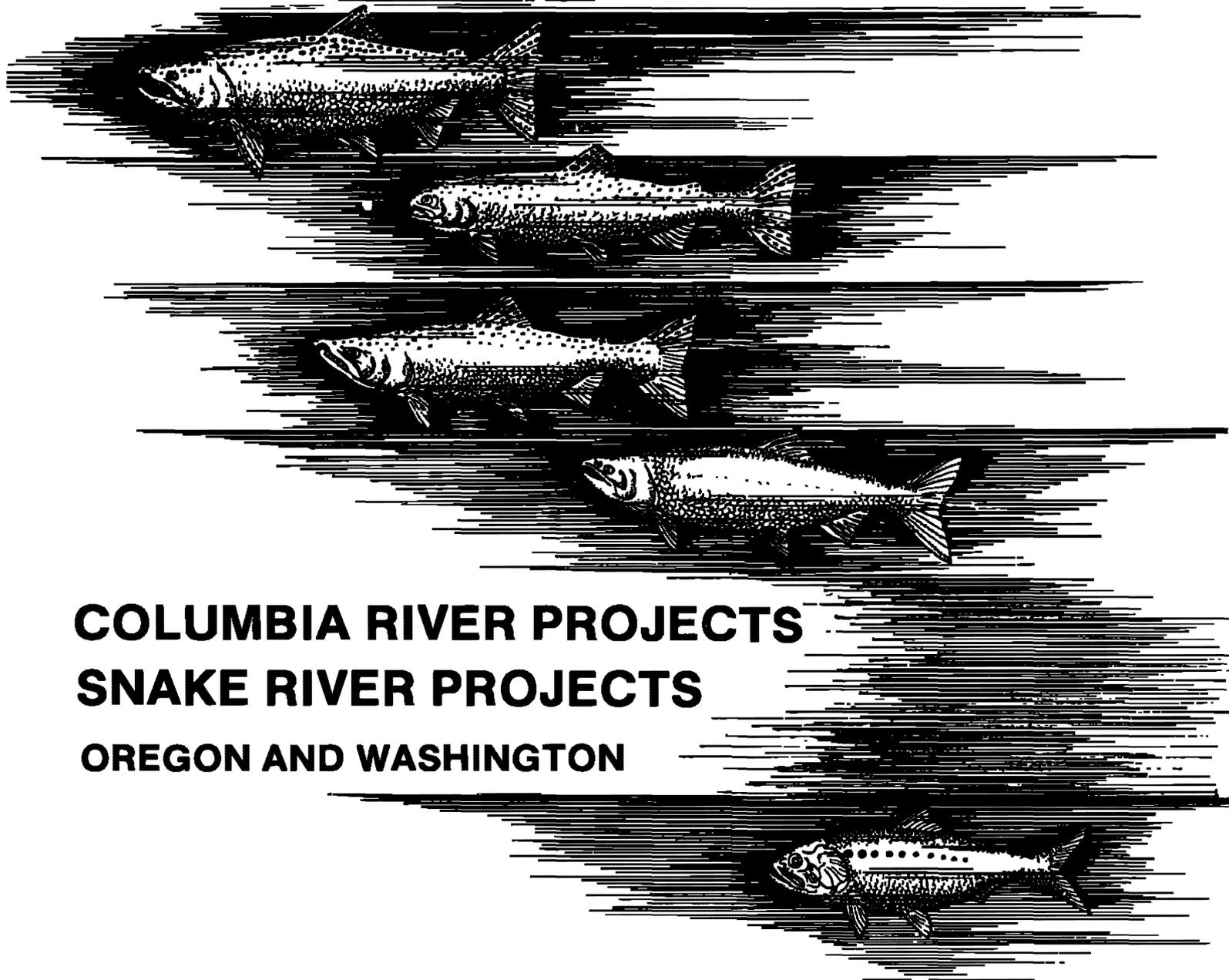




**US Army Corps
of Engineers**

Portland & Walla Walla Districts

ANNUAL FISH PASSAGE REPORT-1981



**COLUMBIA RIVER PROJECTS
SNAKE RIVER PROJECTS
OREGON AND WASHINGTON**

1981

ANNUAL FISH PASSAGE REPORT

COLUMBIA AND SNAKE RIVERS

for

salmon, steelhead and shad

Bonneville
The Dalles
John Day
McNary
Ice Harbor
Lower Monumental
Little Goose
Lower Granite

North Pacific Division
Corps of Engineers
Prepared by:
U.S. Army Engineer District
Portland and Walla Walla

TABLE OF CONTENTS

BONNEVILLE

<u>Text</u>	<u>Page</u>
Salmon Passage	1
Miscellaneous Species	1
Bonneville Fish Counting Schedule	2
Fishway In-Service Periods	2
Fishway Activities	2-3

THE DALLES DAM

Fish Passage	4
The Dalles Dam Fish Counting Schedule	4
Fishway In-Service Periods	4
Fishway Activities	4

JOHN DAY DAM

Fish Passage	5
John Day Fish Counting Schedule	5
Fishway In-Service Periods	5
Fishway Activities	5

McNARY DAM

Fish Passage	6
McNary Fish Counting Schedule	6
Fishway In-Service Periods	6
Fishway Activities	7

TABLE OF CONTENTS (CONTD)

ICE HARBOR DAM

<u>Text</u>	<u>Page</u>
Fish Passage	8
Ice Harbor Fish Counting Schedule	8
Fishway In-Service Periods	8-9
Fishway Activities	9

LOWER MONUMENTAL DAM

Fish Passage	10
Lower Monumental Fish Counting Schedule	10
Fishway In-Service Periods	10
Fishway Activities	10-11

LITTLE GOOSE DAM

Fish Passage	12
Little Goose Fish Counting Schedule	12
Fishway In-Service Periods	12
Fishway Activities	12-13

LOWER GRANITE

Fish Passage	14
Lower Granite Fish Counting Schedule	14
Fishway In-Service Periods	14-15
Fishway Activities	15

LIST OF TABLES

GENERAL

Table No.

- 1 Fish Escapement at main stem dams Columbia & Snake 1977-1981

BONNEVILLE DAM

- 2 Yearly totals of salmonid fish counted over Bonneville Dam 1938-1981
- 3 Monthly totals of salmonids and shad counted over Bonneville Dam 1938-1981
- 4-14 Daily river temperature, stream flow turbidity, salmonid and shad count data 1981
- 15 Peak days of fish migration - 1938-1981
- 16 Monthly count of chinook salmon - 1938-1981
- 17 Monthly count of sockeye salmon - 1938-1981
- 18 Monthly count of coho salmon - 1938-1981
- 19 Monthly count of steelhead trout - 1938-1981
- 20 Monthly count of shad and percent counted over fish ladders 1938-1981

THE DALLES DAM

- 21 Yearly totals of salmonid counted over The Dalles Dam 1957-1981
- 22 Monthly totals of salmonid and shad counted over The Dalles Dam 1981
- 23-31 Daily water temperature, turbidity, stream flow, salmonid and shad counted in 1981
- 32 Peak days of fish migration - 1957-1981
- 33 Monthly count of chinook salmon - 1957-1981

LIST OF TABLES (CONTD)

THE DALLES DAM

Table No.

- 34 Monthly count of sockeye salmon - 1957-1981
- 35 Monthly count of coho salmon - 1957-1981
- 36 Monthly count of steelhead trout - 1957-1981

JOHN DAY DAM

- 37 Yearly totals of salmonid counted over John Day Dam 1968-1981
- 38 Monthly totals of salmonids and shad counted over John Day Dam 1981
- 39-47 Daily river temperature, turbidity, stream flow, salmonid and shad counts over John Day Dam 1981
- 48 Peak days of migration 1968-1981
- 49 Monthly count of chinook salmon - 1968-1981
- 50 Monthly count of sockeye salmon - 1968-1981
- 51 Monthly count of coho salmon - 1968-1981
- 52 Monthly count of steelhead trout - 1968-1981

McNARY DAM

- 53 Yearly totals of salmonids counted over McNary Dam 1954-1981
- 54 Monthly totals of salmonids and shad counted over McNary Dam 1981
- 55-65 Daily water temperature, turbidity, stream flow, salmonid and shad count data 1981
- 66 Peak days of fish migration - 1954-1981
- 67 Monthly count of chinook salmon - 1954-1981

LIST OF TABLES (CONTD)

McNARY DAM

Table No.

- 68 Monthly count of sockeye salmon - 1954-1981
- 69 Monthly count of coho salmon - 1954-1981
- 70 Monthly count of steelhead trout - 1954-1981

ICE HARBOR

- 71 Yearly totals of salmonids counted over Ice Harbor Dam 1962-1981
- 72 Monthly totals of salmonids and shad counted over Ice Harbor Dam 1981
- 73-83 Daily water temperature, turbidity, stream flow, salmonid and shad count 1981
- 84 Peak days of fish migration - 1962-1981
- 85 Monthly count of chinook salmon - 1962-1981
- 86 Monthly count of steelhead trout - 1962-1981

LOWER MONUMENTAL DAM

- 87 Yearly totals of salmonids counted over Lower Monumental Dam 1969-1981
- 88 Monthly totals of salmonids and shad counted over Lower Monumental Dam - 1981
- 89-97 Daily water temperature, turbidity, stream flow salmonid and shad count - 1981
- 98 Peak days of fish migration - 1969-1981
- 99 Monthly totals of chinook salmon - 1969-1981
- 100 Monthly count of steelhead trout - 1969-1981

LIST OF TABLES (CONTD)

LITTLE GOOSE DAM

Table No.

- 101 Yearly totals of salmonids counted over Little Goose Dam 1970-1981
- 102 Monthly totals of salmonids counted over Little Goose Dam 1981
- 103-111 Daily water temperature, turbidity, stream flow, salmonid and shad counts 1981
- 112 Peak days of fish migration - 1970-1981
- 113 Monthly totals of chinook salmon - 1970-1981
- 114 Monthly totals of steelhead trout - 1970-1981

LOWER GRANITE DAM

- 115 Yearly totals of salmonids counted over Lower Granite Dam 1975-1981
- 116 Monthly totals of salmonids counted over Lower Granite Dam 1981
- 117-127 Daily water temperature, turbidity, stream flow, salmonid and shad counts 1981
- 128 Peak days of fish migration - 1975-1981
- 129 Monthly totals of chinook counted over Lower Granite Dam 1975-1981
- 130 Monthly totals of steelhead trout counted over Lower Granite Dam 1975-1981

GENERAL

- 131 Fish facility operation and maintenance costs - 1981

LIST OF PLATES

Plate No.

- 1 Chinook Salmon - fish count 1981 - Ice Harbor, Lower Monumental, Little Goose and Lower Granite Dams
- 2 Chinook Salmon - fish count 1981 - Bonneville, The Dalles, John Day and McNary Dams
- 3 Sockeye (Blueback) Salmon - fish count 1981 - Ice Harbor, Lower Monumental, Little Goose and Lower Granite Dams
- 4 Sockeye (Blueback) Salmon - fish count 1981 - Bonneville, The Dalles, John Day and McNary Dams
- 5 Coho (Silver) Salmon - fish count 1981 - Ice Harbor, Lower Monumental, Little Goose and Lower Granite Dams
- 6 Coho (Silver) Salmon - fish count 1981 - Bonneville, The Dalles, John Day and McNary Dams
- 7 Steelhead Trout - fish count 1981 - Ice Harbor, Lower Monumental, Little Goose and Lower Granite Dams
- 8 Steelhead Trout - fish count 1981 - Bonneville, The Dalles, John Day and McNary Dams
- 9 Chinook Salmon migration periods - 1938-1981 - Bonneville Dam
- 10 Sockeye (Blueback) migration periods - 1938-1981 - Bonneville Dam
- 11 Coho (Silver) migration periods - 1938-1981 - Bonneville Dam
- 12 Steelhead Trout migration periods - 1938-1980 - Bonneville Dam
- 13 Daily river discharges, water temperature and turbidity readings - Bonneville Dam - 1981
- 14 Daily river discharges, water temperatures and turbidity readings - The Dalles Dam - 1981
- 15 Daily river discharges, water temperatures and turbidity readings - John Day Dam - 1981
- 16 Daily river discharges, water temperatures and turbidity readings - McNary Dam - 1981

LIST OF PLATES (CONTD)

Plate No:

- 17 Daily river discharges, water temperatures and turbidity readings - Ice Harbor Dam - 1981
- 18 Daily river discharges, water temperatures and turbidity readings - Lower Monumental Dam - 1981
- 19 Daily river discharges, water temperatures and turbidity readings - Little Goose Dam - 1981
- 20 Daily river discharges, water temperatures and turbidity readings - Lower Granite Dam - 1981
- 21 General site map - fish passing facilities - Bonneville Dam
- 22 General site map - fish passing facilities - The Dalles Dam
- 23 General site map - fish passing facilities - John Day Dam
- 24 General site map - fish passing facilities - McNary Dam
- 25 General site map - fish passing facilities - Ice Harbor Dam
- 26 General site map - fish passing facilities - Lower Monumental Dam
- 27 General site map - fish passing facilities - Little Goose Dam
- 28 General site map - fish passing facilities - Lower Granite Dam

ANNUAL FISH PASSAGE REPORT
COLUMBIA AND SNAKE RIVER PROJECTS
CALENDAR YEAR 1982

BONNEVILLE DAM

Salmonid Passage

A total of 531,491 salmonids (including 20 pinks and 4 chums) was counted at Bonneville Dam in 1981. The greatest number of salmonids counted in one day was 16,192 on September 5; of these 12,754 were fall chinook, 1,769 were coho and 1,669 were steelhead.

A brief summary of salmonid counts is shown below.

<u>Species</u>	<u>1981 Count</u>	<u>44 Year Average</u>
Spring Run Chinook	65,009	94,467
Summer Run Chinook	26,929	59,491
Fall Run Chinook	193,712	201,944
Chinook Jacks	53,351	50,357
Sockeye	56,037	88,380
Chum	4	-
Pink	20	-
Steelhead	159,270	141,381
Coho (Total)	30,510	27,832
Coho Jacks	8,575	23,161*

* 15 year average

Miscellaneous Species

Species other than salmonids and shad were disregarded in the 1981 fish counts. The total number of shad counted in 1981 was 881,178. The greatest daily count of shad at Bonneville was 54,693 on 20 June.

Bonneville 1981 Fish Counting Schedule

1 January - 14 March	No counting.
15 March - 31 March	Both Ladders counted for one 8 hour shift each
1 April - 31 October	Both ladders counted for two 8 hour shifts each from 0400-2000 Pacific Standard Time.
1 November - 15 November	Both ladders counted for one 8 hour shift each from 0800-1600 Pacific Standard time.
16 November - 31 December	No counting.

Fishway 1981 In-Service Periods

1 January - 9 March	New Washington shore fish ladder out of service for annual overhaul.
12 January - 5 February	First Powerhouse collection channel and A-Branch out of service for annual overhaul.
8 January - 9 January	Powerhouse Collection System, A and B branches out of service because of an oil spill in Powerhouse forebay.
7 December - 23 December	Old Washington shore ladder and new upstream migrant tunnel out of service for annual inspection.

Fishway Activities

The new upstream migrant facilities were placed in operation on 15 March. Attraction water was supplied using the Ice & Trash chute to supply water to the auxiliary water supply conduit. This system supplied enough water to have the north upstream entrance gate open along with the floating orifices to the powerhouse collection channel. Approximately 2000 cfs was used.

The upstream migrant tunnel (UMT) was placed in service at the same time.

The fish attraction units for this system were not started until Nov 18 for F-2 and Dec 29 for F-1. Both units were shut down because of a mechanical unbalance the day after they were started.

The downstream migrant system (DSM) was placed in service on 1 May. Traveling fish screens were installed and operating before any main units were placed in operation. The DSM system was not complete enough to allow sampling during 1981.

The 1st powerhouse had 3 traveling screens installed and in operation April 30 1981.

THE DALLES DAM

Fish Passage

A total of 290,833 salmonids (including one pink) and 1,088,958 shad were counted over The Dalles Dam in 1981. The greatest number of salmonids in any one day was 5,366 on 6 September; of these, 3,693 were fall chinook, 206 were coho and 1,467 were steelhead.

Species other than salmonids and shad were disregarded in the fish counts of 1981. Counts were made of salmonids (unidentified as to species) under 12 inches. A total of 9,623 salmonids under 12 inches were counted in 1981. The greatest number of shad in one day was 63,109 on 2 July.

The Dalles Dam 1981 Fish Counting Schedule

1 Jan - 31 Mar	No Counting.
1 Apr - 31 Oct	Two counters on duty 16 hrs. daily from 0400 hrs. to 2000 hrs. Pacific Standard Time. Counting was 50 min. each hour with a 1.2 factor applied to compensate for the rest period.
1 Nov - 31 Dec	No counting.

Fishway 1981 In-Service Periods

North Fish Ladder	In-service 1 January thru 30 November, 8 December thru 31 December. Out-of-service 30 November thru 8 December for annual inspection and maintenance.
East Fish Ladder	In-service 1 January thru 10 December, 23 December thru 31 December. Out-of-service 10 December thru 23 December for annual inspection and maintenance.

Fishway Activities

Fish Turbine #1 was out-of-service 1 January thru 28 January for annual maintenance, 26 March for brush maintenance, 11 May to replace runner hub air compressor brushes, 12 Aug for semi-annual maintenance, 21 December for transformer T.A. test and 28 December thru 31 December for annual maintenance.

Fish Turbine #2 was out-of-service 15 January for transformer T.A. relay test, 28 January thru 27 February for annual maintenance, 13 August for semi-annual maintenance, 5 November to replace brushes and 1 December for annual maintenance.

The Oregon Department of Fish and Wildlife operated and evaluated the ice-trash sluiceway as a juvenile salmon bypass. The platform at sluiceway was extended to facilitate modifying the fish trap.

JOHN DAY DAM

Fish Passage

A total of 258,267 salmonids and 527,678 shad were counted over John Day Dam in 1981. The largest count of salmonids for one day was 4,328; of these 116 were sockeye and 1,572 steelhead. The largest count of shad was 28,873. A total of 2,814 salmonids under 12 inches, unidentifies as to species, was counted past John Day.

John Day Dam Fish Counting Schedule

1 January - 31 March	No counting.
1 April - 31 October	Two counters on duty on each of two shifts, from 0400 to 2000 Pacific Standard Time. Counting was for 50 minutes and hour with 1.2 factor applied each hour to compensate for the rest periods.
1 November - 31 December	No counting.

Fishway In-Service Period

North fishladder. 1 January to 2 December and 14 December thru 31 December; out of service 2 December thru 14 December 1981.

South fishladder. 1 January to 6 January and 23 January thru 31 December; out of service January 6 thru 22 January 1981.

Fishway Activities

South fish turbines were removed from service for annual maintenance. Fishpump #1 and #2 were out of service 5 January thru 26 February 1981. Fishpump #3 was out of service 5 January thru 7 July 1981; #3 was extended because of turbine bearing replacement.

North fishpumps were removed from service for annual maintenance. Fishpump #1 from 30 November thru 31 December 1981. Fishpump #2 and #3 from 1 December thru 31 December 1981. Fishpump #4 from 20 November thru 23 November and 1 December thru 28 December 1981. Fishpump #6 from 3 December thru 28 December 1981.

Two south fish turbines were operated at maximum rpm during season to allow one turbine to remain on standby. One spare gear box was recieved during 1981 and is in storage.

Portland District conducted sonar monitoring for special spill program to pass downstream migrating juvenile salmonids.

National Marine Fisheries Service monitored juvenile salmonids entering gate wells with air lifts and monitored downstream migrants with radio tracking to determine juvenile salmonid behavior and movement in the forebay.

MCNARY DAM

Fish Passage

A total of 172,984 salmonids was counted over McNary Dam in 1981. The greatest number of salmonids in one day was 3,877 on 10 September; of this number 2,155 were chinook, 1,502 were steelhead and 220 were coho.

A total of 193,373 shad was counted in 1981. The greatest number of shad counted in one day was 23,115 on 4 July. In 1981, salmonids (unidentified as to species) under 12 inches were counted. A total of 686 salmonids under 12 inches was counted.

MCNARY FISHWAY OPERATION

1981.

McNary Fish Counting Schedule

1 January - 19 February	South ladder in operation. North ladder unwatered for grouting seams and repairing diffuser chambers. No counting.
20 February - 22 February	Both ladders in operation. No counting.
23 February - 27 February	North ladder in operation, south ladder unwatered for annual maintenance. No counting.
28 February - 1 March	Both ladders in operation. No counting.
2 March - 31 March	Both ladders in operation. Counting from 0800 to 1600 hours daily.
1 April - 31 October	Both ladders in operation. Counting from 0400 to 2000 hours daily.
1 November - 30 November	Both ladders in operation. Counting from 0800 to 1600 hours daily.
1 December - 31 December	Both ladders in operation. No counting.

Fishway In-Service Periods

North Ladder	20 February - 31 December
South Ladder	1 January - 22 February, 28 February - 31 December

Fishway Activities

Special count one shift per day, 50 minutes per hour, from 0800 to 1600 hours Pacific Standard Time from 2 March through 31 March and from 1 November through 30 November due to the dredging below Ice Harbor. The south ladder was counted by direct observation and the north ladder by close circuit television.

Two 8-hour counting shifts were conducted from 0400 to 2000 hours Pacific Standard Time from 1 April through 31 October. The south ladder was counted by direct observation and the north ladder by closed circuit television.

The north ladder was out of service from 1 January through 20 February for contractor repair of the diffuser retaining walls due to erosion and for grouting the expansion joints. The south ladder was out of service from 23 February through 27 February for annual maintenance.

Spillbay 22 remained closed due to the fish barge loading beneath it and to its promimity to the fingerling facilities.

The fish traveling screens were in operation for the fingerling passage season.

The fingerling bypass system was in operation for the fingerling passage season.

ICE HARBOR DAM

Fish Passage

A total of 63,606 salmonids was counted over Ice Harbor Dam in 1981. The greatest number of salmonids in one day was 1,280 on 3 October; of this number 1,201 were steelhead and 48 were chinook.

A total of 5,048 shad was counted in 1981. The greatest number of shad counted in one day was 311 on 17 July. In 1981, salmonids (unidentified as to species) under 12 inches were counted. A total of 96 salmonids under 12 inches was counted.

ICE HARBOR FISHWAY OPERATION

1981

Ice Harbor Fish Counting Schedule

1 January - 22 January	Both ladders in operation. No counting.
23 January - 18 February	North ladder unwatered for annual maintenance and winter energy conservation, south ladder in operation. No counting.
19 February - 25 February	South ladder unwatered for annual maintenance, north ladder in operation. No counting.
26 February - 28 February	Both ladders in operation. No counting.
1 March - 31 March	Both ladders in operation. Counting daily from 0800 to 1600 hours.
1 April - 31 October	Both ladders in operation. Counting two 8-hour shifts daily, from 0400 to 2000 hours Pacific Standard Time. North ladder unwatered for 5 hours on 9 July to clean out debris.
1 November - 30 November	Both ladders in operation. Counting daily from 0800 to 1600 hours.
1 December - 31 December	Both ladders in operation. No counting.

Fishway In-Service Periods

North Ladder	1 January - 22 January, 19 February - 9 July, 9 July - 31 December.
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Ice Harbor Dam (cont'd)

South Ladder

1 January - 18 February, 26 February -
31 December

Fishway Activities

Special count one shift per day, 50 minutes per hour, from 0800 to 1600 hours Pacific Standard Time from 1 March through 31 March and from 1 November through 30 November due to dredging. The south ladder was counted by direct observation and the north ladder by close circuit television.

Two 8-hour counting shifts were conducted from 0400 to 2000 hours Pacific Standard Time from 1 April through 31 October. The south ladder was counted by direct observation and the north ladder by close circuit television.

The north ladder was out of service from 23 January to 18 February for annual maintenance and for winter energy conservation, and on 9 July for 5 hours for cleaning out debris. The south ladder was out of service from 19 February to 25 February for annual maintenance.

Stoplogs were in spillbay 2 to create surface spills for passing juveniles. Sluiceway gates 3A and 3B were automated with hoist and controls to operate the sluiceway as a juvenile bypass. It operated from 21 April through 27 July.

LOWER MONUMENTAL DAM

Fish Passage

A total of 56,113 salmonids were counted over Lower Monumental Dam in 1981. The greatest number of salmonids in one day was 1,390 on 6 October; of this number 1,323 were steelhead, 62 were chinook and 5 were coho.

A total of 1,274 shad was counted in 1981. The greatest number of shad counted in one day was 99 on 20 July. In 1981, salmonids (unidentified as to species) under 12 inches were counted. A total of 122 salmonids under 12 inches was counted.

LOWER MONUMENTAL FISHWAY OPERATION

1981

Lower Monumental Fish Counting Schedule

1 January - 22 January	Both ladders in operation. No counting.
23 January - 17 February	South ladder unwatered for annual maintenance and winter energy conservation, north ladder in operation. No counting.
18 February - 17 March	North ladder unwatered for annual maintenance and installation of trap for radio-tracking studies, south ladder in operation. No counting.
18 March - 31 March	Both ladders in operation. No counting.
1 April - 31 October	Both ladders in operation. Counting daily from 0400 to 2000 hours Pacific Standard Time.
1 November - 31 December	Both ladders in operation. No counting.

Fishway In-Service Periods

North Ladder	1 January - 17 February, 18 March - 31 December
South Ladder	1 January - 22 January, 18 February - 31 December

Fishway Activities

Two 8-hour counting shifts were conducted from 0400 to 2000 hours Pacific Standard Time from 1 April to 31 October with fish being counted 50 minutes per hour. The north ladder was counted by direct observation and the south ladder was counted by close circuit television.

Lower Monumental Dam (cont'd)

The south ladder was out of service from 23 January to 17 February for annual maintenance and winter energy conservation. The north ladder was out of service from 18 February to 17 March for annual maintenance and installation of adult fish trap.

Portland District Fish Management Unit and National Marine Fisheries Service trapped adult fish in the north fish ladder for radio-tracking programs.

Stoplogs were in spillbay 7 to create surface spills for passing juveniles.

