29			0	0			0	58	0	5	12.5	0.0	5.0	70.0
30			2	1			0	48	0	1	14.7	0.0	5.0	71.0
31			1	0			0	72	0	5	13.3	0.0	5.0	70.0

<b>TOTAL</b>	31	35	7
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<b>AVG</b>	2	3	
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<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
	SPRING	3,120 47
	SUMMER	795 69
	FALL	35 5
<b>TOTAL</b>	3,950	121

3	1,693	200	435
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55	6	14
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12.9	0.4	5.0	67.2
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<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
5	7,461	3,402	533

TABLE 154

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT  
SEPTEMBER 1994

FISH COUNTS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL										SECCHI	DEG F
1			2	0				44		6	12.5	0.0	5.0	70.0
2			6	0				84		5	13.1	0.0	5.0	70.0
3			1	2				92		6	13.9	0.0	5.0	70.0
4			2	1				109		12	12.6	0.0	5.0	70.0
5			5	0				86		8	11.7	0.0	5.0	70.0
6			13	1				86		6	12.4	0.0	5.0	70.0
7			6	0				94		2	15.1	0.0	5.0	70.0
8			10	1				89		1	16.1	0.0	5.0	70.0
9			18	0				106		1	15.8	0.0	5.0	70.0
10			2	0				73		1	15.2	0.0	5.0	69.0
11			6	5				66		0	12.6	0.0	5.0	69.0
12			8	2				119		1	12.1	0.0	5.0	68.0
13			14	2				142		0	13.0	0.0	5.0	68.0
14			14	0				302		5	15.6	0.0	5.0	68.0
15			19	1				318		2	13.4	0.0	5.0	68.0
16			7	0				313		1	12.9	0.0	5.0	68.0
17			18	7				300		1	13.0	0.0	5.0	68.0
18			7	2				318		0	12.9	0.0	5.0	68.0
19			12	1				235		0	12.8	0.0	5.0	68.0
20			11	2				200		1	11.0	0.0	5.0	68.0
21			12	5				254		4	12.9	0.0	5.0	66.0
22			7	6				242		2	15.0	0.0	5.0	67.0
23			23	5				404		0	16.4	0.0	5.0	67.0
24			22	2				493		2	12.8	0.0	5.0	67.0
25			13	4				428		2	12.1	0.0	5.0	66.0
26			13	7				430		2	11.4	0.0	5.0	66.0
27			18	4				412		0	13.4	0.0	5.0	66.0
28			11	5				343		0	14.8	0.0	5.0	67.0
29			24	8				398		1	12.7	0.0	5.0	67.0
30			18	7				509		4	11.6	0.0	5.0	66.0

<b>TOTAL</b>		342	80				7,089		76		13.4	0.0	5.0	68.2
<b>AVG.</b>		15	3				236		3					

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
SPRING	3,120	47
SUMMER	795	69
FALL	377	85
<b>TOTAL</b>	<b>4,292</b>	<b>201</b>

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
5	14,550	3,402	609

TABLE 155

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

LOWER GRANITE PROJECT  
 OCTOBER 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER								FALL	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI
1			20	5			421		0	12.1	0.0	5.0	66.0
2			49	19			1169		0	11.1	0.0	5.0	66.0
3			11	5			646		5	11.9	0.0	5.0	66.0
4			25	4			1069		1	12.6	0.0	5.0	65.0
5			20	12			730		2	13.0	0.0	5.0	65.0
6			38	6			871		2	14.6	0.0	5.0	65.0
7			23	7			821		2	17.1	0.0	5.0	64.0
8			10	5			794		2	15.2	0.0	5.0	64.0
9			18	7			776		0	14.2	0.0	5.0	63.0
10			12	5			679		5	13.6	0.0	5.0	62.0
11			6	8			998		1	18.3	0.0	5.0	61.0
12			6	4			701		1	16.4	0.0	5.0	60.0
13			8	2			686		2	19.9	0.0	5.0	60.0
14			13	5			720		4	21.6	0.0	5.0	60.0
15			23	10			1168		2	22.7	0.0	5.0	60.0
16			20	5			901		1	27.2	0.0	5.0	60.0
17			7	7			1033		2	22.2	0.0	5.0	60.0
18			11	5			997		7	26.5	0.0	5.0	60.0
19			1	0			1036		7	20.0	0.0	5.0	59.0
20			7	7			706		2	16.1	0.0	5.0	59.0
21			6	1			1090		1	27.3	0.0	5.0	59.0
22			13	4			1284		8	23.2	0.0	5.0	59.0
23			8	4			868		2	15.6	0.0	5.0	59.0
24			6	2			758		7	16.2	0.0	5.0	59.0
25			5	1			876		2	15.2	0.0	5.0	59.0
26			1	4			749		0	15.2	0.0	5.0	59.0
27			7	0			619		0	16.3	0.0	5.0	58.0
28			2	2			838		0	18.6	0.0	5.0	58.0
29			2	4			835		0	16.8	0.0	5.0	58.0
30			7	1			624		2	16.7	0.0	5.0	57.0
31			2	1			450		0	21.8	0.0	5.0	57.0
<b>TOTAL</b>			<b>387</b>	<b>152</b>			<b>25,913</b>		<b>70</b>				
<b>AVG.</b>			<b>12</b>	<b>5</b>			<b>836</b>		<b>2</b>	<b>17.7</b>	<b>0.0</b>	<b>5.0</b>	<b>60.9</b>

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	3,120	47
SUMMER	795	69
FALL	764	237
<b>TOTAL</b>	<b>4,679</b>	<b>353</b>

SOCKEYE	STEELHEAD	SHAD	MINI-JCK
5	40,463	3,402	679

TABLE 156

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT  
NOVEMBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			5	0				605		0	17.0	0.0	5.0	56.0
2			6	0				277		0	19.6	0.0	5.0	55.0
3			1	0				318		1	22.2	0.0	5.0	55.0
4			4	4				349		0	17.3	0.0	5.0	54.0
5			2	0				384		0	15.2	0.0	5.0	54.0
6			0	2				293		4	16.2	0.0	5.0	54.0
7			1	0				114		0	17.0	0.0	5.0	53.0
8			1	2				145		1	17.0	0.0	5.0	53.0
9			1	6				138		0	17.0	0.0	5.0	52.0
10			0	1				358		0	18.0	0.0	5.0	50.0
11			0	0				208		0	19.2	0.0	5.0	50.0
12			0	1				175		0	12.2	0.0	5.0	49.0
13			2	1				727		0	13.7	0.0	5.0	49.0
14			0	0				346		1	19.6	0.0	5.0	49.0
15			0	0				85		1	17.3	0.0	5.0	49.0
16			1	0				156		2	20.4	0.0	5.0	47.0
17			0	1				143		1	18.8	0.0	5.0	48.0
18			1	0				275		0	19.3	0.0	5.0	48.0
19			1	0				248		0	12.0	0.0	5.0	48.0
20			1	0				172		0	12.1	0.0	5.0	47.0
21			0	0				198		0	15.5	0.0	5.0	47.0
22			0	0				139		0	15.2	0.0	5.0	47.0
23			0	0				208		0	14.8	0.0	5.0	47.0
24			0	0				232		0	11.7	0.0	5.0	47.0
25			0	0				124		0	11.5	0.0	5.0	47.0
26			0	0				109		0	15.6	0.0	5.0	47.0
27			0	0				49		0	16.8	0.0	5.0	46.0
28			0	0				86		0	17.5	0.0	5.0	46.0
29			0	0				47		0	14.3	0.0	5.0	45.0
30			0	0				64		0	19.5	0.0	5.0	45.0

<b>TOTAL</b>			27	18				6,772		11		16.5	0.0	5.0	49.5
<b>AVG.</b>			1					226							

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	3,120	47
SUMMER	795	69
FALL	791	255
<b>TOTAL</b>	<b>4,706</b>	<b>371</b>

SOCKEYE	STEELHEAD	SHAD	MINI-JCK
5	47,235	3,402	690

TABLE 157

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT  
DECEMBER 1994

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH	SPILL	TURBIDITY	
SPRING	SUMMER	FALL	JACK	ADULT	JACK					KCFS	KCFS	SECCHI	DEG F
1			0	0			40			16.5	0.0	5.0	44.0
2			0	0			42			20.3	0.0	5.0	44.0
3			0	0			31			16.8	0.0	5.0	44.0
4			0	0			36			18.6	0.0	5.0	44.0
5			0	0			30			20.7	0.0	5.0	43.0
6			0	0			18			17.8	0.0	5.0	43.0
7			0	0			25			16.9	0.0	5.0	42.0
8			0	0			10			16.4	0.0	5.0	43.0
9			0	0			11			16.4	0.0	5.0	43.0
10			0	0			13			19.6	0.0	5.0	43.0
11			0	0			36			14.3	0.0	5.0	43.0
12			0	0			8			15.2	0.0	5.0	42.0
13			0	0			6			12.9	0.0	5.0	42.0
14			0	0			1			14.0	0.0	5.0	41.0
15			0	0			8			17.5	0.0	5.0	41.0
16										19.8	0.0		
17										16.2	0.0		
18										16.5	0.0		
19										24.1	0.0		
20										18.1	0.0		
21										20.7	0.0		
22										17.2	0.0		
23										20.7	0.0		
24										19.4	0.0		
25										14.8	0.0		
26										16.8	0.0		
27										18.8	0.0		
28										20.8	0.0		
29										21.6	0.0		
30										21.9	0.0		
31													

TOTAL

315

AVG.

21

17.1	0.0	5.0	42.8
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TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	3,120	47
SUMMER	795	69
FALL	791	255
<b>TOTAL</b>	<b>4,706</b>	<b>371</b>

SOCKEYE	STEELHEAD	SHAD	MINI-JCK
5	47,550	3,402	690

TABLE 157

TABLE 158

YEARLY TOTALS OF SALMONIDS COUNTED OVER  
LOWER GRANITE DAM  
1975 - 1994

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS
1975	28,460	17,311	209	921	46,901
1976	31,667	23,017	531	900	56,115
1977	49,123	53,037	458	268	102,886
1978	54,246	30,068	123	152	84,589
1979	12,548	25,046	25	158	37,777
1980	10,986	40,454	96	43	51,579
1981	19,198	40,234	218	17	59,667
1982	19,476	72,840	211	59	92,586
1983	16,200	86,234	122	51	102,607
1984	16,517	98,923	49		115,489
1985	36,567	118,463	35	2	155,067
1986	43,023	134,519	15	1	177,558
1987	37,677	70,151	29		107,857
1988	37,882	87,040	23		124,945
1989	19,557	132,579	2		152,138
1990	23,345	56,859	0		80,204
1991	13,618	100,381	8		114,007
1992	26,193	121,459	15		147,667
1993	30,446	66,699	12		97,157
1994	5,077	47,550	5		52,632
<b>Total</b>	<b>531,806</b>	<b>1,422,864</b>	<b>2,186</b>	<b>2,572</b>	<b>1,959,428</b>
<b>10-Year Average</b>	<b>27,339</b>	<b>93,570</b>	<b>14</b>		<b>120,923</b>

\*Jacks included

TABLE 159

MONTHLY COUNT OF CHINOOK SALMON  
LOWER GRANITE; 1975-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS*	
1975				1	11,693	8,722	4,854	1,183	1,462	474	71		28,460	
1976				149	14,358	10,438	5,074	428	605	535	80		31,667	
1977				12,824	22,892	6,718	4,622	203	961	776	125	2	49,123	
1978				3,329	29,983	11,464	6,976	1,234	698	519	42	1	54,246	
1979				234	4,461	4,455	1,794	256	1,003	302	43		12,548	
1980				328	5,227	2,558	1,916	241	345	343	28		10,986	
1981				1,380	10,730	2,713	2,561	92	1,008	677	37		19,198	
1982				42	9,121	4,650	3,217	329	1,399	650	62	6	19,476	
1983				113	7,676	3,551	3,167	234	828	552	79		16,200	
1984				134	4,915	5,602	4,274	303	719	522	48		16,517	
1985				1,429	20,384	10,466	1,971	281	1,285	697	53	1	36,567	
1986				3,623	26,434	7,472	2,796	137	1,250	1,136	172	3	43,023	
1987			1	4,836	22,217	5,578	3,532	216	664	508	116	9	37,677	
1988				4,722	20,615	8,771	2,654	212	429	371	104	4	37,882	
1989				577	10,597	5,771	1,511	225	478	338	60		19,557	
1990				2,808	12,925	4,902	2,094	64	248	264	40		23,345	
1991				250	4,698	5,177	2,397	72	524	465	35		13,618	
1992				6,205	12,170	4,783	1,998	110	576	288	63		26,193	
1993				638	15,627	9,728	3,095	281	736	300	41		30,446	
1994				99	2,283	1,180	436	73	422	539	45		5,077	
<b>Total</b>				<b>1</b>	<b>43,721</b>	<b>269,006</b>	<b>124,699</b>	<b>60,939</b>	<b>6,174</b>	<b>15,640</b>	<b>10,256</b>	<b>1,344</b>	<b>26</b>	<b>531,806</b>
<b>10-Year Average</b>					<b>2,519</b>	<b>14,795</b>	<b>6,383</b>	<b>2,248</b>	<b>167</b>	<b>661</b>	<b>491</b>	<b>73</b>	<b>4</b>	<b>27,339</b>

\*Jacks included

TABLE 160

## MONTHLY COUNT OF STEELHEAD

## LOWER GRANITE DAM

1975 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1975				1,724	1,065	104	102	3,337	6,396	3,584	703	296	17,311
1976	173	21	181	1,120	575	120	527	3,816	8,720	6,837	860	67	23,017
1977		9	142	1,235	229	59	1,538	2,652	16,296	27,492	2,950	435	53,037
1978	354	716	2,276	2,009	252	9	478	2,721	10,829	9,528	788	108	30,068
1979	12	44	802	962	192	16	1,197	2,602	5,143	11,323	2,487	266	25,046
1980			1,149	3,403	1,172	36	517	3,378	13,291	15,455	2,053		40,454
1981			1,052	1,610	604	98	1,422	1,609	9,391	20,714	3,096	638	40,234
1982			1,778	2,202	1,472	66	817	9,118	20,219	32,850	3,945	373	72,840
1983			3,336	1,416	244	7	1,676	8,899	32,063	34,028	4,425	140	86,234
1984			2,647	3,914	961	40	1,886	3,458	34,709	46,445	4,841	22	98,923
1985			2,474	9,686	856	146	706	5,027	63,074	33,137	3,230	127	118,463
1986			8,179	2,358	163	62	3,031	2,323	39,780	71,426	6,671	526	134,519
1987			2,962	2,951	251	51	783	2,342	16,644	34,235	8,809	1,123	70,151
1988			2,108	4,562	623	173	768	1,806	27,071	43,066	6,307	556	87,040
1989			2,172	4,789	429	99	2,026	4,199	49,256	55,766	13,308	535	132,579
1990			2,728	3,329	174	27	444	364	8,250	26,117	13,872	1,554	56,859
1991			2,422	3,530	285	43	1,009	454	24,610	58,803	7,892	1,333	100,381
1992			1,925	2,789	194	76	725	2,009	47,058	56,284	9,709	690	121,459
1993			3,232	8,118	364	191	2,621	5,298	10,374	32,618	3,702	181	66,699
1994			1,644	3,007	132	97	888	1,693	7,089	25,913	6,772	315	47,550
Total	539	790	43,209	64,714	10,237	1,520	23,161	67,105	450,263	645,621	106,420	9,285	1,422,864
10-Yr Average			2,985	4,512	347	97	1,300	2,552	29,321	43,737	8,027	694	93,570

TABLE 161

WILD STEELHEAD COUNTED AT  
LOWER GRANITE 1994

LOWER GRANITE DAM		Visual Day Count	Video Night Count
Mar-94	Wild Steelhead		
1	2	2	
2	0	0	
3	0	0	
4	0	0	
5	1	1	
6	0	0	
7	4	4	
8	5	5	
9	7	7	
10	8	8	
11	13	13	
12	6	6	
13	7	7	
14	7	7	
15	7	7	
16	7	7	
17	13	13	
18	25	25	
19	34	34	
20	10	10	
21	12	12	
22	4	4	
23	5	5	
24	6	6	
25	14	14	
26	10	10	
27	14	14	
28	17	17	
29	18	18	
30	6	6	
31	17	17	
TOTAL	279	279	
AVG.	9	9	
TOTAL TO DATE	WILD STEELHEAD 279		

LOWER GRANITE DAM		Visual Day Count	Video Night Count
Apr-94	Wild Steelhead		
1	41	37	4
2	57	40	17
3	50	43	7
4	38	32	6
5	52	44	8
6	48	37	11
7	68	59	9
8	61	42	19
9	55	47	8
10	73	64	9
11	41	30	11
12	42	32	10
13	70	61	9
14	50	41	9
15	64	49	15
16	60	41	19
17	41	28	13
18	27	17	10
19	31	19	12
20	52	41	11
21	24	18	6
22	26	23	3
23	33	28	5
24	16	14	2
25	14	10	4
26	14	14	0
27	15	14	1
28	18	17	1
29	21	18	3
30	21	20	1
TOTAL	1,223	980	243
AVG.	41	33	8
TOTAL TO DATE	WILD STEELHEAD 1,501		

TABLE 162

WILD STEELHEAD COUNTED AT  
LOWER GRANITE 1994

LOWER GRANITE DAM		Visual Day Count	Video Night Count
May-94	Wild Steelhead		
1	13	13	0
2	10	8	2
3	8	8	0
4	7	6	1
5	8	7	1
6	7	6	1
7	6	6	0
8	5	5	0
9	10	10	0
10	5	5	0
11	7	7	0
12	1	1	0
13	5	5	0
14	2	2	0
15	5	5	0
16	1	1	0
17	2	2	0
18	0	0	0
19	0	0	0
20	0	0	0
21	1	1	0
22	2	2	0
23	1	1	0
24	0	0	0
25	0	0	0
26	0	0	0
27	0	0	0
28	0	0	0
29	0	0	0
30	0	0	0
31	0	0	0
TOTAL	106	101	5
AVG.	3	3	0