LITTLE GOOSE DAM

Fish Passage

A total of 58,086 salmonids were counted over Little Goose Dam in 1981. The greatest number of salmonids in one day was 1,361 on 3 October; of this number 1,308 were steelhead, 51 were chinook and 2 were coho.

A total of 84 shad were counted in 1981. The greatest number of shad counted in one day was 16 on 22 July and 23 July. In 1981, salmonids (unidentified as to species) under 12 inches were counted. A total of 221 salmonids under 12 inches was counted.

LITTLE GOOSE FISHWAY OPERATION

1981

Little Goose Fish Counting Schedule

1 January - 3 February	Ladder in operation. No counting.
4 February - 6 March	Ladder unwatered for annual maintenance, grouting of seams and installation of electronic tunnel study equipment.
7 March - 31 March	Ladder in operation. No counting.
1 April - 31 October	Ladder in operation. Counting daily from 0400 to 2000.
1 November - 31 December	Ladder in operation. No counting.

Fishway In-Service Periods

Ladder	1 January - 3 February, 7 March - 31 December
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Fishway Activities

Two 8-hour counting shifts were conducted from 1 April to 31 October, 50 minutes per hour, from 0400 to 2000 hours Pacific Standard Time.

The fish ladder was out of service from 4 February to 6 March for annual maintenance, grouting of expansion seams and installation of electronic tunnel study equipment in the collection system.

Fish pump number 3 was out of service from 15 July to 15 November to replace broken gears and worn bearings. Fish pumps 1 and 2 were out of service for 5 hours on 20 July for divers to open the drain valve on fish pump number 3 conduit.

Little Goose Dam (cont'd)

Fish pump number 1 was out of service on 18 October to replace oil pump on thrust bearing.

The portland District Fish Management Unit conducted a radio-tracking study and an electronic tunnel study to evaluate the adult collection system.

National Marine Fisheries Service conducted a radio-tracking study to evaluate zero flow conditions.

The juvenile collection system was in operation from 10 April to 25 July.

LOWER GRANITE DAM

Fish Passage

A total of 59,029 salmonids were counted over Lower Granite Dam in 1981. The greatest number of salmonids in one day was 1,498 on 9 October; of this number 1,450 were steelhead and 48 were chinook.

A total of 72 shad were counted in 1981. The greatest number of shad counted in one day was 9 on 3 August. In 1981, salmonids (unidentified as to species) under 12 inches were counted. A total of 99 salmonids under 12 inches were counted.

LOWER GRANITE FISHWAY OPERATION

1981

Lower Granite Fish Counting Schedule

1 January - 4 January	Ladder in operation. No counting.
5 January - 2 February	Ladder and powerhouse collection channel unwatered for annual maintenance, repair of diffuser sluice gates and installation of electronic tunnel study equipment.
3 February - 2 March	Ladder in operation, north powerhouse entrance unwatered for installation of electronic tunnel study equipment and repair of diffuser sluice gates. Fish counting on 1 and 2 March from 0800 to 1600 hours, counting 50 minutes per hour.
3 March - 31 March	Ladder in operation. Counting daily from 0800 to 1600 hours.
1 April - 31 October	Ladder in operation. Counting daily from 0400 to 2000 hours Pacific Standard Time.
1 November - 15 December	Ladder in operation. Counting daily from 0800 to 1600 hours.
16 December - 31 December	Ladder in operation. No counting.

Fishway In-Service Periods

Ladder	1 January - 4 January, 3 March - 31 December
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Lower Granite Dam (cont'd)

Powerhouse Collection Channel

1 January - 4 January, 3 March - 31
December

Fishway Activities

Special count one shift per day, 50 minutes per hour, from 0800 to 1600 hours due to the dredging below Ice Harbor from 1 March to 31 March and from 1 November to 15 December.

Two 8-hour counting shifts, counting 50 minutes per hour, were conducted from 0400 to 2000 hours Pacific Standard Time from 1 April to 31 October.

Fish pump number 3 was out of service on 30 April due to replacement of faulty thrust bearing oil pump. On 10 August, fish pump number 1 (not in operation) was found to be windmilling backwards causing the brake linings to incinerate. Fish pumps 2 and 3 were taken out of service and inspected, returning to service on 11 August.

The Portland District Fish Management Unit conducted radio-tracking and electronic tunnel studies to evaluate the adult collection system.

National Marine Fisheries Service operated the adult fish trap as part of their transport evaluation.

The juvenile collection system operated from 3 April to 30 July.

TABLE 1
FISH ESCAPEMENT AT MAIN STEM DAMS
COLUMBIA & SNAKE RIVERS 1977 to 1981

SPECIES	BONNEVILLE	THE DALLES	JOHN DAY	MC MARY	ICK HARBOR	LOWER MYMPENTAL	LITTLE GOOSE	PRIEST RAPIDS	ROCKY REACH	LOWER GRANITE
1977										
CHINOOK*	366,657	224,950	194,311	163,561	50,500	49,301	49,176	47,678	25,905	49,123
Spring*	119,508	90,373	75,782	66,934	44,421	39,171	39,555	21,217	6,211	38,770
Summer*	41,023	44,378	29,194	32,277	10,337	8,183	8,365	19,605	13,496	8,429
Fall*	206,126	90,199	89,935	84,370	1,756	1,947	1,256	6,854	6,198	1,924
Jacks	84,988	55,067	60,386	55,228	3,396	3,440	3,373	6,795	6,198	4,497
STEELHEAD	193,437	133,882	102,558	87,712	54,820	47,749	47,388	9,804	7,414	53,037
SOCKEYE	99,829	86,252	85,701	80,781	582	582	374	95,412	25,648	458
COHO*	19,408	10,021	1,123	4,672	1,561	122	438	370	927	268
Adults	9,325	3,925	858	1,788	229	44	109	182		46
Jacks	10,083	6,096	265	2,884	1,332	78	329	188		222
SHAD	495,723	856,502	476,407	432,749	41,192	3,362	10	26,515	0	25
1978										
CHINOOK*	394,600	199,228	174,852	144,148	61,352	56,815	56,069	44,377	19,551	54,246
Spring*	149,863	84,924	72,723	68,414	49,303	47,342	44,327	21,427	7,317	41,006
Summer*	44,323	34,396	30,371	31,589	10,440	8,480	10,471	16,461	9,461	11,755
Fall*	200,414	79,908	71,758	44,145	1,609	1,013	1,271	6,489	2,773	1,485
Jacks	62,269	32,503	36,289	20,670	994	994	1,154	3,429	3,247	1,216
STEELHEAD	104,431	60,485	44,188	34,740	27,142	20,540	24,927	4,788	2,454	30,068
SOCKEYE	18,416	11,845	13,778	18,511	86	96	168	12,009	8,155	123
COHO*	57,590	18,677	8,355	20,356	652	218	307	997	1,438	132
Adults	20,278	5,344	1,055	4,653	159	88	146	157		25
Jacks	22,312	13,333	7,300	15,703	493	130	161	440		127
SHAD	861,144	1,234,723	629,005	380,727	16,278	1,620	2	21,704	0	0
1979										
CHINOOK*	275,968	150,647	118,134	95,275	13,929	11,288	12,515	38,166	14,891	12,548
Spring*	51,124	27,297	21,981	21,153	9,247	7,921	7,880	7,750	2,186	7,539
Summer*	34,217	32,298	23,572	24,161	2,608	2,083	3,443	22,689	9,986	1,572
Fall*	190,627	91,052	72,601	49,961	2,074	1,284	1,190	7,727	2,719	1,437
Jacks	55,955	42,886	41,364	25,442	2,422	1,916	1,982	5,603	3,608	2,578
STEELHEAD	113,979	83,364	55,877	50,304	23,117	17,794	21,049	8,415	4,896	25,044
SOCKEYE	32,628	32,791	43,630	37,792	30	31	72	45,662	28,747	25
COHO*	45,328	8,726	3,061	12,800	398	194	390	311	244	158
Adults	29,612	3,890	3,891	6,519	125	120	200	272		50
Jacks	15,716	4,836	1,170	6,281	273	74	190	39		108
SHAD	1,039,857	1,398,234	646,187	361,024	10,489	4,908	121	20,196	0	75
1980										
CHINOOK*	245,518	113,951	100,664	80,773	14,717	10,885	10,605	38,286	10,163	10,986
Spring*	60,897	28,237	27,202	23,001	9,668	7,259	6,850	11,136	2,033	6,758
Summer*	31,065	21,133	19,664	18,862	3,305	2,712	3,057	18,708	6,068	3,447
Fall*	153,486	64,581	53,798	38,910	1,744	914	698	8,442	2,062	781
Jacks	37,748	20,016	23,877	17,564	2,934	2,214	1,772	7,727	2,139	2,385
STEELHEAD	129,254	93,963	78,199	66,524	50,221	34,322	38,627	8,506	4,345	40,454
SOCKEYE	58,882	2,088	50,675	44,301	36	48	88	52,053	29,906	96
COHO*	22,052	6,328	1,924	571	58	73	124	316	713	43
Adults	12,974	3,356	1,016	307	50	61	89	148		30
Jacks	9,078	2,972	908	264	8	12	35	168		13
SHAD	939,390	1,160,752	638,037	275,223	2,857	4,854	614	23,701	0	308
1981										
CHINOOK*	285,650	135,176	114,387	80,619	22,092	19,991	19,086	32,605	10,259	19,198
Spring*	65,809	41,160	37,705	32,330	16,167	14,273	13,668	14,787	3,593	13,642
Summer*	28,929	19,676	15,813	15,141	3,814	4,092	4,033	12,380	4,726	3,805
Fall*	193,712	74,340	60,869	33,148	2,111	1,624	1,385	5,438	1,940	1,751
Jacks	53,351	33,919	34,547	17,192	2,411	2,207	1,945	2,671	1,449	2,420
STEELHEAD	159,270	113,268	93,172	61,985	41,290	35,923	38,680	9,004	5,523	39,596
SOCKEYE	56,037	35,447	46,146	26,644	142	136	200	51,460	30,649	218
COHO*	30,510	6,941	2,562	3,736	82	63	120	431	522	17
Adults	21,935	2,536	943	1,725	25	19	8	132		1
Jacks	8,575	4,405	1,619	2,011	57	44	112	301		16
SHAD	881,179	1,088,958	527,878	193,373	5,048	1,274	84	20,857	0	72
Assumed Dates For Chinook Runs (May vary for previous years)										
SPRING	15 Mar - 31 May	1 Apr - 3 Jun	1 Apr - 5 Jun	1 Mar - 8 Jun	1 Mar - 11 Jun	1 Apr - 13 Jun	1 Apr - 15 Jun	12 Apr - 13 Jun	17 Apr - 19 Jun	1 Mar - 17 Jun
SUMMER	1 Jun - 31 Jul	4 Jun - 3 Aug	6 Jun - 5 Aug	9 Jun - 8 Aug	12 Jun - 11 Aug	14 Jun - 12 Aug	16 Jun - 15 Aug	14 Jun - 13 Aug	20 Jun - 19 Aug	18 Jun - 17 Aug
FALL	1 Aug - 15 Nov	4 Aug - 31 Oct	6 Aug - 31 Oct	9 Aug - 30 Nov	12 Aug - 30 Nov	14 Aug - 31 Oct	16 Aug - 31 Oct	14 Aug - 20 Oct	20 Aug - 20 Nov	18 Aug - 15 Dec

* Includes Jack counts. Fish classified as jacks are under 22 inches in length.

TABLE 2
 YEARLY TOTALS OF SALMONID FISH COUNTED OVER BONNEVILLE DAM
 1938 - 1981

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

TABLE 2

TABLE 2 (CONTD)
 YEARLY TOTALS OF SALMONID FISH COUNTED OVER BONNEVILLE DAM
 1938 - 1981

YEAR	CHINOOK	STEELHEAD	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMONID
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	275,968	113,979	52,628	45,328	1	23	487,927
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
Total	15,659,679	6,220,752	3,888,718	1,224,589	38,184	1,263	27,033,185
44-Year Average	355,902	140,381	88,380	27,832			614,390

TABLE 2 (CONTD)

TABLE 3

TABLE 3

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER BONNEVILLE DAM

1981

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	1,853	41,917	21,239	13,262	13,667	32,519	154,696	6,388	209	-	285,650
STEELHEAD	-	-	1,031	3,812	3,887	12,628	56,787	52,435	25,737	2,650	303	-	159,270
SOCKEYE	-	-	-	-	1	36,931	19,001	100	4	-	-	-	56,037
COHO	-	-	-	-	-	-	4	3,162	23,962	3,108	274	-	30,510
CHUM	-	-	-	-	-	-	-	-	-	1	3	-	4
PINK	-	-	-	-	-	-	-	-	17	-	3	-	20
TOTAL SALMONIDS	-	-	2,884	45,729	25,127	62,821	89,459	88,216	204,416	12,047	792	-	531,491
SHAD	-	-	-	2	20,976	708,295	150,730	1,080	79	17	-	-	881,179

TABLE 4
 WATER TEMPERATURE AND STREAM FLOW DATA
 BONNEVILLE - 1981

DATE	JANUARY			FEBRUARY		
	WATER TEMP.	STREAM FLOW	TURBIDITY	WATER TEMP.	STREAM FLOW	TURBIDITY
1	46	257,300	1.0	42	190,800	4.3
2	46	271,700	1.0	42	191,500	4.3
3	46	270,500	1.0	42	214,900	4.3
4	46	247,700	1.2	42	225,600	4.3
5	46	232,200	1.2	42	228,300	4.3
6	46	213,800	1.4	42	209,700	3.0
7	46	235,700	1.4	41	179,800	4.3
8	46	218,400	1.4	41	157,200	4.3
9	47	223,100	1.4	41	191,300	5.1
10	47	230,000	1.4	41	215,100	5.1
11	47	189,800	1.4	41	218,200	5.1
12	46	207,400	1.5	41	189,800	5.1
13	45	220,100	1.6	41	199,800	5.1
14	46	219,100	1.3	40	160,000	5.0
15	45	217,900	2.1	40	163,200	5.0
16	44	231,900	2.1	40	180,000	5.0
17	44	198,200	2.1	42	231,100	5.0
18	44	151,800	2.8	42	236,500	5.0
19	43	194,900	2.8	42	276,200	5.0
20	43	184,000	2.8	42	276,400	1.2
21	43	203,200	2.8	42	264,600	1.2
22	43	215,500	2.8	42	229,900	1.3
23	43	198,500	2.8	42	211,400	1.3
24	43	195,100	4.8	42	214,700	1.3
25	43	163,400	4.8	43	217,800	1.3
26	43	192,200	4.4	43	233,300	1.3
27	43	217,800	4.4	43	194,300	1.3
28	41	190,200	4.4	43	190,000	1.3
29	42	197,900	4.4			
30	42	192,600	4.4			
31	42	205,700	4.4			

TABLE 4

TABLE 5

TABLE 5

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

BONNEVILLE PROJECT

MAR 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCF3)	SPILL (KCF3)	HUMIDITY (SFECHT)	WATER TEMP (DFG F)
	SPRING	SUMMER	FALL										
1										154.1	31.8	1.3	44.0
2										163.2	38.1	1.2	42.0
3										192.0	59.7	1.2	44.0
4										193.1	67.6	1.2	45.0
5										170.0	42.5	1.5	45.0
6										183.0	55.6	2.3	44.0
7										158.4	35.1	1.7	45.0
8										156.6	29.6	1.6	45.0
9										160.7	31.8	1.5	44.0
10										164.5	35.9	1.6	45.0
11										158.4	27.9	2.3	44.0
12										164.1	37.4	2.5	46.0
13										166.2	38.8	2.4	46.0
14										142.4	14.9	2.0	46.0
15	12							44		171.4	7.6	2.1	46.0
16	6							52		146.2	19.2	2.1	46.0
17	11							50		178.6	32.0	2.1	46.0
18	27							62		170.2	24.2	2.8	46.0
19	27				1			49		176.4	35.6	2.8	46.0
20	15							28		162.2	18.5	2.6	46.0
21	13							42		176.0	.0	2.8	46.0
22	173							78		174.6	.0	2.8	46.0
23	24							72		168.4	28.7	2.8	46.0
24	115							76		165.4	26.6	2.8	46.0
25	50							36		154.0	18.0	2.8	47.0
26	214							95		165.2	24.8	2.8	47.0
27	358							89		175.8	33.4	2.8	47.0
28	226							89		154.5	21.4	2.8	47.0
29	193							70		168.5	29.4	2.8	47.0
30	278							42		166.8	26.1	2.5	47.0
31	152							57		196.3	51.5	2.0	47.0
TOTALS	1849			1				1071					
AVERAGES	109			1				61		164.3	30.2		

TABLE 6

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

BONNEVILLE PROJECT
APR 1981

DATE	FISH COUNTS					RIVER CONDITIONS							
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SEECHT)	WATER TEMP (DEG F)
1	483			1				103		184.1	40.1	3.0	49.0
2	223							65		186.0	41.7	2.0	49.0
3	263							62		191.0	45.5	2.0	49.0
4	881			1				122		169.2	28.5	2.4	49.0
5	1212			2				98		157.3	16.1	2.4	48.0
6	1451			5				166		154.3	9.7	2.8	49.0
7	576							97		174.4	32.2	3.0	49.0
8	796							95		172.3	31.1	3.0	49.0
9	840			1				120		185.4	42.3	2.8	49.0
10	965							101		174.5	32.2	2.8	49.0
11	1984			2				118		148.2	7.3	2.8	49.0
12	1334			3				121		141.6	.0	3.2	49.0
13	1526			3				89		170.5	27.2	3.2	49.0
14	1584			2				134		155.4	15.1	3.0	49.0
15	1394			8				152		157.0	19.0	3.0	49.0
16	2012			14				171		171.9	32.4	3.0	49.0
17	2480			7				153		158.0	18.8	3.0	50.0
18	1959			9				159		139.7	.0	3.0	51.0
19	2144			12				151		143.1	.0	3.0	51.0
20	1703			10				161		136.3	.0	3.0	51.0
21	1905			20				184		137.0	.0	2.7	51.0
22	1443			28				184		173.9	37.3	2.5	51.0
23	1498			27				162		169.8	26.9	2.7	51.0
24	2212			32				154		159.5	22.5	2.7	51.0
25	1295			28				154	1	191.1	48.5	2.7	51.0
26	1199			32				96	1	170.4	27.6	3.4	53.0
27	1264			52				90		188.1	44.0	3.0	53.0
28	913			26				90		220.8	79.3	3.0	53.0
29	1268			32				117		223.0	75.6	3.0	53.0
30	1696			56				143		221.6	80.2	3.0	53.0
TOTALS	41508			409				3812	2				
AVERAGES	1384			14				127	1	170.8	29.4		

TABLE 7

TABLE 7

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

BUNNEVILLE PROJECT

MAY 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COMO ADULTS	COMO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCS)	SPILL (KCS)	TURBIDITY (SEECI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	1500			46				138		222.5	80.0	2.5	53.0
2	1330			46				99		220.6	77.8	2.5	53.0
3	1270			37				109		244.6	96.5	2.8	53.0
4	1133			43				112		262.0	119.0	2.3	53.0
5	1490			82				101		277.1	133.1	2.0	56.0
6	843			42				106		259.3	114.3	2.0	55.0
7	1008			62				84		272.3	125.4	2.0	55.0
8	828			64				92		252.5	106.5	2.4	55.0
9	898			96				90		205.4	60.3	2.4	56.0
10	889			67				85		185.6	41.0	2.4	56.0
11	626			78				97		220.6	79.7	2.2	56.0
12	490			45				89		231.6	88.0	2.1	56.0
13	600			71				122	4	225.5	81.6	2.4	56.0
14	496			62				90	6	223.0	84.9	2.4	56.0
15	689			113				129	2	218.7	74.1	2.4	55.0
16	418			79				135	4	225.4	79.6	2.4	55.0
17	656			90				155	45	184.2	40.1	2.5	55.0
18	355			70				105	24	221.8	76.3	2.0	57.0
19	311			34				102	16	226.8	81.4	2.0	57.0
20	372			61				103	12	200.1	56.2	2.0	57.0
21	533			71				129	12	210.3	58.1	1.7	57.0
22	247			38				99	15	236.0	75.8	1.7	57.0
23	371			56				175	202	215.0	47.4	1.8	57.0
24	301			52				168	733	239.1	69.0	1.8	57.0
25	315			46				158	616	232.2	62.4	1.8	57.0
26	299			53				169	695	233.5	65.2	1.7	58.0
27	248			50				176	549	297.0	126.6	1.7	58.0
28	230			19				165	2947	321.3	148.1	1.7	58.0
29	206			37			1	175	4480	334.2	161.7	1.7	59.0
30	203			32				144	6388	352.4	178.9	1.7	59.0
31	191			27				186	4226	363.6	189.7	1.7	59.0
TOTALS	19470			1769			1	3887	20976				
AVERAGES	628			57			1	125	1104	245.6	92.9		

TABLE 8

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

JUN 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF5)	SPILL (KCF5)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1		261		50			2	184	18561	376.6	209.8	1.7	60.0
2		245		35			2	163	8715	377.7	212.2	1.7	61.0
3		206		15			4	150	15010	364.6	198.5	1.7	61.0
4		369		37			6	169	10293	365.8	199.1	1.7	61.0
5		225		40			7	171	10357	372.6	206.6	1.4	61.0
6		193		40			13	163	11783	394.4	224.4	1.7	61.0
7		165		35			17	177	21208	376.9	210.2	2.0	61.0
8		125		19			23	117	8395	399.9	237.5	2.0	61.0
9		157		39			42	183	14274	413.4	252.5	1.5	61.0
10		204		55			48	266	9316	426.7	265.3	1.5	61.0
11		177		35			57	225	8639	414.7	252.8	1.5	59.0
12		306		33			64	231	6377	404.7	247.9	2.0	59.0
13		283		40			116	237	7493	402.3	230.6	2.0	59.0
14		332		44			190	311	9914	392.5	220.5	2.0	59.0
15		378		58			338	397	15265	375.8	203.6	2.2	59.0
16		394		79			418	368	32189	349.1	174.6	2.0	60.0
17		524		69			486	363	18168	331.3	156.4	2.4	60.0
18		340		96			765	487	28746	330.9	158.9	2.5	60.0
19		447		97			1241	515	42116	343.5	172.5	2.5	60.0
20		265		74			1310	343	54693	360.7	188.8	2.6	59.0
21		306		61			1487	489	49645	359.6	188.6	2.8	59.0
22		489		90			2180	567	49201	361.3	190.4	2.0	60.0
23		524		102			2718	711	42260	357.6	186.6	2.5	60.0
24		463		57			2986	527	35876	338.9	168.3	2.0	60.0
25		628		82			3826	710	36694	331.6	160.7	2.0	60.0
26		726		110			4419	767	43720	326.3	154.6	2.0	60.0
27		640		106			3882	768	24532	305.7	134.0	2.0	61.0
28		622		101			3350	847	13975	291.8	119.4	2.0	61.0
29		745		118			3423	881	20966	276.6	105.0	2.0	61.0
30		772		134			3511	1141	39914	254.9	83.9	2.0	62.0
TOTALS		11311		1951			36931	12628	708295				
AVERAGES		377		65			1231	421	23610	359.3	190.5		

TABLE 9

TOTAL
9

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

HONNEVILLE PROJECT

JUL 1961

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCS)	SPILL (KCS)	TURBIDITY (SECH)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1		614		93			3002	1053	15041	243.0	80.1	2.0	63.0
2		704		101			2846	1317	16287	235.6	66.9	3.0	63.0
3		733		109			2695	1364	15368	239.6	75.5	3.0	63.0
4		651		87			2038	1213	16007	233.6	65.2	2.6	63.0
5		463		61			1329	1132	12991	228.4	58.8	2.7	63.0
6		448		76			1104	900	6395	250.4	81.3	2.7	63.0
7		401		93			813	864	2196	228.4	58.8	3.4	63.0
8		442		96			771	1071	3152	307.7	135.9	3.8	63.0
9		406		86			724	1197	4926	307.6	136.5	3.8	63.0
10		406		76			542	1170	3741	303.5	131.7	3.4	64.0
11		458		58			566	1249	6352	237.8	66.6	3.8	64.0
12		306		82			446	1449	9798	205.2	35.8	3.8	64.0
13		283		109			447	1382	9808	212.5	44.9	3.5	64.0
14		226		133			274	1463	2862	241.7	71.5	3.5	64.0
15		273		120			257	1590	3557	243.6	73.2	3.5	65.0
16		272		128	1		212	1798	1781	264.9	94.4	4.5	65.0
17		230		84	1		118	2432	2427	247.7	78.1	3.8	65.0
18		385		101	1		112	3028	7046	179.6	16.4	4.8	65.0
19		316		82	1		100	2464	3304	162.7	.4	4.0	65.0
20		280		88			75	2176	1546	218.5	52.4	4.4	66.0
21		234		73			76	2205	761	230.1	61.0	4.4	66.0
22		301		76			53	2663	953	193.5	26.5	4.0	66.0
23		274		80			61	2439	937	212.7	43.4	4.0	66.0
24		266		66			44	2292	519	217.3	51.5	4.0	66.0
25		351		80			39	2654	782	204.0	39.6	4.0	67.0
26		257		52			32	2971	910	168.5	2.8	4.2	67.0
27		178		63			39	2114	536	198.3	30.8	4.2	68.0
28		223		72			24	2568	245	225.5	55.8	4.2	69.0
29		231		51			18	2164	168	210.0	41.2	4.3	70.0
30		232		71			18	2096	118	220.9	52.2	4.3	68.0
31		208		68			17	2299	161	217.4	50.6	4.4	69.0
TOTALS		11052		2615	4		19001	56787	150730				
AVERAGES		357		84	1		613	1832	4862	228.4	60.6		

TABLE 10

MONTHLY FISH PASSAGE SUMMARY REPORT

BONNEVILLE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

AUG 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SEECI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1			233	51			7	3058	238	190.7	24.2	4.4	69.0
2			273	68	2	1	14	2878	136	160.8	.7	4.6	69.0
3			152	66	1	6	7	2149	93	177.6	16.3	4.6	69.0
4			145	46	2	2	10	1808	90	177.0	12.7	4.6	69.0
5			274	76	3	2	11	2609	46	195.3	28.7	4.6	69.0
6			236	71	2	1	6	2277	73	200.0	32.7	4.6	69.0
7			253	65	1	5	4	1822	35	232.7	64.8	4.0	69.0
8			528	85	1	2	4	3056	57	198.2	33.4	4.8	69.0
9			370	88			11	2310	42	152.4	.7	4.7	70.0
10			344	106	2		2	1903	39	157.5	.0	4.7	70.0
11			344	79	5	14	4	1994	44	161.6	.0	5.0	74.0
12			295	83		3	1	1833	12	163.8	.0	6.5	72.0
13			237	50	4	1	1	1914	17	157.4	.0	6.5	72.0
14			103	31	2	1	2	900	20	153.4	3.0	6.0	73.0
15			109	40	1	4	2	796	16	204.4	39.3	6.0	72.0
16			123	61	3	5		683	9	192.1	25.8	6.0	73.0
17			151	86	7	7	2	696	9	165.6	1.7	6.0	71.0
18			212	106	6	10	2	448	14	150.0	.0	6.0	72.0
19			290	158	4	14	1	1166	7	147.5	.0	6.0	72.0
20			387	174	9	12	1	1090	6	138.4	.0	6.0	72.0
21			614	247	23	19	2	1393	14	137.0	.0	6.0	72.0
22			801	196	31	21	3	1535	7	134.7	.0	7.0	72.0
23			780	230	30	26		1443	6	147.4	.0	6.0	72.0
24			1752	359	52	54		1778	10	139.8	1.6	6.0	72.0
25			1242	442	102	109	1	1601	7	135.7	1.3	6.0	71.0
26			840	383	121	104		1284	6	142.1	1.3	6.0	71.0
27			1290	455	97	117	1	1605	8	137.3	.9	6.0	71.0
28			1845	443	149	104		1318	6	138.5	1.3	6.6	71.0
29			2950	583	230	115		1194	2	140.7	1.3	7.0	71.0
30			3947	883	456	166		1537	7	115.6	.8	6.2	71.0
31			4560	978	656	230	1	1857	4	129.9	1.3	7.0	69.0
TOTALS			25730	6789	2002	1160	100	52435	1080				
AVERAGES			830	219	71	41	4	1691	35	160.5	9.5		

TABLE 11

TABLE 11

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

SEP 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHE)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1			4019	1350	540	179		1589	6	126.5	1.3	6.0	69.0
2			3889	973	584	195		1534	8	127.0	1.3	6.0	69.0
3			5615	1272	742	193	1	1516	1	124.6	1.3	8.0	69.0
4			8556	1350	1123	232		1483		124.9	1.3	7.5	69.0
5			10666	2088	1469	300		1669	7	126.1	1.3	6.0	69.0
6			8866	1893	1312	315	1	1267	8	100.4	1.3	7.0	69.0
7			7608	1950	1198	310		1361	2	103.1	1.3	7.0	69.0
8			6428	1790	1175	281		1377	2	127.4	1.3	7.0	69.0
9			5777	1565	853	200	1	1209	3	129.2	1.3	7.0	69.0
10			3994	1125	433	130		725	4	106.7	1.3	7.0	69.0
11			3164	1291	511	304		708	5	95.6	1.3	7.0	69.0
12			3361	1271	215	105		573	5	91.6	1.3	7.0	69.0
13			6154	1576	435	124		640	1	98.5	1.3	7.0	69.0
14			7749	2623	1305	237		1018	2	121.5	1.3	7.0	69.0
15			6346	2034	1421	290		1113	7	116.6	1.3	7.0	69.0
16			4909	1346	1001	213		926	1	111.0	1.3	7.0	69.0
17			4009	1130	869	179		860	4	126.8	1.3	7.0	69.0
18			2657	819	555	130		655		135.8	1.3	7.0	69.0
19			3159	897	483	116		723	4	114.7	.0	7.0	70.0
20			2469	936	415	114		664	1	96.6	.0	6.5	71.0
21			2180	787	327	81		599		108.6	.0	6.5	70.0
22			1504	708	258	79		521		119.7	.0	6.0	70.0
23			1227	722	237	79		497	2	125.3	.0	6.0	67.0
24			1279	901	282	84	1	514		119.1	.0	6.0	67.0
25			760	569	249	87		414		117.4	.0	6.1	67.0
26			817	576	205	108		434		100.6	.0	6.1	67.0
27			649	454	272	78		333	2	95.3	.0	6.1	67.0
28			594	599	213	90		299	1	96.1	.0	5.4	67.0
29			498	524	162	76		318		110.8	.0	5.5	67.0
30			314	360	143	66		198	2	112.6	.0	5.0	67.0
TOTALS			119217	35479	18987	4975	4	25737	79				
AVERAGES			3974	1183	633	166	1	858	4	113.7	.8		

TABLE 12

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

JONHEVILLE PROJECT

OCT 1961

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCF S)	SPILL (KCF S)	TURBIDITY (SF/LFT)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1			339	337	108	53		205	2	129.5	.0	5.8	63.0
2			224	248	76	61		149		124.0	.0	5.0	63.0
3			122	257	61	83		109		91.3	.0	5.6	63.0
4			104	239	46	42		105	1	80.9	.0	6.6	63.0
5			105	229	33	54		109		120.9	.0	5.9	64.0
6			108	216	83	75		120	1	131.4	.0	4.9	62.0
7			85	240	46	86		136		143.1	.0	4.4	62.0
8			53	217	65	106		141	2	143.9	.0	5.0	62.0
9			104	206	87	120		154		132.6	.0	5.0	62.0
10			64	230	55	101		145	1	100.4	.0	5.2	62.0
11			100	165	59	74		114	1	106.6	.0	5.2	62.0
12			63	61	17	57		58		135.4	.0	5.6	62.0
13			37	120	15	58		59		133.1	.0	5.2	62.0
14			36	78	8	56		42	2	123.3	.0	5.2	60.0
15			32	133	5	31		35		127.0	.0	5.8	60.0
16			24	49	11	54		54	1	143.9	.0	5.8	60.0
17			45	113	9	42		49		113.6	.0	5.0	60.0
18			46	161	5	37		53	2	100.3	.0	5.4	60.0
19			44	103	12	61		61		110.7	.0	5.4	59.0
20			44	40	5	109		75	2	127.7	.0	5.3	59.0
21			50	49	18	103		68		146.0	.0	5.3	60.0
22			31	38	8	64		64	1	144.4	.0	5.3	60.0
23			37	61	3	110		75	1	153.0	.0	5.5	60.0
24			10	30	9	63		33		162.1	.0	5.5	59.0
25			27	67	3	77		54		103.7	.0	5.5	59.0
26			31	38		59		40		101.3	.0	6.0	57.0
27			24	57	8	46		82		116.1	.0	6.0	57.0
28			25	60	10	74		74		133.3	.0	6.5	57.0
29			24	39	5	84		55		136.1	.0	6.0	57.0
30			6	28	3	60		47		142.3	.0	5.8	56.0
31			12	32	14	84		73		103.7	.0	5.6	57.0
TOTALS			2093	4145	917	2191		2650	17				
AVERAGES			68	135	31	71		85	1	126.0	.0		

TABLE 12

TABLE 13

DATE	CHINOOK ADULTS			CHINOOK YACKS	COHO ADULTS	COHO YACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SF/LCHT)	WATER TEMP (DFG F)
	SPRING	SUMMER	FALL										
* 1			7	7	2	33		37		100.1	.0	6.0	57.0
* 2			3	12	2	22		23		108.3	.0	6.0	57.0
* 3			7	20	2	27		28		116.7	.0	6.0	57.0
* 4			7	1	1	23		21		122.3	.0	6.1	57.0
* 5			12	10	1	25		22		150.0	.0	4.5	56.0
* 6			3	13	1	22		23		137.4	.0	5.1	56.0
* 7			7	15	1	14		27		118.6	.0	6.0	56.0
* 8			6	18	1	21		15		101.3	.0	6.0	56.0
* 9			1	12	1	11		5		109.3	.0	5.0	56.0
* 10			2	8	1	9		16		140.3	.0	5.6	56.0
* 11			4	3	2	10		18		131.2	.0	5.6	56.0
* 12			1	11		13		17		113.5	.0	5.6	56.0
* 13			1	0				14		112.4	.0	4.0	57.0
* 14			4	0	7	7		24		129.4	.0	4.0	57.0
* 15			4	1	2	12		13		131.2	.0	4.0	55.0
16										126.7	.0	4.0	55.0
17										114.1	.0	4.0	55.0
18										141.1	.0	4.0	55.0
19										149.5	.0	5.0	55.0
20										152.6	.0	5.0	55.0
21										148.9	.0	5.6	55.0
22										116.4	.0	5.4	54.0
23										124.4	.0	5.4	54.0
24										134.1	.0	5.4	52.0
25										145.4	.0	5.4	52.0
26										123.9	.0	5.3	51.0
27										145.2	.0	5.3	50.0
28										145.4	.0	4.5	50.0
29										126.2	.0	5.5	50.0
30										126.1	.0	5.8	50.0
TOTALS			69	140	25	249		303					
AVERAGES			5	9	2	18		20		126.5	.0		

* 8 hour shift

TABLE 14
 WATER TEMPERATURE AND STREAM FLOW DATA
 BONNEVILLE - 1981

DATE	DECEMBER		
	WATER TEMPERATURE	STREAM FLOW	TURBIDITY
1	50	141,800	5.5
2	50	158,500	5.5
3	50	159,900	4.5
4	49	158,900	4.5
5	49	158,200	4.5
6	49	166,200	3.0
7	48	196,100	3.0
8	48	196,300	3.5
9	48	172,300	1.2
10	47	149,200	1.8
11	47	151,300	3.5
12	47	157,100	3.5
13	47	157,500	3.5
14	47	151,700	3.5
15	47	156,300	3.5
16	46	198,200	3.9
17	46	182,200	3.5
18	46	169,700	3.5
19	46	211,700	3.5
20	46	180,400	3.5
21	46	172,800	1.5
22	46	177,100	1.5
23	46	176,400	1.0
24	44	177,500	1.6
25	45	178,100	1.2
26	45	176,200	1.2
27	44	178,200	1.2
28	44	180,000	1.2
29	43	171,800	1.2
30	42	152,600	1.2
31	42	164,600	1.2

TABLE 14

TABLE 15
PEAK DAYS OF FISH MIGRATION
BONNEVILLE DAM - 1938-1981

Year	Spring Chinook		Summer Chinook		Fall Chinook		Steelhead		Sockeye		Coho		Chum		Shad	
	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish
1938*	May 10	2,978	Aug 11	1,102	Sep 9	16,736	Sep 2	4,356	Jul 13	8,407	Aug 31	1,941	Oct 28	190	Jul 20	285
1939	Apr 23	5,220	Jul 27	1,173	Sep 8	13,531	Jul 30	3,857	Jun 29	3,654	Sep 5	1,233	Oct 28	131	Jun 29	306
1940	Apr 19	3,303	Aug 15	719	Sep 1	33,900	Sep 8	6,783	Jun 30	7,371	Sep 7	1,274	Nov 3	140	Jun 25	2,030
1941	Apr 27	4,215	Jul 6	480	Sep 6	33,263	Sep 10	4,357	Jul 2	3,599	Sep 6	2,311	Nov 14	376	Jul 3	2,483
1942	May 7	2,579	Jun 7	949	Sep 8	44,507	Sep 10	9,410	Jul 3	3,248	Sep 3	1,261	Nov 9	164	Jun 21	1,115
1943	Apr 30	4,168	Jun 30	473	Sep 4	20,623	Sep 9	3,918	Jul 7	2,070	Sep 4	372	Nov 10	54	Jul 19	485
1944	Apr 26	2,182	Aug 14	758	Sep 3	16,800	Sep 5	3,654	Jul 9	811	Sep 5	540	Nov 4	61	Jul 10	2,343
1945	May 3	3,836	Jul 15	1,050	Sep 11	19,913	Sep 9	3,906	Jul 10	618	Sep 7	65	Nov 1	49	Jul 10	6,634
1946	May 7	4,135	Jun 14	2,424	Sep 10	34,619	Aug 6	4,333	Jul 12	5,079	Sep 10	618	Nov 18	96	Jul 11	1,285
1947	Apr 18	14,735	Aug 15	3,002	Sep 4	32,680	Sep 4	6,511	Jun 26	11,101	Sep 7	1,559	Oct 31	17	Jul 2	3,665
1948	Apr 16	3,927	Jun 25	5,298	Sep 4	25,708	Sep 4	4,131	Jul 4	11,840	Sep 5	601	Nov 21	156	Jul 17	1,199
1949	May 12	4,422	Jul 5	1,862	Sep 7	19,618	Aug 1	4,211	Jul 5	4,129	Sep 7	115	Nov 24	121	Jul 15	2,393
1950	May 10	5,055	Jul 10	2,841	Sep 8	27,677	Aug 13	4,073	Jul 8	6,254	Sep 2	1,274	Nov 29	61	Jul 24	804
1951	May 9	10,673	Jun 5	3,610	Sep 10	10,196	Jul 18	4,272	Jun 28	12,288	Sep 7	559	Nov 18	115	Jul 3	603
1952	May 27	7,594	Jun 19	4,116	Sep 4	17,322	Jul 28	8,920	Jun 24	19,571	Aug 30	737	Nov 16	92	Jul 15	441
1953	Apr 22	12,950	Jun 26	3,897	Sep 3	9,083	Jul 27	6,884	Jul 5	20,351	Aug 29	1,012	Nov 7	116	Jul 9	1,786
1954	May 5	7,735	Jun 28	3,124	Sep 5	8,312	Jul 28	5,631	Jun 28	10,537	Sep 4	607	Nov 14	120	Jul 30	320
1955	May 2	13,763	Jun 23	4,912	Sep 5	8,645	Jul 27	9,337	Jul 7	27,112	Sep 5	374	Nov 9	28	Jul 26	533
1956	May 7	5,291	Jun 23	6,419	Sep 6	8,924	Jul 26	4,069	Jul 5	12,958	Sep 6	645	Nov 4	43	Jul 13	1,236
1957	Apr 30	13,222	Jun 18	11,030	Sep 5	8,834	Jul 25	5,093	Jun 24	5,288	Sep 11	287	Nov 12	46	Jul 11	1,336
1958	May 9	4,833	Jun 17	4,634	Sep 15	22,380	Jul 25	5,053	Jul 6	7,174	Sep 2	345	Nov 6	43	Jul 10	1,051
1959	Apr 24	2,827	Jun 23	5,242	Sep 6	14,656	Jul 22	7,472	Jul 9	7,369	Sep 6	249	Nov 20	95	Jul 17	899
1960	Apr 29	6,231	Jun 14	7,151	Sep 5	7,848	Jul 25	4,816	Jun 23	3,695	Sep 4	285	Nov 11	67	Jun 30	9,584
1961	Apr 27	7,620	Jun 19	3,322	Sep 6	8,210	Jul 31	4,611	Jul 2	1,037	Sep 12	411	Nov 23	42	Jul 4	36,835
1962	Apr 23	4,767	Jun 16	4,930	Sep 1	7,750	Sep 2	6,134	Jul 1	1,925	Sep 12	1,435	Nov 23	89	Jul 14	32,518
1963	Apr 24	4,028	Jun 18	2,749	Sep 6	12,955	Jul 31	6,051	Jun 30	4,100	Sep 6	549	Nov 8	44	Jul 6	23,473
1964	Apr 29	5,256	Jun 25	3,713	Sep 8	16,086	Jul 29	5,079	Jul 1	9,631	Sep 13	3,899	Nov 10	38	Jul 12	22,359
1965	May 10	4,959	Jun 23	3,588	Sep 8	12,599	Jul 27	6,405	Jun 30	3,408	Sep 10	5,408	Nov 15	35	Jul 16	40,018
1966	Apr 16	6,077	Jun 21	2,882	Sep 17	8,121	Jul 16	3,523	Jul 1	3,768	Sep 20	8,121	Nov 15	57	Jul 10	27,744
1967	Apr 21	5,325	Jul 2	4,188	Sep 15	13,838	Sep 8	2,807	Jul 5	10,235	Sep 15	5,988	Nov 12	33	Jul 6	14,760

* Fish counting initiated on 7 May 1938

TABLE 15 (CONTD)
 PEAK DAYS OF FISH MIGRATION
 BONNEVILLE DAM - 1938- 1981

Year	Spring Chinook		Summer Chinook		Fall Chinook		Steelhead		Sockeye		Coho		Chum		Shad	
	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish
1968	Apr 22	5,245	Jun 10	2,716	Sep 7	10,607	Jul 31	2,760	Jun 25	7,359	Sep 1	4,611	Nov 17	7	Jul 4	15,961
1969	May 7	8,182	Jun 19	4,598	Sep 9	16,995	Jul 23	3,771	Jul 3	4,466	Sep 15	3,225	Nov 3	9	Jun 20	36,293
1970	May 1	5,047	Jun 24	1,938	Sep 11	19,363	Aug 5	2,986	Jul 5	3,498	Sep 11	8,576	Oct 23	11	Jun 26	25,537
1971	Apr 27	7,155	Jul 1	2,247	Sep 9	14,097	Jul 27	5,438	Jul 7	5,926	Sep 6	6,798	Sep 6	6	Jul 16	11,977
1972	Apr 26	19,241	Jun 23	3,743	Sep 9	10,752	Sep 11	5,359	Jul 6	4,000	Sep 13	3,774	Oct 1	1	Jul 5	19,490
1973	Apr 23	8,735	Jun 12	1,203	Sep 8	15,858	Sep 4	3,469	Jun 30	4,186	Sep 7	2,723	Sep 2	31	Jun 12	46,892
1974	May 6	7,318	Jun 30	2,061	Sep 15	12,216	Aug 2	2,951	Jul 3	3,721	Sep 16	2,480	Nov 15	5	Jul 8	9,737
1975	May 8	4,604	Jul 10	1,329	Sep 7	23,326	Jul 27	1,804	Jul 2	4,353	Sep 9	3,516	None		Jul 9	22,974
1976	Apr 29	6,556	Jun 25	2,064	Sep 6	26,509	Jul 23	2,358	Jun 30	2,778	Sep 13	3,779	None		Jul 3	24,692
1977	Apr 18	6,370	Jun 21	1,010	Sep 9	13,050	Sep 3	5,517	Jun 25	6,306	Sep 9	812	None		Jun 10	51,801
1978	Apr 22	8,284	Jun 18	1,243	Sep 11	17,087	Sep 10	2,146	Jun 24	1,119	Sep 12	3,738	Nov 8	6	Jun 12	62,509
1979	Apr 23	1,949	Jul 28	836	Sep 9	13,944	Aug 2	2,144	Jun 26	2,909	Sep 7	3,821	Oct 31	1	Jun 10	126,646
1980	Apr 28	2,665	Jun 26	1,062	Sep 7	9,989	Aug 9	2,627	Jul 4	3,311	Sep 7	702	Nov 11	10	Jun 21	63,964
1981	Apr 17	2,483	Jun 30	906	Sep 5	12,754	Aug 1	3,058	Jun 26	4,419	Sep 5	1,769	*		Jun 20	54,693

* One Chum was counted on each of the following days- 31 Oct, 4 Nov, 5 Nov, and 9 Nov.

TABLE 15 (CONTD)

TABLE 16
MONTHLY COUNT OF CHINOOK SALMON
BONNEVILLE DAM - 1938-1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	SPRING Jan 1- May 31	SUMMER Jun 1- Jul 31	FALL Aug 1- 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	5	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	19,445	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	401,942	40,471	24,637	336,834
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		357,175	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
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	53,312	25,760	154,323	5,405	155		366,237	84,935	95,659	185,643

TABLE 16 (CONTD)
 MONTHLY COUNT OF CHINOOK SALMON
 BONNEVILLE DAM - 1938 - 1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	SPRING Jan 1- May 31	SUMMER Jun 1- Jul 31	FALL Aug 1- Dec 31
1968			1,342	69,420	28,425	46,793	36,126	27,779	126,994	4,010	265		341,154	99,919	82,187	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		366,651	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	20,583	15,924	18,293	41,273	142,241	6,865	248		275,968	51,124	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
Total	40	45	39,750	2,312,947	1,803,754	1,475,859	1,141,730	1,461,982	7,193,868	215,493	13,666	545	15,659,679	4,156,536	2,617,589	8,885,554
44-Year Average			903	52,567	40,994	33,542	25,948	33,227	163,497	4,898	311		357,902	94,467	59,491	201,944

TABLE 16 (CONTD)

TABLE 17

TABLE 17
MONTHLY COUNT OF SOCKEYE SALMON
BONNEVILLE DAM - 1938-1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1938					1,025	17,811	53,865	2,097	235	6	2		75,041
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

TABLE 17 (CONTD)
 MONTHLY COUNT OF SOCKEYE SALMON
 BONNEVILLE DAM - 1938 - 1981

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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
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
Total			76	538	7,847	1,330,772	2,508,021	38,794	2,509	129	32		3,888,719
44-Year Average					178	30,245	57,000	882	57				88,380

TABLE 17 (CONTD)

TABLE 18
MONTHLY COUNT OF COHO SALMON
BONNEVILLE DAM - 1938-1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (Incl. Jacks)	Jacks
1938								3,070	10,995	972	141	7	15,185	
1939	3							1,811	12,226	310	15	18	14,383	
1940	3							1,451	10,212	213	33	5	11,917	
1941	2							1,317	16,061	369	160	2	17,911	
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

* In 1966 Jacks were classified as those Cohos under 12 inches in length.
Beginning with 1967 Jacks were classified as under 22 inches.

TABLE 18 (CONTD)
 MONTHLY COUNT OF COHO SALMON
 BONNEVILLE DAM - 1938 - 1981

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL (INCL. JACKS)	JACKS
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
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	25,849
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
Total	21	12	5	1		169	4,039	135,276	958,499	110,165	16,336	66	1,224,589	370,581
44-Year Average							92	3,174	21,784	2,504	371		27,832	23,161**

**16-Year Average

TABLE 18 (CONTD)

TABLE 19
MONTHLY COUNT OF STEELHEAD TROUT
BONNEVILLE DAM - 1938-1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	SPRING Jan 1- May 31	SUMMER Jun 1- Aug 25	FALL Aug 26- Dec 31
1938					6,622	2,382	19,455	29,231	46,618	2,264	339	92	107,003	6,622	42,684	57,697
1939	23	19	570	8,110	1,587	1,490	36,681	38,062	33,891	1,264	216	119	122,032	10,309	69,787	41,936
1940	5	96	1,688	4,125	998	4,489	61,188	46,071	64,377	1,786	292	59	185,174	6,912	99,812	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	9,664	48,445	59,980
1942	4	37	256	3,642	4,159	1,588	19,905	41,973	77,076	2,412	566	182	151,800	8,098	57,121	86,581
1943	14	18	654	3,374	4,698	1,564	7,755	29,894	41,051	2,444	573	94	92,133	8,758	32,461	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	9,592	41,993	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	11,331	61,354	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	18,976	74,446	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	11,400	63,635	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	7,547	79,906	51,609
1949	1		1,689	3,293	1,712	1,264	34,314	54,281	20,786	1,161	686	98	119,285	6,695	84,067	28,523
1950	13	8	1,156	4,537	1,667	691	25,142	53,904	24,226	1,932	811		114,087	7,381	72,810	33,896
1951			375	2,338	1,568	5,187	74,980	39,712	15,357	947	225		140,689	4,281	116,819	19,589
1952			278	1,248	1,751	8,202	118,110	79,735	48,293	2,735	638		260,990	3,277	186,735	70,978
1953			1,310	5,308	1,456	5,313	106,712	64,006	36,107	2,797	905		223,914	8,074	165,061	50,779
1954		6	679	5,511	1,571	6,115	59,443	65,234	34,941	2,209	551		176,260	7,767	118,318	50,175
1955			1,006	2,100	1,149	2,418	79,124	84,746	24,239	3,361	268		198,411	4,255	157,359	36,797
1956			1,409	2,718	1,582	3,122	48,306	47,148	23,343	2,846	635	7	131,116	5,709	93,983	31,424
1957			926	2,081	760	8,434	66,738	34,915	24,029	1,069	231		139,183	3,767	101,412	34,004
1958			495	651	1,457	5,645	53,734	22,827	44,478	1,859	291		131,437	2,603	76,930	51,904
1959			219	746	1,236	2,562	60,549	38,417	23,579	1,540	178		129,026	2,201	95,997	30,828
1960			412	904	1,090	4,314	44,026	33,571	28,058	1,090	211		113,676	2,406	74,735	36,535
1961			374	1,161	692	2,246	44,379	41,237	47,409	1,561	660		139,719	2,227	77,042	60,450
1962			381	1,957	1,491	3,737	49,789	40,177	64,084	1,798	611		164,025	3,829	83,161	77,035
1963			503	1,035	1,385	4,192	51,951	31,441	35,446	2,920	545		129,418	2,923	80,935	45,560
1964			490	1,609	769	1,940	50,640	26,892	32,406	1,954	552		117,252	2,868	73,267	41,117
1965			211	1,516	1,419	4,265	89,405	29,506	37,529	1,971	631		166,453	3,146	117,414	45,893
1966			658	2,682	2,389	13,051	57,975	25,779	37,733	2,657	737		143,661	5,729	91,816	46,116
1967			416	1,182	899	3,062	40,881	36,787	35,472	2,701	472		121,872	2,497	76,297	43,078