TOTAL TO DATE	WILD STEELHEAD 1,606
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LOWER GRANITE DAM		Visual Day Count	Video Night Count	Break Video
Jun-94	Wild Steelhead			
1	0	0	0	
2	1	1	0	
3	0	0	0	
4	1	1	0	
5	0	0	0	
6	0	0	0	
7	0	0	0	
8	0	0	0	
9	0	0	0	
10	0	0	0	
11	1	1	0	
12	2	2	0	
13	0	0	0	
14	0	0	0	
15	0	0	0	0
16	1	1	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	0	0
21	0	0	0	0
22	1	0	0	1
23	0	0	0	0
24	2	2	0	0
25	2	2	0	0
26	4	4	0	0
27	4	4	0	0
28	2	2	0	0
29	6	4	0	2
30	0	-1	0	1
TOTAL	27	23	0	4
AVG	1	1	0	0

TOTAL TO DATE	WILD STEELHEAD 1,633
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TABLE 163

WILD STEELHEAD COUNTED AT  
LOWER GRANITE 1994

LOWER GRANITE DAM		Visual Day Count	Video Night Count	Break Video	LOWER GRANITE DAM		Visual Day Count	Video Night Count	Break Video
Jul-94	Wild Steelhead				Aug-94	Wild Steelhead			
1	6	5	0	1	1	17	17	0	-1
2	1	1	0	0	2	6	6	0	0
3	5	4	0	1	3	12	12	0	1
4	7	4	1	2	4	4	4	0	2
5	14	10	2	2	5	20	19	1	5
6	5	6	-1	0	6	17	16	1	8
7	19	16	1	2	7	11	10	1	0
8	5	5	0	0	8	14	10	0	4
9	20	17	0	3	9	17	14	0	3
10	19	17	0	2	10	10	10	0	0
11	10	7	0	3	11	17	12	0	5
12	6	7	-1	0	12	32	29	1	2
13	3	4	0	-1	13	13	10	0	3
14	9	7	0	2	14	23	18	1	4
15	16	11	0	5	15	53	41	2	10
16	-2	-2	0	0	16	50	44	1	5
17	10	10	0	0	17	30	22	4	4
18	9	6	0	3	18	21	14	1	6
19	18	20	0	-2	19	23	14	1	8
20	9	8	0	1	20	15	10	0	5
21	5	5	0	0	21	16	11	1	4
22	3	4	0	-1	22	25	17	3	5
23	17	16	0	1	23	13	11	0	2
24	2	2	0	0	24	15	11	3	1
25	14	11	0	3	25	14	12	1	1
26	8	7	0	1	26	27	22	0	5
27	22	23	0	-1	27	8	7	1	0
28	15	10	2	3	28	6	5	0	1
29	35	32	1	2	29	14	11	0	3
30	19	18	0	1	30	20	11	2	7
31	12	11	0	1	31	30	28	1	1
TOTAL	341	302	5	34	TOTAL	593	478	26	104
AVG.	11	10	0	1	AVG.	19	15	1	3
TOTAL TO DATE	WILD STEELHEAD 1,974				TOTAL TO DATE	WILD STEELHEAD 2,567			

TABLE 164

WILD STEELHEAD COUNTED AT  
LOWER GRANITE 1994

LOWER GRANITE DAM		Visual Day Count	Video Night Count
Sep-94	Wild Steelhead		
1	8	8	0
2	20	18	2
3	17	17	0
4	28	25	3
5	24	22	2
6	24	22	2
7	9	8	1
8	23	23	0
9	11	11	0
10	14	12	2
11	18	17	1
12	27	23	4
13	24	19	5
14	82	77	5
15	45	41	4
16	64	61	3
17	59	58	1
18	62	62	0
19	43	40	3
20	37	32	5
21	55	54	1
22	45	41	4
23	83	79	4
24	101	94	7
25	71	70	1
26	94	90	4
27	93	83	10
28	72	61	11
29	102	90	12
30	115	101	14
<b>TOTAL</b>	<b>1,470</b>	<b>1359</b>	<b>111</b>
<b>AVG.</b>	<b>49</b>	<b>45</b>	<b>4</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 4,037</b>		

LOWER GRANITE DAM		Visual Day Count	Video Night Count
Oct-94	Wild Steelhead		
1	96	79	17
2	205	193	12
3	78	72	6
4	186	175	11
5	97	85	12
6	186	156	30
7	119	98	21
8	119	107	12
9	116	104	12
10	95	84	11
11	141	134	7
12	102	96	6
13	89	78	11
14	126	108	18
15	183	168	15
16	154	138	16
17	166	150	16
18	192	158	34
19	143	137	6
20	93	84	9
21	166	155	11
22	173	163	10
23	116	107	9
24	117	107	10
25	146	133	13
26	152	133	19
27	109	98	11
28	98	83	15
29	134	128	6
30	101	101	0
31	88	67	21
<b>TOTAL</b>	<b>4,086</b>	<b>3679</b>	<b>407</b>
<b>AVG.</b>	<b>132</b>	<b>119</b>	<b>13</b>
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 8,123</b>		

TABLE 165

WILD STEELHEAD COUNTED AT  
LOWER GRANITE 1994

LOWER GRANITE DAM		Visual Day Count	Video Night Count	Break Video	LOWER GRANITE DAM		Visual Day Count	Video Night Count	Break Video
Nov-94	Wild Steelhead				Dec-94	Wild Steelhead			
1	127	96	31		1	12	6	6	
2	61	44	17		2	7	5	2	
3	39	34	5		3	4	2	2	
4	64	49	15		4	6	4	2	
5	86	64	22		5	4	4	0	
6	41	34	7		6	1	0	1	
7	16	11	5		7	0	0	0	
8	22	19	3		8	1	1	0	
9	20	8	12		9	0	0	0	
10	49	37	12		10	1	1	0	
11	47	41	6		11	6	5	1	
12	31	26	5		12	1	1	0	
13	127	109	18		13	0	0	0	
14	51	43	8		14	0	0	0	
15	18	11	7		15	0	0	0	
16	36	18	18						
17	34	22	12						
18	63	50	13						
19	54	50	4						
20	36	26	10						
21	32	26	6						
22	27	14	13						
23	39	22	17						
24	38	28	10						
25	26	19	7						
26	23	22	1						
27	8	5	3						
28	17	7	10						
29	13	10	3						
30	12	10	2						
<b>TOTAL</b>	<b>1,257</b>	<b>955</b>	<b>302</b>		<b>TOTAL</b>	<b>43</b>	<b>29</b>	<b>14</b>	
<b>AVG.</b>	<b>42</b>	<b>32</b>	<b>10</b>		<b>AVG.</b>	<b>3</b>	<b>2</b>	<b>1</b>	
<b>TOTAL TO DATE</b>	<b>WILD STEELHEAD 9,380</b>				<b>1994 TOTAL</b>	<b>WILD STEELHEAD 9,423</b>			

TABLE 166

U.S. ARMY ENGINEER DISTRICT, PORTLAND

NIGHT COUNTS @ LOWER GRANITE

FISH COUNTS

APRIL 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK								
	SPRING	SUMMER	FALL															
1	0						16	42										
2	0						8	34										
3	0						9	32										
4	0						3	18										
5	0						12	51										
6	0						9	60										
7	0						14	63										
8	0						16	60										
9	0						6	32										
10	0						13	55										
11	0						10	40										
12	0						8	69										
13	0						8	36										
14	0						15	50										
15	0						15	40										
16	0						19	36										
17	0						8	21										
18	0						11	27										
19	0						12	25										
20	1						9	21										
21	0						3	11										
22	1						6	12										
23	1						2	8										
24	0						4	10										
25	2						1	4										
26				No data; video malfunction.														
27	0						1	2										
28	2						1	3										
29	4						3	4										
30	3						1	1										
<b>TOTAL</b>	<b>14</b>						<b>243</b>	<b>867</b>										
<b>AVG.</b>							<b>8</b>	<b>30</b>										
<b>TOTALS TO DATE</b>	<table border="1"> <tr><td>CHINOOK ADULT</td><td>14</td></tr> <tr><td>CHINOOK JACK</td><td>0</td></tr> </table>		CHINOOK ADULT	14	CHINOOK JACK	0	<table border="1"> <tr><td>WILD STEELHEAD</td><td>243</td></tr> <tr><td>STEELHEAD</td><td>867</td></tr> </table>		WILD STEELHEAD	243	STEELHEAD	867						
CHINOOK ADULT	14																	
CHINOOK JACK	0																	
WILD STEELHEAD	243																	
STEELHEAD	867																	

Counting took place between 2000 and 0400 hours PST.

TABLE 167

U.S. ARMY ENGINEER DISTRICT, PORTLAND

NIGHT COUNTS @ LOWER GRANITE

FISH COUNTS

MAY 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD		MINI-JCK
	SPRING	SUMMER	FALL					STEELHEAD	MINI-JCK	
1	2			0			0	0		
2	3			0			2	3		
3	0			0			1	1		
4	5			0			1	2		
5	3			0			0	0		
6	4			0			1	1		
7	1			0			0	1		
8	6			0			0	0		
9	4			0			0	1		
10	1			0			0	0		
11	1			0			0	0		
12	2			0			-1	-1		
13	2			0			1	1		
14	2			1			0	0		
15	0			0			0	0		
16	4			0			0	0		
17	3			0			0	0		
18	0			0			0	0		
19	5			0			0	0		
20	0			0			0	0		
21	3			0			0	0		
22	1			0			0	0		
23	2			0			0	0		
24	4			0			0	0		
25	3			0			0	0		
26	1			0			0	0		
27	1			0			0	0		
28	3			0			0	0		
29	1			0			0	0		
30	2			0			0	0		
31	1			0			0	0		
<b>TOTAL</b>	<b>70</b>			<b>1</b>			<b>5</b>	<b>9</b>		
<b>AVG.</b>	<b>2</b>									
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>				<b>WILD STEELHEAD</b>	<b>STEELHEAD</b>		
	<b>SPRING</b>	<b>84</b>	<b>1</b>				<b>248</b>	<b>876</b>		

Counting took place between 2000 and 0400 hours PST.

TABLE 168

U.S. ARMY ENGINEER DISTRICT, PORTLAND

NIGHT COUNTS @ LOWER GRANITE

FISH COUNTS

JUNE 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK
	SPRING	SUMMER	FALL							
1	2			0				0	0	
2	3			0				1	0	
3	1			0				0	0	
4	2			0				0	0	
5	1			0				0	0	
6	0			0				0	0	
7	3			0				0	0	
8	1			0				0	0	
9	0			0				0	0	
10	3			0				0	0	
11	1			0				0	0	
12	0			0				0	0	
13	1			0				0	0	
14	2			0				0	0	
15	5			0				0	2	
16	0			0				0	0	
17	2			0				0	0	
18		5		0				1	0	
19		1		0				0	0	
20		2		0				1	1	
21		1		1				0	0	
22		0		0				0	0	
23		1		0				0	0	
24		1		0				0	-1	
25		0		0				0	0	
26		3		0				0	3	
27		-1		0				0	2	
28		3		1				1	2	
29		7		0				1	2	
30		1		1				0	0	
<b>TOTAL</b>	<b>27</b>	<b>24</b>		<b>3</b>				<b>5</b>	<b>11</b>	
<b>AVG.</b>	<b>2</b>	<b>2</b>								

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
	SPRING	111 1
	SUMMER	24 3
<b>TOTAL</b>	<b>135</b>	<b>4</b>

WILD STEELHEAD	STEELHEAD	SHAD
248	881	11

Counting took place between 2000 and 0400 hours PST.

TABLE 169

U.S. ARMY ENGINEER DISTRICT, PORTLAND

NIGHT COUNTS @ LOWER GRANITE

FISH COUNTS

JULY 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK
	SPRING	SUMMER	FALL							
1		4		0			0	2	1	
2		-1		0			0	0	3	
3		2		0			1	4	4	
4		0		0			0	2	2	
5		-1		0			2	3	8	
6		1		0			-1	0	1	
7		-1		0			1	0	3	
8		0		0			0	0	1	
9		1		0			0	0	3	
10		2		0			0	0	1	
11		2		0			0	0	4	
12		0		0			1	1	2	
13		1		0			0	1	6	
14		0		0			0	0	2	
15		0		1			0	0	4	
16		-1		0			0	0	2	
17		1		0			0	1	2	
18		1		0			0	0	1	
19		0		0			0	1	4	
20		0		0			0	1	0	
21		0		0			0	0	5	
22		0		0			0	0	6	
23		0		0			-1	-3	3	
24		0		0			1	2	2	
25		0		0			2	3	6	
26		-1		0			-1	-2	2	
27		2		0			0	1	0	
28		-1		0			1	2	4	
29		-1		0			-1	1	5	
30		-1		0			1	1	2	
31		0		0			0	1	0	
<b>TOTAL</b>		<b>9</b>		<b>1</b>			<b>6</b>	<b>22</b>	<b>89</b>	

AVG.

3

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	111	1
SUMMER	33	4

**TOTAL**

<b>144</b>	<b>5</b>
------------	----------

WILD STEELHEAD	STEELHEAD	SHAD
254	903	100

Counting took place between 2000 and 0400 hours PST.

TABLE 170

U.S. ARMY ENGINEER DISTRICT, PORTLAND

NIGHT COUNTS @ LOWER GRANITE

FISH COUNTS

AUGUST 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK
	SPRING	SUMMER	FALL							
1		0		0			0	0	2	0
2		0		0			0	1	3	0
3		0		0			0	0	3	0
4		0		0			0	1	8	0
5		0		0			1	1	1	0
6		0		0			1	1	3	1
7		0		0			1	1	2	0
8		0		0			0	2	2	0
9		0		0			0	0	3	0
10		0		0			0	1	3	0
11		0		0			0	2	4	0
12		0		0			1	1	5	1
13		0		0			0	1	1	1
14		1		0			1	2	2	2
15		1		0			2	10	0	5
16		0		0			1	7	0	-1
17		0		0			4	8	3	1
18			0	0			1	2	3	-3
19			2	0			1	3	3	0
20			0	0			0	1	0	0
21			0	0			1	6	1	0
22			0	0			3	10	0	0
23			0	0			0	0	0	0
24			0	0			3	7	1	0
25			0	0			1	5	1	1
26			0	0			0	1	0	0
27			0	0			1	3	0	0
28			1	0			0	3	0	0
29			0	0			0	2	0	0
30			0	0			2	4	0	0
31			0	0			1	1	1	0
<b>TOTAL</b>		<b>2</b>	<b>3</b>	<b>0</b>			<b>26</b>	<b>87</b>	<b>55</b>	<b>8</b>

AVG

3

2

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	111	1
SUMMER	35	4
FALL	3	0
<b>TOTAL</b>	<b>149</b>	<b>5</b>

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK
280	990	155	8

Counting took place between 2000 and 0400 hours PST.

TABLE 171

U.S. ARMY ENGINEER DISTRICT, PORTLAND

NIGHT COUNTS @ LOWER GRANITE  
SEPTEMBER 1994

FISH COUNTS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK
	SPRING	SUMMER	FALL							
1			0	0			0	2		0
2			0	0			2	4		0
3			0	2			0	3		0
4			0	0			3	5		0
5			0	0			2	8		0
6			-1	0			2	8		1
7			1	0			1	6		0
8			0	1			0	7		0
9			0	0			0	1		0
10			1	0			2	5		0
11			0	0			1	12		0
12			0	0			4	15		0
13			1	0			5	17		0
14			1	0			5	40		0
15			1	1			4	18		1
16			0	1			3	23		0
17			0	0			1	11		0
18			0	0			0	21		0
19			0	0			3	11		0
20			1	0			5	14		0
21			0	0			1	15		0
22			0	0			4	28		0
23			1	1			4	27		0
24			0	0			7	22		1
25			0	1			1	24		0
26			0	0			4	28		0
27			0	1			10	35		0
28			0	0			11	30		0
29			0	1			12	62		0
30			0	0			14	39		0
<b>TOTAL</b>			<b>6</b>	<b>9</b>			<b>111</b>	<b>541</b>		<b>3</b>

AVG.

4

18

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	111	1
SUMMER	35	4
FALL	9	9
<b>TOTAL</b>	<b>155</b>	<b>14</b>

<b>SOCKEYE</b>
1

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK
391	1,531	155	11

There was one Sockeye on the 30th.

Counting took place between 2000 and 0400 hours PST.

TABLE 172

U.S. ARMY ENGINEER DISTRICT, PORTLAND

FISH COUNTS

NIGHT COUNTS @ LOWER GRANITE

OCTOBER 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK	
	SPRING	SUMMER	FALL								
1			1	1			17	71		0	
2			0	0			12	51		0	
3			1	0			6	55		0	
4			0	0			11	62		1	
5			1	1			12	52		0	
6			0	0			30	138		0	
7			1	1			21	105		0	
8			2	0			12	82		0	
9			0	0			12	90		0	
10			0	0			11	77		0	
11			0	0			7	46		0	
12			0	1			6	66		0	
13			0	0			11	74		2	
14			1	0			18	125		0	
15			0	2			15	114		0	
16			1	0			16	138		0	
17			0	2			16	128		0	
18			0	1			34	120		1	
19			0	1			6	77		0	
20			1	0			9	69		0	
21			1	1			11	85		0	
22			1	0			10	74		0	
23			0	0			9	68		0	
24			0	0			10	91		0	
25			2	1			13	60		0	
26			0	0			19	94		0	
27			1	1			11	83		0	
28			0	0			15	90		0	
29			1	1			6	55		0	
30			No recording on 10/30								
31			1	1			21	84		0	
<b>TOTAL</b>			16	15			407	2,524		4	
<b>AVG.</b>							14	84			

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	111	1
SUMMER	35	4
FALL	25	24
<b>TOTAL</b>	171	29

SOCKEYE
1

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK
798	4,055	155	15

Counting took place between 2000 and 0400 hours PST.

TABLE 173

U.S. ARMY ENGINEER DISTRICT, PORTLAND

NIGHT COUNTS @ LOWER GRANITE

FISH COUNTS

NOVEMBER 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK
	SPRING	SUMMER	FALL							
1			0	0			32	156		1
2			0	0			17	98		1
3			0	0			5	90		0
4			2	0			13	95		0
5			0	2			22	124		0
6			2	1			6	65		0
7			1	1			5	41		0
8			1	1			3	32		0
9			5	2			12	48		0
10			0	2			12	72		0
11			0	1			6	52		0
12			2	0			5	51		0
13			1	0			18	79		1
14			0	0			8	47		0
15			0	0			7	59		0
16			0	0			18	69		0
17			0	0			12	73		0
18			0	0			13	69		0
19			0	0			4	29		0
20			0	0			10	51		0
21			1	0			6	28		0
22			0	0			13	76		0
23			0	0			17	71		0
24			0	0			10	48		0
25			0	0			7	22		0
26			0	0			1	22		0
27			0	0			3	7		0
28			0	0			10	28		0
29			0	0			3	16		0
30			0	0			4	18		0
<b>TOTAL</b>			<b>15</b>	<b>10</b>			<b>302</b>	<b>1,736</b>		<b>3</b>

AVG.

10

58

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	111	1
SUMMER	35	4
FALL	40	34
<b>TOTAL</b>	<b>186</b>	<b>39</b>

<b>SOCKEYE</b>
1

WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK
1,100	5,791	155	18

Counting took place between 2000 and 0400 hours PST.

TABLE 174

U.S. ARMY ENGINEER DISTRICT, PORTLAND

NIGHT COUNTS @ LOWER GRANITE

FISH COUNTS

DECEMBER 1994

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD	SHAD	MINI-JCK
	SPRING	SUMMER	FALL							
1							6	11		
2							2	16		
3							2	17		
4							2	8		
5							0	-1		
6							1	5		
7							0	0		
8							0	1		
9							0	4		
10							0	1		
11							1	4		
12							0	3		
13							0	4		
14							0	3		
15							0	0		
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
<b>TOTAL</b>							14	76		
<b>AVG.</b>								5		
<b>TOTALS TO DATE</b>				<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>		<b>WILD STEELHEAD</b>	<b>STEELHEAD</b>	<b>SHAD</b>	<b>MINI-JCK</b>
SPRING				111	1		1,114	5,867	155	18
SUMMER				35	4					
FALL				40	34					
<b>TOTAL</b>				186	39					
							<b>SOCKEYE</b>			
							1			

The only sockeye was on 30 September.  
 Counting took place between 2000 and 0400 hours PST.

## MID - COLUMBIA RIVER TABLES

TABLE 175

MONTHLY TOTALS OF SALMONIDS AND SHAD  
 COUNTED OVER PRIEST RAPIDS DAM IN 1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				518	2,266	3,347	9,967	6,206	8,805	1,605	176		32,890
STEELHEAD				7	13	78	902	1,286	3,087	1,269	64		6,706
SOCKEYE						1,943	10,353	89					12,385
COHO*													
PINK													
MINI-JACK**													
<b>TOTAL</b>				<b>525</b>	<b>2,279</b>	<b>5,368</b>	<b>21,222</b>	<b>7,581</b>	<b>11,892</b>	<b>2,874</b>	<b>240</b>		<b>51,981</b>
<b>SHAD</b>						<b>4,601</b>	<b>14,621</b>	<b>421</b>					<b>19,643</b>

\*Jacks included

\*\*Salmonid fish under 12 inches in length

TABLE 176

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT  
APRIL 1994

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI DEG F	
1	BEGIN COUNTING 16 APRIL									85.6	0.0		
2									81.3	0.0			
3									85.2	0.0			
4									118.9	0.0			
5									106.3	0.0			
6									105.7	0.0			
7									104.0	0.0			
8									97.0	0.0			
9									57.0	0.0			
10									63.1	0.0			
11									95.8	0.0			
12									98.6	0.0			
13									101.0	0.0			
14									81.7	0.0			
15									72.9	0.0	12.3		
16		5						0	63.0	0.0	12.3	46.0	
17		18						1	73.9	0.0	12.3	47.7	
18		3						0	101.9	0.0	10.5	47.0	
19		8						0	98.8	0.0	11.0	47.0	
20		2						2	82.4	0.0	10.4	47.0	
21		1						1	100.9	0.0	10.6	48.0	
22		18						0	89.9	0.0	11.3	48.0	
23		59						1	68.2	0.0	11.5	48.0	
24		159						0	62.7	0.0	11.0	50.0	
25		15						1	88.3	0.0	9.3	49.0	
26		16						0	95.5	5.9	9.6	48.0	
27		18						0	112.7	14.6	9.6	49.0	
28		1						1	126.6	23.6	9.8	49.0	
29		67						0	131.3	23.6	10.2	48.0	
30		128						0	151.5	21.6	8.3	47.0	
TOTAL		518						7					
AVG.		35							93.4	3.0	10.5	47.9	

TABLE 177

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT  
MAY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL									SECCHI	DEG F
1	236			0				0		134.4	25.6	8.8	49.0
2	59			0				1		107.5	19.0	8.7	50.0
3	30			0				0		137.6	25.1	8.8	49.0
4	8			0				0		138.6	24.1	9.3	49.0
5	57			0				0		141.3	25.2	8.5	49.0
6	69			0				1		131.6	23.0	7.9	49.0
7	290			1				0		114.7	20.6	8.0	49.0
8	42			0				0		111.0	18.9	8.0	51.0
9	50			0				0		122.7	20.8	7.9	52.0
10	48			0				0		121.3	19.7	8.1	52.0
11	272			0				1		125.0	21.7	6.2	52.0
12	112			0				0		130.5	20.8	7.3	52.0
13	79			0				0		118.1	14.2	7.5	52.0
14	168			0				0		97.3	10.3	7.1	51.0
15	152			0				0		105.6	8.9	6.9	52.0
16	16			0				0		114.1	12.0	7.0	52.0
17	25			0				1		117.9	16.9	7.3	52.0
18	22			1				0		119.8	14.8	7.2	52.0
19	27			1				0		115.7	14.4	8.0	51.0
20	83			0				1		120.8	17.3	8.0	51.0
21	36			0				2		122.4	20.8	7.5	52.0
22	101			1				0		94.5	17.7	7.5	53.0
23	11			0				0		133.5	23.9	7.7	53.0
24	22			2				0		156.4	33.2	8.8	53.0
25	30			0				0		150.5	30.4	7.9	53.0
26	56			1				2		140.6	38.5	7.9	54.0
27	56			2				1		136.3	47.0	7.9	54.0
28	22			1				0		119.7	36.4	7.9	54.0
29	19			0				2		120.3	29.0	8.2	54.0
30	36			2				1		119.4	29.0	8.0	54.0
31	20			0				0		142.5	30.2	8.5	54.0
<b>TOTAL</b>	<b>2,254</b>			<b>12</b>				<b>13</b>					
<b>AVG.</b>	<b>73</b>									<b>124.6</b>	<b>22.9</b>	<b>7.9</b>	<b>51.7</b>
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>					<b>STEELHEAD</b>					
	<b>SPRING</b>	<b>2,772</b>	<b>12</b>					<b>20</b>					

TABLE 177

TABLE 173

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT  
JUNE 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	DISCH KCFs	SPILL KCFs	TURBIDITY	
	SPRING	SUMMER	FALL									SECCHI	DEG F
1	18			0			0	1	1	154.0	20.4	8.7	55.0
2	33			0			0	0	2	159.7	22.5	10.7	55.0
3	14			1			0	0	7	157.1	18.4	10.8	55.0
4	40			0			0	2	1	144.8	6.0	10.6	55.0
5	32			0			0	2	5	140.6	2.6	9.7	55.0
6	20			0			0	0	4	161.1	23.6	9.0	55.0
7	10			0			-1	1	10	158.1	19.8	9.2	55.0
8	4			1			0	0	0	158.2	19.6	12.6	55.0
9	5			1			0	1	6	155.7	20.5	10.0	55.0
10	24			1			0	1	3	169.8	32.0	13.1	55.0
11	37			1			1	2	5	171.0	33.6	10.1	56.0
12	84			2			0	2	15	178.1	26.7	10.3	57.0
13	13			1			0	0	26	181.7	39.4	10.5	57.0
14		13		0			1	3	11	182.0	34.3	9.5	56.0
15		48		4			2	5	11	151.3	7.7	10.6	56.0
16		44		0			2	2	13	150.2	1.0	9.5	56.0
17		100		2			4	1	12	136.5	0.0	10.8	57.0
18		146		4			2	1	18	141.7	0.0	8.5	57.0
19		124		0			7	2	35	128.6	0.0	9.1	57.0
20		44		3			2	2	6	147.0	7.3	11.3	57.0
21		80		2			10	0	47	155.6	4.2	11.1	58.0
22		118		4			7	5	87	153.5	7.4	11.0	59.0
23		336		7			26	1	150	166.4	11.4	11.2	59.0
24		92		5			39	6	119	166.6	9.3	11.1	59.0
25		382		2			43	4	227	148.8	1.3	10.9	60.0
26		323		7			178	5	421	133.6	0.0	11.6	60.0
27		46		6			99	2	470	129.4	3.6	10.7	60.0
28		242		16			361	6	756	137.6	1.3	12.6	60.0
29		396		13			511	15	1156	143.4	7.2	10.8	61.0
30		389		7			649	6	977	160.0	12.1	9.3	61.0

<b>TOTAL</b>	<b>334</b>	<b>2,923</b>		<b>90</b>			<b>1,943</b>	<b>78</b>	<b>4,601</b>				
<b>AVG.</b>	<b>26</b>	<b>172</b>		<b>3</b>			<b>65</b>	<b>3</b>	<b>153</b>	<b>154.1</b>	<b>13.1</b>	<b>10.5</b>	<b>57.1</b>

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
	<b>SPRING</b>	<b>3,106 20</b>
	<b>SUMMER</b>	<b>2,923 82</b>
<b>TOTAL</b>	<b>6,029</b>	<b>102</b>

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>
<b>1,943</b>	<b>98</b>	<b>4,601</b>

TABLE 179

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT  
JULY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	RIVER CONDITIONS			
	SPRING	SUMMER	FALL							DISCH KCFS	SPILL KCFS	TURBIDITY	
										SECCHI	DEG F		
1		644		18			850	15	1148	144.7	14.9	10.3	61.0
2		478		5			791	6	966	111.2	22.9	10.3	61.0
3		308		48			1115	20	465	96.4	28.1	10.3	60.0
4		625		25			722	13	357	105.4	22.4	10.5	61.0
5		459		2			674	14	393	124.4	25.6	6.5	60.0
6		411		11			652	26	792	121.5	23.8	8.2	61.0
7		246		7			567	25	810	123.8	22.0	10.8	62.0
8		557		5			606	18	967	134.7	24.7	9.7	62.0
9		198		7			517	14	715	121.7	24.5	7.4	62.0
10		256		9			634	18	787	93.4	18.0	8.5	62.0
11		398		4			681	24	887	121.2	24.2	9.1	62.0
12		339		8			359	19	750	132.7	27.9	9.2	62.0
13		285		14			294	28	614	126.4	24.4	9.2	63.0
14		399		10			354	20	582	112.0	22.3	10.5	63.0
15		328		11			247	25	528	126.4	24.1	10.8	63.0
16		367		8			218	28	571	92.6	19.6	11.3	64.0
17		206		6			252	31	381	74.4	14.2	10.3	64.0
18		476		5			131	31	428	107.1	16.7	10.3	64.0
19		380		1			170	20	538	118.4	22.1	9.3	65.0
20		184		19			58	32	396	120.3	25.0	11.2	65.0
21		157		23			67	47	295	126.0	27.0	12.2	65.0
22		233		31			90	56	271	112.0	21.0	12.6	65.0
23		244		31			77	37	242	97.0	15.0	12.2	65.0
24		116		27			50	45	136	76.0	13.0	16.2	64.0
25		198		21			41	57	167	101.0	16.0	9.7	65.0
26		102		4			19	40	64	123.0	24.0	11.1	66.0
27		168		6			26	38	65	112.0	20.0	10.8	65.0
28		67		13			29	28	76	104.0	19.0	10.2	66.0
29		390		24			15	49	112	115.0	22.0	10.2	67.0
30		156		7			16	31	66	80.0	15.0	10.2	67.0
31		173		9			31	47	52	69.0	12.0	11.0	67.0

<b>TOTAL</b>	<b>9,548</b>	<b>419</b>	<b>10,353</b>	<b>902</b>	<b>14,621</b>
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<b>AVG.</b>	<b>308</b>	<b>14</b>	<b>334</b>	<b>29</b>	<b>472</b>	<b>110.4</b>	<b>21.0</b>	<b>10.3</b>	<b>63.5</b>
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<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
<b>SPRING</b>	<b>3,106</b>	<b>20</b>
<b>SUMMER</b>	<b>12,471</b>	<b>501</b>
<b>TOTAL</b>	<b>15,577</b>	<b>521</b>

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>
<b>12,296</b>	<b>1,000</b>	<b>19,222</b>



TABLE 131

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

PRIEST RAPIDS PROJ.  
 SEPTEMBER '1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	RIVER CONDITIONS			
	SPRING	SUMMER	FALL							DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			723	12				59		68.3	0.0	9.9	66.0
2			532	15				68		56.0	0.0	10.8	67.0
3			933	32				74		43.7	0.0	10.0	67.0
4			463	27				67		45.3	0.0	11.2	68.0
5			252	25				47		62.5	0.0	11.0	68.0
6			85	6				42		89.3	0.0	10.9	66.0
7			319	22				82		78.2	0.0	10.9	67.0
8			141	34				56		70.2	0.0	8.1	66.0
9			143	29				38		59.7	0.0	9.6	66.0
10			363	29				76		50.9	0.0	10.8	66.0
11			378	33				78		44.3	0.0	8.8	65.0
12			108	19				80		62.1	0.0	8.6	66.0
13			545	42				185		52.2	0.0	9.4	66.0
14			403	45				124		45.9	0.0	8.5	66.0
15			83	26				112		627.0	0.0	11.0	66.0
16			172	44				136		82.1	0.0	11.0	66.0
17			229	70				117		48.7	0.0	10.5	66.0
18			300	61				131		50.7	0.0	10.5	66.0
19			143	65				105		71.1	0.0	11.0	66.0
20			118	64				108		82.8	0.0	10.3	66.0
21			76	47				143		76.6	0.0	10.8	66.0
22			104	76				123		71.8	0.0	13.3	66.0
23			147	58				131		48.4	0.0	10.3	65.0
24			87	55				121		56.8	0.0	12.0	67.0
25			177	63				194		44.3	0.0	12.2	65.0
26			73	56				123		77.6	0.0	9.1	66.0
27			89	46				109		82.1	0.0	10.9	66.0
28			69	41				81		68.0	0.0	9.0	66.0
29			140	77				127		61.4	0.0	9.0	66.0
30			121	70				150		57.4	0.0	12.1	65.0

<b>TOTAL</b>			7,516	1,289				3,087					
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<b>AVG.</b>			251	43				103					
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81.2	0.0	10.4	66.1
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<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
	3,106	20
<b>SPRING</b>	14,859	641
<b>SUMMER</b>	11,012	1,471
<b>FALL</b>	28,977	2,132
<b>TOTAL</b>		

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>
12,385	5,373	19,643

TABLE 181

TABLE 182

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

PRIEST RAPIDS PROJECT  
 OCTOBER 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	RIVER CONDITIONS			
	SPRING	SUMMER	FALL							DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			121	89				126		54.0	0.0	11.4	65.0
2			70	50				128		50.6	0.0	11.6	65.0
3			24	41				55		73.6	0.0	11.4	64.0
4			38	73				100		57.1	0.0	11.1	63.0
5			24	51				45		61.4	0.0	11.2	63.0
6			54	65				73		64.3	0.0	11.2	63.0
7			18	36				42		75.6	0.0	11.4	63.0
8			9	36				48		59.8	0.0	11.1	62.0
9			15	41				70		59.4	0.0	10.8	62.0
10			12	41				41		88.3	0.0	11.6	62.0
11			18	21				33		88.7	0.0	12.0	61.0
12			20	20				41		78.2	0.0	11.8	61.0
13			19	31				30		69.4	0.0	11.4	61.0
14			22	15				59		89.2	0.0	11.1	62.0
15			69	45				69		83.9	0.0	10.6	62.0
16			8	8				31		55.4	0.0	11.2	60.0
17			14	23				27		65.7	0.0	11.1	60.0
18			13	31				35		72.3	0.0	10.9	60.0
19			5	33				20		81.3	0.0	10.8	60.0
20			4	30				27		77.3	0.0	11.2	60.0
21			10	31				27		82.5	0.0	11.0	60.0
22			1	17				8		71.3	0.0	11.1	59.0
23			1	10				30		61.7	0.0	11.0	59.0
24			1	8				7		69.8	0.0	10.5	58.0
25			1	13				9		80.4	0.0	10.9	58.0
26			10	9				17		85.3	0.0	9.8	58.0
27			28	17				20		86.2	0.0	14.3	59.0
28			18	5				12		88.3	0.0	10.3	58.0
29			11	13				15		76.6	0.0	10.7	58.0
30			12	7				19		63.4	0.0	10.6	57.0
31			15	10				5		63.4	0.0	10.2	56.0

TOTALS

685	920
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1,269
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72.1	0.0	11.1	60.6
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AVG.