TABLE 19 (CONTD)
MONTHLY COUNT OF STEELHEAD TROUT
BONNEVILLE DAM 1938-1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	SPRING Jan 1- May 31	SUMMER Jun 1- Aug 23	FALL Aug 26- Dec 31
1968			340	861	1,315	3,664	29,773	41,006	27,865	1,645	505		106,974	2,516	65,907	38,551
1969			911	2,164	2,897	6,889	63,222	36,077	26,565	1,484	573		140,732	5,972	98,079	36,731
1970			244	1,267	1,331	4,208	30,866	46,307	27,073	1,909	305		113,510	2,842	75,264	35,404
1971			463	1,377	1,810	4,469	84,877	58,249	38,619	3,739	363		193,966	3,650	137,404	52,912
1972			492	2,562	2,137	3,444	59,933	48,223	65,523	3,432	140		185,886	5,191	102,036	78,659
1973			830	2,534	1,367	5,360	53,820	46,399	43,275	3,918	320		157,823	4,731	95,280	57,812
1974			1,292	4,127	5,547	6,349	57,212	44,266	14,654	3,080	527		137,054	10,966	73,436	52,652
1975			1,080	4,284	4,324	6,058	30,823	28,623	9,106	904	338		85,540	9,688	61,898	13,954
1976			1,285	3,459	3,677	9,130	38,907	44,204	21,084	1,953	478		124,177	8,421	83,949	31,807
1977			1,159	4,121	4,115	11,395	67,554	35,161	66,084	3,298	550		193,437	9,395	104,287	79,755
1978			1,750	3,327	4,587	10,883	25,284	25,637	30,461	2,168	334		104,431	9,664	54,524	40,243
1979			1,333	1,905	1,785	7,585	33,379	39,399	23,592	4,710	291		113,979	5,023	74,449	34,507
1980			1,139	3,378	1,409	7,790	28,448	51,073	32,277	3,233	507		129,254	5,926	79,084	44,244
1981			1,031	3,812	3,887	12,628	56,787	52,435	25,737	2,650	303		159,270	8,730	113,055	37,485
Total	1,565	2,486	41,811	139,426	98,271	207,154	2,112,337	1,860,212	1,608,119	106,152	20,928	2,291	6,220,752	283,559	3,834,454	2,102,739
44-Year Average	950		950	3,169	2,233	4,708	45,008	42,732	36,345	2,412	476		141,381	6,444	87,147	47,789

TABLE 19 (CONTD)

TABLE 20
MONTHLY COUNT OF SHAD AND PERCENT COUNTED OVER FISH LADDERS
BONNEVILLE DAM - 1938-1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Percent by Fish Ladders	
														Brad Is.	Wash. Shore
1938						39	3,184	1,502	527	21			5,273	58.1	41.9
1939					14	1,539	3,065	157	28				4,803	27.9	72.1
1940					48	12,931	9,178	72	1				22,230	42.3	57.7
1941					5	2,417	16,010	197	12	16			18,657	57.9	42.1
1942					2	38	11,341	1,473	5				12,859	70.3	29.7
1943						18	2,545	265	20				2,848	87.0	13.0
1944						287	16,568	248					17,103	62.8	37.2
1945						2,801	90,773	948	4				94,526	77.2	22.8
1946						3,895	16,073	415					20,383	44.3	55.7
1947					8	5,645	20,280	105	3				26,041	69.4	30.6
1948						8	6,458	1,953	2	1			8,422	69.1	30.9
1949						2,647	19,609	322	1				22,579	54.9	45.1
1950							7,265	548	3				7,816	92.7	7.3
1951						1,269	6,792	277	15				8,353	63.2	36.8
1952						487	2,595	45	4				3,131	54.8	45.2
1953						53	14,856	1,502	19				16,430	60.5	39.5
1954						34	3,848	1,136	11				5,029	57.5	42.5
1955						21	4,411	1,358	18				5,808	64.6	35.4
1956					1	67	6,838	1,168	11				8,085	27.9	72.1
1957						1,695	11,039	422	1	2			13,159	64.2	35.8
1958						3,885	6,257	59					10,201	49.1	50.9
1959					3	32	6,315	369	1				6,720	54.9	45.1
1960						35,259	57,443	594	72				93,368	53.2	46.8
1961						18,952	245,471	1,236	33	5			265,697	67.1	32.9
1962						43,689	387,554	4,657	82	4	2		435,988	55.1	44.9
1963					70	77,961	307,466	4,044	217	14			389,772	65.7	34.3
1964					19	3,203	236,321	13,008	121	2			252,674	63.6	36.4
1965					1	33,815	570,432	12,844	194	35	2		617,323	57.7	42.3
1966					94	181,187	367,643	7,988	545	51	5		557,513	58.9	41.1
1967			1	1		6,673	212,681	2,944	152	8			222,460	65.3	34.7

TABLE 20 (CONTD)
 MONTHLY COUNT OF SHAD AND PERCENT COUNTED OVER FISH LADDERS
 BONNEVILLE DAM - 1938-1981

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	PERCENT BY FISH LADDERS		
														BRAD. IS.	WASH	SHORE
1968					800	107,881	183,878	1,387	121	10	1		294,078	59.0	41.0	
1969			2	5	158	233,018	81,159	2,846	163	7			317,358	58.0	42.0	
1970				2	250	228,519	99,659	566	262	18			329,276	71.8	28.2	
1971					30	34,345	154,215	951	55	1			189,597			
1972					38	16,689	192,608	5,301	88	1			214,725	52.6	47.4	
1973					116,057	377,830	24,701	577	38	4			519,207	82.9	17.1	
1974					7	6,122	91,302	1,496	17	1			98,945	5.1	94.9	
1975					11	43,712	219,133	1,349	38	3			264,246	42.8	57.2	
1976					4	123,053	179,994	2,112	49	7			305,219	43.2	56.8	
1977					51,709	431,540	11,818	568	76	12			495,723	67.4	32.6	
1978					30	802,110	57,997	991	33	5			861,166	72.4	27.6	
1979					800	994,253	43,734	658	258	141	13		1,039,857	86.4	13.6	
1980					1,460	766,473	170,705	685	51	15	1		939,390	81.3	18.7	
1981				2	20,976	708,295	150,730	1,080	79	17			881,179	93.5	6.5	
Total			3	10	192,595	5,314,387	4,331,944	82,423	3,430	401	24		9,925,217			
44-Year Average					4,377	120,781	98,453	1,873	78	9			225,576			

TABLE 20 (CONTD)

TABLE 21
 YEARLY TOTALS OF SALMONID COUNTED OVER THE DALLES DAM
 1957 - 1981

Year	Chinook	Steelhead	Sockeye	Coho	Chum	Pink	Total Salmonid
1957	312,678	129,361	90,201	6,793	75	4	599,112
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
Total	5,601,541	2,895,771	1,552,556	350,837			10,400,959
25-Year Average	224,062	115,831	62,102	14,034			416,038

TABLE 21

TABLE 22
 MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER THE DALLES DAM
 1981

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	-	24,227	16,335	8,491	10,779	15,802	53,840	5,702	-	-	135,176
STEELHEAD	-	-	-	1,389	1,632	3,768	34,242	36,537	26,837	8,863	-	-	113,268
SOCKEYE	-	-	-	-	-	17,692	17,686	68	1	-	-	-	35,447
COHO	-	-	-	-	-	-	-	295	6,061	585	-	-	6,941
TOTAL SALMONID	-	-	-	25,616	17,967	29,951	62,707	52,702	86,739	15,150	-	-	290,832
SHAD	-	-	-	-	16,365	742,776	327,851	1,744	206	16	-	-	1,088,958

TABLE 22

TABLE 23
WATER TEMPERATURE AND STREAM FLOW DATA
THE DALLES - 1981

DATE	JANUARY			FEBRUARY			MARCH		
	WATER TEMP.	STREAM FLOW	TURBIDITY	WATER TEMP.	STREAM FLOW	TURBIDITY	WATER TEMP.	STREAM FLOW	TURBIDITY
1	44	254,000	3.5	41	171,000	5.5	42	141,200	1.5
2	44	265,700	2.0	41	180,600	5.0	42	160,600	1.8
3	46	261,600	2.5	41	207,700	5.0	42	181,700	2.0
4	45	230,500	1.5	41	227,000	4.5	42	180,200	2.0
5	45	204,900	1.5	40	233,000	4.8	42	167,400	2.0
6	45	225,100	1.5	40	209,300	4.8	42	179,200	2.0
7	45	214,500	1.5	40	175,000	5.0	42	142,500	2.0
8	44	217,600	1.5	40	146,000	5.0	42	128,600	2.0
9	44	213,900	1.5	40	186,600	5.0	42	161,800	2.4
10	44	213,800	1.5	40	214,000	5.3	43	149,000	2.4
11	44	187,400	2.0	40	210,900	5.0	43	163,200	3.0
12	44	197,100	2.0	40	191,800	5.1	43	159,100	3.0
13	42	218,200	2.5	39	189,200	5.0	43	160,400	3.3
14	43	203,400	2.5	39	135,300	4.8	43	138,600	3.0
15	43	215,200	3.0	39	147,400	3.5	43	118,200	3.0
16	43	232,900	3.0	39	172,200	3.5	44	141,700	2.5
17	43	182,600	3.0	39	207,000	3.0	44	166,400	2.6
18	42	149,200	3.0	39	216,600	3.0	44	166,200	3.0
19	42	197,300	3.5	39	240,200	3.0	45	173,900	2.5
20	42	172,100	4.5	39	240,100	1.5	45	158,900	2.5
21	42	192,400	5.0	39	225,600	2.0	45	132,500	3.0
22	42	199,100	4.5	40	195,700	2.0	45	138,100	3.0
23	42	198,800	4.5	40	215,100	2.0	45	153,200	3.0
24	41	181,200	5.0	40	195,000	2.0	46	160,900	3.0
25	41	160,400	5.0	41	204,500	1.0	44	150,200	3.0
26	41	205,800	5.0	41	207,200	1.5	46	156,000	3.0
27	41	196,900	5.0	41	202,000	1.0	46	176,500	3.0
28	40	198,900	4.5	42	166,500	1.2	46	143,900	3.4
29	40	190,100	5.0				46	151,800	3.0
30	41	195,000	4.8				47	161,500	3.2
31	41	195,300	4.8				46	178,200	2.6

TABLE 24

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

THE DALLES PROJECT

APR 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COMO ADULTS	COMO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SEECH)	WATER TEMP (DEG F)
1	21			4				29		175.7	.0	2.5	46.0
2	54							35		173.2	.0	2.3	47.0
3	79			2				32		179.4	.0	2.4	47.0
4	139			2				25		156.7	.0	2.2	47.0
5	217			4				38		119.0	.0	2.7	47.0
6	167			2				27		167.2	.0	2.8	47.0
7	230			5				32		167.4	.0	2.8	47.0
8	204			2				35		161.5	.0	2.8	47.0
9	341			4				29		170.3	.0	3.1	47.0
10	501			4				42		156.1	.0	2.7	47.0
11	647			11				32		134.3	.0	2.8	47.0
12	574			4				34		117.8	.0	3.3	47.0
13	645			11				27		175.6	.0	3.3	47.0
14	1141			17				42		150.2	.0	3.5	47.0
15	900			7				39		148.0	.0	3.7	47.0
16	1409			13				29		151.2	.0	3.5	48.0
17	1125			40				106		148.5	.0	3.4	47.0
18	1484			33				51		114.7	.0	3.6	47.0
19	1748			24				69		140.9	.0	3.5	48.0
20	1213			41				34		149.8	.0	3.6	49.0
21	1194			26				75		132.8	.0	3.3	48.0
22	1334			24				72		172.7	.0	3.5	49.0
23	1092			14				73		154.9	.0	3.4	49.0
24	1605			29				73		161.0	.0	3.7	51.0
25	1704			32				64		180.8	.0	3.5	51.0
26	1743			38				55		151.1	.0	3.5	51.0
27	975			30				65		173.0	.0	3.4	51.0
28	327			6				44		218.6	.0	3.2	51.0
29	379			14				43		216.4	.0	2.8	52.0
30	458			22				38		220.4	.0	2.5	53.0
TOTALS	23740			487				1389					
AVERAGES	791			17				46		161.2	.0		

TABLE 24

TABLE 25

TABLE 25

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

THE DALLES PROJECT

MAY 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COMO ADULTS	COMO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECM)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	693			19				39		207.2	.0	2.8	53.0
2	854			32				55		209.8	.0	3.0	53.0
3	677			24				55		235.9	.0	3.0	53.0
4	732			26				52		260.8	.0	2.3	54.0
5	425			40				50		267.2	.0	2.1	54.0
6	1140			46				63		257.6	.0	2.4	55.0
7	663			31				52		258.7	.0	2.5	54.0
8	530			32				37		226.0	.0	2.2	55.0
9	771			33				32		196.5	.0	2.4	55.0
10	870			61				58	1	182.5	.0	2.0	55.0
11	631			52				41	3	206.1	.0	2.0	55.0
12	528			64				54	1	234.1	.0	2.5	55.0
13	661			58				53	19	204.8	.0	2.5	55.0
14	404			44				51	15	220.0	.0	2.5	55.0
15	468			46				50	32	216.9	.0	2.5	54.0
16	213			30				34	1	224.7	.0	2.0	54.0
17	340			37				40	12	173.2	.0	1.5	54.0
18	135			23				40	4	218.2	.0	1.3	54.0
19	170			16				21	3	225.8	.0	1.7	54.0
20	253			39				55	40	184.4	.0	1.8	55.0
21	366			52				52	13	212.6	.0	2.0	55.0
22	327			39				45	87	216.0	.0	2.3	55.0
23	420			71				55	162	207.8	.0	1.9	55.0
24	334			56				48	538	243.0	.0	2.0	55.0
25	200			49				48	411	210.5	.0	2.0	56.0
26	360			67				71	1108	243.0	.0	2.3	56.0
27	285			59				74	1544	291.5	3.3	2.2	57.0
28	279			70				86	942	309.4	51.4	1.8	57.0
29	237			55				68	3919	334.2	5.5	2.0	59.0
30	200			37				89	3471	377.1	166.1	2.0	59.0
31	184			18				64	4039	367.5	229.7	2.0	59.0
TOTALS	15007			1328				1632	16365				
AVERAGES	484			43				53	744	239.5	14.7		

TABLE 26

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

THE DALLES PROJECT
JUN 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COMO ADULTS	COMO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHE)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	156			41				72	4738	393.6	142.2	2.0	59.0
2	188			30				75	8771	384.7	125.1	2.0	59.0
3	155			28				57	11205	365.9	124.5	2.0	59.0
4		129		35				51	8491	376.1	148.1	2.0	58.0
5		137		27			1	44	10263	374.5	128.1	2.0	58.0
6		144		33				54	8782	401.1	228.6	2.0	58.0
7		248		31			3	82	10764	388.0	262.0	2.0	59.0
8		176		38			2	59	10073	382.8	187.9	2.3	58.0
9		106		17			4	45	13858	414.0	227.9	2.0	58.0
10		92		10			2	52	6492	436.4	221.8	1.8	58.0
11		102		12			1	47	9259	430.7	227.4	2.0	57.0
12		96		23				65	8346	406.3	188.7	2.0	58.0
13		129		26				95	3144	406.7	238.6	2.8	58.0
14		245		33			5	89	6632	413.2	285.8	2.3	58.0
15		172		28			10	74	6693	375.4	171.3	2.0	58.0
16		207		32			21	67	15959	350.0	144.2	2.5	58.0
17		264		72			168	134	24490	326.1	95.5	2.3	58.0
18		248		69			233	111	38464	326.6	63.4	2.3	58.0
19		242		29			244	113	36492	331.6	94.0	2.8	58.0
20		330		40			329	136	31170	354.7	215.9	2.8	59.0
21		364		40			654	182	55995	362.8	229.8	2.6	59.0
22		149		43			479	107	43549	358.2	112.1	2.6	59.0
23		270		54			751	144	32143	359.1	104.8	2.5	59.0
24		277		39			1231	194	36554	337.9	94.5	2.6	59.0
25		333		45			1743	172	46969	327.4	68.4	2.6	60.0
26		393		86			2028	321	39970	320.6	42.4	2.6	60.0
27		464		109			2589	264	47036	293.8	8.5	2.7	60.0
28		534		58			2845	318	60413	270.4	.0	2.6	60.0
29		432		84			2455	287	48811	273.5	.0	2.7	61.0
30		426		71			1894	257	57250	248.7	.0	2.6	62.0
TOTALS	499	6709		1283			17692	3768	742776				
AVERAGES	166	248		43			769	126	24759	359.7	139.4		

TABLE 26

TABLE 27

TABLE 27

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

THE DALES PROJECT

JUL 1961

FISH COUNTS

WATER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	CONO ADULTS	CONO JACKS	SUCKEYF	SLEFLHEAD	SHAD	DTS (DARK) (KCFs)	SPILL (KCFs)	TEMPERATURE (DEGREES F)	WATER TEMP (DEGREES F)
	SPRING	SUMMER	FALL										
1		021		03			2726	341	30207	274.4	.0	2.7	62.0
2		548		02			1601	310	63109	214.4	.0	2.7	62.0
3		484		113			2616	435	35320	201.7	.0	2.0	63.0
4		570		72			1944	475	32954	214.0	.0	2.0	63.0
5		523		79			2035	646	20043	223.5	2.0	2.0	63.0
6		430		50			1144	505	21440	250.2	.0	2.7	63.0
7		380		74			960	487	13344	273.4	.0	2.7	63.0
8		330		55			820	564	13145	304.0	81.0	2.5	63.0
9		331		40			455	436	4054	293.0	36.4	2.0	63.1
10		255		14			449	475	5038	305.5	32.7	2.0	63.0
11		287		30			222	443	6031	224.7	.0	2.2	63.0
12		302		62			442	645	6902	183.4	.0	2.2	63.0
13		347		48			320	674	5207	210.4	.0	2.3	64.0
14		381		60			410	1134	4850	220.1	.0	2.6	63.0
15		198		21			200	607	6816	244.0	.0	2.5	64.0
16		223		17			209	1013	6162	257.4	.0	2.5	63.0
17		247		37			223	1142	4955	240.5	.0	2.3	64.0
18		267		47			150	1360	3227	167.7	.0	2.6	64.0
19		234		25			40	1806	3746	151.5	.0	2.4	64.0
20		178		31			41	1625	4230	230.0	.0	2.6	63.0
21		234		27			53	1520	3372	220.4	.0	2.1	63.0
22		180		20			52	1606	1936	187.5	.0	2.6	63.0
23		150		20			36	1353	2039	200.0	.0	2.0	63.0
24		140		25			49	1111	1429	214.0	.0	2.0	63.0
25		140		27			31	1401	1426	194.0	.0	2.0	67.0
26		190		23			41	1754	1139	167.5	.0	2.0	67.0
27		207		31			18	1073	916	202.0	.0	2.4	60.0
28		227		20			32	1513	832	223.5	.0	2.6	63.0
29		242		43			31	2513	558	201.0	.0	2.0	67.0
30		213		42			21	1875	436	210.4	.0	2.5	67.0
31		184		21			11	1513	328	213.5	.0	2.3	67.0
TOTALS		9431		1348			17606	34202	327851				
AVERAGES		304		43			571	1105	10576	223.0	.0	2.7	

TABLE 28

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

THE DALLES PROJECT

AUG 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS		CHINOOK FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SFECH)	WATER TEMP (DEG F)
	SPRING	SUMMER											
1		466		24			28	1566	258	175.5	.0	4.2	67.0
2		204		44			4	2042	208	159.3	.0	4.5	68.0
3		238		28			5	1888	134	173.0	.0	4.0	68.0
4			143	32			3	1453	120	185.4	.0	4.0	68.0
5			246	22			2	1405	132	189.1	.0	4.0	68.0
6			253	29			1	1874	90	191.3	.0	4.0	69.0
7			222	16		2	10	1834	91	235.3	.0	4.0	69.0
8			286	33	4	2	4	2161	69	190.0	.0	4.4	69.0
9			368	64				1920	59	134.6	.0	4.8	69.0
10			318	32	2	1	1	1596	80	171.4	.0	5.0	69.0
11			350	35	3	4		1744	68	152.6	.0	5.8	70.0
12			217	28			1	1046	56	184.6	.0	5.5	70.0
13			356	58			3	1437	44	162.1	.0	5.6	70.0
14			261	59			2	1482	27	154.5	.0	5.2	70.0
15			189	47				1105	27	196.4	.0	5.2	70.0
16			177	25				1146	33	178.0	.0	5.7	71.0
17			120	38				728	28	160.7	.0	5.6	71.0
18			145	36				538	36	154.9	.0	5.6	71.0
19			179	56		1		435	29	156.6	.0	5.6	71.0
20			269	85	2	2	1	718	11	126.1	.0	5.6	71.0
21			225	74		1		564	5	128.7	.0	5.8	71.0
22			300	75	2	1		493	5	135.8	.0	6.0	71.0
23			672	155	1	3		724	19	121.1	.0	5.5	71.0
24			420	95	3	2		507	17	147.8	.0	6.0	71.0
25			641	127	6	7	1	681	8	141.6	.0	5.6	71.0
26			717	230	1	2		771	10	146.6	.0	5.0	70.0
27			609	360	5	3		1009	7	145.6	.0	5.2	70.0
28			481	249	7	21	1	861	18	138.7	.0	5.0	69.0
29			951	404	20	21		934	20	133.2	.0	5.0	69.0
30			908	355	19	40	1	979	24	104.2	.0	5.5	68.0
31			1574	442	50	57		976	11	147.6	.0	5.5	68.0
TOTALS		908	11537	3357	125	170	68	36537	1744				
AVERAGES		303	412	108	9	10	4	1179	56	158.8	.0		

TABLE 28

TABLE 29

TABLE 29

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

THE DALLES PROJECT

SEP 1981

DATE	FISH COUNTS						RIVER CONDITIONS					
	CHINOOK ADULTS		CHINOOK	COMO	COMO	SUCKEYE	STEELHEAD	SHAD	DISCHARGE	SPILL	TURBIDITY	WATER TEMP
SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS				(KCF8)	(KCF8)	(SEECHE)	(DEG F)
1			1094	225	40	50	811	11	124.7	.0	5.5	68.0
2			1103	606	114	87	850	15	129.2	.0	5.0	68.0
3			738	416	48	115	662	8	125.2	.0	6.6	68.0
4			1290	926	88	113	1530	13	123.4	.0	6.0	68.0
5			1536	728	102	129	1464	2	122.5	.0	5.8	68.0
6			2570	1123	87	119	1467	8	92.8	.0	6.7	68.0
7			2074	1322	120	182	1060		82.9	.0	5.9	68.0
8			1829	1014	190	282	1044	17	127.3	.0	6.5	68.0
9			1495	987	110	235	1125	38	135.3	.0	6.0	68.0
10			1386	1135	165	298	963	10	115.2	.0	6.0	68.0
11			953	901	33	127	964	18	106.4	.0	6.0	68.0
12			1372	933	161	211	906	4	92.1	.0	5.8	68.0
13			702	838	36	150	669	5	77.9	.0	5.7	68.0
14			1178	654	89	26	541	4	126.9	.0	5.7	68.0
15			996	822	50	125	488	6	107.1	.0	5.6	68.0
16			1149	1392	65	110	522	8	122.4	.0	5.5	68.0
17			1421	1572	70	193	923	5	129.7	.0	5.6	69.0
18			1289	1114	86	138	931	9	143.7	.0	5.6	69.0
19			1075	718	90	174	1032	7	104.5	.0	5.2	69.0
20			735	675	40	95	1349	5	83.9	.0	5.0	69.0
21			744	374	43	100	761	9	119.1	.0	5.3	68.0
22			843	476	57	90	986		117.6	.0	5.2	67.0
23			705	428	90	145	1211		129.1	.0	5.3	67.0
24			423	449	26	88	696		115.1	.0	6.2	67.0
25			434	463	33	51	665		128.7	.0	5.2	67.0
26			530	598	40	75	593		70.4	.0	5.7	67.0
27			336	407	29	40	416	4	70.3	.0	5.1	66.0
28			321	314	30	54	436		117.3	.0	6.5	66.0
29			577	532	65	123	769		101.6	.0	5.5	66.0
30			372	428	34	105	1003		114.3	.0	5.6	65.0
TOTALS			31270	22570	2231	3630	1	26837	206			
AVERAGES			1042	752	74	128	1	895	10	112.6	.0	

TABLE 30

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

THE DALLES PROJECT
OCT 1961

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	LONO ADULTS	CUMU JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KFS)	SPILL (KFS)	TURBIDITY (SPFCHT)	WATER TEMP (DFG F)
	SPRING	SUMMER	FALL										
1			268	312	29	66		556		130.5	.0	5.8	60.0
2			154	196	17	42		527		127.0	.0	5.5	64.0
3			231	194	21	54		509		79.5	.0	5.5	64.0
4			127	173	13	42		474		61.4	.0	6.0	64.0
5			57	102	6	4		241		140.4	.0	4.5	64.0
6			64	137	2	8		261	1	141.4	.0	5.0	63.0
7			77	131	11	17		458	4	142.1	.0	4.8	62.0
8			131	176	27	28		475		141.0	.0	5.0	62.0
9			110	203	12	37		1008	1	125.7	.0	4.5	62.0
10			89	172	10	39		657	3	95.7	.0	5.0	61.0
11			87	224	12	22		452	1	88.3	.0	5.4	61.0
12			86	198	6	13		487		134.6	.0	5.3	60.0
13			33	85		3		174		127.1	.0	5.0	60.0
14			76	133	1	3		198		126.1	.0	5.0	60.0
15			26	53	1	1		114	1	130.6	.0	5.8	60.0
16			44	87	4	6		166	3	148.3	.0	6.0	60.0
17			41	69	1	1		125		110.5	.0	5.5	60.0
18			30	42	3	3		169	1	72.8	.0	5.8	60.0
19			24	68	1	3		103		129.0	.0	6.1	60.0
20			52	126	1	2		119		120.2	.0	5.8	59.0
21			34	112				134		140.4	.0	6.2	59.0
22			43	98				108		137.3	.0	6.5	58.0
23			26	35	1			74	1	157.6	.0	5.5	57.0
24			24	44				79		139.3	.1	5.4	57.0
25			46	72	1			120		98.4	.0	5.3	57.0
26			16	21				87		112.3	.0	5.4	57.0
27			22	56		1		112		117.3	.0	4.5	56.0
28			16	46		1		74		135.6	.0	5.6	56.0
29			32	36				86		135.7	.0	4.8	56.0
30			16	35				96		130.6	.0	5.5	56.0
31			45	42				108		105.5	.0	6.5	56.0
TOTALS			2156	3546	180	405		8663	16				
AVERAGES			70	114	9	18		286	2	122.3	.0		