22	30
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42

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	3,106	20
SUMMER	14,859	641
FALL	11,697	2,391
<b>TOTAL</b>	<b>29,662</b>	<b>3,052</b>

SOCKEYE	STEELHEAD	SHAD
12,385	6,642	19,643

TABLE 183

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT  
NOVEMBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	RIVER CONDITIONS				
	SPRING	SUMMER	FALL							DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F	
1			56	9				4			84.6	0.0	10.7	57.0
2			24	6				4			81.6	0.0	11.5	55.0
3			8	2				7			84.8	0.0	11.0	54.0
4			8	6				7			85.2	0.0	10.9	54.0
5			8	5				4			85.3	0.0	10.8	53.0
6			5	4				6			78.5	0.0	14.9	53.0
7			3	4				3			77.2	0.0	11.1	53.0
8			8	1				8			80.9	0.0	11.1	53.0
9			4	0				2			83.9	0.0	11.6	53.0
10			1	4				7			74.3	0.0	10.6	53.0
11			1	0				1			78.3	0.0	10.9	53.0
12			0	4				2			81.8	0.0	10.0	53.0
13			0	0				2			69.0	0.0	14.1	53.0
14			5	0				3			73.7	0.0	12.4	51.0
15			0	0				4			81.1	0.0	15.0	51.0
16											85.3	0.0		
17											88.1	0.0		
18											95.2	0.0		
19											90.8	0.0		
20											75.9	0.0		
21											102.3	0.0		
22											110.5	0.0		
23											96.8	0.0		
24											67.2	0.0		
25											67.3	0.0		
26											76.8	0.0		
27											81.4	0.0		
28											105.5	0.0		
29											97.9	0.0		
30											89.1	0.0		

<b>TOTALS</b>		131	45			64					84.3	0.0	11.8	53.3
<b>AVG.</b>		9.	3			4								

<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
	<b>SPRING</b>	3,106	20
	<b>SUMMER</b>	14,859	641
	<b>FALL</b>	11,828	2,436
<b>TOTAL</b>		29,793	3,097

<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>SHAD</b>
12,385	6,706	19,643

TABLE 183

TABLE 184

YEARLY TOTALS OF SALMONIDS COUNTED OVER  
PRIEST RAPIDS DAM  
1982 - 1994

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS
1982	32,081	11,160	40,461	1,810	85,512
1983	31,008	31,809	90,008	502	153,327
1984	41,425	26,213	114,761	173	182,572
1985	62,164	34,589	118,542	219	215,514
1986	68,703	22,401	43,084	83	134,271
1987	73,214	14,011	76,578	108	163,911
1988	53,963	10,208	51,135	68	115,374
1989	49,246	10,730	45,301	32	105,309
1990	36,257	7,830	46,331	31	90,449
1991	31,482	13,939	71,245	22	116,688
1992	37,752	13,733	80,857	1	160,589
1993	54,566	70,992	82,924	1	208,483
1994	32,890	6,706	12,385	0	51,981
<b>Total</b>	<b>604,751</b>	<b>274,321</b>	<b>873,612</b>	<b>3,050</b>	<b>1,755,734</b>
<b>10-Year Average</b>	<b>50,024</b>	<b>20,514</b>	<b>62,838</b>	<b>57</b>	<b>136,257</b>

\*Jacks included

TABLE 185

MONTHLY COUNT OF STEELHEAD  
PRIEST RAPIDS DAM; 1960-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1960				159	651	25	318	2,255	3,190	1,229			7,827
1961				52	208	43	381	1,480	4,650	1,753			8,567
1962				133	530	74	329	2,027	4,925	1,306			9,324
1963				183	564	109	336	2,922	3,344	1,816			9,274
1964				85	196	44	261	1,986	2,649	770			5,991
1965				129	298	91	649	2,498	3,868	1,508			9,041
1966				189	252	296	1,194	2,775	5,549	2,751			13,006
1967				213	381	62	411	1,686	2,109	2,492			7,354
1968				530	1,112	24	185	1,954	4,950	1,769			10,524
1969				120	670	105	566	1,598	2,544	1,047			6,650
1970				85	195	27	197	1,129	3,053	872			5,558
1971				46	440	61	185	2,043	6,241	2,086			11,102
1972				163	552	42	318	1,992	2,190	1,172			6,429
1973				132	160	56	788	1,738	3,254	871			6,999
1974				45	129	229	504	845	945	392			3,089
1975				3	37	99	214	670	1,187	252			2,462
1976				3	133	246	531	1,873	5,462	1,000			9,248
1977				178	200	209	1,029	1,963	4,519	1,706			9,804
1978				72	134	214	532	1,143	1,869	581			4,545
1979				13	127	30	585	3,082	3,174	1,398			8,409
1980				232	203	17	179	1,815	4,721	1,263	94		8,524
1981				75	144	105	445	2,414	4,127	1,545	133	24	9,012
1982	5	32	70	136	86	46	331	3,126	5,345	1,805	163	15	11,160
1983	5	9	52	40	11	12	599	8,660	18,272	3,534	602	13	31,809
1984	28	4	92	142	145	224	2,534	8,840	11,907	2,030	256	11	26,213
1985	2	11	74	351	326	856	5,319	11,063	14,693	1,659	235		34,589
1986				82	100	262	3,637	10,584	5,647	1,856	233		22,401
1987				42	71	124	1,954	5,741	4,311	1,495	273		14,011
1988				48	108	239	1,234	3,119	4,016	1,176	268		10,208
1989				36	50	133	1,361	3,499	4,581	872	198		10,730
1990				24	52	130	1,282	2,616	3,060	551	115		7,830
1991				31	73	66	1,406	4,041	6,301	1,768	253		13,939
1992				60	152	313	2,328	3,261	6,265	1,227	127		13,733
1993				31	41	130	992	1,770	2,016	472	41		5,493
1994				7	13	78	902	1,286	3,087	1,269	64		6,706
TOTA	40	56	288	3,870	8,544	4,821	34,016	109,494	168,021	49,293	3,055	63	381,561
10-Year Average				71	99	233	2,042	4,698	5,398	1,235	181		13,964

TABLE 186

MONTHLY TOTALS OF SALMONIDS AND SHAD  
COUNTED OVER ROCK ISLAND DAM IN 1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				133	1,649	1,806	8,981	4,994	4,248	2,149	404		24,364
STEELHEAD				29	16	50	631	1,151	2,181	1,437	125		5,620
SOCKEYE					1	249	10,823	280	13	2			11,368
COHO									2	14	2		18
PINK													
MINI-JACK**				17	21	160	961	206	163	53	4		1,585
<b>TOTAL</b>				<b>179</b>	<b>1,687</b>	<b>2,265</b>	<b>21,396</b>	<b>6,631</b>	<b>6,607</b>	<b>3,655</b>	<b>535</b>		<b>42,955</b>
<b>SHAD</b>													

\*Jacks included

\*\*Salmonid fish under 12 inches in length

TABLE 187

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCK ISLAND PROJECT  
APRIL 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL										SECCHI	DEG F	
1	BEGIN COUNTING 13 APR											79.1	0.8		
2											78.3	0.0			
3											75.9	0.0			
4											113.0	0.0			
5											94.1	0.0			
6											101.8	0.0			
7											94.6	0.0			
8											86.3	0.0			
9											54.2	0.0			
10											62.5	0.0			
11											89.2	0.0			
12											84.9	0.0			
13	2			0				3		0	93.1	0.0	10.0	44.0	
14	1			0				4		0	79.6	0.0	10.4	44.0	
15	1			0				2		3	68.3	0.0	10.2	44.0	
16	2			0				1		0	64.3	0.0	10.2	44.0	
17	1			1				0		0	68.3	0.0	10.4	45.0	
18	1			0				3		0	98.0	0.0	10.4	45.0	
19	1			0				0		2	90.8	0.0	9.0	46.0	
20	3			0				0		0	83.8	0.0	9.2	47.0	
21	6			0				2		0	85.9	10.1	8.8	47.0	
22	0			0				0		0	78.3	17.6	8.0	47.0	
23	3			0				2		1	54.1	16.2	8.6	47.0	
24	12			0				1		1	61.8	13.5	8.2	47.0	
25	4			0				2		2	84.9	8.8	7.2	47.0	
26	19			0				2		0	90.4	12.9	8.6	48.0	
27	23			0				2		2	104.4	17.4	8.0	48.0	
28	22			0				2		4	107.6	18.0	6.6	48.0	
29	14			0				1		0	125.8	20.4	6.6	48.0	
30	17			0				2		2	109.9	19.9	6.0	48.0	
<b>TOTAL</b>	<b>132</b>			<b>1</b>				<b>29</b>		<b>17</b>					
<b>AVG.</b>	<b>8</b>							<b>1</b>			<b>85.4</b>	<b>5.2</b>	<b>8.7</b>	<b>46.3</b>	

TABLE 188

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

ROCK ISLAND PROJECT  
 MAY 1994

RIVER CONDITIONS

DATE	FISH COUNTS				RIVER CONDITIONS									
	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	10			0			0	1		2	104.0	20.7	7.2	48.0
2	16			0			0	0		1	124.8	19.1	6.6	48.0
3	17			0			0	0		2	150.1	23.2	6.4	48.0
4	28			0			0	0		0	132.8	31.6	5.8	48.0
5	55			0			0	0		0	129.1	28.3	6.0	49.0
6	60			0			0	1		0	121.0	23.2	6.0	48.0
7	95			0			0	1		0	109.1	22.3	6.2	49.0
8	64			0			0	0		1	87.8	17.2	6.4	50.0
9	60			0			0	0		3	129.9	14.5	6.6	51.0
10	56			1			0	0		1	118.7	24.1	5.6	51.0
11	85			1			0	2		2	119.1	25.5	6.0	52.0
12	49			0			0	0		0	118.7	23.7	5.6	52.0
13	66			0			0	1		1	107.4	22.5	6.0	52.0
14	115			0			0	1		0	84.6	19.1	6.0	52.0
15	108			0			0	0		1	93.1	15.9	5.4	52.0
16	35			1			0	1		0	117.2	11.8	5.8	52.0
17	101			0			0	2		0	107.3	16.5	5.2	52.0
18	54			0			0	1		2	104.6	21.2	6.0	52.0
19	100			3			0	0		0	105.4	20.2	5.0	52.0
20	72			0			0	0		0	117.6	19.7	6.6	52.0
21	24			0			0	0		0	108.2	18.7	7.0	52.0
22	60			4			0	0		2	97.5	17.9	8.0	52.0
23	47			2			0	0		0	152.0	13.7	7.2	52.0
24	45			2			1	3		0	146.3	17.1	7.8	53.0
25	23			0			0	1		0	138.3	25.2	8.0	53.5
26	34			5			0	0		1	129.3	21.5	8.8	53.0
27	21			0			0	1		2	129.2	21.4	10.6	53.0
28	43			2			0	0		0	110.6	18.3	10.4	53.0
29	24			1			0	0		0	103.1	17.0	10.4	53.0
30	45			1			0	0		0	125.0	8.8	10.4	53.0
31	13			1			0	0		0	143.0	0.0	10.2	55.0

TOTAL 1,625

24

1 16

21

AVG. 52

118.2 19.3 7.1 51.4

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	1,757	25

SOCKEYE	STEELHEAD
1	45

MINI-JCK
38

TABLE 189

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

ROCK ISLAND PROJECT  
 JUNE 1994

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	8			1			0	0		0	150.5	1.1	9.4	55.0
2	14			0			1	0		0	154.6	0.8	10.0	54.0
3	11			1			0	0		0	147.3	0.0	10.2	55.0
4	12			0			0	0		1	130.3	0.0	10.2	55.0
5	4			1			0	0		2	141.2	0.0	12.0	55.0
6	6			0			0	1		0	152.5	0.0	12.0	55.0
7	14			1			0	0		2	147.2	0.0	11.0	54.5
8	25			0			0	0		0	145.7	0.0	10.8	54.0
9	16			1			0	4		1	155.4	0.0	11.0	54.0
10	11			0			0	1		1	172.6	0.0	10.4	56.0
11	5			1			0	1		0	164.1	1.5	10.4	56.0
12	21			0			0	0		1	165.8	3.7	11.4	57.0
13	10			0			0	1		1	177.7	3.8	11.6	57.0
14	7			1			0	0		1	169.2	3.7	12.0	57.0
15	15			1			0	3		1	138.1	3.8	12.0	57.0
16	36			1			0	1		0	131.5	3.8	10.6	57.0
17	32			0			0	0		1	129.1	3.8	12.0	57.0
18		57		0			0	2		4	125.1	3.8	11.0	57.0
19		42		0			4	2		5	136.0	3.8	11.2	57.0
20		58		2			1	4		4	156.4	3.8	12.0	57.0
21		53		2			3	0		3	145.0	3.8	12.2	58.0
22		53		4			1	3		8	151.5	3.8	12.2	58.0
23		60		2			4	3		8	156.8	3.8	12.0	60.0
24		35		2			2	1		14	159.2	5.3	11.4	60.0
25		143		6			16	2		20	125.9	7.6	11.2	60.0
26		185		6			11	1		14	120.4	8.5	10.4	59.0
27		153		1			18	4		15	139.4	8.4	12.2	59.0
28		202		6			37	9		16	133.7	8.0	12.0	59.0
29		161		7			53	3		15	145.6	7.8	11.4	60.0
30		296		14			98	4		22	145.3	7.9	12.4	60.0
<b>TOTAL</b>	<b>247</b>	<b>1,498</b>		<b>61</b>			<b>249</b>	<b>50</b>		<b>160</b>				
<b>AVG.</b>	<b>15</b>	<b>115</b>		<b>2</b>			<b>8</b>	<b>2</b>		<b>5</b>			<b>11.3</b>	<b>57.0</b>
<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>				<b>SOCKEYE</b>	<b>STEELHEAD</b>		<b>MINI-JCK</b>				
	<b>SPRING</b>	<b>2,004</b>	<b>34</b>				<b>250</b>	<b>95</b>		<b>198</b>				
	<b>SUMMER</b>	<b>1,498</b>	<b>52</b>											
<b>TOTALS</b>		<b>3,502</b>	<b>86</b>											



TABLE 191

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

ROCK ISLAND PROJECT  
 AUGUST 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS					
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F		
1		106		15			32	25		20	89.8	0.0	12.4	65.0		
2		137		6			18	32		5	97.6	0.0	12.0	66.0		
3		127		8			37	27		10	96.8	0.0	12.8	68.0		
4		87		12			18	32		17	90.0	0.0	12.4	68.0		
5		94		12			14	28		10	84.5	0.0	12.4	68.0		
6		157		24			11	43		16	72.7	0.0	12.6	68.0		
7		259		17			10	48		10	62.9	0.0	12.2	67.0		
8		211		6			18	26		5	82.9	0.0	12.8	67.0		
9		188		9			18	38		8	78.8	0.0	12.8	67.0		
10		123		10			6	34		2	83.3	0.0	11.6	67.0		
11		76		13			0	37		14	86.2	0.0	11.6	67.0		
12		49		9			0	35		11	89.8	0.0	12.0	67.0		
13		127		13			6	36		6	69.9	0.0	12.0	68.0		
14		220		13			18	32		7	50.2	0.0	11.0	68.0		
15		244		7			12	30		0	94.8	0.0	11.0	68.0		
16		164		8			8	54		2	88.7	0.0	10.8	68.0		
17		93		4			12	51		7	81.4	0.0	11.0	68.0		
18			47	10			4	45		8	84.9	0.0	11.2	68.0		
19			101	3			7	30		2	68.9	0.0	11.0	68.0		
20			129	16			3	27		2	56.1	0.0	10.8	68.0		
21			136	15			0	29		1	42.8	0.0	10.8	68.0		
22			197	10			1	32		0	74.9	0.0	11.0	68.0		
23			231	11			7	35		7	61.9	0.0	10.8	67.0		
24			262	4			2	43		9	77.5	0.0	10.8	67.0		
25			163	18			5	45		7	73.3	0.0	11.2	67.0		
26			98	26			7	36		3	73.7	0.0	11.0	66.0		
27			167	10			0	32		2	63.7	0.0	10.2	67.0		
28			174	23			4	46		5	44.4	0.0	11.0	67.0		
29			152	6			1	47		4	79.3	0.0	11.4	67.5		
30			141	9			0	53		4	66.0	0.2	11.4	67.5		
31			176	11			1	43		2	74.7	0.0	11.8	67.0		
<b>TOTAL</b>		<b>2,462</b>	<b>2,174</b>	<b>358</b>			<b>280</b>	<b>1,151</b>		<b>206</b>						
<b>AVG.</b>		<b>145</b>	<b>155</b>	<b>12</b>			<b>9</b>	<b>37</b>		<b>7</b>			<b>75.6</b>	<b>0.0</b>	<b>11.5</b>	<b>67.4</b>
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>			<b>SOCKEYE</b>	<b>STEELHEAD</b>		<b>MINI-JCK</b>						
	<b>SPRING</b>	<b>2,004</b>	<b>34</b>				<b>11,353</b>	<b>1,877</b>		<b>1,365</b>						
	<b>SUMMER</b>	<b>12,399</b>	<b>780</b>													
	<b>FALL</b>	<b>2,174</b>	<b>172</b>													
<b>TOTALS</b>		<b>16,577</b>	<b>986</b>													

TABLE 192

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

ROCK ISLAND PROJECT  
 SEPTEMBER 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			160	8	0		1	48		6	61.7	0.0	12.0	68.0
2			70	3	0		1	53		4	53.6	0.0	12.0	68.0
3			199	10	0		1	39		6	36.6	0.0	12.4	68.0
4			174	10	0		0	51		4	42.9	0.0	12.2	68.0
5			404	9	0		1	72		2	54.1	0.0	12.6	68.0
6			274	17	0		0	70		3	81.5	0.0	12.6	68.0
7			130	15	0		0	46		4	71.7	0.0	12.0	68.0
8			127	23	0		0	55		1	62.8	0.0	12.2	68.0
9			87	15	0		0	43		1	56.4	0.0	12.0	68.0
10			135	11	0		0	44		3	40.0	0.0	12.0	67.0
11			66	26	0		0	46		4	31.8	0.0	12.4	67.0
12			68	12	0		4	58		3	58.2	0.0	12.4	67.0
13			129	16	0		1	79		4	53.4	0.0	12.0	67.0
14			104	11	0		2	77		4	47.2	0.0	12.8	67.0
15			85	12	0		2	73		11	65.4	0.0	12.6	67.0
16			196	24	0		0	108		11	71.0	0.0	12.4	67.0
17			120	24	0		0	96		7	41.5	0.0	12.4	67.0
18			74	27	0		0	64		17	47.8	0.0	13.0	67.0
19			110	20	0		0	75		6	73.7	0.0	12.6	67.0
20			92	30	0		0	118		9	65.5	0.0	12.6	67.0
21			123	46	1		0	140		8	71.2	0.0	14.0	67.0
22			70	37	0		0	79		8	57.9	0.0	13.6	67.0
23			53	23	0		0	90		8	54.3	0.0	13.2	67.0
24			56	45	0		0	71		8	44.9	0.0	14.4	67.0
25			34	33	0		0	69		1	44.9	0.0	14.2	67.0
26			72	69	0		0	72		10	75.9	0.0	14.6	67.0
27			66	70	1		0	93		5	79.4	0.0	14.2	67.0
28			82	54	0		0	99		3	56.4	0.0	16.0	68.0
29			48	52	0		0	87		0	57.1	0.0	16.0	68.0
30			48	40	0		0	66		2	59.5	0.0	16.0	68.0

<b>TOTAL</b>		3,456	792	2		13	2,181		163		57.3	0.0	13.1	67.4
<b>AVG.</b>		115	26				73		5					

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>	<b>COHO ADULT</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>MINI-JCK</b>
	2,004	34	2	11,366	4,058	1,528
	12,399	780				
	5,630	964				
<b>TOTALS</b>	<b>20,033</b>	<b>1,778</b>				

TABLE 193

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

ROCK ISLAND PROJECT  
 OCTOBER 1994

RIVER CONDITIONS

DATE	CHINOOK ADULT				COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL	JACK							DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			66	35	0		0	75		3	51.0	0.0	15.6	68.0
2			63	89	0		0	121		1	43.0	0.0	16.2	67.0
3			55	68	1		0	176		4	65.4	0.0	16.0	67.0
4			45	56	0		0	124		2	55.7	0.0	16.4	66.0
5			39	71	0		0	57		1	56.3	0.0	15.4	66.0
6			39	79	0		0	45		3	62.3	0.0	15.4	65.0
7			22	61	0		0	53		0	74.8	0.0	14.6	65.0
8			48	97	0		0	32		1	56.0	0.0	15.8	65.0
9			28	82	1		0	44		4	54.7	0.0	17.0	64.0
10			22	54	0		0	55		0	69.7	0.0	1.0	64.0
11			27	41	2		0	43		1	61.3	0.0	15.0	64.0
12			17	41	3		0	53		3	64.9	0.0	15.6	64.0
13			20	48	0		0	42		2	72.9	0.0	15.2	64.0
14			21	40	0		0	58		1	83.3	0.0	14.0	64.0
15			15	38	0		0	34		2	48.0	0.0	14.4	64.0
16			16	22	0		0	61		1	47.6	0.0	15.8	63.0
17			22	49	0		0	56		0	78.4	0.0	17.5	63.0
18			28	35	0		0	45		3	75.4	0.0	17.0	63.0
19			14	36	0		0	22		2	72.8	0.0	16.2	62.0
20			9	32	2		0	25		3	78.2	0.0	15.6	62.0
21			18	51	1		0	26		3	67.3	0.0	15.2	62.0
22			7	42	0		2	27		0	59.3	0.0	16.4	61.0
23			15	34	0		0	36		5	56.3	0.0	16.0	61.0
24			13	33	0		0	31		1	79.8	0.0	15.0	61.0
25			11	18	0		0	19		0	78.0	0.0	13.0	61.0
26			14	22	0		0	16		1	82.5	0.0	15.6	61.0
27			26	18	0		0	15		1	82.2	0.0	13.6	60.0
28			19	11	1		0	10		3	73.2	0.0	13.0	60.0
29			17	15	3		0	5		2	63.6	0.0	13.0	60.0
30			23	15	0		0	11		0	66.6	0.0	17.0	57.0
31			26	11	0		0	20		0	95.8	0.0	16.0	59.0

TOTAL

805 1,344 14

2 1,437

53

AVG.

26 43

46

2

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	2,004	34
SUMMER	12,399	780
FALL	6,435	2,308
TOTALS	20,838	3,122

COHO ADULT  
16

SOCKEYE 11,368  
STEELHEAD 5,495

MINI-JCK  
1,581

67.0 0.0 15.0 63.0



TABLE 195

MONTHLY COUNT OF STEELHEAD  
 ROCK ISLAND DAM  
 1981 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1981						30	282	1,886	2,338	2,493	347		7,376
1982				118	113	8	157	2,246	4,260	2,785	192		9,879
1983				53	36	18	579	5,811	16,942	5,619	608		29,666
1984				88	220	180	1,962	7,925	10,507	3,687	527		25,096
1985				106	393	729	4,886	6,588	16,089	2,889	319		31,999
1986				145	168	192	3,383	10,036	5,883	2,731	347		22,885
1987				100	94	112	1,242	4,900	4,095	1,842	347		12,732
1988				193	156	173	737	2,813	3,446	1,523	200		9,241
1989				135	73	66	847	2,685	3,999	1,355	191		9,351
1990				55	46	99	953	2,385	2,577	736	93		6,944
1991				30	51	45	916	3,322	4,194	2,165	204		10,927
1992				86	193	315	1,603	2,821	5,714	1,599	145		12,476
1993				97	88	87	1,427	546	1,930	597	57		4,829
1994				29	16	50	631	1,151	2,181	1,437	125		5,620
Total				1,235	1,647	2,104	19,605	55,115	84,155	31,458	3,702		199,021
10-Year Average				98	128	187	1,663	3,725	5,011	1,687	203		12,700

TABLE 196

MONTHLY TOTALS OF SALMONIDS AND SHAD  
COUNTED OVER ROCKY REACH DAM IN 1994

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				10	294	205	4,191	3,299	2,497	1,130	438		12,064
STEELHEAD				12	11	30	301	578	1,002	821	63		2,818
SOCKEYE						6	1,593	78	2	1			1,680
COHO										3	3		6
PINK													
MINI-JACK**						17	161	107	98	77	12		472
<b>TOTAL</b>				<b>22</b>	<b>305</b>	<b>258</b>	<b>6,246</b>	<b>4,062</b>	<b>3,599</b>	<b>2,032</b>	<b>516</b>		<b>17,040</b>
<b>SHAD</b>													

\*Jacks included

\*\*Salmonid fish under 12 inches in length

TABLE 197

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT  
APRIL 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT				CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	DISCH KCFS	RIVER CONDITIONS			
	SPRING	SUMMER	FALL										SPILL KCFS	TURBIDITY SECCHI	DEG F	
1	BEGIN COUNTING 16 APRIL											78.7	0.0			
2												76.5	0.0			
3												74.9	0.0			
4												110.3	0.0			
5												93.1	0.0			
6												104.4	0.0			
7												92.5	0.0			
8												85.2	0.0			
9												53.2	0.0			
10												61.7	0.0			
11												88.3	0.0			
12												84.1	0.0			
13												93.6	0.0			
14												77.8	0.0			
15												67.8	0.0			
16		0							1			63.9	0.0	16.0	44.2	
17		0							2			67.2	0.0	15.0	42.9	
18		0							1			95.4	0.0	15.0	45.0	
19		0							0			85.0	0.0	15.0	45.0	
20		1							0			77.7	5.2	11.5	46.0	
21		0							2			77.8	12.4	11.0	46.0	
22		0							1			69.8	11.6	10.9	45.5	
23		0							1			50.0	11.0	10.5	46.4	
24		0							0			55.5	9.2	10.5	46.9	
25		0							1			80.4	7.9	11.5	46.9	
26		0							1			89.2	9.8	11.5	47.8	
27		1							0			102.1	13.7	11.0	47.6	
28		2							0			99.9	15.3	6.5	48.2	
29		0							1			120.6	16.5	6.0	47.5	
30		6							1			104.7	16.2	8.0	47.7	
<b>TOTAL</b>		<b>10</b>							<b>12</b>							
<b>AVG.</b>									<b>2</b>			<b>82.7</b>	<b>4.3</b>	<b>11.3</b>	<b>46.2</b>	

TABLE 198

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT  
MAY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	[MINI-JCK]	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	7			0				1			101.3	17.0	8.5	47.3
2	5			0				2			124.3	17.0	7.5	47.3
3	6			0				0			150.7	20.3	8.5	48.1
4	0			0				1			127.9	24.3	9.0	48.0
5	5			0				1			128.0	24.0	9.0	49.1
6	10			0				1			119.9	20.0	6.0	49.1
7	13			0				1			104.4	18.4	6.0	49.4
8	0			0				1			81.5	17.2	6.0	50.0
9	1			0				0			122.1	13.3	6.0	50.0
10	8			0				0			111.4	13.5	6.0	50.0
11	37			0				0			112.9	17.2	6.0	51.3
12	7			0				0			111.8	15.0	7.0	50.0
13	17			0				0			100.4	16.4	6.0	50.0
14	8			0				0			79.8	16.0	6.0	50.6
15	12			0				0			89.7	13.9	5.0	50.3
16	16			0				0			114.5	12.8	5.0	50.3
17	20			0				0			103.6	15.4	6.5	50.7
18	7			0				0			101.9	17.5	6.5	50.7
19	12			0				0			104.8	15.5	7.0	51.1
20	13			1				0			116.7	15.8	8.0	50.8
21	38			0				1			104.9	9.7	8.5	51.1
22	2			0				0			95.6	0.0	8.5	52.0
23	2			0				2			153.0	0.0	9.5	52.4
24	2			1				0			144.1	0.0	9.5	52.7
25	2			1				0			135.5	0.0	9.5	52.7
26	7			0				0			126.2	0.0	9.5	54.3
27	5			1				0			127.1	0.0	11.0	53.0
28	13			0				0			107.4	7.6	11.5	53.7
29	6			1				0			101.2	11.3	13.0	53.6
30	0			1				0			125.1	0.0	16.0	53.6
31	7			0				0			142.4	0.0	16.0	53.6

TOTAL 288

6

11

AVG. 9

115.2 11.9 8.3 50.9

TOTALS TO DATE  

CHINOOK ADULT	CHINOOK JACK
298	6

STEELHEAD  
23

TABLE 199

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

ROCKY REACH PROJECT  
 JUNE 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	4			0			0	0		0	151.9	0.0	16.0	53.6
2	17			0			0	0		0	154.0	24.5	15.0	54.0
3	2			0			0	0		0	147.0	6.8	15.5	53.2
4	5			0			0	0		0	127.4	0.1	15.5	53.2
5	2			0			0	0		0	141.1	0.0	16.0	53.7
6	0			0			0	1		0	152.2	1.6	16.0	53.9
7	4			1			0	1		1	144.6	0.0	16.0	53.9
8	1			0			0	1		0	144.6	0.0	16.0	54.3
9	1			0			0	1		0	156.4	6.4	16.0	54.3
10	1			0			0	1		0	171.4	5.8	16.0	55.1
11	2			0			0	1		0	162.9	8.9	16.5	55.4
12	1			0			0	1		0	163.4	3.2	16.5	55.4
13	1			0			1	0		0	177.1	4.2	17.0	55.9
14	0			0			0	0		0	164.2	8.6	17.0	55.7
15	1			0			0	1		0	137.0	2.8	17.0	55.7
16	1			0			0	0		0	130.8	11.7	17.0	55.8
17	0			0			0	1		0	127.7	18.0	17.0	56.3
18	11			0			0	0		0	124.9	15.2	17.0	56.5
19	1			0			0	0		0	135.6	13.1	17.0	56.7
20		5		0			0	1		0	156.7	25.8	17.0	56.7
21		5		0			1	0		0	144.8	21.2	17.0	56.7
22		10		2			0	2		0	150.0	22.3	17.5	57.2
23		5		1			0	0		0	154.3	24.2	18.0	58.1
24		2		0			1	5		1	154.7	22.2	17.0	58.1
25		8		0			0	1		0	123.2	15.3	17.0	58.4
26		13		1			0	0		0	117.0	14.4	17.0	58.4
27		8		0			0	2		0	138.5	17.1	17.0	58.8
28		26		7			2	2		5	132.7	12.4	17.0	59.0
29		34		0			0	4		4	146.7	14.0	17.0	59.0
30		16		6			1	4		6	143.0	13.6	17.0	59.5
<b>TOTAL</b>	<b>55</b>	<b>132</b>		<b>18</b>			<b>6</b>	<b>30</b>		<b>17</b>				
<b>AVG.</b>	<b>3</b>	<b>12</b>						<b>1</b>			<b>145.9</b>	<b>11.1</b>	<b>16.6</b>	<b>56.1</b>
<b>TOTALS TO DATE</b>														
		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>				<b>SOCKEYE</b>	<b>STEELHEAD</b>		<b>MINI-JCK</b>				
	<b>SPRING</b>	353	7				6	53		17				
	<b>SUMMER</b>	132	17											
<b>TOTALS</b>		<b>485</b>	<b>24</b>											



TABLE 201

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

ROCKY REACH PROJECT  
 'AUGUST 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1		156		5			6	12		8	91.8	0.0	16.0	66.0
2		118		6			11	18		11	99.8	3.8	17.5	65.8
3		122		12			8	20		4	96.4	5.7	17.5	65.8
4		85		6			10	22		5	91.8	0.0	17.5	65.8
5		104		6			5	14		6	83.6	0.0	16.0	64.7
6		48		5			5	19		0	73.6	0.0	16.0	64.3
7		85		10			4	11		6	63.6	0.0	16.0	64.0
8		107		1			1	13		4	84.4	0.0	16.0	64.2
9		169		7			1	8		6	80.3	0.0	16.0	64.2
10		83		4			0	16		5	83.9	0.0	15.0	65.6
11		85		5			2	12		2	88.2	0.0	15.0	66.2
12		47		2			2	20		1	91.8	0.0	15.5	66.4
13		25		7			2	17		4	71.4	0.0	15.5	66.4
14		104		7			1	18		0	51.4	0.0	16.0	66.2
15		31		1			1	19		2	97.5	0.0	15.0	66.1
16		83		11			6	11		1	90.5	0.0	15.0	66.1
17		120		5			0	16		4	83.0	0.0	15.0	66.1
18		83		5			0	20		1	87.2	0.0	15.0	66.2
19		72		4			0	35		1	71.0	0.0	15.0	66.2
20			47	6			1	25		2	56.7	0.0	15.0	66.2
21			118	4			0	12		4	45.1	0.0	15.0	66.2
22			124	14			0	22		2	76.6	0.0	15.0	66.2
23			172	6			4	28		10	63.5	0.0	15.0	66.1
24			174	4			4	11		4	79.4	0.0	15.0	66.2
25			68	2			0	30		0	74.9	0.0	15.0	66.4
26			140	1			0	17		5	76.8	0.0	15.0	66.4
27			109	6			0	8		1	64.6	0.0	14.0	66.4
28			142	2			2	13		2	45.2	0.0	14.0	66.4
29			34	2			2	12		1	81.4	0.0	14.5	66.2
30			186	7			0	49		5	67.9	0.0	14.5	66.2
31			91	4			0	30		0	75.9	0.0	14.5	66.2
<b>TOTAL</b>		<b>1,727</b>	<b>1,405</b>	<b>167</b>			<b>78</b>	<b>578</b>		<b>107</b>				
<b>AVG.</b>		<b>91</b>	<b>117</b>	<b>5</b>			<b>3</b>	<b>19</b>		<b>3</b>	<b>77.1</b>	<b>0.3</b>	<b>15.4</b>	<b>65.9</b>
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>			<b>SOCKEYE</b>	<b>STEELHEAD</b>		<b>MINI-JCK</b>				
<b>SPRING</b>		353		17			1,677	932		285				
<b>SUMMER</b>		5,789		387										
<b>FALL</b>		1,405		58										
<b>TOTALS</b>		<b>7,547</b>		<b>452</b>										



MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

TABLE 203

ROCKY REACH PROJECT  
 OCTOBER 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	MINI-JCK	RIVER CONDITIONS			
	SPRING	SUMMER	FALL								DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			28	22	1		1	28		1	51.8	0.0	19.5	66.3
2			34	17	0		0	35		2	43.8	0.0	20.0	66.3
3			60	30	0		0	67		4	66.9	0.0	20.0	66.3
4			24	17	0		0	72		1	56.1	0.0	20.0	65.6
5			8	16	0		0	42		2	57.3	0.0	19.5	64.9
6			40	26	0		0	42		4	63.6	0.0	19.5	64.9
7			8	13	0		0	24		2	77.4	0.0	19.5	64.4
8			7	10	0		0	22		1	56.4	0.0	19.5	64.4
9			4	18	0		0	14		0	54.5	0.0	19.5	64.4
10			18	20	0		0	23		0	71.9	0.0	21.0	64.0
11			17	38	0		0	30		5	61.7	0.0	21.0	64.0
12			13	23	0		0	18		2	67.1	0.0	21.0	63.6
13			16	23	0		0	41		5	77.0	0.0	21.0	63.6
14			24	23	0		0	34		0	83.6	0.0	21.0	63.2
15			24	31	0		0	44		5	48.8	0.0	21.0	63.2
16			16	24	0		0	22		2	47.8	0.0	21.0	57.2
17			7	30	0		0	22		4	80.9	0.0	21.0	62.2
18			7	17	0		0	41		11	76.4	0.0	21.0	62.3
19			10	16	1		0	37		2	74.7	0.0	21.0	62.3
20			14	12	1		0	10		2	79.4	0.0	21.0	61.6
21			6	20	0		0	16		4	70.4	0.0	21.0	61.6
22			26	24	0		0	22		7	59.8	0.0	21.5	61.3
23			12	18	0		0	10		4	57.0	0.0	21.5	61.1
24			4	26	0		0	14		5	81.3	0.0	21.5	60.8
25			11	14	0		0	22		0	78.7	0.0	21.5	60.8
26			5	19	0		0	10		0	84.1	0.0	21.5	60.8
27			16	17	0		0	22		0	82.4	0.0	21.0	60.0
28			17	12	0		0	19		0	73.0	0.0	21.0	60.3
29			16	6	0		0	8		1	62.1	0.0	20.0	60.1
30			14	6	0		0	5		0	68.9	0.0	20.0	60.1
31			26	10	0		0	5		1	94.5	0.0	18.0	59.1
<b>TOTAL</b>			532	598	3		1	821		77				
<b>AVG.</b>			17	19				26		2				
<b>TOTALS TO DATE</b>					<b>COHO ADULTS</b>		<b>SOCKEYE</b>	<b>STEELHEAD</b>		<b>MINI-JCK</b>	68.0	0.0	20.5	62.6
	<b>SPRING</b>		353	7	3		1,680	2,755		460				
	<b>SUMMER</b>		5,789	387										
	<b>FALL</b>		4,171	919										
<b>TOTALS</b>			10,313	1,313										



TABLE 205

MONTHLY COUNT OF STEELHEAD  
 ROCKY REACH DAM  
 1981 - 1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1981						14	173	1,309	1,827	1,691	300		5,314
1982				137	116	5	73	1,192	2,863	1,735	120		6,241
1983				31	18	2	334	3,525	11,329	4,048	411		19,698
1984				41	174	127	1,032	5,564	7,263	2,589	438		17,228
1985				63	273	523	3,547	4,152	11,133	2,646	381		22,718
1986				61	178	160	2,003	6,072	4,225	2,222	236		15,157
1987				67	75	80	567	2,574	2,361	1,210	244		7,178
1988				99	108	108	493	1,498	2,439	820	112		5,677
1989				62	41	30	458	1,442	2,721	1,134	151		6,039
1990				24	31	33	534	1,809	1,889	646	67		5,033
1991				19	26	63	584	2,346	2,996	1,473	138		7,645
1992				50	138	203	1,026	1,861	3,051	1,093	94		7,516
1993				49	52	24	346	869	1,066	379	31		2,816
1994				12	11	30	301	578	1,002	821	63		2,818
Total				715	1,241	1,402	11,471	34,791	56,165	22,507	2,786		131,078
10-Year Average				51	93	125	986	2,320	3,288	1,244	152		8,260

**MONTHLY TOTALS OF SALMONIDS AND SHAD  
COUNTED OVER WELLS DAM IN 1994**

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*					137	161	2,860	2,266	2,033	648	161		8,266
STEELHEAD					7	8	240	442	670	695	121		2,183
SOCKEYE						5	1,495	155	7	4			1,666
COHO							2			1			3
PINK													
MINI-JACK**													
<b>TOTAL</b>					<b>144</b>	<b>174</b>	<b>4,595</b>	<b>2,865</b>	<b>2,710</b>	<b>1,348</b>	<b>282</b>		<b>12,118</b>
<b>SHAD</b>													