TABLE 30

TABLE 31

TABLE 31
 WATER TEMPERATURE AND STREAM FLOW DATA
 THE DALLES - 1981

DATE	NOVEMBER			DECEMBER		
	WATER TEMP.	STREAM FLOW	TURBIDITY	WATER TEMP.	STREAM FLOW	TURBIDITY
1	56	83,500	6.5	49	138,400	5.8
2	56	119,000	5.8	49	141,700	5.0
3	56	117,900	6.5	49	144,600	5.0
4	56	125,700	6.0	49	159,700	5.0
5	55	147,900	6.0	49	140,700	3.2
6	55	133,000	6.0	48	135,200	5.0
7	55	104,900	6.0	48	168,000	.8
8	55	85,300	6.0	48	183,500	8
9	54	121,000	6.0	47	159,300	2.0
10	54	129,800	6.0	47	137,500	2.4
11	54	129,200	6.0	47	151,900	2.5
12	54	109,000	6.1	46	152,300	2.5
13	54	119,700	5.4	46	150,500	2.5
14	54	112,500	5.8	46	156,500	4.5
15	53	112,700	6.3	46	155,000	4.5
16	53	119,300	5.5	46	167,600	4.5
17	53	126,900	5.6	45	170,700	2.5
18	53	120,100	5.6	45	161,900	2.2
19	52	146,200	5.0	45	192,500	2.5
20	52	137,500	5.0	44	147,900	2.0
21	52	129,600	5.4	46	173,000	.8
22	52	98,100	5.9	44	169,300	9
23	52	125,200	5.0	44	167,600	1.0
24	51	128,100	6.0	44	173,800	1.0
25	50	145,700	6.0	43	165,700	1.6
26	52	112,900	6.2	43	163,400	2.0
27	51	145,300	6.5	42	165,000	3.0
28	50	132,900	6.0	43	166,700	1.3
29	50	112,100	6.2	43	170,700	2.0
30	49	120,100	6.0	42	143,900	3.5
31				42	153,500	2.0

TABLE 32
 PEAK DAYS OF FISH MIGRATION
 THE DALLES DAM - 1957-1981

Year	Spring Chinook		Summer Chinook		Fall Chinook		Steelhead		Sockeye		Coho		Chum		Shad	
	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish
1957	May 1	11,098	Jun 21	8,066	Sep 7	4,353	Jul 31	3,368	Jun 25	4,753	Sep 16	500	Nov 22	12	Jul 13	629
1958	May 10	5,407	Jun 19	4,134	Sep 17	9,694	Sep 15	5,409	Jul 9	6,346	Sep 4,5	174	Oct 31	4	Jun 26	336
1959	Apr 26	2,202	Jun 24	2,882	Sep 16	4,228	Jul 27	4,784	Jul 10	6,583	Sep 13	254	Nov 24	4	Jul 20	400
1960	May 4	4,414	Jun 16	4,827	Sep 7	3,336	Jul 28	3,144	Jun 25	3,661	Sep 3	258	Nov 3	4	Jul 3	4,934
1961	Apr 30	5,762	Jun 22	2,093	Sep 7	4,251	Sep 8	6,030	Jun 29	1,199	Sep 8	159	None		Jul 6	9,172
1962	Apr 28	4,104	Jun 17	3,005	Sep 3	3,463	Sep 10	5,731	Jul 8	1,511	Sep 16	227	None		Jul 15	14,039
1963	May 2	2,777	Jun 17	1,575	Sep 7	5,032	Jul 31	4,075	Jul 2	3,930	Sep 17	413	Oct 24	5	Jul 6	9,917
1964	Apr 26	3,351	Jun 29	2,390	Sep 7	4,134	Jul 28	3,235	Jul 7	6,571	Sep 14	310	None		Jul 13	13,859
1965	May 13	2,155	Jun 26	2,115	Sep 10	7,726	Jul 27	5,217	Jul 2	3,866	Sep 13	841	Oct 23	1	Jul 6	24,203
1966	Apr 18	5,607	Jul 1	2,004	Sep 18	3,275	Jul 19	3,242	Jul 1	8,436	Sep 4	1,743	None		Jul 12	15,926
1967	Apr 23	5,320	Jul 2	3,444	Sep 17	8,273	Sep 18	4,427	Jul 8	9,551	Sep 9	3,061	Sep 30	1	Jul 8	9,733
1968	Apr 24	5,129	Jun 30	2,054	Sep 10	5,299	Aug 31	4,634	Jun 28	10,962	Sep 7	2,895	None		Jul 6	14,582
1969	May 10	6,638	Jun 21	3,633	Sep 13	8,182	Sep 7	2,725	Jul 5	2,185	Sep 18	849	None		Jun 22	32,588
1970	Apr 18	4,557	Jun 27	1,618	Sep 13	9,321	Sep 11	4,087	Jul 4	3,859	Sep 13	1,746	None		Jun 27	20,903
1971	Apr 30	4,961	Jul 4	1,734	Sep 11	8,072	Sep 4	7,004	Jul 9	5,673	Sep 6	2,542	None		Jul 18	13,921
1972	Apr 25	7,510	Jul 8	1,879	Sep 11	7,910	Sep 18	5,473	Jul 7	2,554	Sep 16	1,367	None		Jul 7	18,477
1973	Apr 21	10,513	Jul 2	991	Sep 9	10,512	Sep 8	2,803	Jul 3	3,394	Sep 9	729	None		Jun 6	40,725
1974	May 9	2,917	Jul 6	1,313	Sep 11	7,276	Jul 21	1,472	Jul 5	2,385	Sep 11	745	None		Jul 7	15,189
1975	May 11	2,331	Jul 16	1,356	Sep 7	7,633	Jul 28	1,363	Jul 6	4,111	Sep 13	788	None		Jul 8	27,816
1976	Apr 30	2,959	Jul 4	1,125	Sep 14	7,421	Jul 27	1,786	Jul 1	1,720	Sep 16	1,328	None		Jul 3	29,617
1977	Apr 17	5,162	Jun 25	1,259	Sep 11	4,967	Sep 10	3,890	Jun 26	6,128	Sep 16	568	None		Jun 10	72,772
1978	Apr 23	4,324	Jul 4	1,043	Sep 14	4,543	Sep 13	2,043	Jun 27	803	Sep 13	840	None		Jun 9	71,286
1979	Apr 28	1,149	Jun 27	811	Sep 13	4,744	Aug 31	1,956	Jun 27	1,872	Sep 15	491	None		Jun 24	93,494
1980	Apr 29	1,442	Jun 29	814	Sep 9	2,598	Sep 13	2,034	Jul 6	2,724	Sep 12	391	None		Jun 21	69,478
1981	Apr 26	1,781	Jul 1	704	Sep 6	3,693	Jul 29	2,813	Jun 28	2,845	Sep 8	472	None		Jul 12	63,109

TABLE 32

TABLE 33
MONTHLY COUNT OF CHINOOK SALMON
THE DALLES DAM - 1957 - 1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	SPRING	SUMMER	FALL	Jacks
														Jan 1- Jun 3	Jun 4- Aug 3	Aug 4- Dec 31	
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	21,113	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
Total			1,907	898,782	828,235	652,235	651,294	495,903	1,917,427	153,894	1,195		5,601,541	1,762,985	1,315,866	2,522,670	1,357,937
25 -Year Average				35.951	33,129	26,116	26,052	19,836	76,697	6,155			224,062	70,519	52,635	100,907	54,318

TABLE 34
MONTHLY COUNT OF SOCKEYE SALMON
THE DALLES - 1957 - 1981

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
Total					1,345	494,154	1,038,562	17,674	810	11			1,552,556
25-Year Average					56	19,766	41,543	707	32				62,102

TABLE 34

TABLE 35
MONTHLY COUNT OF COHO SALMON
THE DALLES - 1957 - 1981

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
Total							1,540	19,555	286,526	43,837	149		350,837	145,249
25-Year Average							64	782	11,461	1,723			14,034	5,810**

* Total including Jacks

** 15-Year average Coho "Jacks"

TABLE 36
MONTHLY COUNT OF STEELHEAD TROUT
THE DALLES DAM - 1957 - 1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Spring & Summer Run Total *	Sep	Oct	Nov	Dec	Total
1957			1,603	951	977	4,782	45,445	33,319	87,077	35,396	6,545	343		129,361
1958			122	274	1,898	4,906	20,384	11,442	39,026	75,036	6,846	512		121,420
1959			1	541	502	2,227	46,271	60,841	110,383	41,026	4,502	179		156,090
1960				289	557	2,591	28,218	32,667	64,322	42,447	4,021	399		111,189
1961				305	307	1,396	21,906	17,850	41,764	87,344	5,464			134,572
1962				528	252	1,068	36,609	31,507	69,964	87,463	5,874			163,301
1963				153	451	1,361	30,485	25,360	57,810	48,066	13,081			118,957
1964			50	369	127	493	36,773	31,742	69,554	38,197	2,282			110,033
1965			36	502	484	896	60,522	21,132	83,572	53,389	4,091			141,052
1966		25	788	933	600	3,816	52,975	26,382	85,519	53,721	6,932			146,172
1967				258	183	435	27,914	22,746	51,536	56,082	13,996			121,614
1968			23	691	344	973	20,974	58,866	81,871	57,666	7,456	488		147,481
1969			54	953	414	1,442	33,952	22,963	59,778	44,146	8,605			112,529
1970				337	172	733	15,905	32,752	49,899	44,823	4,465			99,187
1971				408	233	821	40,712	31,812	73,986	69,602	7,760			151,348
1972				463	159	604	35,569	30,631	67,426	63,748	4,129			135,303
1973				723	326	1,981	29,067	25,437	57,534	38,017	4,531			100,082
1974				529	1,362	1,859	24,779	21,835	50,364	15,059	5,452			70,875
1975				1,018	1,334	1,973	18,046	20,531	42,902	11,519	3,254			57,675
1976				768	1,604	3,357	22,021	30,386	58,136	21,586	2,846			82,568
1977				1,666	1,332	5,038	42,859	13,022	63,917	61,678	8,287			133,882
1978				834	1,378	3,459	13,493	11,457	30,621	26,189	3,675			60,485
1979				478	244	1,942	23,054	21,974	47,692	20,961	14,079	632		83,364
1980				2,885	790	2,134	15,114	30,755	51,678	34,447	7,838			93,963
1981				1,389	1,632	3,768	34,242	36,537	77,568	26,837	8,863			113,268
Total		25	2,677	18,246	17,662	54,055	777,289	703,946	1,573,900	1,154,445	165,874	2,553		2,895,772
25-Year Average				730	707	2,162	31,092	28,158	62,956	46,178	6,595			115,831

* Subtotal through 31 August

TABLE 37
 YEARLY TOTALS OF SALMONID FISH COUNTED OVER JOHN DAY DAM
 1968-1981

Year	Chinook	Steelhead	Sockeye	Coho	Total Salmonid
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	114,387	95,172	46,146	2,562	258,267
Total	2,607,081	1,161,298	748,867	188,874	4,706,120
14-Year Average	186,220	82,950	53,490	13,491	336,151

TABLE 37

TABLE 38
MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER JOHN DAY DAM
1981

<u>SPECIES</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>TOTAL</u>
CHINOOK	-	-	-	18,178	18,353	7,292	8,992	8,524	44,626	8,422	-	-	114,387
STEELHEAD	-	-	-	2,061	1,539	2,515	15,999	18,283	34,098	20,677	-	-	95,172
SOCKEYE	-	-	-	-	-	17,064	28,975	94	13	-	-	-	46,146
COHO	-	-	-	-	-	-	-	90	2,030	442	-	-	2,562
CHUM	-	-	-	-	-	-	-	-	-	-	-	-	-
PINK	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL SALMONID	-	-	-	20,239	19,892	26,871	53,966	26,991	80,767	29,541	-	-	258,267
SHAD	-	-	-	-	4,241	228,590	293,604	1,224	16	3	-	-	527,678

TABLE 38

TABLE 39
WATER TEMPERATURE AND STREAM FLOW DATA
JOHN DAY - 1981

DATE	JANUARY			FEBRUARY			MARCH		
	WATER TEMP	STREAM FLOW	TURBIDITY	WATER TEMP.	STREAM FLOW	TURBIDITY	WATER TEMP.	STREAM FLOW	TURBIDITY
1	42.1	256,700	3.4	38.0	171,400	5.0	38.7	138,000	2.5
2	42.5	280,400	3.0	38.0	180,200	5.0	38.7	159,200	2.0
3	42.2	265,400	2.0	37.9	210,900	5.0	38.8	172,300	1.8
4	41.7	236,600	2.0	37.7	232,800	4.5	38.9	183,400	2.6
5	41.4	210,600	2.1	37.6	235,400	4.8	39.1	171,100	2.5
6	41.3	229,700	2.0	37.5	214,400	3.5	39.2	183,400	2.5
7	41.2	219,700	2.1	37.4	168,700	3.6	39.3	142,000	2.5
8	41.2	221,400	3.1	37.2	148,500	3.7	39.5	130,100	2.5
9	41.2	222,000	3.1	37.0	190,000	3.7	39.6	159,100	2.4
10	41.0	220,800	3.1	36.6	217,800	5.0	39.6	148,000	2.4
11	40.9	187,900	2.6	36.4	215,600	5.8	39.7	161,500	2.0
12	40.6	206,500	2.6	36.1	192,600	5.5	40.1	160,800	2.6
13	40.4	222,800	3.8	35.9	184,000	5.4	40.5	158,000	2.7
14	40.2	211,900	3.6	35.7	130,400	5.0	40.5	138,200	2.2
15	40.0	222,800	3.5	35.8	139,500	4.3	40.5	116,000	2.0
16	39.9	234,600	3.8	35.9	168,500	5.0	41.1	142,300	2.2
17	39.5	191,100	4.3	38.9	201,400	5.0	41.0	169,800	2.7
18	39.2	152,400	4.3	35.9	212,600	4.5	41.0	166,800	2.0
19	38.7	195,100	5.0	36.2	230,500	4.6	41.1	174,500	2.0
20	38.5	179,700	5.0	36.1	242,200	2.6	41.6	163,200	2.6
21	38.4	196,500	5.0	36.6	227,900	2.0	41.7	129,500	2.4
22	38.3	201,800	5.5	37.1	197,700	2.0	41.8	140,200	2.6
23	38.2	201,300	5.5	37.6	218,100	1.4	42.1	155,400	3.5
24	38.2	184,100	5.5	38.1	199,600	1.0	42.3	161,100	3.3
25	38.0	166,000	6.0	38.4	206,700	1.0	42.5	152,700	4.0
26	37.9	212,700	5.8	38.5	209,200	1.0	43.1	156,800	4.0
27	37.8	201,700	3.6	38.8	200,900	1.0	43.0	176,000	2.5
28	37.9	203,300	3.0	38.7	164,700	2.2	43.4	146,900	4.0
29	37.8	190,400	5.0				43.5	151,800	1.0
30	38.0	198,200	4.2				43.8	159,400	2.0
31	38.0	194,800	4.0				43.7	183,800	1.6

TABLE 40

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

JOHN DAY PROJECT
APR 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHT)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	14			1				93		171.2	.0	1.3	43.8
2	12			2				56		179.2	.0	1.0	43.9
3	13							32		182.7	.0	2.1	43.6
4	6							57		157.9	.0	1.6	43.6
5	20							51		118.6	.0	1.5	43.5
6	39							33		166.2	.0	2.5	43.6
7	64							68		168.0	.0	2.4	43.6
8	16							52		164.7	.0	2.5	43.9
9	55			2				41		171.9	.0	2.7	44.3
10	186			1				72		158.5	.0	2.5	44.7
11	81							68		133.0	.0	2.5	44.0
12	59							39		117.4	.0	2.6	43.8
13	740			2				84		176.9	.0	3.0	40.0
14	215			1				48		150.4	.0	3.0	44.4
15	350			7				24		149.6	.0	2.0	44.9
16	1059			15				101		156.5	.0	4.5	45.4
17	866			1				97		149.9	.0	4.0	48.3
18	1270			1				89		113.5	.0	4.5	44.6
19	1167			4				101		143.0	.0	4.5	46.1
20	1688			10				87		150.7	.0	4.5	45.6
21	877			14				99		132.0	.0	4.5	45.4
22	797			13				72		174.7	.2	2.5	45.7
23	808			11				49		156.0	.0	3.3	47.7
24	1807			26				78		163.2	.0	4.5	47.6
25	917			14				66		182.0	.0	4.5	47.9
26	1847			25				86		151.9	.0	4.5	48.5
27	1440			17				119		179.5	.0	3.0	49.1
28	292			7				41		219.2	.0	1.1	49.5
29	925			7				69		223.7	2.7	2.0	49.1
30	343			14				69		227.0	2.6	2.0	49.6
TOTALS	17983			195				2061					
AVERAGES	599			9				69		163.0	.2		

TABLE 40

TABLE 41

TABLE 41

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

JOHN DAY PROJECT
 MAY 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	758			26				83		212.3	.0	3.0	50.0
2	540			28				77		224.8	.0	2.5	50.1
3	924			48				70		242.3	16.2	2.0	50.6
4	436			32				45		280.2	17.6	2.5	50.7
5	700			39				70		279.0	2.2	2.5	51.5
6	1037			54				60		275.4	1.6	2.4	51.4
7	1269			66				54		277.0	10.2	2.1	51.4
8	553			30				46		229.5	11.3	2.0	51.0
9	784			45				45		203.4	9.9	2.4	51.2
10	1103			58				41		180.0	10.2	2.5	51.3
11	519			50				41		210.1	12.0	2.5	51.0
12	776			71				48	1	245.5	11.0	2.5	51.0
13	901			84				29	2	220.7	10.1	3.0	50.9
14	504			52				49		219.4	11.8	3.0	51.2
15	430			39				56	1	225.9	13.6	2.1	51.4
16	116			26				35		227.7	14.8	2.4	51.4
17	186			43				28	2	174.3	13.3	1.9	51.8
18	85			31				17	1	224.5	19.9	2.0	51.8
19	131			45				45		233.4	18.2	2.0	51.9
20	190			33				39		183.0	9.4	2.1	51.1
21	1088			133				69	4	223.9	7.0	2.5	51.1
22	316			74				41	8	218.2	7.4	2.5	51.4
23	235			44				13	45	213.9	11.5	1.5	52.0
24	472			51				64	126	251.6	5.2	1.5	53.5
25	738			134				56	238	211.2	5.2	2.5	53.5
26	213			44				35	232	259.2	42.8	2.0	53.3
27	349			53				61	170	303.7	83.3	2.1	54.0
28	426			61				66	432	313.4	86.6	1.1	54.4
29	365			59				103	1016	348.8	124.1	1.2	54.9
30	274			52				110	807	389.5	120.1	2.0	55.2
31	248			54				51	1156	382.0	116.6	1.6	55.3
TOTALS	16666			1659				1647	4241				
AVERAGES	538			54				53	265	247.9	26.6		

TABLE 42

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

JOHN DAY PROJECT
JUN 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF5)	SPILL (KCF5)	TURBIDITY (SEECHE)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	244			42				60	1742	412.7	132.0	2.0	55.3
2	198			40				78	1688	396.9	119.7	2.8	55.5
3	183			18				39	2142	386.7	121.1	2.0	55.1
4	227			41				37	2615	392.5	121.1	2.7	54.8
5	159			22			4	26	3009	403.9	125.1	2.3	54.8
6		158		22			3	64	3568	422.3	123.8	2.0	54.9
7		131		27				36	2115	399.2	121.1	2.0	54.7
8		182		28			1	49	2605	400.9	122.9	3.0	54.6
9		142		26			8	67	2931	428.0	135.1	2.0	54.2
10		153		13			5	28	2981	467.8	146.5	3.0	54.1
11		117		27			6	52	2814	436.9	117.2	2.5	54.0
12		90		34			8	33	2552	440.1	142.3	2.8	54.2
13		66		12			6	38	1148	421.2	228.3	2.5	54.4
14		62		9			9	45	486	422.0	249.8	2.5	54.5
15		76		28			23	53	687	381.6	205.1	2.5	54.9
16		269		28			58	52	5818	366.7	130.4	2.5	54.7
17		296		29			98	71	5731	346.5	127.6	3.4	54.5
18		238		42			157	89	9630	335.3	133.2	2.7	54.6
19		221		26			251	84	9631	346.6	136.4	2.8	54.8
20		210		28			236	148	8607	366.6	137.7	3.0	55.0
21		265		43			520	94	9463	372.4	134.9	2.5	55.1
22		268		30			744	95	11343	369.3	135.4	2.7	55.5
23		212		38			706	116	9254	370.5	135.7	2.7	55.5
24		212		30			813	91	14938	359.3	136.1	2.5	55.9
25		233		35			1200	120	16457	339.9	131.0	2.5	55.9
26		202		33			1541	135	11904	331.2	128.7	2.7	56.4
27		303		41			2015	190	11334	298.4	128.6	2.5	56.4
28		318		50			2708	151	20578	273.9	124.8	4.3	57.1
29		363		35			2959	114	26997	281.5	93.0	4.0	57.9
30		542		75			2985	260	23822	257.4	60.1	3.0	58.4
TOTALS	1011	5329		952			17064	2515	228590				
AVERAGES	202	213		32			683	84	7620	374.3	136.2		

TABLE 42

TABLE 43

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

JOHN DAY PROJECT

JUL 1961

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFD)	SPILL (KCFD)	TURBIDITY (SPFCU)	WATER TEMP (DFG F)
	SPRING	SUMMER	FALL										
1		438		67			3164	166	25124	231.3	31.6	3.6	56.2
2		332		36			3142	154	24873	223.4	43.7	4.0	59.0
3		258		34			3009	188	17474	245.2	109.4	4.0	60.4
4		421		57			3511	246	16814	221.0	105.9	4.5	60.1
5		568		68			3217	328	21860	230.8	111.0	4.5	59.4
6		514		45			1936	357	21307	253.3	64.0	4.7	60.2
7		464		29			2029	392	13811	246.7	74.4	2.5	59.8
8		127		23			1466	282	12784	321.1	122.5	2.0	59.4
9		423		29			1490	334	14657	306.4	47.6	2.6	59.8
10		341		23			765	247	8605	312.4	50.4	2.1	59.2
11		410		29			750	334	12476	242.0	4.5	2.1	59.1
12		318		31			601	367	12301	192.3	3.2	2.7	59.3
13		254		24			572	336	1769	223.1	1.4	2.2	59.1
14		181		33			541	324	8483	229.0	.0	5.0	60.1
15		158		30			436	344	11516	254.0	8.5	4.0	59.5
16		167		32			388	371	11813	264.2	5.7	4.0	59.4
17		285		63			474	376	1732	245.1	5.1	3.0	60.0
18		263		43			318	656	3333	170.3	4.8	4.1	60.4
19		168		54			248	638	5751	148.7	2.1	4.0	61.2
20		205		13			145	738	3839	241.5	.0	4.6	61.0
21		138		18			126	784	3702	233.7	5.8	4.0	61.0
22		120		17			43	681	3517	181.4	3.1	4.0	61.0
23		242		35			108	852	3054	214.1	.0	4.0	62.3
24		128		32			106	684	3480	224.6	.0	4.0	62.0
25		214		17			119	882	3484	195.1	.0	3.0	63.2
26		120		40			44	604	2687	152.2	.0	4.5	64.3
27		72		7			24	514	1254	218.0	6.5	4.0	64.1
28		252		22			34	434	775	221.3	7.3	4.0	64.4
29		124		29			31	633	549	204.4	8.7	4.0	64.2
30		76		22			26	625	344	222.4	.0	4.5	64.0
31		160		32			42	433	324	223.4	13.4	4.0	64.4
TOTALS		7452		1040			20475	15494	293604				
AVERAGES		237		34			635	516	4471	230.7	29.1		

TABLE 44

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

AUG 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SEECHT)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1		109		14			11	698	306	172.7	13.0	5.0	64.7
2		159		28			9	746	178	163.5	.0	5.2	64.6
3		109		19			6	700	79	174.0	.0	3.5	64.3
4		126		25			7	709	111	187.2	2.6	2.7	64.2
5		90		24			2	683	117	193.4	13.6	4.0	64.6
6			148	21			9	943	89	194.4	22.7	3.7	64.6
7			53	22			2	578	74	241.6	24.7	3.7	65.3
8			119	18			5	755	48	190.9	15.2	3.8	64.7
9			385	40			10	1226	42	133.6	17.2	5.4	65.1
10			133	26			8	864	29	171.3	12.0	5.2	65.5
11			55	14			6	502	20	150.5	.0	5.8	66.5
12			48	13			7	642	13	169.1	.0	5.6	67.2
13			47	12			6	574	28	171.6	.0	6.2	66.5
14			554	48			4	871	23	159.1	.0	6.0	66.9
15			242	27				1067	13	196.5	.0	7.0	67.3
16			142	44			1	731	10	183.3	.0	6.8	67.5
17			38	13			1	453	10	162.2	.0	6.0	67.5
18			25	10				319	5	153.9	.0	4.0	67.9
19			58	30				350	12	155.4	.0	4.5	67.8
20			118	28				266	5	131.2	.0	3.0	67.3
21			88	50				354	-1	127.3	.0	3.0	66.9
22			63	34				324		137.9	.0	3.0	66.9
23			230	67				279		120.7	.0	3.1	67.2
24			278	111		1		430		148.6	.0	3.0	66.8
25			74	44				239		139.8	.0	3.1	66.5
26			151	78				283	1	148.1	.0	3.2	66.0
27			1183	251	1			473	2	145.9	.0	3.2	65.8
28			121	113	1	3		466	2	138.2	.0	4.0	65.7
29			444	298	8	11		614	1	135.4	.0	4.4	65.8
30			825	402	13	35		627		103.5	.0	4.0	65.6
31			230	157	9	8		517	7	146.1	.0	5.1	65.4
TOTALS		593	5850	2081	32	58	94	18283	1224				
AVERAGES		119	225	67	6	12	6	590	47	159.6	3.9		