\*Jacks included

\*\*Salmonid fish under 12 inches in length

TABLE 207

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT  
MAY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	RIVER CONDITIONS				
	SPRING	SUMMER	FALL							DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F	
1	0			0				2			96.1	7.9	3.0	47.0
2	1			0				1			132.6	9.7	3.0	47.0
3	0			0				1			147.0	10.3	4.0	47.0
4	1			0				0			128.8	10.0	6.0	48.0
5	0			0				0			125.9	9.6	6.0	48.0
6	0			0				0			117.8	8.8	8.0	48.0
7	0			0				0			102.9	7.9	4.0	51.0
8	1			0				0			80.2	6.8	8.0	50.0
9	9			0				0			119.5	6.8	8.0	50.0
10	2			0				0			107.2	3.5	8.0	50.0
11	2			0				0			110.9	3.8	8.0	56.0
12	1			0				0			108.8	3.8	6.0	50.0
13	1			0				1			98.0	7.6	8.0	51.0
14	2			0				0			80.0	6.6	8.0	51.0
15	7			0				0			88.6	7.4	4.0	50.0
16	4			0				0			112.5	8.4	6.0	50.0
17	6			0				1			102.4	7.3	8.0	50.0
18	3			0				0			100.1	7.4	8.0	51.0
19	4			0				0			103.4	7.1	9.0	50.0
20	1			0				0			114.2	5.4	8.0	50.0
21	4			0				0			102.3	3.8	8.0	51.0
22	3			1				0			91.3	3.5	9.0	52.0
23	19			0				0			152.6	4.0	9.0	52.0
24	6			0				0			141.4	8.3	9.0	52.0
25	4			1				0			130.7	10.1	9.0	52.0
26	2			1				0			121.9	10.1	11.0	54.0
27	6			0				1			123.9	6.6	11.0	54.0
28	9			0				0			105.8	3.2	11.0	54.0
29	13			0				0			100.0	4.1	11.0	54.0
30	15			0				0			125.6	4.0	9.0	54.0
31	7			1				0			141.7	4.0	9.0	53.0

TOTAL 133

4

7

AVG. 4

113.4 6.7 7.6 50.9

TOTALS TO DATE CHINOOK ADULT 133 CHINOOK JACK 4

STEELHEAD 7

TABLE 203

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT  
JUNE 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	RIVER CONDITIONS			
	SPRING	SUMMER	FALL							DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1	2			0			0	0		149.4	3.8	12.0	53.0
2	1			0			0	0		154.5	3.7	10.0	53.0
3	4			0			0	0		148.2	3.9	12.0	53.0
4	4			0			0	0		125.0	5.0	12.0	54.0
5	7			0			0	0		141.3	4.9	12.0	54.0
6	11			1			0	1		148.7	4.7	13.0	54.0
7	6			0			0	0		143.8	5.0	11.0	55.0
8	6			0			0	0		145.3	5.2	12.0	55.0
9	3			2			0	0		158.5	5.1	13.0	55.0
10	4			0			0	0		171.1	2.9	13.0	55.0
11	0			1			0	0		158.2	2.7	14.0	56.0
12	2			0			0	0		165.8	5.1	12.0	57.0
13	0			0			0	0		177.6	6.7	11.0	56.0
14	6			0			0	0		156.8	10.2	11.0	56.0
15	5			0			0	0		135.2	5.1	13.0	56.0
16	3			0			0	0		129.7	4.0	11.0	57.0
17	0			0			0	1		129.9	3.8	12.0	56.0
18	0			0			0	0		123.2	3.9	12.0	56.0
19	3			0			0	0		137.4	3.9	13.0	57.0
20	2			1			0	0		155.5	4.4	12.0	57.0
21	1			1			0	0		146.0	3.9	11.0	58.0
22	2			0			1	0		152.9	4.1	12.0	58.0
23	4			1			0	0		154.4	5.1	14.0	59.0
24	6			0			0	0		152.0	5.1	12.0	59.0
25	7			0			1	0		122.0	4.2	13.0	59.0
26	1			2			2	1		115.3	3.7	13.0	59.0
27	11			0			0	0		140.5	3.8	12.0	59.0
28	9			2			0	0		135.2	4.0	12.0	59.0
29		4		3			0	3		143.4	3.9	15.0	59.0
30		26		7			1	2		140.2	4.2	13.0	59.0
<b>TOTAL</b>	<b>110</b>	<b>30</b>		<b>21</b>			<b>5</b>	<b>8</b>					
<b>AVG.</b>	<b>4</b>	<b>15</b>								<b>145.2</b>	<b>4.5</b>	<b>12.3</b>	<b>56.4</b>

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	243	15
SUMMER	30	10
<b>TOTAL</b>	<b>273</b>	<b>25</b>

SOCKEYE	STEELHEAD
5	15

TABLE 209

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT  
JULY 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK						SECCHI	DEG F
1		43		1			1	1		120.4	3.1	13.0	60.0
2		31		4			2	1		101.9	3.3	13.0	60.0
3		16		2			2	1		90.9	3.1	12.0	59.0
4		215		15			10	2		91.7	3.3	14.0	60.0
5		14		2			11	0		119.2	3.3	14.0	60.0
6		13		6			16	2		113.7	3.2	14.0	60.0
7		122		15			16	8		115.1	3.1	13.0	60.0
8		116		14			24	8		125.3	3.6	12.0	60.0
9		19		4			40	6		100.3	3.2	12.0	61.0
10		68		6			44	1		86.1	2.6	12.0	61.0
11		54		3			78	6		122.1	8.0	13.0	62.0
12		30		2			78	2		120.3	7.8	13.0	62.0
13		38		8			81	7		108.0	7.7	12.0	62.0
14		167		9			97	7		111.2	7.9	15.0	62.0
15		53		6			84	6		113.3	7.9	14.0	62.0
16		73		6			93	13		76.1	5.0	12.0	62.0
17		266		8			64	6		69.5	4.6	13.0	63.0
18		29		4			52	6		101.7	7.3	15.0	63.0
19		22		0			40	3		106.4	7.6	15.0	62.0
20		12		10			65	11		118.0	7.7	14.0	63.0
21		317		15			92	17		119.1	7.9	13.0	63.0
22		145		14			93	11		94.1	6.6	13.0	64.0
23		157		13			88	6		86.2	6.2	13.0	65.0
24		177		17			85	19		72.3	4.8	13.0	65.0
25		19		2			37	9		100.2	6.6	12.0	65.0
26		58		1			40	9		113.4	7.0	12.0	65.0
27		14		2			30	10		105.6	6.8	13.0	64.0
28		69		4			38	12		97.5	6.8	13.0	64.0
29		82		9			33	15		94.1	6.6	14.0	64.0
30		49		14			23	17		61.3	4.8	14.0	65.0
31		138		18			38	18		72.9	6.1	15.0	65.0
<b>TOTAL</b>		<b>2,626</b>		<b>234</b>			<b>1,495</b>	<b>240</b>					
<b>AVG.</b>		<b>85</b>		<b>8</b>			<b>48</b>	<b>8</b>		<b>100.9</b>	<b>5.6</b>	<b>13.2</b>	<b>62.4</b>
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>			<b>SOCKEYE</b>		<b>STEELHEAD</b>				
<b>SPRING</b>		<b>243</b>	<b>15</b>				<b>1,500</b>	<b>255</b>					
<b>SUMMER</b>		<b>2,656</b>	<b>244</b>										
<b>TOTAL</b>		<b>2,899</b>	<b>259</b>										

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

WELLS PROJECT  
 AUGUST 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	RIVER CONDITIONS			
	SPRING	SUMMER	FALL						DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1		18		4	0		20	12	92.6	6.1	14.0	65.0
2		41		2	0		12	9	99.2	6.9	14.0	65.0
3		73		3	0		10	9	94.7	6.8	13.0	64.0
4		77		11	0		11	21	89.9	6.7	12.0	65.0
5		171		11	0		18	18	85.0	5.7	12.0	66.0
6		128		8	0		11	16	70.8	5.1	12.0	66.0
7		11		0	0		9	7	64.0	4.4	14.0	66.0
8		27		7	0		3	13	82.8	5.8	12.0	66.0
9		9		2	0		6	9	78.1	5.7	11.0	66.0
10		137		1	0		7	26	81.2	6.4	13.0	66.0
11		156		11	0		3	12	86.2	1.2	13.0	66.0
12		41		5	0		2	14	89.3	0.0	13.0	66.0
13		113		11	0		2	14	67.6	0.0	14.0	66.0
14		30		6	0		3	11	50.2	0.0	14.0	66.0
15		23		6	0		4	12	97.2	0.0	13.0	66.0
16		8		2	0		0	14	88.0	0.0	13.0	66.0
17		27		2	0		4	17	79.9	0.0	13.0	67.0
18		84		8	0		8	19	84.8	0.0	12.0	67.0
19		92		2	0		5	9	67.2	0.0	12.0	66.0
20		45		3	0		1	12	54.4	0.0	13.0	67.0
21		7		0	0		2	14	46.2	0.0	12.0	67.0
22		46		1	0		5	15	72.2	0.0	12.0	67.0
23		59		5	2		2	21	62.6	0.0	13.0	67.0
24		127		8	0		0	15	76.9	0.0	13.0	66.0
25		111		2	0		2	21	71.6	0.0	13.0	67.0
26		93		5	0		0	18	76.2	0.0	13.0	66.0
27		131		6	0		1	23	60.5	0.0	12.0	66.0
28		72		2	0		0	24	42.5	0.0	12.0	67.0
29			60	3	0		2	8	78.5	0.0	9.0	68.0
30			44	1	0		1	4	67.3	0.0	10.0	67.0
31			65	2	0		1	5	73.5	0.0	12.0	67.0
TOTAL		1,957	169	140	2		155	442				
AVG.		70	56	5			5	14				

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	SOCKEYE	STEELHEAD	75.2	2.0	12.5	66.2
SPRING	243	15							
SUMMER	4,613	378							
FALL	169	6	2	1,655	697				
TOTAL	5,025	399							

TABLE 211

MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND  
 FISH COUNTS

WELLS PROJECT  
 'SEPTEMBER 1994  
 RIVER CONDITIONS

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD		RIVER CONDITIONS			
	SPRING	SUMMER								FALL	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI
1			120	2		0	30			60.9	0.0	11.0	68.0
2			127	6		1	28			55.6	0.0	12.0	68.0
3			165	12		0	25			36.7	0.0	12.0	68.0
4			149	4		0	22			44.3	0.0	13.0	68.0
5			46	6		0	15			54.3	0.0	12.0	68.0
6			89	1		0	20			82.2	0.0	10.0	68.0
7			49	7		0	11			71.1	0.0	14.0	67.0
8			81	4		2	8			64.2	0.0	14.0	68.0
9			208	4		0	21			58.7	0.0	13.0	68.0
10			97	3		0	19			38.5	0.0	13.0	67.0
11			60	2		0	18			33.4	0.0	13.0	67.0
12			34	2		0	27			58.7	0.0	12.0	67.0
13			55	1		1	13			53.0	0.0	13.0	68.0
14			39	12		0	9			44.9	0.0	13.0	68.0
15			29	6		0	20			64.5	0.0	12.0	68.0
16			38	8		0	32			69.2	0.0	12.0	67.0
17			11	5		0	19			40.9	0.0	13.0	68.0
18			77	2		0	25			47.2	0.0	13.0	67.0
19			55	1		1	18			73.8	0.0	13.0	68.0
20			52	9		0	13			66.0	0.0	12.0	67.0
21			67	7		1	30			70.7	0.0	12.0	67.0
22			44	1		0	35			58.8	0.0	12.0	67.0
23			29	6		0	30			52.9	0.0	13.0	68.0
24			48	6		1	50			40.7	0.0	12.0	68.0
25			34	14		0	32			46.6	0.0	12.0	68.0
26			21	9		0	23			76.1	0.0	13.0	68.0
27			18	2		0	8			78.2	0.0	12.0	68.0
28			10	1		0	17			57.6	0.0	13.0	68.0
29			12	6		0	30			57.2	0.0	13.0	67.0
30			11	9		0	22			58.3	0.0	14.0	67.0
<b>TOTAL</b>			1,875	158		7	670						

AVG. 63 5 22 57.2 0.0 12.5 67.6

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
	243	15
SPRING	4,613	378
SUMMER	2,044	164
FALL	6,900	557

COHO ADULT
2

SOCKEYE	STEELHEAD
1,662	1,367

TABLE 211

**MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND  
FISH COUNTS**

**WELLS PROJECT  
OCTOBER 1994  
RIVER CONDITIONS**

DATE	CHINOOK ADULT		FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD		RIVER CONDITIONS			
	SPRING	SUMMER									DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			8	15	0		0	21			49.5	0.0	14.0	67.0
2			28	5	0		0	24			42.0	0.0	14.0	67.0
3			16	3	0		0	20			63.0	0.9	13.0	66.0
4			12	3	0		0	21			55.2	0.0	13.0	66.0
5			16	13	1		0	24			57.3	0.0	13.0	66.0
6			12	6	0		0	30			60.9	0.0	13.0	65.0
7			13	12	0		0	48			74.8	0.0	14.0	66.0
8			8	8	0		0	27			54.7	0.0	15.0	65.0
9			0	6	0		0	20			52.8	0.0	16.0	65.0
10			0	14	0		1	17			68.8	0.0	15.0	65.0
11			1	18	0		0	15			59.1	0.0	15.0	65.0
12			7	17	0		0	25			67.2	0.0	15.0	65.0
13			12	12	0		0	32			77.6	0.0	15.0	65.0
14			12	11	0		0	25			76.6	0.0	15.0	65.0
15			12	33	0		0	21			46.4	0.0	14.0	64.0
16			7	10	0		0	27			46.6	0.0	14.0	64.0
17			12	3	0		0	29			79.2	0.0	13.0	63.0
18			2	7	0		0	17			74.9	0.0	14.0	63.0
19			6	10	0		1	21			71.9	0.0	14.0	63.0
20			3	27	0		1	28			78.4	0.0	14.0	63.0
21			10	20	0		0	14			65.9	0.0	13.0	63.0
22			10	11	0		0	13			57.3	0.0	13.0	63.0
23			10	14	0		0	12			54.4	0.0	13.0	63.0
24			8	8	0		0	27			79.0	0.0	14.0	62.0
25			6	5	0		1	22			77.2	0.0	14.0	63.0
26			15	16	0		0	28			80.9	0.0	13.0	62.0
27			12	11	0		0	13			78.9	0.0	14.0	62.0
28			12	6	0		0	17			68.7	0.0	14.0	62.0
29			13	6	0		0	18			61.6	0.0	15.0	62.0
30			11	2	0		0	13			66.5	0.0	14.0	61.0
31			13	9	0		0	26			88.4	0.0	14.0	61.0
<b>TOTAL</b>			<b>307</b>	<b>341</b>	<b>1</b>		<b>4</b>	<b>695</b>						
<b>AVG.</b>			<b>10</b>	<b>11</b>				<b>22</b>			<b>65.7</b>	<b>0.0</b>	<b>14.0</b>	<b>63.9</b>

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>
SPRING	243	15
SUMMER	4,613	378
FALL	2,351	505
<b>TOTAL</b>	<b>7,207</b>	<b>898</b>

<b>COHO ADULT</b>
3

<b>SOCKEYE</b>	<b>STEELHEAD</b>
1,666	2,062

TABLE 213

MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT

NOVEMBER 1994

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD			RIVER CONDITIONS			
	SPRING	SUMMER	FALL									DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
1			18	13				16				76.9	0.0	14.0	61.0
2			12	4				9				70.8	0.0	14.0	60.0
3			23	16				17				77.3	0.0	14.0	60.0
4			16	4				15				82.4	0.0	13.0	59.0
5			9	3				13				49.9	0.0	13.0	60.0
6			11	6				11				60.0	0.0	13.0	59.0
7			2	0				6				74.8	0.0	13.0	58.0
8			4	2				5				80.9	0.0	13.0	58.0
9			4	0				6				78.0	0.0	13.0	59.0
10			2	0				5				77.2	0.0	14.0	58.0
11			0	2				7				67.8	0.0	13.0	58.0
12			2	0				4				60.4	0.0	15.0	58.0
13			2	0				4				50.5	0.0	15.0	58.0
14			4	0				2				80.1	0.0	15.0	57.0
15			2	0				1				80.8	0.0	14.0	57.0
16												90.3	0.0		
17												85.1	0.0		
18												85.8	0.0		
19												93.6	0.0		
20												72.8	0.0		
21												101.3	0.0		
22												100.6	0.0		
23												92.6	0.0		
24												57.7	0.0		
25												58.1	0.0		
26												74.3	0.0		
27												70.5	0.0		
28												98.0	0.0		
29												93.8	0.0		
30												78.9	0.0		

<b>TOTAL</b>		111	50					121								
<b>AVG.</b>		7	3					8				77.4	0.0	13.7	58.7	

<b>TOTALS TO DATE</b>	<b>CHINOOK ADULT</b>		<b>CHINOOK JACK</b>	<b>COHO ADULT</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>
	SPRING	243	15	3	1,666	2,183
	SUMMER	4,613	378			
	FALL	2,462	555			
<b>TOTAL</b>	7,318	948				

TABLE 214

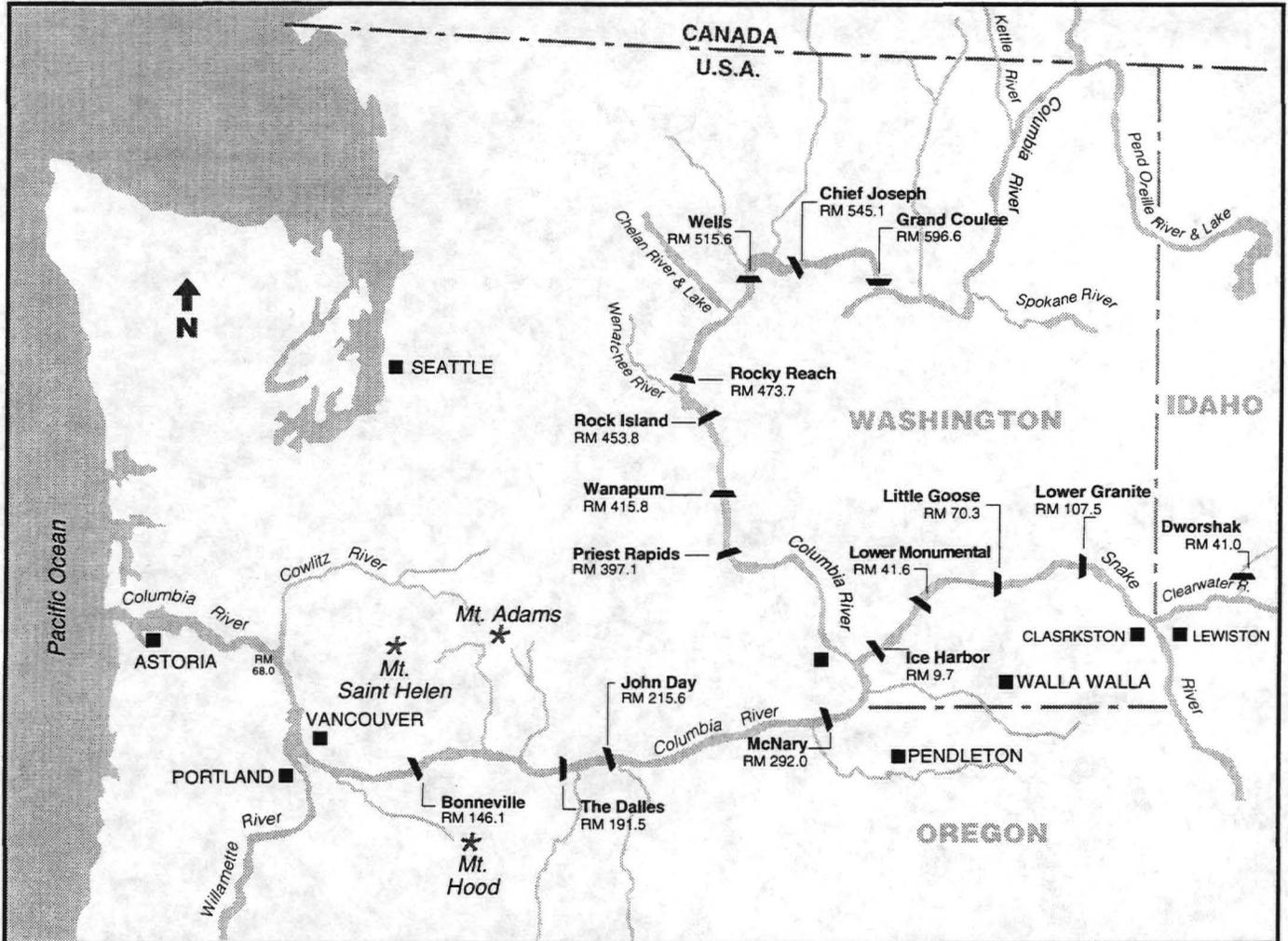
MONTHLY COUNT OF STEELHEAD  
WELLS DAM; 1976-1994

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1976					44	37	56	530	1,964	1,856	156		4,643
1977					37	22	38	1,034	818	2,849	526		5,324
1978					177	32	12	399	432	528			1,580
1979					72	2	22	1,212	938	1,040	355		3,641
1980					202	24	15	382	1,032	1,358	413		3,426
1981					139	23	107	212	1,702	1,401	513		4,097
1982					149	7	67	814	2,428	3,733	730		7,928
1983					26	2	145	1,891	10,728	5,294	1,327		19,413
1984					153	32	766	5,024	6,545	3,298	778		16,596
1985					220	401	2,675	3,387	9,822	2,821	541		19,867
1986					65	102	1,515	4,994	3,833	2,391	403		13,303
1987					13	29	413	1,897	1,668	1,236	237		5,493
1988					85	103	357	1,273	1,797	785	0		4,400
1989					43	11	351	1,168	2,223	804	0		4,600
1990					20	16	283	1,093	1,630	702	104		3,848
1991					14	8	361	2,054	3,078	1,923	313		7,751
1992					86	168	892	1,448	2,946	1,346	181		7,067
1993					48	10	240	706	883	490	23		2,400
1994					7	8	240	442	670	695	121		2,183
<b>TOTAL</b>					<b>1,600</b>	<b>1,037</b>	<b>8,555</b>	<b>29,960</b>	<b>55,137</b>	<b>34,550</b>	<b>6,721</b>		<b>137,560</b>
<b>10-Year Average</b>					<b>60</b>	<b>86</b>	<b>733</b>	<b>1,846</b>	<b>2,855</b>	<b>1,319</b>	<b>192</b>		<b>7,091</b>

# PROJECT SITE MAPS

# Columbia and Snake River Projects

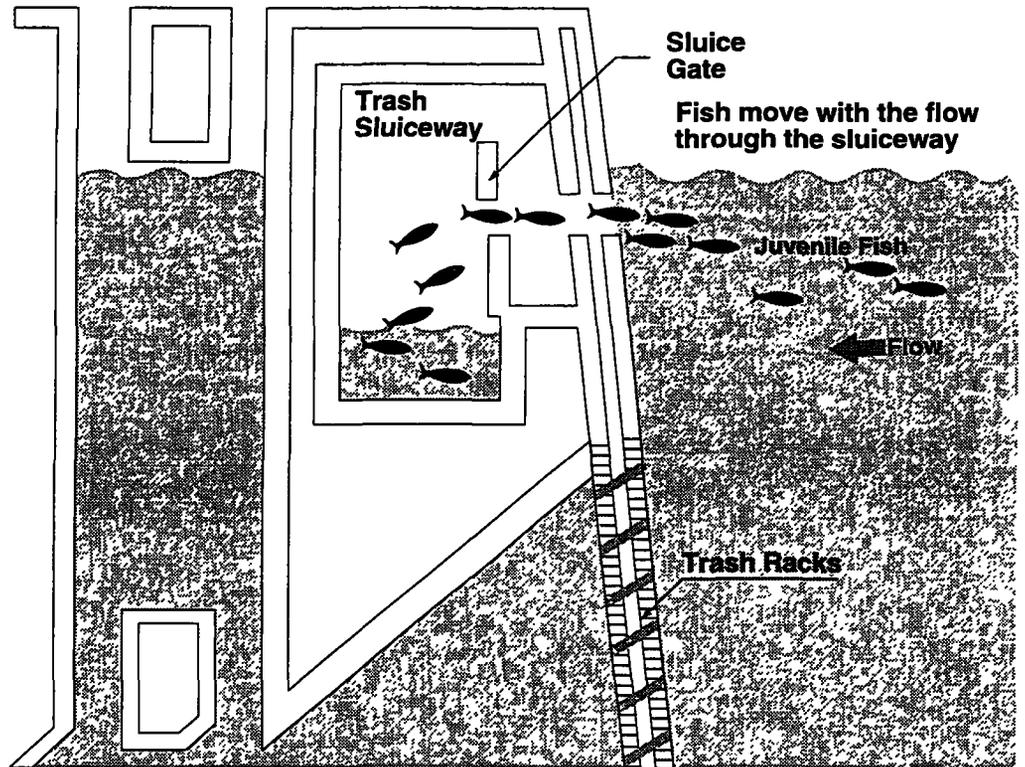
40 20 0 40 80  
APPROXIMATE SCALE IN MILES



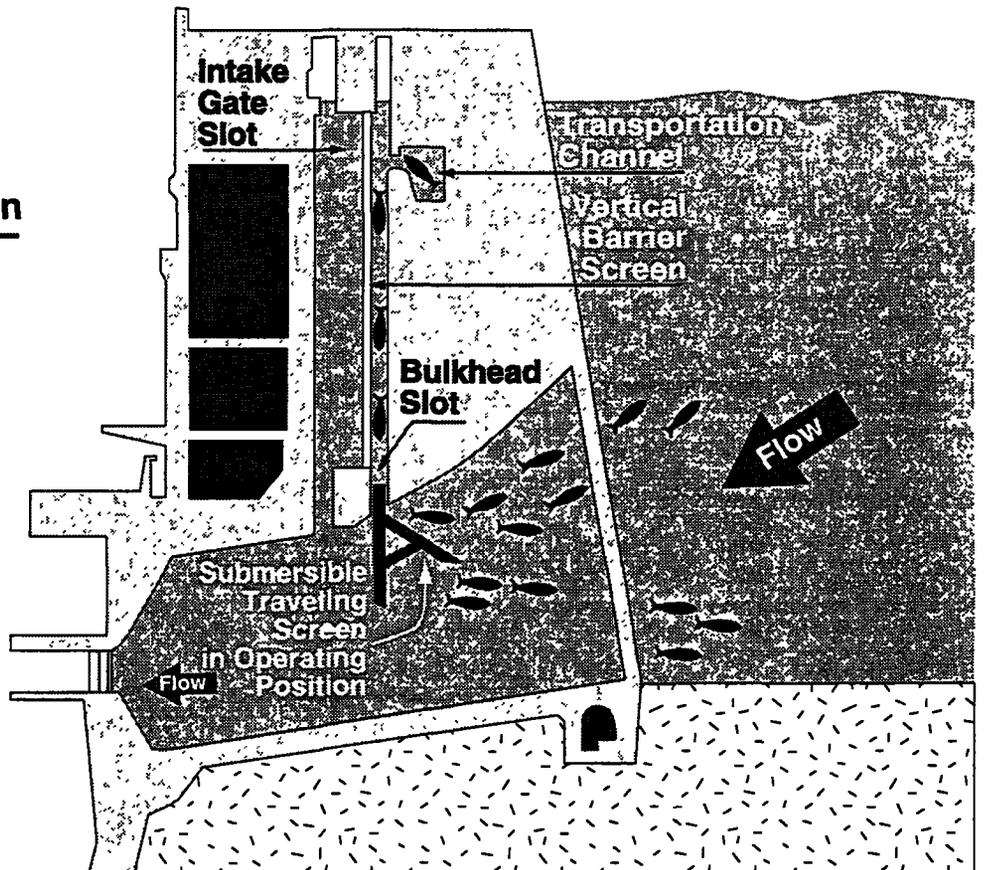
# Juvenile By-Pass Systems

Not to Scale

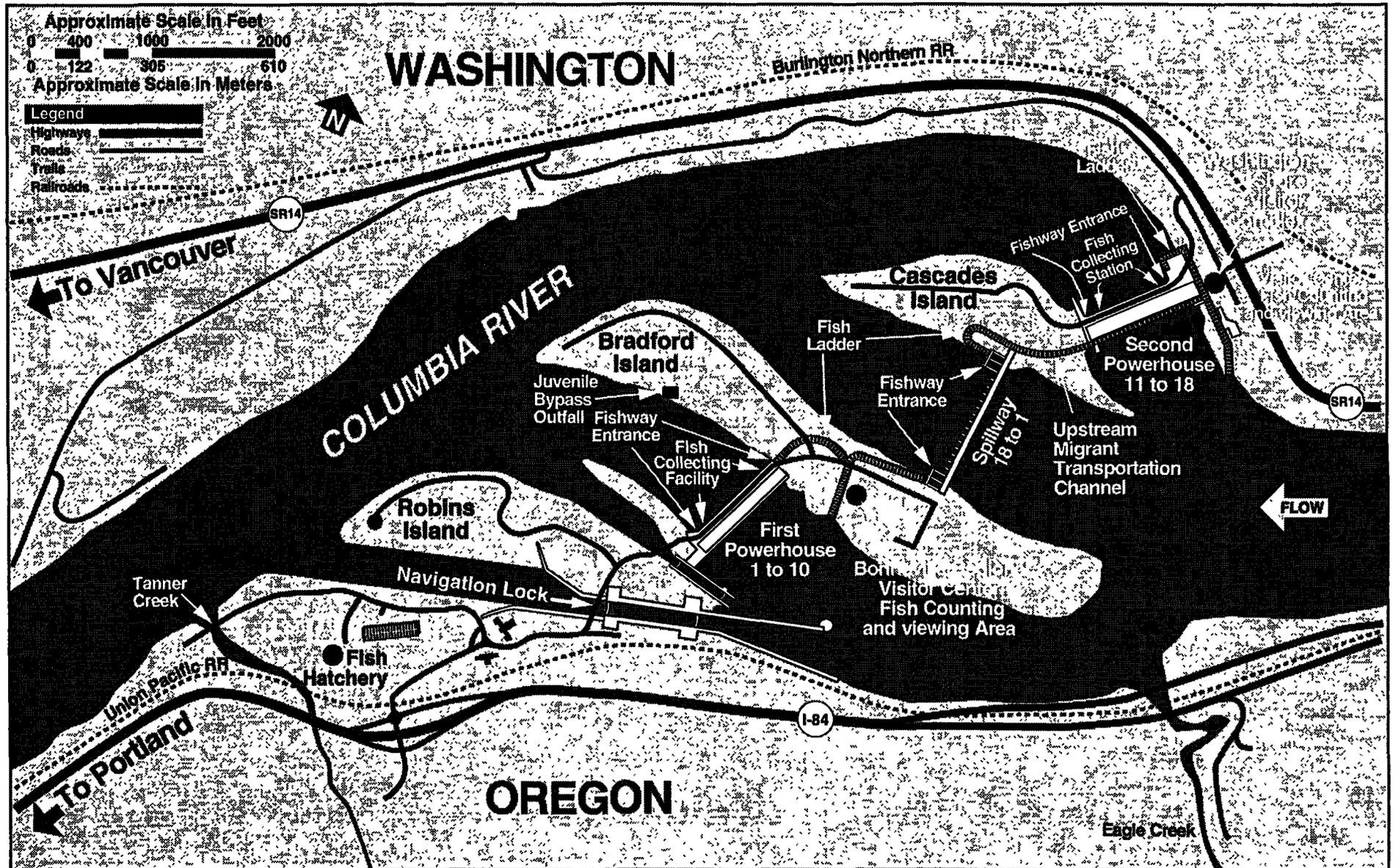
**Ice and Trash Sluiceway**  
The Dalles  
Ice Harbor



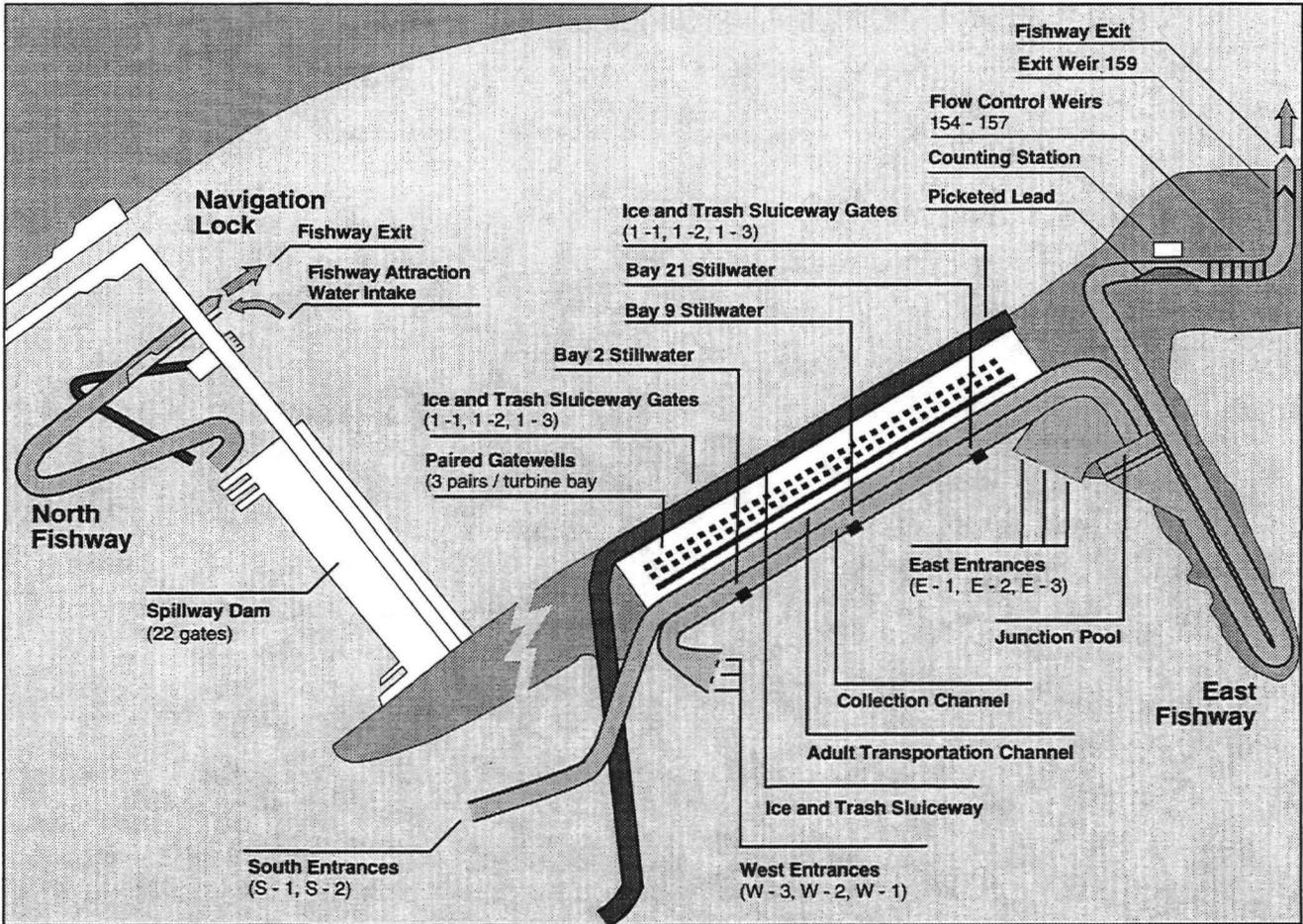
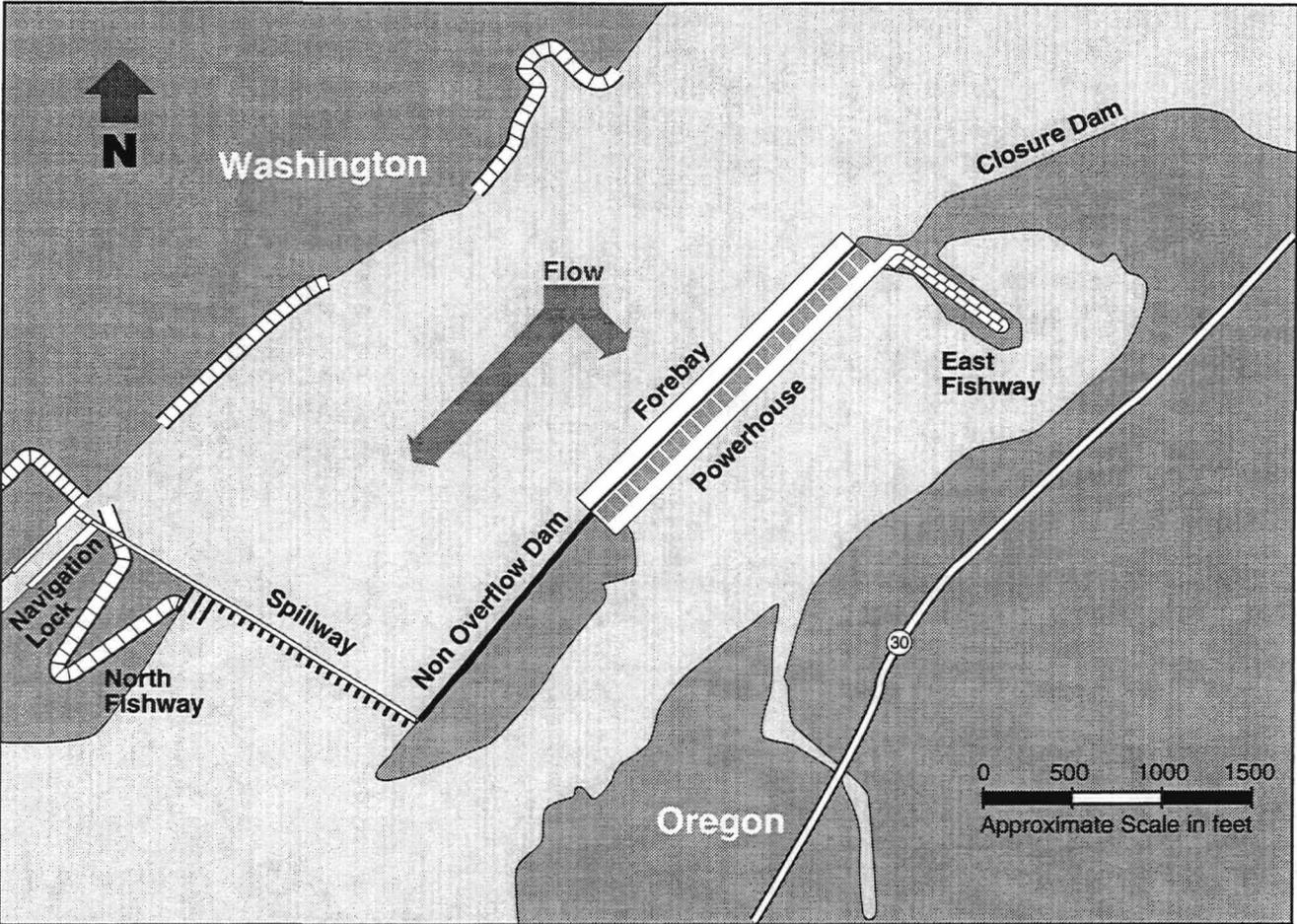
**Submersible Traveling Screen**  
Bonneville  
John Day  
McNary  
Little Goose  
Lower Granite