TABLE 44

TABLE 45

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

JOHN DAY PROJECT
SEP 1981

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK FALL JACKS	CHINOOK ADULTS	COHO JACKS	COHO ADULTS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF5)	SPILL (KCF5)	TURBIDITY (SEECMI)	WATER TEMP (DEG F)
1			1169	420	8	21	1	757	3	125.2	.0	5.1	65.1
2			621	356	16	29		651		130.2	.0	3.7	64.9
3			523	470	16	19		607		128.4	.0	3.0	64.9
4			536	520	51	75		800	2	122.5	.0	5.3	64.8
5			1027	636	30	26		1132	1	120.1	.0	5.5	64.7
6			1186	858	38	33		1237		90.6	.0	3.0	64.6
7			1836	804	49	67		1572		85.0	.0	6.4	64.8
8			1266	820	41	60		1349	1	126.3	.0	6.0	65.2
9			1267	1126	49	65		1527		135.2	.0	5.0	65.1
10			1437	1413	25	18		1648	3	113.8	.0	5.3	64.7
11			950	1129	39	51		1169		105.7	.0	3.2	64.7
12			686	884	28	45		970		94.3	.0	3.4	64.8
13			984	1107	31	54		1326	4	76.3	.0	3.7	64.9
14			195	521	11	36		820	2	125.2	.0	5.0	64.8
15			474	607	38	47		738		105.0	.0	5.0	65.2
16			686	1014	42	78		729		121.8	.0	5.3	65.4
17			460	809	38	92		646		130.2	.0	6.3	65.2
18			822	1336	26	17	12	865		145.6	.0	5.4	65.5
19			970	1420	34	62		1367		102.5	.0	5.5	65.5
20			782	919	19	40		1393		80.8	.0	5.0	65.2
21			492	802	14	28		1061		120.1	.0	5.0	64.9
22			429	567	21	35		1195		115.0	.0	2.6	64.6
23			561	549	19	35		1039		128.6	.0	2.0	64.4
24			400	538	12	34		1051		114.4	.0	4.8	64.2
25			269	472	23	16		733		125.5	.0	3.5	63.6
26			179	475	19	46		1019		90.6	.0	2.5	63.1
27			839	711	29	30		1212		65.3	.0	3.8	62.8
28			300	589	13	34		1427		114.7	.0	4.5	62.5
29			308	445	7	16		2341		102.8	.0	3.5	61.8
30			254	401	8	27		1717		108.9	.0	2.6	61.3
TOTALS			21908	22718	794	1236	13	34098	16				
AVERAGES			730	757	26	41	6	1137	2	111.7	.0		

TABLE 46

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

FISH COUNTS

JOHN DAY PROJECT

OCT 1981

RIVER CONDITIONS

DATE	CHINOOK ADULTS		CHINOOK FALL JACKS	CHINOOK ADULTS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF8)	SPILL (KCF8)	TURBIDITY (SEECHE)	WATER TEMP (DEG F)
	SPRING	SUMMER											
1			279	393	6	7		1481		130.3	.0	3.2	61.1
2			431	493	3	19		1345		121.9	.0	3.5	60.8
3			172	439	13	54		1708		79.3	.0	4.5	60.5
4			155	409	9	22		1057		57.2	.0	5.0	60.2
5			53	174	12	26		740		150.4	.0	4.2	59.4
6			67	192	6	17		568		133.4	.0	4.5	58.9
7			85	255	1	23		827		146.4	.0	5.0	58.5
8			60	291	5	26		1226	1	144.6	.0	5.0	58.1
9			87	297	16	20		1070		125.1	.0	4.5	57.9
10			46	161	16	16		956		91.6	.0	4.5	57.7
11			45	160	9	4		609		88.7	.0	4.5	57.4
12			22	181	8	14		862		134.2	.0	4.5	57.1
13			43	240		15		754		124.2	.0	4.5	56.8
14			49	104		3		557		123.1	.0	4.5	56.9
15			63	215		8		610		129.9	.0	3.0	56.3
16			79	53		4		426		150.2	.0	3.0	56.4
17			30	146		7		375		107.9	.0	3.0	55.7
18			38	116	2	9		352		71.1	.0	5.8	55.6
19			36	137	2	7		401		125.5	.0	3.5	55.5
20			21	73	1	1		354		121.6	.0	3.5	55.1
21			122	167	1	2		494		139.0	.0	5.8	54.7
22			37	122	1	2		352	1	135.6	.0	3.6	54.4
23			163	172		2		349		160.9	.0	4.4	54.4
24			62	149	2	2		289		135.5	.0	3.0	54.1
25			73	156		2		348		100.2	.0	3.0	54.0
26			30	69				372		109.0	.0	4.0	53.9
27			14	63				330	1	115.7	.0	5.0	53.9
28			32	157	2			729		135.4	.0	4.5	53.8
29			42	120		2		502		137.1	.0	5.0	53.5
30			32	127		2		329		132.5	.0	2.8	53.3
31			52	71	2	9		305		107.7	.0	6.0	53.2
TOTALS			2520	5902	117	325		20677	3				
AVERAGES			81	190	6	12		667	1	121.5	.0		

TABLE 46

TABLE 47
 WATER TEMPERATURE AND STREAM FLOW DATA
 JOHN DAY 1981

DATE	NOVEMBER			DECEMBER		
	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY
1	53.3	79,400	6.0	45.9	139,800	3.0
2	53.2	119,900	2.8	45.7	142,400	4.0
3	53.1	116,800	3.0	45.1	140,800	4.0
4	52.8	125,900	3.0	44.8	159,600	4.0
5	52.3	146,100	4.0	44.5	140,600	3.8
6	52.0	135,800	3.5	44.6	125,100	4.0
7	51.8	102,900	2.8	44.1	159,500	4.0
8	51.7	84,900	2.8	44.0	180,900	3.8
9	51.8	118,600	4.8	44.0	156,200	3.0
10	51.6	130,900	4.0	43.9	136,200	4.0
11	51.1	130,100	4.3	43.7	146,900	3.5
12	50.9	107,100	4.2	43.7	151,200	3.8
13	50.5	120,300	6.5	43.5	145,800	3.6
14	50.4	110,300	3.0	43.1	154,300	3.5
15	50.3	109,700	5.0	42.9	148,800	4.0
16	50.2	116,300	5.5	42.4	156,400	3.9
17	50.1	126,300	2.8	41.9	158,500	2.5
18	50.0	117,700	2.5	41.7	163,600	4.0
19	50.1	148,300	2.6	41.4	182,300	1.9
20	50.0	138,500	5.8	41.3	132,800	2.5
21	50.0	128,600	3.5	41.0	160,400	3.5
22	50.0	95,300	5.4	41.3	163,900	2.5
23	50.0	127,200	3.5	40.0	159,300	1.5
24	51.0	122,900	3.0	40.0	161,100	1.5
25	48.0	147,100	6.6	39.8	164,200	5.5
26	47.8	113,500	4.0	39.7	157,200	5.0
27	47.6	141,800	3.0	39.5	162,600	1.8
28	47.1	131,200	4.5	39.3	162,400	2.0
29	46.7	112,100	5.3	38.9	165,100	4.5
30	46.2	117,500	5.5	38.7	140,300	2.0
31				38.0	146,500	1.5

TABLE 48
PEAK DAYS OF MIGRATION
JOHN DAY DAM - 1968-1981

Year	<u>Spring Chinook</u>		<u>Summer Chinook</u>		<u>Fall Chinook</u>		<u>Steelhead</u>		<u>Sockeye</u>		<u>Coho</u>	
	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish
1968	Apr 28	11,114	Jul 19	2,694	Sep 8	4,532	Sep 8	3,735	Jun 29	7,677	Sep 4	2,256
1969	May 11	6,096	Jun 22	2,505	Sep 14	9,013	Sep 14	2,581	Jul 10	2,564	Sep 20	791
1970	May 4	5,485	Jul 11	1,897	Sep 13	6,728	Sep 12	4,159	Jul 6	4,119	Sep 11	1,319
1971	May 1	4,037	Jun 27	1,372	Sep 12	6,383	Sep 6	4,862	Jul 10	6,084	Sep 11	3,373
1972	Apr 27	6,484	Jun 29	1,805	Sep 12	6,280	Sep 19	6,149	Jul 9	3,049	Sep 19	1,381
1973	Apr 22	8,161	Jun 15	1,267	Sep 12	9,500	Sep 12	3,148	Jul 4	4,192	Sep 13	1,117
1974	May 22	2,773	Jul 15	1,039	Sep 17	6,004	Sep 27	724	Jul 6	2,534	Sep 17	1,237
1975	May 13	2,115	Jul 10	957	Sep 11	4,214	Sep 8	714	Jul 6	4,958	Sep 15	392
1976	May 6	2,795	Jul 2	1,168	Sep 15	6,259	Sep 18	1,343	Jul 2	1,871	Sep 15	463
1977	Apr 28	4,257	Jun 15	941	Sep 17	5,076	Sep 15	2,616	Jun 27	5,634	Sep 21	46
1978	Apr 1	4,081	Jun 7	1,106	Sep 15	4,941	Sep 15	1,913	Jul 1	940	Oct 12	376
1979	May 8	1,524	Jun 22	1,133	Sep 14	3,331	Sep 22	1,028	Jul 8	2,195	Oct 12	233
1980	May 8	1,266	Jul 6	879	Sep 25	2,036	Sep 7	1,776	Jul 6	3,959	Sep 25	191
1981	Apr 26	1,872	Jul 5	634	Sep 10	2,850	Sep 30	1,717	Jul 4	3,511	Sep 17	130

TABLE 48

TABLE 49
MONTHLY COUNT OF CHINOOK SALMON OVER JOHN DAY DAM
1968 - 1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	SPRING Apr 1*- Jun 5	SUMMER Jun 6- Aug 5	FALL Aug 6- Oct 31*	Jacks
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	87,226	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	18,353	7,292	8,992	8,524	44,626	8,422			114,387	37,705	15,813	60,869	34,547
Total			6	327,508	466,971	237,950	287,540	185,832	972,740	127,751	783		2,607,081	821,384	524,792	1,260,905	838,343
14-Year Average				23,393	33,355	16,996	20,539	13,274	69,481	9,125			186,220	58,670	37,485	90,065	59,882

* 1968, 1969 and 1979 counting seasons varied slightly from these dates.

TABLE 50
MONTHLY COUNT OF SOCKEYE SALMON
JOHN DAY DAM - 1968-1981

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
Total					8	222,547	517,575	8,416	290	30	1		748,867
14-Year Average						15,896	36,970	601	21	2			53,490

TABLE 50

TABLE 51
MONTHLY COUNT OF COHO SALMON
JOHN DAY DAM - 1968-1981

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
Total							44	6,765	151,531	30,024	510		188,874
14-Year Average								483	10,824	2,145			13,491

TABLE 52
MONTHLY COUNT OF STEELHEAD TROUT
JOHN DAY DAM - 1968-1981

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
Total			314	33,182	21,051	13,686	151,738	211,385	552,721	173,945	3,276		1,161,298
14-Year Average				2,370	1,504	978	10,838	15,099	39,480	12,425			82,950

TABLE 53
 YEARLY TOTALS OF SALMONID FISH COUNTED OVER MCNARY DAM
 1954 - 1981

Year	Chinook	Steelhead	Sockeye	Coho	Total Salmonid
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	22,663	43,143	3,975	202,931
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
Total	4,532,589	2,359,170	1,836,199	359,805	9,087,763
28-Year Average	161,878	84,256	65,578	12,850	324,563

The dates for beginning and termination of counting have varied slightly.

TABLE 53

TABLE 54
MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER MCNARY DAM
1981

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	3	12,923	16,904	8,288	8,743	5,584	23,323	4,926	425	-	80,619
STEELHEAD	-	-	861	1,479	809	878	7,212	12,839	19,961	15,652	2,294	-	61,985
SOCKEYE	-	-	-	-	-	4,419	22,042	180	1	2	-	-	26,644
COHO	-	-	-	-	-	-	-	421	2,840	435	40	-	3,736
CHUM	-	-	-	-	-	-	-	-	-	-	-	-	-
PINK	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL SALMONID	-	-	864	14,402	17,713	13,585	37,497	19,024	46,125	21,015	2,759	-	172,984
SHAD	-	-	-	-	170	57,057	133,602	2,488	39	17	-	-	193,373

TABLE 54

TABLE 55
 WATER TEMPERATURE AND STREAM FLOW DATA
 MCNARY - 1981

DATE	JANUARY			FEBRUARY		
	WATER TEMP.	STREAM FLOW	TURBIDITY	WATER TEMP.	STREAM FLOW	TURBIDITY
1	46	245,600	0.1	41	156,600	2.5
2	44	250,900	1.6	40	187,900	3.0
3	44	220,800	1.4	40	190,500	4.2
4	46	232,100	0.4	40	213,500	4.1
5	44	230,200	1.2	40	215,900	4.1
6	44	220,800	1.4	40	189,000	4.1
7	44	218,500	1.5	40	168,200	3.8
8	44	198,800	2.0	40	170,000	3.1
9	44	214,400	1.3	40	185,800	3.7
10	44	199,900	2.0	40	196,300	3.7
11	44	177,400	1.9	40	213,800	4.2
12	44	198,600	2.2	38	189,000	4.2
13	42	213,800	2.2	38	176,900	4.2
14	42	215,800	3.5	38	141,800	4.3
15	42	225,000	2.8	38	134,000	4.7
16	42	207,600	3.0	38	162,700	5.0
17	42	191,700	3.0	38	186,100	3.8
18	42	172,200	3.2	38	169,300	1.2
19	42	178,400	3.1	38	202,800	0.4
20	42	176,300	3.1	38	210,600	0.4
21	42	190,700	4.2	41	222,500	0.9
22	42	186,400	4.2	41	201,500	0.8
23	41	186,300	4.0	41	191,900	1.2
24	41	188,700	2.8	41	193,300	1.2
25	42	164,000	3.0	41	210,900	1.2
26	42	183,900	4.0	41	199,800	1.0
27	42	207,000	4.0	42	177,700	1.1
28	42	196,200	3.8	42	148,900	1.2
29	41	200,900	2.5			
30	40	207,000	2.5			
31	41	177,000	2.5			

TABLE 56

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

ICMWAY PROJFLT
 JAN 1961
 RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SMAD	DISCHARGE (KFS)	SPILL (KFS)	TURBIDITY (SF/FT)	WATER TEMP (DEG F)
1										126.1	.0	2.0	42.0
2								26		154.7	.0	1.8	42.0
3								36		147.4	.0	2.2	42.0
4								24		143.3	.0	2.2	42.0
5								35		164.4	.0	2.2	42.0
6								32		171.7	.0	1.6	42.0
7								26		141.2	.0	1.7	42.0
8								36		140.4	.0	1.7	42.0
9								37		134.0	.0	1.7	42.0
10								15		144.1	.0	1.6	42.0
11								26		152.3	.0	1.2	42.0
12								21		148.2	.0	1.8	42.0
13								24		144.3	.0	1.1	43.0
14								36		141.0	.0	1.4	43.0
15								36		116.4	.0	1.6	44.0
16								34		140.6	.0	1.6	44.0
17								40		161.7	.0	2.1	44.0
18								35		157.2	.0	1.5	44.0
19					1			32		170.3	.0	1.9	44.0
20								34		150.6	.0	1.4	44.0
21								30		135.4	.0	1.4	44.0
22								23		123.7	.0	2.5	44.0
23								23		144.0	.0	1.7	43.0
24								24		154.2	.0	2.1	44.0
25								21		142.3	.0	2.2	44.0
26								16		154.0	.0	2.5	43.0
27								25		140.1	.0	2.5	43.0
28								25		120.7	.0	2.4	44.0
29								28		131.0	.0	2.1	44.0
30	1			1				42		144.0	.0	2.7	44.0
31*								42		157.6	.0	3.7	44.0
TOTALS	1			2				461					
AVERAGES	1			1				30		144.6	.0		

TABLE 56

*No Counting Due to Fish Counter's Training

TABLE 57

TABLE 57

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

MCNARY PROJECT
 APR 1981

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF5)	SPILL (KCF5)	TURBIDITY (SEECMT)	WATER TEMP (DFG F)
1		1						40		168.5	.0	2.2	46.0
2								45		168.3	.0	2.4	46.0
3		5		1				64		156.1	.0	2.4	46.0
4		9		2				61		151.3	.0	2.8	46.0
5		2		1				42		116.5	.0	2.7	46.0
6		4		1				42		155.7	.0	2.5	46.0
7		7		1				36		150.9	.0	2.6	46.0
8		5		4				78		163.5	.0	2.1	46.0
9		11		1				72		160.3	.0	3.0	46.0
10		49		2				65		135.5	.0	3.4	46.0
11		15		1				20		135.4	.0	3.4	46.0
12		25						47		123.0	.0	3.5	46.0
13		157		11				52		155.7	.0	3.5	46.0
14		59		4				52		145.3	.0	2.6	46.0
15		18						43		147.0	.0	2.6	46.0
16		97		17				42		150.0	.0	2.4	47.0
17		201		21				111		123.3	.0	2.5	47.0
18		375		6				61		111.1	.0	2.0	48.0
19		446		15				48		105.4	.0	2.8	48.0
20		657		97				89		133.4	.0	1.9	50.0
21		1766		133				78		156.5	.0	1.9	50.0
22		427		9				46		144.4	.0	2.5	50.0
23		170		28				35		156.9	.0	2.6	50.0
24		913		35				52		167.5	.0	2.8	50.0
25		830		54				35		159.5	.0	2.6	52.0
26		830		15				28		136.6	.0	2.4	52.0
27		1504		72				54		161.7	.0	2.6	52.0
28		572		19				25		173.6	.0	1.1	52.0
29		1337		110				47		177.0	.0	1.4	50.0
30		1097		74				39		213.9	.0	1.8	52.0
TOTALS	12189			734				1479					
AVERAGES	420			28				49		150.1	.0		

TABLE 58

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

MCNARY PROJECT
MAY 1981

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK FALL	CHINOOK JACKS	COMO ADULTS	COMO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SEECHE)	WATER TEMP (DEG F)
1	719			33				46		196.0	.0	1.8	52.0
2	1244			85				50		221.0	.0	3.4	54.0
3	471			34				19		234.1	14.7	2.3	54.0
4	490			29				18		267.5	45.8	1.5	54.0
5	474			42				25		249.9	30.3	1.5	54.0
6	888			53				15		248.1	32.6	1.2	55.0
7	572			52				22		239.7	30.5	2.6	53.0
8	536			40				46		225.4	7.4	2.5	53.0
9	850			105				38		211.8	3.5	2.8	53.0
10	444			46				32		172.1	2.9	2.5	53.0
11	414			32				21		200.4	1.3	1.5	52.0
12	392			37				16		222.8	.0	.9	52.0
13	517			27				19		208.6	.0	.9	52.0
14	702			61				35		207.1	.0	1.2	52.0
15	429			34				16		217.6	.0	1.2	52.0
16	962			111				18		212.5	.0	3.1	53.0
17	519			52				25		170.8	.0	3.2	53.0
18	487			54				24		187.5	.0	2.7	53.0
19	306			44				24		199.6	.0	2.7	53.0
20	235			44				19		200.9	.0	2.7	53.0
21	242			32				37		222.4	.0	2.7	53.0
22	235			47				49		219.6	.0	2.7	54.0
23	306			26				11		237.0	14.7	2.0	56.0
24	501			86				44	4	224.0	.0	2.0	54.0
25	277			56				16		224.3	.0	3.0	55.0
26	307			54				31		246.8	22.6	3.0	56.0
27	346			88				17	30	295.2	74.5	3.0	56.0
28	392			85				19	14	310.3	133.6	3.5	56.0
29	381			97				25	46	311.5	85.0	2.8	57.0
30	421			60				16	29	356.3	158.7	2.7	56.0
31	384			55				16	47	353.8	174.3	3.0	57.0
TOTALS	15203			1701				809	170				
AVERAGES	490			55				26	28	235.3	26.9		

TABLE 58

TABLE 59

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

MCNARY PROJECT

JUN 1981

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COMC ADULTS	COMO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF5)	SPILL (KCF5)	TURBIDITY (SEECHE)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	208			42				13	51	369.6	198.4	3.0	57.0
2	300			59				13	72	383.7	212.6	2.1	57.0
3	331			58				42	82	376.5	214.7	2.7	57.0
4	324			43				28	73	371.3	211.7	2.6	57.0
5	271			34				42	124	384.1	229.3	2.1	57.0
6	295			43				9	269	378.0	228.4	2.1	57.0
7	224			48				16	72	392.6	277.2	2.1	57.0
8	188			32				17	132	352.7	195.3	2.4	56.0
9		135		17				10	25	430.9	288.3	2.4	53.0
10		224		26				31	72	416.0	260.6	2.4	56.0
11		227		50			4	8	117	417.9	268.9	2.2	57.0
12		280		44			11	29	447	390.0	222.7	2.2	57.0
13		199		20			1	23	493	390.3	219.5	2.2	57.0
14		164		13			10	18	380	405.4	229.4	2.1	57.0
15		154		23			6	27	1432	365.5	195.6	2.1	57.0
16		184		17			9	43	603	391.1	215.4	2.4	57.0
17		148		2			1	24	110	333.8	150.0	2.2	57.0
18		217		36				14	179	341.7	153.9	2.1	57.0
19		273		54				35	874	345.2	144.9	2.1	57.0
20		320		60			21	31	922	331.4	145.1	2.0	57.0
21		241		63			35	32	1634	358.1	227.7	2.0	57.0
22		150		22			77	19	559	333.5	144.1	2.0	57.0
23		200		41			50	17	1397	338.1	152.0	2.0	57.0
24		152		59			64	9	1138	360.0	188.3	2.0	57.0
25		228		107			138	29	3733	316.0	132.2	3.0	58.0
26		245		149			147	46	9285	308.2	88.5	1.5	58.0
27		226		104			242	37	7927	295.4	67.1	1.5	59.0
28		259		62			294	66	3667	286.2	53.9	2.3	60.0
29		176		47			800	71	8853	265.5	41.1	2.4	60.0
30		312		56			958	79	12335	268.2	37.5	2.6	62.0
TOTALS	2141	4707		1440			4419	878	57057				
AVERAGES	268	214		48			759	29	1902	356.6	179.8		

TABLE 60

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

DIARY MODEL

JUL 1953

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	CUMU JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (CFS)	SPILL (CFS)	TURBIDITY (JFECH)	WATER TEMP (66 F)
	SPRING	SUMMER	FALL										
1		255		41			1452	61	7448	228.4	.0	2.6	60.0
2		280		74			1413	88	7481	227.4	.0	2.6	61.0
3		401		81			1720	156	9547	225.0	.0	2.8	61.0
4		427		50			2105	172	23115	224.4	1.7	2.8	60.0
5		441		121			2050	157	14026	231.2	5.2	2.4	62.0
6		254		65			1929	115	5741	244.4	8.2	2.5	62.0
7		332		89			2184	173	1933	276.2	42.4	2.4	62.0
8		308		55			1978	134	1843	315.4	10.6	2.2	61.0
9		409		28			1062	225	1976	293.1	69.7	2.2	61.0
10		348		56			1475	251	3209	290.2	52.8	2.2	61.0
11		348		46			1742	236	10471	241.1	6.2	2.4	61.0
12		254		32			634	183	5083	231.4	5.4	2.1	62.0
13		254		31			443	174	1868	214.2	.0	2.5	61.0
14		234		27			430	161	2970	245.6	.0	2.4	62.0
15		266		45			516	153	3530	223.2	.0	2.4	62.0
16		244		29			335	127	6458	210.2	.0	2.2	62.0
17		73		17			132	115	2648	226.2	.0	2.4	61.0
18		106		12			162	186	4116	213.6	.0	2.8	61.0
19		106		22			156	226	2462	214.8	.0	2.8	61.0
20		156		36			208	274	5433	208.1	.0	2.8	61.0
21		160		20			123	274	2323	221.4	.0	2.4	61.0
22		146		24			163	393	1366	213.6	.0	2.6	62.0
23		142		19			129	412	434	214.2	.0	2.6	62.0
24		138		14			58	330	714	204.2	.0	2.6	61.0
25		220		23			62	498	2342	170.6	.0	3.3	63.0
26		140		19			52	287	1884	163.6	.0	3.3	63.0
27		85		14			48	291	1035	207.2	.0	2.8	63.0
28		117		15			52	292	760	216.7	.0	2.8	66.0
29		75		5			38	381	342	173.6	.0	2.1	67.0
30		121		15			31	376	459	217.6	.0	2.1	67.0
31		186		20			15	415	415	213.6	.0	3.0	67.0
TOTALS		7098		1145			22042	7212	133602				
AVERAGES		229		37			711	233	4310	226.1	8.6		

TABLE 60

TABLE 61

TABLE 61

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

AUG 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SEECY)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1		99		10			9	353	235	198.0	.0	3.2	67.0
2		168		28	5		20	417	254	176.4	.0	2.9	67.0
3		98		21	7	1	20	492	260	177.3	.0	2.8	67.0
4		112		10			11	477	232	184.2	.0	3.0	67.0
5		129		16	14	5	22	426	228	187.8	.0	3.4	67.0
6		134		24	7	2	32	374	228	194.7	.0	3.4	67.0
7		125		19	7	1	15	366	123	201.2	.0	2.5	67.0
8		104		8	8	1	14	312	141	175.6	.0	2.5	67.0
9			134	15	4	1	14	423	109	141.5	.0	3.4	68.0
10			56	10	3	2	4	400	32	192.5	.0	3.4	68.0
11			141	5	6	2		264	58	167.6	.0	3.4	70.0
12			111	8	4			404	60	175.3	.0	3.5	68.0
13			137	18	5	3	1	466	40	180.8	.0	3.6	70.0
14			75	5	7	2	2	290	15	170.4	.0	3.4	70.0
15			157	9				684	11	200.4	.0	3.6	70.0
16			254	29	10	1	7	686	42	147.9	.0	4.0	70.0
17			379	44	14	2	5	577	96	144.1	.0	3.3	70.0
18			160	24	5	1		788	36	160.9	.0	3.3	70.0
19			77	6	14	5		542	35	156.6	.0	2.7	70.0
20			131	6	9	2	1	503	25	145.6	.0	2.5	70.0
21			80	16	11		2	438	20	137.2	.0	2.5	70.0
22			129	21	7	6		410	13	152.1	.0	2.8	69.0
23			90	18	14	7		300	15	116.4	.0	2.8	68.0
24			93	23	7	9		329	7	158.8	.0	2.8	68.0
25			164	43	14	10		303	49	141.8	.0	2.9	69.0
26			140	30	16	12		236	15	145.6	.0	2.8	69.0
27			99	28	13	14		264	32	146.3	.0	2.2	69.0
28			110	24	11	5		246	21	138.5	.0	2.2	68.0
29			674	62	35	22	1	298	7	129.0	.0	2.9	69.0
30			293	61	12	20		406	11	99.7	.0	2.3	68.0
31			202	63	7	9		365	38	147.8	.0	2.8	68.0
TOTALS		974	3906	704	276	145	180	12839	2488				
AVERAGES		122	170	23	10	6	11	414	80	160.7	.0		