# Bonneville Lock and Dam

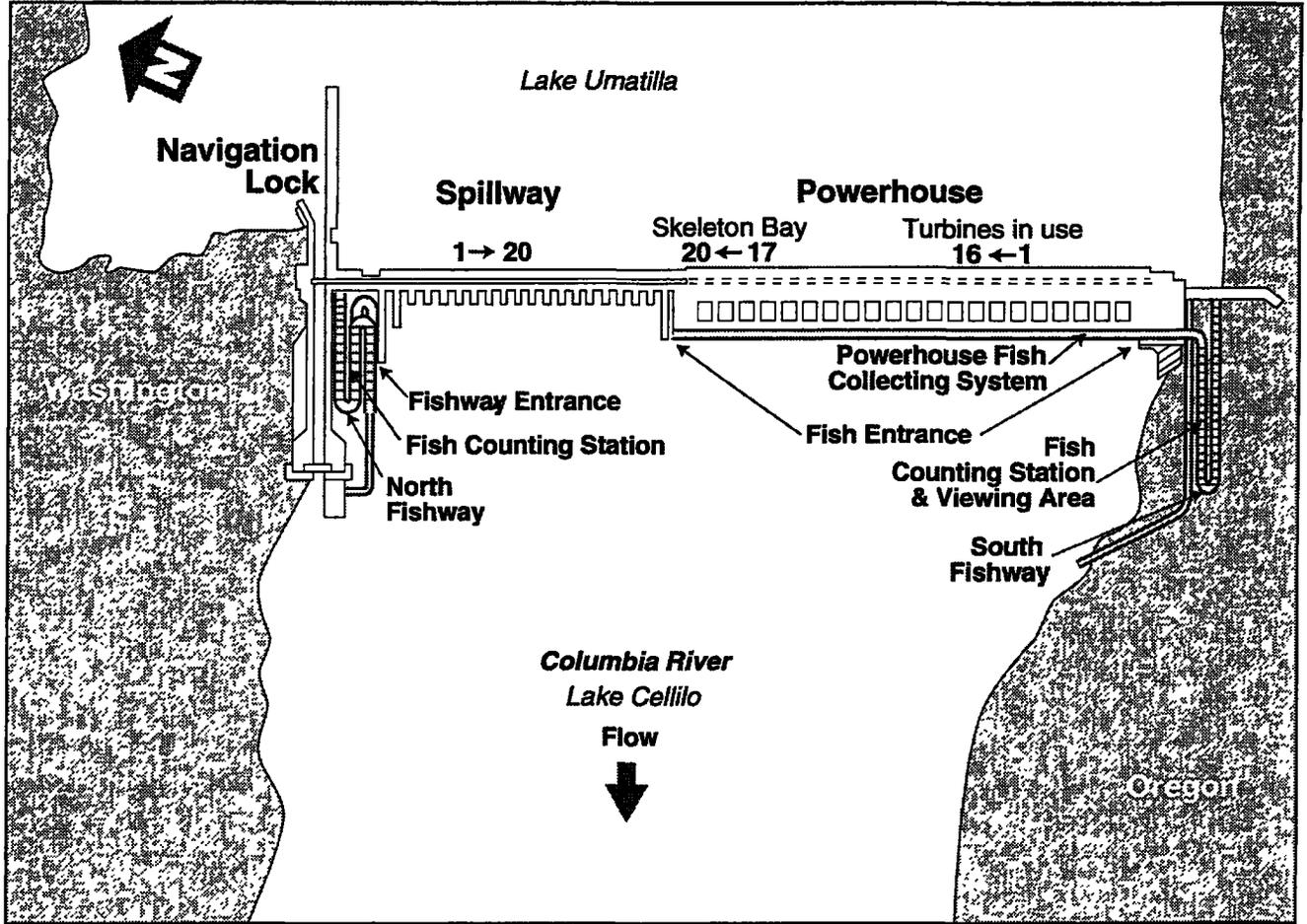


# The Dalles Lock and Dam

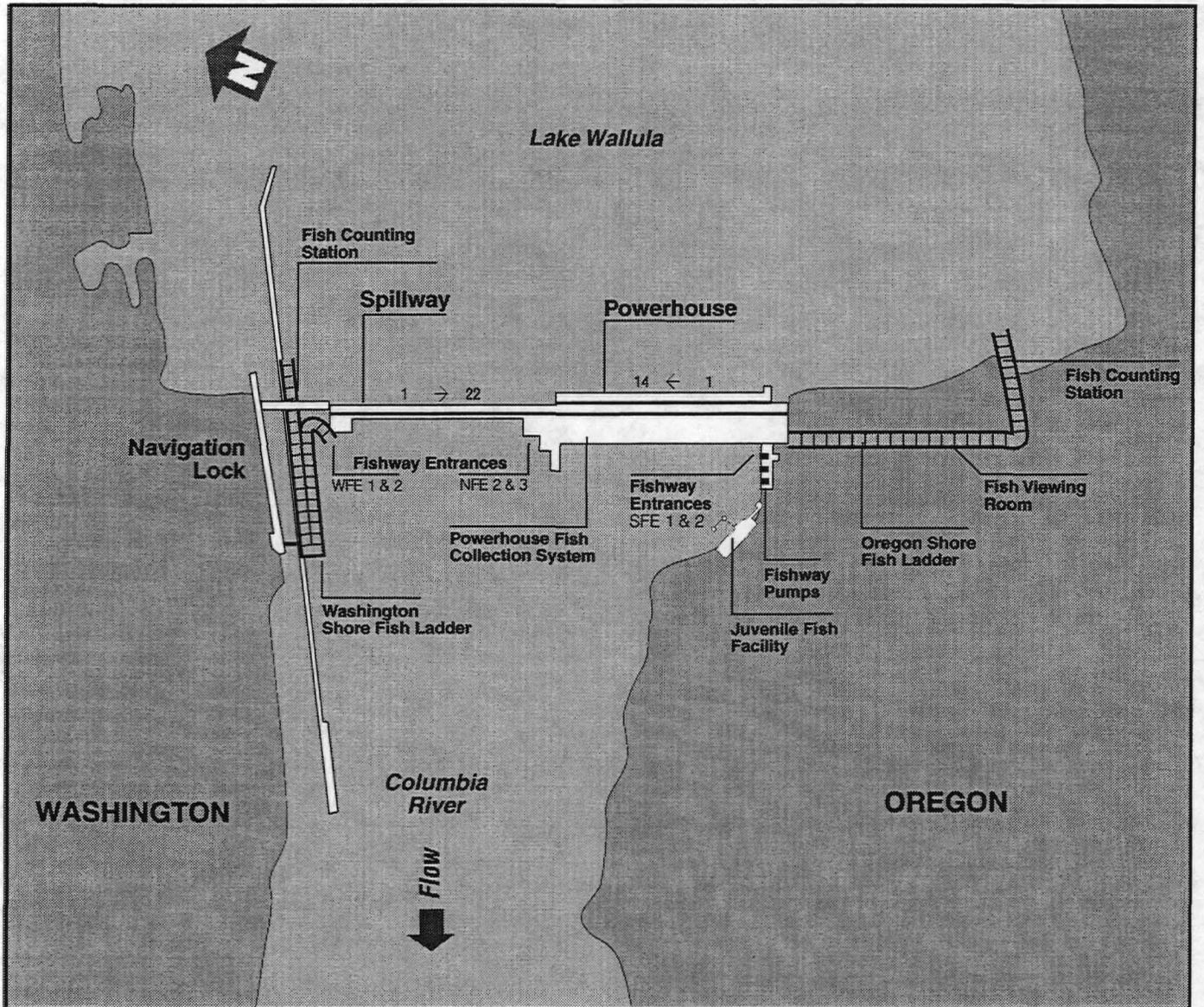
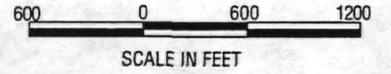


# John Day Lock and Dam

0 200 400 600 800 1000  
Approximate scale in feet



# McNary Lock and Dam

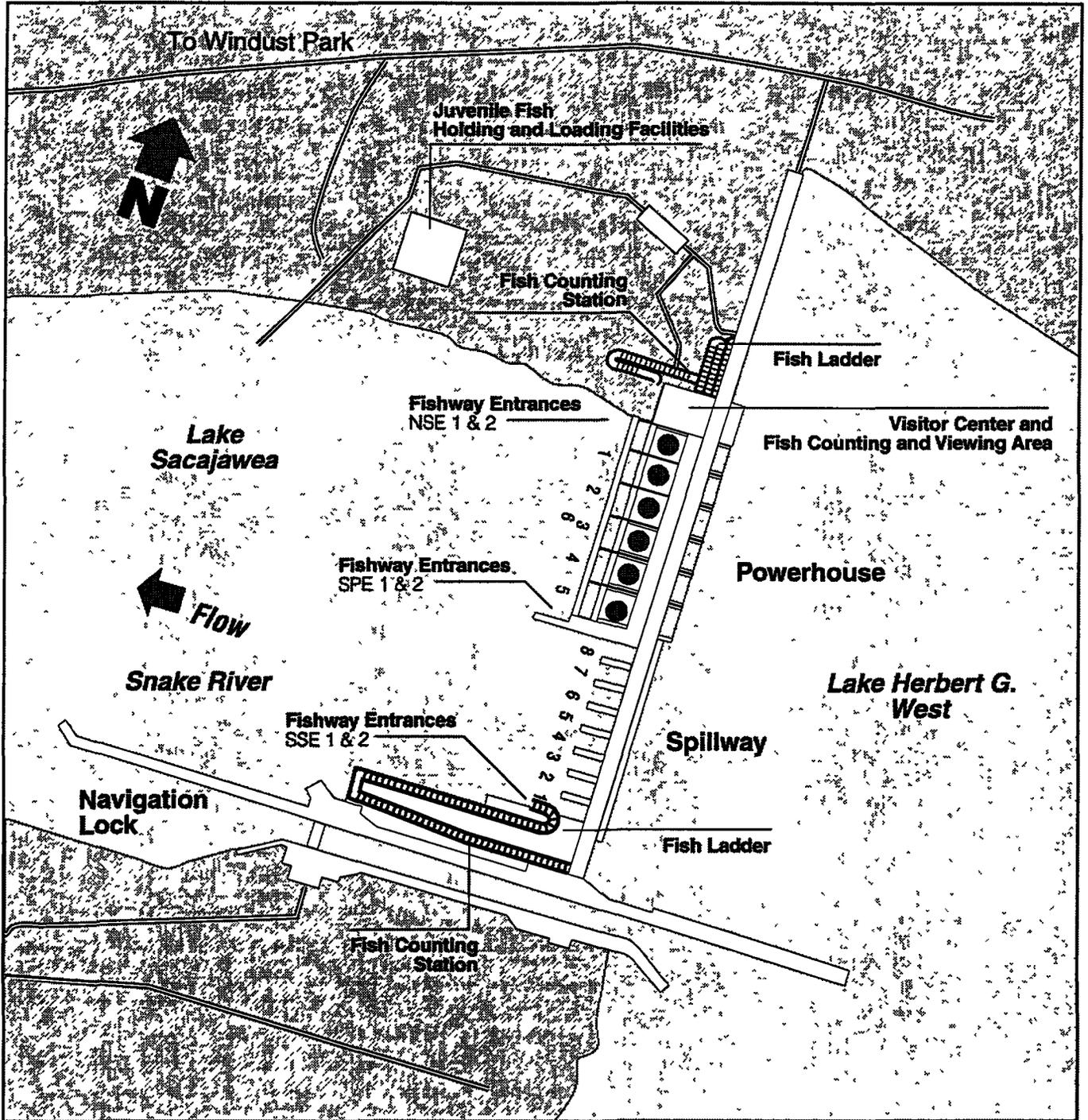




# Lower Monumental Lock and Dam

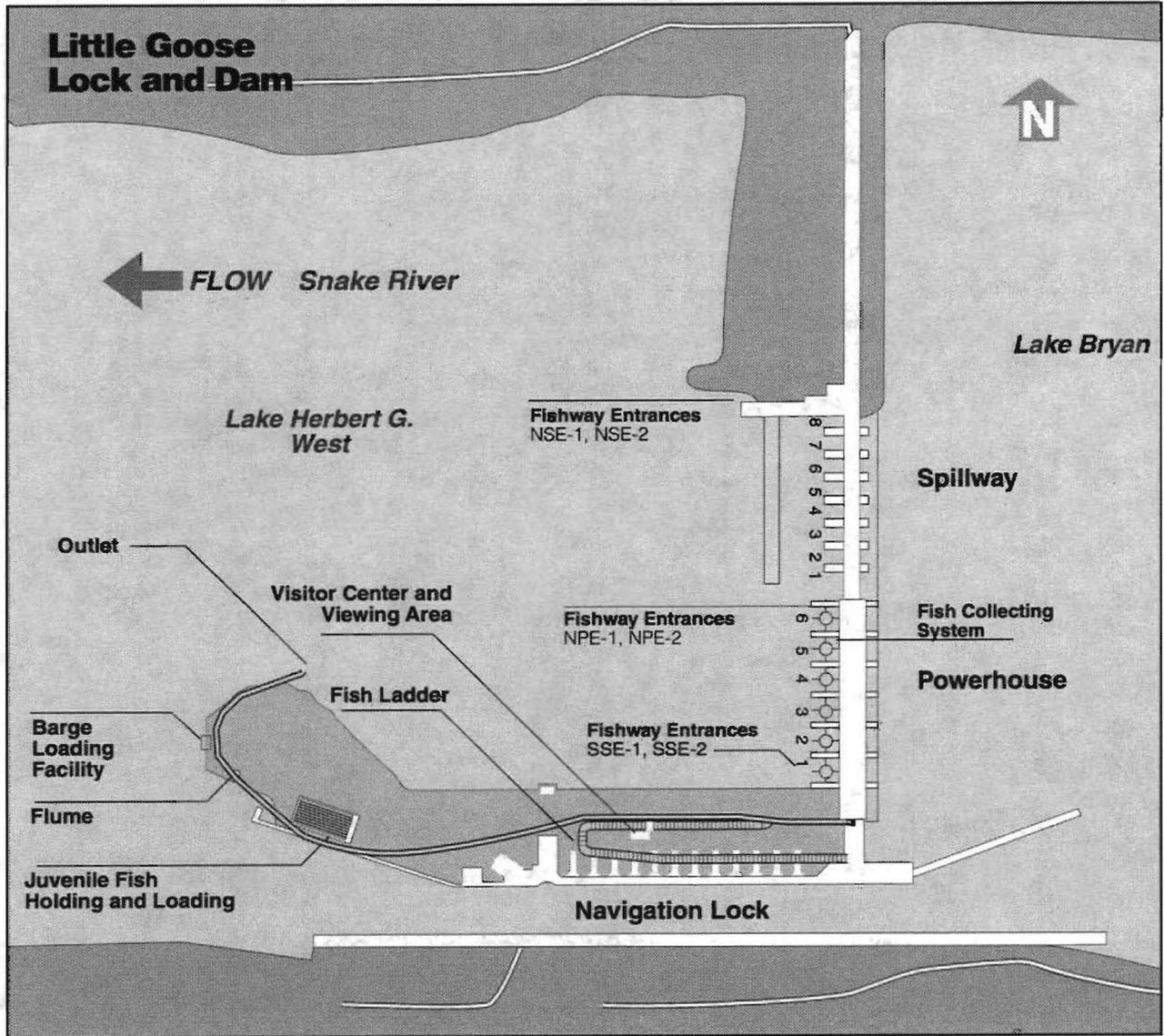
0 200 400 600 800

approximate scale in feet



# Little Goose Lock and Dam

0 100 200 300 400  
approximate scale in feet



# Lower Granite Lock and Dam