TABLE 62

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

MCNARY PROJECT
SEP 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COMO ADULTS	COMO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1			344	87	13	29		330	6	129.8	.0	2.8	68.0
2			405	188	68	48		537	7	135.0	.0	2.8	68.0
3			273	127	10	34		345	5	114.2	.0	2.4	67.0
* 4			100	50	9	11		235	2	127.1	.0	2.8	68.0
* 5			306	102	22	24	1	206	2	98.0	.0	2.9	67.0
6			363	139	29	27		525	3	81.8	.0	3.0	67.0
7			727	288	23	29		609	2	74.0	.0	3.0	67.0
8			977	368	44	37		480	4	126.8	.0	3.0	67.0
9			563	320	33	78		919	1	124.3	.0	2.8	67.0
10			1608	547	52	168		1502		112.2	.0	2.8	67.0
11			742	69	428	80		1054		132.4	.0	2.3	67.0
12			796	427	78	131		1047		115.4	.0	2.3	68.0
13			523	471	38	81		727		77.7	.0	3.2	69.0
14			491	280	19	67		722	4	117.2	.0	3.4	69.0
15			462	236	38	39		650		107.6	.0	3.4	69.0
16			364	163	18	35		677		126.1	.0	3.5	69.0
17			292	206	16	24		471		136.0	.0	3.5	69.0
18			432	495	30	136		546		119.7	.0	3.5	69.0
19			551	462	50	112		929		93.8	.0	3.5	69.0
20			511	447	38	71		740		91.8	.0	3.5	69.0
21			369	246	12	31		444		108.4	.0	3.5	69.0
22			549	486	17	47		807	1	120.6	.0	3.5	68.0
23			471	414	28	55		734		128.6	.0	2.8	68.0
24			421	463	22	33		795		118.7	.0	2.8	68.0
25			243	243	12	32		717		111.4	.0	2.8	68.0
26			434	436	34	54		701		99.8	.0	3.0	64.0
27			232	260	24	34		615		65.2	.0	3.0	64.0
28			227	238	10	24		387	2	112.5	.0	3.0	64.0
29			424	306	7	10		680		104.0	.0	3.0	63.0
30			295	264	9	28		830		128.4	.0	2.8	63.0
TOTALS			14495	8828	1231	1609	1	19961	39				
AVERAGES			483	294	41	54	1	665	3	111.3	.0		

TABLE 62

* 1/2 day count only

TABLE 63

TABLE 63

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

NONARY PROJECT

OCT 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHIMOOK ADULTS			CHIMOOK JACKS	LONG ADULTS	CHIMU JACKS	ROCKYF	STEELHEAD	SHAD	DISCHARGE (KCS)	SPILL (KCS)	TURBIDITY (SF/CHT)	WATER TEMP (JUG F)
	SPRING	SUMMER	FALL										
1			412	390	26	61		1124	0	114.4	.0	2.8	63.0
2			241	230	16	24		407	7	115.4	.0	3.0	63.0
3			268	220	18	37		1895		83.7	.0	3.4	62.0
4			263	103	17	24		1223		56.0	.0	3.4	62.0
5			179	114	8	7		961		146.7	.0	3.5	62.0
6			122	128	8	7		605		121.0	.0	3.5	62.0
7			60	123	7	10		644		138.5	.0	3.5	61.0
* 8			32	21	4	1		282		113.0	.0	3.0	60.0
9			35	87	6	0		037		128.0	.0	3.3	60.0
10			22	62	11	10		500		118.7	.0	3.0	60.0
11			51	71	1	0		011		81.4	.0	3.0	60.0
12			41	04	4	4		535		127.8	.0	3.1	60.0
13			35	27	8	2	2	308		308	.0	3.1	60.0
14			24	32				531	1	118.1	.0	3.1	60.0
15			15	36				343		142.0	.0	3.0	59.0
16			37	43	2	5		277		124.3	.0	3.0	59.0
17			30	46	18	15		293		126.7	.0	3.1	58.0
18			68	40	11	10		370		108.5	.0	3.2	58.0
19			35	58	3	0		304		70.1	.0	3.2	58.0
20			37	40	7	0		204		137.4	.0	3.2	58.0
21			58	52	4	5		352		120.1	.0	3.2	58.0
22			29	31				275		123.4	.0	3.2	58.0
23			30	48				250		110.2	.0	3.6	58.0
24			38	58				303		143.1	.0	3.2	58.0
25			52	54				316		97.5	.0	3.1	56.0
26			35	45				253		80.5	.0	3.0	57.0
27			62	02				298		121.2	.0	3.4	57.0
28			50	41	8			234		103.1	.0	3.2	57.0
29			28	26				102		130.3	.0	3.1	57.0
* 30			10	13				91		125.0	.0	3.1	57.0
31			40	21				314		145.6	.0	3.5	57.0
TOTALS			2453	2413	187	208	2	15652	17	116.7	.0	3.6	57.0
AVERAGES			79	80	6	13	2	505	6				

* micromeg shuff only
* * cu shuff only

TABLE 64

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

MCNARY PROJECT

NOV 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCF)	SPILL (KCF)	TURBIDITY (SECF)	WATER TEMP (DFG F)
1			14	21				118		76.8	.0	3.6	57.0
2			16	24				121		108.4	.0	3.0	57.0
3			24	18	6	2		108		117.6	.0	2.9	57.0
4			10	6	6			142		126.5	.0	3.6	57.0
5			16	7	2	1		123		140.5	.0	3.6	57.0
6			21	11				135		118.7	.0	3.6	57.0
7			16	7				157		112.9	.0	3.2	56.0
8			11	10				105		94.0	.0	3.2	56.0
9			16	12	4			118		123.6	.0	3.2	56.0
10			2	6	5			41		123.8	.0	3.2	54.0
11			11	10	8	6		68		112.7	.0	3.1	54.0
12			1					36		109.9	.0	3.1	54.0
13			6	8				74		132.1	.0	2.6	53.0
14			5	2				47		100.9	.0	2.6	53.0
15			3	2				55		101.5	.0	2.6	53.0
16			5	0				34		113.2	.0	2.3	53.0
17			8	8				41		130.9	.0	3.3	53.0
18			4	1				56		123.2	.0	3.3	53.0
19			4	4				60		151.1	.0	3.3	53.0
20			11	4				96		135.6	.0	3.3	53.0
21			5	2				48		117.2	.0	3.5	51.0
22			8					71		88.0	.0	3.5	51.0
23			4	1				107		127.7	.0	3.5	51.0
24			5	1				91		127.0	.0	4.5	51.0
25			6	1				62		144.4	.0	2.6	51.0
26 *										110.6	.0	3.5	51.0
27			5					43		133.9	.0	3.5	51.0
28			1	1				76		143.7	.0	3.5	51.0
29			11	1				55		122.4	.0	3.5	49.0
30										128.3	.0	4.5	49.0
TOTALS			260	165	31	9		2294					
AVERAGES			9	7	5	3		82		114.9	.0		

* No Counting

TABLE 64

TABLE 65
 WATER TEMPERATURE AND STREAM FLOW DATA
 MCNARY - 1981

DATE	DECEMBER		
	WATER TEMP.	STREAM FLOW	TURBIDITY
1	49	139,700	3.5
2	49	146,800	3.6
3	49	150,000	4.9
4	49	156,900	4.8
5	49	131,000	4.7
6	49	110,200	4.7
7	49	149,000	3.0
8	48	157,700	4.1
9	49	126,900	4.1
10	48	146,600	3.9
11	46	154,800	4.1
12	46	150,900	2.3
13	46	137,100	2.6
14	45	151,500	2.5
15	45	148,500	2.4
16	44	156,400	2.6
17	44	142,500	3.1
18	44	155,700	3.4
19	44	170,600	3.8
20	44	119,500	4.0
21	44	128,500	3.5
22	44	157,900	1.6
23	44	166,300	3.5
24	44	149,000	3.5
25	43	126,500	3.5
26	43	121,500	3.5
27	42	133,000	3.5
28	42	146,500	1.4
29	42	159,300	3.5
30	42	156,200	3.6
31	42	150,700	3.5

TABLE 65

TABLE 66
 PEAK DAYS OF FISH MIGRATION
 MCNARY DAM - 1954 - 1981

Year	Spring Chinook		Summer Chinook		Fall Chinook		Steelhead		Sockeye		Coho	
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
	Date	of Fish	Date	of Fish	Date	of Fish	Date	of Fish	Date	of Fish	Date	of Fish
1954	May 12	6,571	Jul 5	2,565	Sep 12	906	Sep 10	1,285	Jul 9	6,798	Sep 11	79
1955	May 26	2,565	Jul 10	3,034	Sep 10	536	Aug 13	2,432	Jul 16	19,916	Sep 26	26
1956	May 21	1,112	Jul 1	5,361	Sep 11	473	Aug 10	967	Jul 12	9,322	Sep 17	32
1957	May 4	7,075	Jul 26	7,616	Sep 13	2,963	Oct 5	3,028	Jul 11	5,763	Sep 25	208
1958	Jun 7	3,247	Jun 21	4,725	Sep 12	5,268	Sep 23	2,909	Jul 12	5,809	Sep 21	92
1959	May 14	1,831	Jul 9	3,658	Sep 15	3,007	Sep 19	3,884	Jul 15	5,786	Sep 15	147
1960	May 7	5,124	Jun 23	4,752	Sep 10	2,966	Sep 14	3,720	Jul 1	3,637	Sep 10,17	116
1961	May 2	5,775	Jun 29	2,281	Sep 17	1,978	Sep 17	3,734	Jul 12	897	Sep 11	147
1962	May 3	3,565	Jun 23	2,800	Sep 11	3,011	Sep 9	6,422	Jul 11	2,454	Sep 9	207
1963	May 11	3,219	Jun 26	1,710	Sep 11	3,643	Sep 21	2,793	Jul 5	4,637	Sep 5	128
1964	Apr 30	4,865	Jul 3	2,440	Sep 10	3,000	Sep 14	3,312	Jul 12	7,457	Sep 19	201
1965	May 16	1,648	Jul 7	2,056	Sep 15	4,251	Aug 2	3,880	Jul 7	4,326	Sep 18	211
1966	Apr 23	4,795	Jul 5	1,992	Sep 18	3,320	Sep 24	4,588	Jul 13	10,370	Sep 13	451
1967	Apr 27	3,509	Jul 5	2,242	Sep 25	5,782	Sep 25	2,969	Jul 13	8,605	Sep 16	1,659
1968	Apr 30	9,471	Jun 21	2,388	Sep 11	4,213	Sep 13	3,796	Jul 3	7,226	Sep 13	3,307
1969	May 13	4,793	Jun 24	2,700	Sep 16	5,582	Sep 13	3,197	Jul 12	1,554	Sep 16	2,864
1970	Apr 30	4,924	Jul 13	1,704	Sep 16	3,625	Sep 14	3,011	Jul 11	3,081	Sep 14	2,794
1971	May 4	3,208	Jul 9	2,020	Sep 12	4,710	Sep 12	4,574	Jul 13	3,926	Sep 12	2,732
1972	Apr 30	5,376	Jul 5	1,889	Sep 17	3,627	Sep 20	3,695	Jul 13	2,084	Sep 17	2,508
1973	Apr 28	6,543	Jun 17	1,684	Sep 13	6,570	Sep 13	2,970	Jul 6	3,059	Sep 15	1,474
1974	May 25	1,818	Jul 10	1,044	Sep 14	3,593	Oct 3	620	Jul 11	2,344	Sep 15	620
1975	May 15	1,629	Jul 10	1,316	Sep 13	3,517	Sep 16	468	Jul 9	4,745	Sep 14	368
1976	May 4	2,261	Jul 3	1,271	Sep 18	5,514	Sep 23	1,146	Jul 6	2,147	Sep 17	419
1977	Apr 30	4,357	Jun 26	1,138	Sep 21	4,826	Sep 15	3,097	Jul 2	4,962	Sep 22	283
1978	May 3	4,755	Jul 19	967	Sep 16	1,790	Sep 22	1,028	Jul 3	923	Sep 22	990
1979	May 10	1,535	Jul 24	752	Sep 18	2,049	Sep 22	978	Jul 6	2,102	Sep 11	853
1980	May 9	1,252	Jul 12	837	Sep 16	1,638	Sep 28	1,443	Jul 8	3,431	Oct 5	37
1981	May 21	1,899	Jul 6	562	Sep 10	2,155	Oct 3	1,895	Jul 7	2,189	Sep 11	508

TABLE 66

TABLE 67
MONTHLY COUNT OF CHINOOK SALMON
MCNARY DAM - 1954 - 1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	SPRING *Apr 1- Jun 8	SUMMER Jun 9- Aug 8	FALL Aug 9- 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	50,409	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				53,484	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
Total			39	398,366	944,763	669,418	791,204	324,294	1,207,739	192,746	4,020		4,532,589	1,458,672	1,460,502	1,613,415
28 Year Average				14,227	33,741	23,908	28,257	11,582	43,133	6,884			161,878	52,095	52,161	57,622

* Dates vary depending on beginning and ending of fish counting.

TABLE 68
MONTHLY COUNT OF SOCKEYE SALMON
MCNARY DAM - 1954 - 1981

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
Total					165	164,836	1,584,053	76,674	7,709	2,760	2		1,836,199
28 Year Average						5,887	56,573	2,738	275				65,578

TABLE 68

TABLE 69
MONTHLY COUNT OF COHO SALMON
MCNARY DAM - 1954 - 1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
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
Total				1		7	325	16,757	293,995	45,625	3,094	1	359,805
28 Year Average							12	598	10,500	1,629			12,850

TABLE 70
 MONTHLY COUNT OF STEELHEAD TROUT
 MCNARY DAM - 1954 - 1981

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			22,663
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
Total	1,059	925	6,502	52,905	27,387	22,147	216,644	508,438	1,098,779	404,221	17,786		2,359,170
28 Year Average				1,889	978	791	7,737	18,158	39,242	14,436			84,256

TABLE 70

TABLE 71
 YEARLY TOTALS OF SALMONID COUNTED OVER ICE HARBOR DAM
 1962 - 1981

Year	Chinook	Steelhead	Sockeye	Coho	Chum	Salmonid
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	6	149,116
1973	81,821	38,311	233	2,443	4	122,812
1974	32,444	12,528	204	1,334	2	46,512
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
TOTAL	1,196,517	1,040,367	9,673	42,927	12	2,289,496
20-Year Average	59,826	52,018	484	2,146		114,475

TABLE 71

TABLE 72
 MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER ICE HARBOR DAM
 1981

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	1	6,744	8,542	2,884	1,751	161	1,530	470	9	-	22,092
STEELHEAD	-	-	797	1,106	433	137	2,305	1,431	16,563	16,669	1,849	-	41,290
SOCKEYE	-	-	-	-	-	4	136	2	-	-	-	-	142
COHO	-	-	-	-	-	-	-	-	66	16	-	-	82
TOTAL SALMONID	-	-	798	7,850	8,975	3,025	4,192	1,594	18,159	17,155	1,858	-	63,606
SHAD	-	-	-	-	1	-	4,799	248	-	-	-	-	5,048

TABLE 72

TABLE 73
 WATER TEMPERATURE AND STREAM FLOW DATA
 ICE HARBOR - 1981

DATE	JANUARY			FEBRUARY		
	WATER TEMP.	STREAM FLOW	TURBIDITY	WATER TEMP.	STREAM FLOW	TURBIDITY
1	44	60,400	0.8	40	24,300	3.0
2	44	66,700	0.8	40	37,700	3.5
3	44	60,000	0.8	40	49,400	3.5
4	44	59,800	0.8	40	53,800	3.5
5	44	60,300	2.0	40	37,000	2.5
6	43	54,100	2.0	40	37,400	2.5
7	43	55,300	2.0	40	15,300	2.5
8	43	59,600	2.0	40	11,700	2.5
9	43	53,300	2.0	40	36,800	2.5
10	44	36,600	2.0	38	34,500	2.5
11	44	11,600	2.0	38	42,800	2.5
12	44	47,800	2.0	38	29,900	3.0
13	44	43,000	2.0	38	26,700	3.0
14	44	52,300	2.0	38	17,200	3.0
15	42	48,800	2.0	38	27,000	4.0
16	42	45,800	2.0	39	42,700	4.0
17	42	21,200	2.0	40	69,900	4.0
18	42	11,400	2.0	40	64,300	3.5
19	42	27,600	2.0	40	61,100	4.0
20	42	25,100	2.0	40	82,000	1.0
21	42	22,400	2.0	40	63,800	1.0
22	42	29,900	2.0	40	61,500	1.0
23	42	38,800	2.0	41	60,500	0.5
24	42	22,900	2.0	41	60,500	0.5
25	42	17,500	2.0	41	64,300	0.5
26	42	43,700	2.0	41	62,400	0.5
27	42	34,300	2.0	41	56,400	0.5
28	42	33,000	2.0	41	44,500	0.5
29	41	42,100	2.0			
30	40	41,400	2.0			
31	40	29,900	2.0			

MONTHLY FISH PASSAGE SUMMARY REPORT

TABLE 74

ICE HARBOR PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MAR 1961

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK TACKS	CORN ADULTS	CORN TACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCFD)	SPILL (KCFD)	TURBIDITY (SF/FT)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1								11		31.0	.0	.5	41.0
2								14		34.0	.0	.5	41.0
3								30		45.1	.0	.5	41.0
4								24		43.0	.0	.5	41.0
5								23		40.7	.0	.5	41.0
6								24		47.5	.0	.5	42.0
7								42		24.1	.0	.5	42.0
8								47		14.0	.0	.5	42.0
9								32		30.0	.0	.5	42.0
10								46		37.5	.0	.5	42.0
11								34		33.4	.0	1.5	42.0
12								50		35.1	.0	1.5	43.0
13								36		35.5	.0	1.0	43.0
14								24		31.2	.0	1.0	43.0
15								24		23.2	.0	1.0	43.0
16								26		31.2	.0	1.0	44.0
17								14		41.5	.0	2.0	44.0
18								30		47.3	.0	2.0	44.0
19								27		40.2	.0	2.0	44.0
20								21		46.3	.0	2.0	45.0
21								22		28.1	.0	2.0	45.0
22								13		27.7	.0	2.0	45.0
23								23		40.5	.0	2.0	45.0
24								20		35.0	.0	2.0	46.0
25								12		37.0	.0	2.0	46.0
26	1							20		45.3	.0	2.0	46.0
27								17		45.3	.0	2.0	46.0
28								14		36.7	.0	2.0	46.0
29								31		44.5	.0	2.0	46.0
30								22		44.6	.0	2.0	46.0
31 *										42.0	.0	2.0	46.0
TOTALS	1							197					
AVERAGES	1							27		37.2	.0		

* No counting due to fish counters training.

TABLE 75

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

TABLE 75

ICE HARBOR PROJECT
 APR 1981

DATE	FISH COUNTS					RIVER CONDITIONS							
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF)	SPILL (KCF)	TURBIDITY (SEECI)	WATER TEMP (DEG F)
1	1							15		43.2	.0	3.0	46.0
2				1				60		38.6	.0	3.0	46.0
3	1							52		41.2	.0	3.0	46.0
4	1							42		45.6	.0	3.0	46.0
5	1							39		31.1	.0	3.0	46.0
6	3							38		37.6	.0	3.0	46.0
7	2							33		41.1	.0	3.0	46.0
8	4							45		40.1	.0	3.0	46.0
9	2							39		36.2	.0	3.0	46.0
10	8							17		29.6	.0	3.0	47.0
11	12							39		25.8	.0	3.0	47.0
12	30							27		11.5	.0	3.0	47.0
13	12							30		43.3	.0	3.0	47.0
14	18							28		35.1	.0	2.2	47.0
15	89			3				40		34.4	.0	2.2	47.0
16	25			1				26		28.3	.0	2.2	47.0
17	40							33		27.6	.0	2.2	47.0
18	92							33		21.2	.0	2.2	47.0
19	191			2				22		30.2	.0	2.2	47.0
20	200			1				29		47.2	.0	2.2	47.0
21	165			4				21		55.2	.0	2.2	50.0
22	375			1				48		56.2	.0	2.2	50.0
23	662							42		47.4	.0	2.2	50.0
24	430			5				29		81.5	.0	2.5	52.0
25	506			2				34		88.5	.0	2.5	52.0
26	776			9				25		82.9	.0	2.5	52.0
27	645			9				35		83.9	.0	2.5	52.0
28	793							47		99.1	.0	2.5	52.0
29	1010			7				64		93.4	.0	2.5	53.0
30	604			1				54		96.5	.0	2.5	54.0
TOTALS	6698			46				1106					
AVERAGES	231			9				37		49.8	.0		

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

TABLE 76

ICE HARBOR PROJECT
 MAY 1981

DATE	FISH COUNTS					RIVER CONDITIONS						
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK FALL JACKS	COMO ADULTS	COMO JACKS	SUCKEYE	STEELHEAD	SMAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	044		9				41		86.0	.0	2.5	54.0
2	053		8				44	1	124.5	23.8	2.5	54.0
3	044		6				56		125.1	22.8	2.5	54.0
4	412		5				26		131.2	29.3	2.5	54.0
5	362		15				25		112.7	13.0	2.5	54.0
6	236		11				24		87.6	.0	2.5	54.0
7	249		10				19		82.8	.0	2.5	54.0
8	16						1		78.0	.0	.5	54.0
9	15						16		58.6	.0	.5	54.0
10	67		9				14		55.2	.0	.5	54.0
11	033		16				20		72.3	.0	.5	54.0
12	407		38				23		69.7	1.8	.5	54.0
13	384		13				8		60.1	.0	.5	54.0
14	543		32				12		66.4	2.2	.5	54.0
15	008		24				15		65.6	4.7	1.0	53.0
16	235		20				12		62.9	.0	1.0	53.0
17	275		14				16		56.3	.0	1.0	53.0
18	350		35				12		57.7	1.1	1.0	53.0
19	153		13				16		49.1	.0	3.5	53.0
20	222		17				3		51.8	1.1	3.5	53.0
21	170		18				6		69.6	.0	3.5	53.0
22	71		12				5		77.7	1.8	3.5	54.0
23	09		19				3		102.1	2.2	3.5	54.0
24	81		12				2		99.0	.0	3.5	54.0
25	135		30				2		101.3	2.7	3.5	55.0
26	222		14				2		118.7	22.2	3.5	55.0
27	168		4				1		134.9	45.0	3.5	55.0
28	149		17				4		138.0	67.6	3.5	56.0
29	54		6						130.2	61.8	2.0	56.0
30	19		5						132.4	119.7	2.0	56.0
31	17		5				5		131.2	130.0	2.0	56.0
TOTALS	8105		437				433	1				
AVERAGES	261		15				15	1	90.0	17.8		

TABLE 77

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

TABLE 77

ICE HARBOUR PROJECT

JUN 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCS)	SPILL (KCS)	TURBIDITY (SECHI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	113			11						137.6	66.2	2.0	56.0
2	131			13				1		135.0	65.7	2.0	57.0
3	114			15						114.1	43.8	2.0	57.0
4	135			12				1		141.9	73.8	2.0	57.0
5	109			21				6		123.7	56.0	2.0	57.0
6	42			4				9		107.3	105.9	2.0	57.0
7	10			1				1		131.6	130.3	2.0	57.0
8	48			4				2		123.9	81.2	2.0	57.0
9	20			2				1		187.1	175.0	2.0	57.0
10	41			6				1		185.5	171.1	2.0	57.0
11	25			3				3		159.9	144.6	2.0	57.0
12		98		5				2		146.8	119.0	2.0	57.0
13		16		2				2		149.9	148.8	2.0	57.0
14		7						2		147.7	146.6	2.0	57.0
15		23		2						135.8	109.1	2.0	57.0
16		15								127.2	122.5	2.0	57.0
17		20		2				2		127.1	118.1	2.0	57.0
18		98		9				4		130.3	100.5	2.5	57.0
19		17		1				6		122.6	121.7	2.5	57.0
20		56		2				8		127.7	126.6	2.5	57.0
21		20		1				4		135.8	134.5	2.5	57.0
22		118		4				6		110.4	103.7	2.5	57.0
23		177		15				15		99.9	99.1	2.5	57.0
24		37		4				1		111.1	92.5	3.0	57.0
25		202		14				11		83.9	58.5	3.0	57.0
26		364		15				13		79.0	43.3	3.0	57.0
27		158		12			2	7		73.6	61.7	3.0	57.0
28		122		18				8		63.6	51.8	3.0	58.0
29		129		15				18		65.7	12.6	3.0	58.0
30		182		24				3		56.8	.0	3.0	58.0
TOTALS	788	1859		237			4	137					
AVERAGES	72	98		8			1	5		121.4	96.1		

MONTHLY FISH PASSAGE SUMMARY REPORT

TABLE 78

ICE HARBOUR PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JUL 1961

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	CUMM JACKS	SUCKEYE	STLEFHEAD	SHAD	DISCHARGE (KCFB)	SPILL (KCFB)	TURBIDITY (JFLCPI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1		102		12			5	19		54.4	.0	3.0	60.0
2		150		22			12	14	29	54.0	.4	3.0	60.0
3		96		19			8	12	34	43.2	.0	3.0	61.0
4		97		25			12	23	116	43.9	.0	3.0	62.0
5		79		12			6	26	423	42.9	.0	4.0	62.0
6		86		25			12	37	225	43.3	.0	3.0	62.0
7		81		17			8	16	145	44.7	.0	4.0	62.0
8		89		19			11	23	154	44.1	.0	4.0	62.0
9		81		14			6	51	96	50.4	.0	4.0	62.0
10		99		21			4	25	86	38.0	.0	4.5	63.0
11		69		18			8	67	98	32.7	.0	4.5	64.0
12		42		14			9	57	130	24.2	.0	4.5	64.0
13		21		10			4	63	148	43.2	.0	4.5	64.0
14		35		7			7	86	244	41.4	.0	4.5	63.0
15		34		12			5	77	184	31.3	.0	4.5	63.0
16		14		3				63	769	27.9	.0	4.5	63.0
17		22		2			3	67	311	36.0	.6	4.5	63.0
18		24		7			5	96	235	36.3	.0	4.5	63.0
19		22		9				84	166	16.0	.0	4.5	63.0
20		22		8			3	97	260	32.0	.0	4.5	63.0
21		22		6			3	80	127	27.3	.0	4.5	63.0
22		16		10				116	122	31.0	.4	4.5	63.0
23		11		4				106	79	24.1	.0	4.5	63.0
24		8		4			1	81	123	14.3	.0	4.5	63.0
25		11		6				119	74	23.2	.0	5.0	63.0
26		7		4			1	116	77	14.4	.0	5.0	63.0
27		6		2			1	94	60	37.6	.0	5.0	63.0
28		16		12			1	36	89	14.7	.0	5.0	63.0
29		16		10			1	249	42	14.0	.0	5.0	64.0
30		7		4				151	90	16.9	.0	5.0	66.0
31		6		2				128	19	21.0	.0	5.0	68.0
TOTALS		1411		340			136	2305	4749				
AVERAGES		46		11			6	74	160	34.9	.0		

TABLE 79

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

TABLE 79

ICE HARBOR PROJECT

AUG 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SEECH)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1		7		3			2	104	44	23.5	.0	5.0	68.0
2		1						60	11	9.5	.0	5.0	68.0
3		7						53	16	17.4	.0	5.0	68.0
4		4		1				136	13	11.8	.0	5.0	70.0
5		2						89	11	18.1	.0	5.0	70.0
6		7						56	9	19.7	.0	5.0	70.0
7		1		1				54	33	36.8	.0	5.0	70.0
8		10		3				113	25	15.9	.0	5.0	70.0
9		3		1				61	11	11.4	.0	5.0	70.0
10		4		3				58	12	23.8	.0	5.0	70.0
11				1				55	4	20.4	.0	5.0	70.0
12			2					69	9	13.2	.0	5.0	70.0
13			1	1				27	6	12.6	.0	5.0	70.0
14			7	1				39	6	19.4	.0	5.0	71.0
15			4	3				44	11	18.2	.0	5.0	71.0
16			4	26				6	8	9.2	.0	5.0	71.0
17			1					11	12	22.7	.0	5.0	72.0
18			4					34	7	20.0	.0	5.0	72.0
19			2					20		18.9	.0	5.0	72.0
20			1	1				32		11.0	.0	5.0	72.0
21			3					12		16.3	.0	5.0	72.0
22								24		16.9	.0	5.0	72.0
23								16		18.2	.0	5.0	72.0
24			2					14		12.2	.0	5.0	72.0
25								16		12.8	.0	5.0	72.0
26			2	1				21		26.1	.0	5.0	72.0
27			2	1				43		30.3	.0	5.0	72.0
28				2				55		24.2	.0	5.0	72.0
29			5	3				45		9.9	.0	5.0	72.0
30			5	2				34		8.8	.0	5.0	72.0
31			10	6				30		17.9	.0	5.0	73.0
TOTALS		46	55	60			2	1431	248				
AVERAGES		5	3	3			2	46	14	17.6	.0		

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

TABLE 80

ICE HARBOR PROJECT
 SEP 1981

DATE	FISH COUNTS					RIVER CONDITIONS							
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF8)	SPILL (KCF8)	TURBIDITY (SEECMI)	WATER TEMP (DEG F)
1			1	7				46		14.2	.0	5.0	73.0
2			14	8				119		23.4	.0	5.0	73.0
3			8	8				109		30.6	.0	5.0	72.0
4			10	8				98		32.0	.0	5.0	72.0
5			9	11				108		31.2	.0	5.0	72.0
6			8	10				161		15.5	.0	5.0	70.0
7			13	6				82		8.8	.0	5.0	70.0
8			6	10		16		53		38.2	.0	5.0	71.0
9			21	23				403		26.3	.0	5.0	71.0
10			24	14				585		28.5	.0	5.0	70.0
11			36	31				512		31.5	.0	5.0	70.0
12			51	41	5	1		587		29.0	.0	5.0	70.0
13			28	31				505		9.0	.0	5.0	70.0
14			37	47	1			284		25.5	.0	5.0	70.0
15			42	42	2	1		491		22.3	.0	5.0	70.0
16			32	44	2	6		562		34.7	.0	5.0	70.0
17			42	44	2	6		829		27.4	.0	5.0	72.0
* 18			24	28				905		25.3	.0	5.0	72.0
19			34	65	4	4		1073		26.4	.0	5.0	70.0
20			20	53	3	5		1160		11.6	.0	5.0	70.0
21			28	57		1		706		27.4	1.6	5.0	70.0
22			21	59	1	1		756		33.2	.0	5.0	70.0
23			23	51	1	1		768		31.6	.0	5.0	70.0
24			17	42				884		27.1	.0	5.0	70.0
25			20	32				805		24.7	.0	5.0	68.0
26			16	21				847		11.3	.0	5.0	68.0
27			9	32	1	1		719		16.7	.0	5.0	68.0
28			10	32				761		32.7	.0	5.0	68.0
29			15	29	1			985		26.8	.0	4.0	70.0
* 30			3	22				658		34.4	.0	4.0	70.0
TOTALS			622	908	23	43		16563					
AVERAGES			21	30	2	4		552		25.2	.1		

* COHO 2200 COUNT ONLY

TABLE 81

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

TABLE 81

ICE HARBOR PROJECT

DCI 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SEECHT)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1			19	33				934		33.8	.0	4.0	68.0
2			13	38				1201		35.8	.0	4.0	65.0
* 3			5	43				1232		14.5	.0	4.0	65.0
* 4			5	20	2	2		946		12.6	.0	4.0	64.0
5			8	13		1		467		34.0	.0	4.0	63.0
6			3	13		2		452		27.2	.0	5.0	64.0
7			2	25				1187		26.0	.0	5.0	63.0
8			4	25				1073		20.5	.0	5.0	62.0
9			5	12		2		531		32.5	.0	5.0	62.0
10			1	14		1		714		20.9	.0	5.0	62.0
11			2	8				527		12.3	.0	5.0	60.0
12			1	13				466		18.4	.0	5.0	60.0
13			1	7				268		38.8	.0	5.0	60.0
14			2	6				430		36.0	.0	5.0	60.0
* 15			1	13				448		25.5	.0	5.0	60.0
16			2	14				413		21.1	.0	5.0	60.0
17				9				515		22.5	.0	5.0	60.0
18				22				332		18.4	.0	5.0	60.0
19			1	12				342		30.7	.0	5.0	60.0
20				8				373		29.3	.0	5.0	58.0
* 21				1				97		30.2	.0	5.0	60.0
22			2	4				348		25.1	.0	5.0	60.0
23			1	4				317		27.3	.0	5.0	59.0
24			1					341		12.5	.0	5.0	59.0
25				2				304		11.4	.0	5.0	58.0
26			2	1				217		34.8	.0	5.0	57.0
27								404		23.7	.0	5.0	57.0
28			1	1				306		34.2	.0	5.0	57.0
29			4	2				335		26.6	.0	5.0	57.0
30			2	2				178		28.4	.0	5.0	57.0
31			1	3				309		15.3	.0	5.0	57.0
TOTALS			93	377	2	14		14669					
AVERAGES			4	13	2	3		538		25.2	.0		

* 12 lower count
* * 7 lower count

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

TABLE 82

ICE HARBOR PROJECT
 NOV 1981

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COD ADULTS	COD JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1			2					120		10.9	.0	5.0	57.0
2								93		20.5	.0	5.0	56.0
3								136		20.9	.0	5.0	56.0
4								105		25.9	.0	5.0	56.0
5				1				112		29.3	.0	5.0	56.0
6				1				130		24.0	.0	5.0	56.0
7								122		15.4	.0	5.0	56.0
8								78		11.6	.0	5.0	56.0
9								67		20.9	.0	5.0	56.0
10				1				42		25.0	.0	5.0	54.0
11								64		21.0	.0	5.0	54.0
12								39		22.0	.0	5.0	54.0
13								38		22.3	.0	5.0	54.0
14								60		13.2	.0	5.0	54.0
15				1				60		14.0	.0	5.0	54.0
16								66		37.6	.0	5.0	54.0
17								42		44.9	.0	5.0	52.0
18								42		50.5	.0	5.0	52.0
19								58		37.0	.0	5.0	52.0
20								42		35.8	.0	5.0	52.0
21			1					37		20.9	.0	5.0	52.0
22				1				50		15.2	.0	5.0	52.0
23				1				21		37.3	.0	5.0	51.0
24								30		36.9	.0	5.0	51.0
25								44		40.7	.0	5.0	51.0
* 26										32.1	.0	5.0	51.0
27								36		43.7	.0	5.0	51.0
28								20		34.7	.0	5.0	50.0
29								42		21.6	.0	5.0	50.0
30								31		36.6	.0	5.0	48.0
TOTALS			3	6				1849					
AVERAGES			1	1				64		27.7	.0		

* No counter present

TABLE 83
 WATER TEMPERATURE AND STREAM FLOW DATA
 ICE HARBOR - 1981

DATE	DECEMBER		
	WATER TEMPERATURE	STREAM FLOW	TURBIDITY
1	48	34,500	5.0
2	48	38,900	5.0
3	48	27,500	5.0
4	48	29,100	5.0
5	48	35,600	5.0
6	48	39,000	5.0
7	48	42,000	5.0
8	48	41,600	5.0
9	48	23,200	5.0
10	48	37,000	5.0
11	47	33,700	5.0
12	47	39,700	5.0
13	47	33,100	5.0
14	47	39,000	5.0
15	46	35,300	5.0
16	46	38,000	5.0
17	46	28,900	4.5
18	45	36,100	4.5
19	44	45,400	4.5
20	44	44,000	4.5
21	44	54,000	4.5
22	44	50,500	4.5
23	44	55,200	4.5
24	44	38,600	4.5
25	44	34,400	4.5
26	44	43,800	4.5
27	44	36,800	4.5
28	44	49,300	4.5
29	44	53,100	4.5
30	42	37,100	1.6
31	42	27,300	1.6

TABLE 84.
PEAK DAYS OF MIGRATION
ICE HARBOR DAM - 1962-1980

Year	Spring Chinook		Summer Chinook		Fall Chinook		Steelhead		Sockeye		Coho	
	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish
1962	May 17	2,425	Jun 28	2,509	Sep 24	1,398	Sep 19	5,313	Jul 1	5	Sep 16	416
1963	May 12	1,843	Jun 25	1,150	Sep 27	812	Sep 27	2,741	Jul 8	125	Sep 14	116
1964	May 9	2,284	Jul 4	1,554	Sep 10	546	Sep 19	2,558	Sep 22	54	Sep 10	202
1965	May 22	1,300	Jul 3	924	Sep 18	653	Sep 18	2,246	Jul 8	104	Sep 19	70
1966	Apr 24	3,902	Jun 27	1,030	Sep 9	707	Sep 26	2,770	Jul 9	41	Sep 27	92
1967	Apr 28	2,423	Jul 7	1,448	Sep 18	1,570	Sep 19	1,820	Jul 12	123	Sep 18	289
1968	May 2	6,411	Jul 23	1,420	Sep 11	1,177	Sep 16	3,434	Jul 7	101	Sep 10	358
1969	May 19	2,993	Jun 25	1,673	Sep 20	910	Sep 21	1,841	Jul 1	50	Sep 20	339
1970	May 1	5,125	Jun 25	765	Sep 19	875	Sep 19	3,863	Jul 14	59	Sep 17	247
1971	May 26	2,189	Jul 9	1,036	Sep 12	669	Sep 25	2,494	Jul 23	45	Sep 12	243
1972	Apr 30	3,564	Jul 6	1,426	Sep 23	465	Sep 20	2,808	Jul 18	28	Sep 26	283
1973	Apr 29	4,821	Jun 18	1,062	Sep 15	712	Sep 19	1,698	Jul 11	27	Sep 13	163
1974	May 19	1,306	Jun 30	525	Sep 17	191	Sep 26	287	Jul 11	18	Sep 22	57
1975	May 23	1,789	Jul 7	427	Sep 17	157	Sep 16	450	Jul 11	25	Sep 16	87
1976	May 6	1,470	Jun 22	517	Sep 19	107	Sep 18	594	Jul 11	47	Sep 20	121
1977	May 1	2,343	Jun 23	561	Sep 17	111	Sep 27	2,250	Jul 4	49	Sep 17	84
1978	May 9	2,630	Jun 13	645	Sep 22	93	Sep 22	1,129	Jul 2	12	Sep 22	51
1979	May 12	484	Jun 12	99	Sep 16	98	Sep 27	596	Jun 25	7	Sep 11	28
1980	May 9, 10	618	Jun 13	127	Sep 30	74	Sep 30	1,531	Jul 10	12	Sep 10, 18, 20	6
1981	Apr 29	1,017	Jun 26	379	Sep 19	99	Oct 7	1,187	Jul 2, 4, 6	12	Sep 8	16

TABLE 85
MONTHLY COUNT OF CHINOOK SALMON
ICE HARBOR DAM - 1962 - 1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	SPRING Apr 1- Jun 11	SUMMER Jun 12- Aug 11	FALL Aug 12- Oct 31
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	677	22	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	156	17	60,097	24,304	24,696	11,097
1965			4	1,677	9,649	5,072	10,209	803	9,318	2,152	349		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
Total		1	201	169,817	442,427	200,878	173,340	25,178	139,674	42,255	2,671	74	1,196,517	659,392	338,846	198,279
20-Year Average				8,491	22,121	10,044	8,667	1,259	6,984	2,113			59,826	32,970	16,942	9,914

TABLE 86
MONTHLY COUNT OF STEELHEAD TROUT
ICE HARBOR DAM - 1962 - 1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
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
Total	268	287	5,405	39,963	15,591	4,394	42,046	89,703	552,028	262,785	25,804	2,088	1,040,367
20 -Year Average				1,998	780	220	2,102	4,485	27,601	13,139			52,018

TABLE 87

YEARLY TOTALS OF SALMONID FISH COUNTED OVER LOWER MONUMENTAL DAM

1969 - 1981

Year	Chinook	Steelhead	Sockeye	Coho	Total Salmonid
1969	86,700	71,434	1,127	6,466	165,727
1970	75,310	62,167	240	2,972	138,689
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
Total	631,108	520,756	4,024	16,090	1,171,978
13-Year Average	31,555	26,038	201	805	58,599

TABLE 87

TABLE 88
 MONTHLY TOTALS OF SALMONID AND SHAD COUNTED OVER LOWER MONUMENTAL DAM
 1981

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	-	4,039	9,012	3,349	1,924	97	1,100	470	-	-	19,991
STEELHEAD	-	-	-	996	321	75	1,783	1,632	12,416	18,700	-	-	35,923
SOCKEYE	-	-	-	-	-	6	129	1	-	-	-	-	136
COHO	-	-	-	-	-	-	-	4	46	13	-	-	63
<hr/>													
TOTAL SALMONID	-	-	-	5,035	9,333	3,430	3,836	1,734	13,562	19,183	-	-	56,113
<hr/>													
SHAD	-	-	-	-	-	29	1,019	225	1	-	-	-	1,274

TABLE 89
WATER TEMPERATURE AND STREAM FLOW DATA
LOWER MONUMENTAL - 1981

DATE	JANUARY			FEBRUARY			MARCH		
	WATER TEMP.	STREAM FLOW	TURBIDITY	WATER TEMP.	STREAM FLOW	TURBIDITY	WATER TEMP.	STREAM FLOW	TURBIDITY
1	42	63,100	0.5	39	22,100	2.4	40	32,700	1.6
2	42	67,700	0.5	39	41,700	2.0	40	41,400	.7
3	42	63,300	0.8	39	53,000	2.0	40	45,700	.7
4	42	57,800	1.0	39	50,600	2.0	41	45,800	.5
5	42	59,200	1.0	38	35,100	2.0	41	43,400	.8
6	42	59,700	1.0	38	43,200	2.0	41	52,500	.8
7	42	56,100	1.0	38	15,000	2.5	41	30,200	1.2
8	42	62,600	1.0	38	9,900	2.5	41	19,400	1.2
9	42	50,400	1.0	38	36,600	2.5	41	30,600	1.5
10	42	34,000	1.0	37	34,100	2.5	42	37,400	1.9
11	42	17,400	1.2	37	45,500	2.5	42	35,500	1.9
12	42	50,400	1.2	37	30,500	2.5	42	36,200	2.2
13	42	42,400	1.2	37	30,400	2.5	42	37,200	2.5
14	41	55,700	1.2	37	17,000	2.5	43	31,900	2.4
15	41	46,200	1.2	37	25,000	2.9	43	23,400	2.5
16	41	45,600	1.4	37	46,300	2.8	43	31,700	2.0
17	41	23,900	1.4	38	72,400	2.8	43	41,900	2.5
18	41	11,400	1.4	39	67,800	2.8	43	51,800	2.0
19	41	26,000	2.2	39	66,200	0.8	44	48,400	2.0
20	41	26,100	2.2	39	83,500	0.8	44	46,600	2.0
21	40	22,300	2.5	40	65,800	0.6	44	31,800	2.3
22	40	30,700	3.0	40	64,500	0.8	44	28,200	2.4
23	40	41,100	3.0	40	60,900	0.8	44	41,600	2.5
24	40	25,000	3.0	40	60,700	0.8	44	35,700	2.5
25	40	14,200	3.0	40	66,800	1.0	45	37,500	2.5
26	40	46,800	3.0	40	60,200	1.2	45	43,500	2.6
27	40	30,900	3.0	40	58,600	1.0	45	41,400	2.6
28	40	35,400	3.4	40	45,100	0.6	46	37,500	2.6
29	39	41,900	3.5				46	42,300	2.6
30	39	44,300	3.5				46	49,800	2.6
31	39	31,100	2.0				46	47,500	2.6

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

TABLE 90

LOWER MONUMENTAL PROJECT
 APR 1981

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF3)	SPILL (KCF3)	TURBIDITY (SEECHE)	WATER TEMP (DEG F)
1	1							38		41.5	.0	2.8	46.0
2	2			1				46		37.3	.0	2.8	47.0
3								70		50.4	.0	2.8	47.0
4	1							47		46.9	.0	2.8	47.0
5								43		29.5	.0	2.5	47.0
6	1							56		38.3	.0	2.5	47.0
7	5							29		42.3	.0	2.5	47.0
8	3							20		40.1	.0	2.5	47.0
9	5							35		38.7	.0	2.5	47.0
10	3			1				36		32.5	.0	2.4	47.0
11	3			1				22		27.5	.0	2.0	47.0
12	3			1				38		12.5	.0	2.2	47.0
13	8							21		44.5	.0	2.1	47.0
14	10							42		34.4	.0	1.9	47.0
15	19							26		37.5	.0	1.9	47.0
16	21							40		30.9	.0	1.9	47.0
17	78			2				38		28.0	.0	2.5	48.0
18	54			1				35		24.5	.0	2.5	48.0
19	44							22		31.2	.0	2.4	48.0
20	108			1				26		49.7	.0	2.5	48.0
21	96			1				31		55.6	.0	2.2	48.0
22	74			1				22		59.2	.0	2.0	48.0
23	206			3				44		68.8	.0	2.0	49.0
24	369			1				14		84.9	.0	2.0	49.0
25	678			4				52		91.8	.0	2.0	49.0
26	324			4				11		89.4	.0	2.0	50.0
27	591			14				16		48.6	.0	2.0	51.0
28	229			3				29		102.4	2.2	2.0	51.0
29	517			6				15		99.2	2.4	2.0	51.0
30	580			1				32		100.4	3.4	2.0	52.0
TOTALS	3493			46				996					
AVERAGES	143			3				33		51.9	.3		

TABLE 90

TABLE 91

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

TABLE 91

LOWER MONUMENTAL PROJECT

MAY 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COMO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF5)	SPILL (KCF5)	TURBIDITY (SEECHE)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	592			5				25		94.1	3.2	2.0	53.0
2	747			18				16		131.1	23.0	1.7	54.0
3	307			5				16		128.8	32.0	1.7	53.0
4	812			21				42		132.0	35.9	1.8	53.0
5	597			9				18		113.1	3.7	2.0	53.0
6	13							3		89.3	4.7	.5	53.0
7	22							2		81.8	13.0	.5	53.0
8	175			5				20		84.9	3.4	.7	53.0
9	379			18				22		62.8	2.8	1.0	53.0
10	127			4				11		57.6	2.2	1.5	53.0
11	364			5				12		78.6	4.3	1.7	53.0
12	317			17				11		67.9	2.9	1.9	53.0
13	724			16				19		64.2	3.9	2.0	53.0
14	107			16				5		66.1	2.4	2.2	53.0
15	621			19				7		67.0	3.0	2.5	51.0
16	800			27				10		84.8	1.6	2.8	51.0
17	230			13				6		61.0	2.2	2.9	51.0
18	325			15				7		58.9	1.6	3.0	51.0
19	319			13				6		53.2	2.5	3.0	52.0
20	225			11				10		53.2	.0	3.0	52.0
21	160			24				8		70.2	1.7	2.8	52.0
22	174			22				7		84.2	.0	2.6	54.0
23	326			24				9		111.2	1.8	2.5	55.0
24	64			9				9		106.5	1.9	2.5	55.0
25	51			7				6		106.5	2.4	3.0	55.0
26	116			17				9		122.0	18.3	3.0	55.0
27	103			12				2		137.8	40.5	2.5	56.0
28	60			12				1		134.5	64.9	2.8	56.0
29	127			7				2		129.4	77.2	1.9	56.0
30	21							4		130.6	130.1	2.0	56.0
31	37			4				5		131.5	130.9	2.3	56.0
TOTALS	8647			365				321					
AVERAGES	279			13				11		92.7	19.9		

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

TABLE 92

LOWER MONUMENTAL PROJECT
 JUN 1981

DATE	FISH COUNTS					RIVER CONDITIONS							
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SEECMI)	WATER TEMP (DEG F)
1	339			25				4		137.6	59.7	2.4	56.0
2	26			11				1		132.0	99.4	2.4	56.0
3	187			24				6		119.0	40.2	2.4	56.0
4	213			22				5		138.6	71.8	2.4	56.0
5	86			9				2		122.4	70.1	2.4	58.0
6	33			2				1		110.4	110.0	2.4	58.0
7	26			3				1		129.1	128.4	2.4	58.0
8	80			6						126.9	90.3	2.4	58.0
9	18			2				6		172.3	167.1	2.4	58.0
10	48			3						184.1	183.7	2.3	58.0
11	28			1				1		154.2	149.0	1.9	58.0
12	20			2						148.2	145.8	1.8	58.0
13	9			1						149.6	149.2	1.8	58.0
14		11		2				1		142.5	142.0	1.9	58.0
15		81		16				3		135.8	91.0	1.9	58.0
16		28		6				1		124.2	119.1	1.9	58.0
17		24		2						122.5	120.9	2.0	58.0
18		59		10				2		124.4	102.3	2.0	58.0
19		10		6						115.7	114.1	1.9	58.0
20		35		3				6		126.3	125.7	2.0	58.0
21		33		12				6		127.2	126.7	2.0	58.0
22		165		13				5		106.2	100.1	1.4	58.0
23		34		4				2		94.6	94.2	1.4	58.0
24		90		11						105.9	105.3	1.4	57.0
25		289		16				6	5	82.6	62.6	2.3	57.0
26		227		30				1	14	80.0	45.5	2.4	57.0
27		190		17				2	1	71.4	69.7	2.2	57.0
28		206		25				1		62.7	59.2	2.2	57.0
29		285		29				2	7	64.0	8.4	2.2	57.0
30		143		13				2	2	64.9	.0	2.3	58.0
TOTALS	1113	1910		326			6	75	29				
AVERAGES	86	112		11			1	3	6	119.2	98.4		

TABLE 93

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

TABLE 93

COLEMAN WILSON RIVER PROJECT

JUL 1961

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKER	STEELHEAD	SHAD	DISCHARGE (KCS)	SPILL (KCS)	TURBIDITY (SF/FT)	WATER TEMP (F)
	SPRING	SUMMER	FALL										
1		184		21			5	4	8	55.4	.0	2.5	50.0
2		70		11			1	6	2	54.0	1.3	2.5	50.0
3		63		15			2	7	6	40.2	2.3	2.5	50.0
4		88		18			8	10	7	42.7	10.2	2.7	50.0
5		67		16			7	5	2	42.5	42.2	5.0	51.0
6		190		32			14	8	22	45.4	6.0	4.2	52.0
7		145		38			11	31	12	55.2	18.4	4.2	53.0
8		109		18			6	15	35	55.5	11.3	4.2	53.0
9		102		27			11	7	23	54.4	7.5	3.4	53.0
10		65		9			12	31	11	55.7	6.6	4.4	53.0
11		73		17			9	74	61	41.4	.0	3.4	53.0
12		66		18			8	42	40	24.0	.0	4.4	53.0
13		30		8			8	20	14	43.5	.0	5.0	53.0
14		42		12			3	68	29	33.2	.0	4.0	53.0
15		7						30	36	33.7	.0	4.6	53.0
16		14		3			6	34	33	26.0	.0	4.6	50.0
17		42		9			1	57	28	34.5	.0	4.4	50.0
18		31		10				40	34	44.0	.0	3.4	50.0
19		28		12			1	47	30	44.1	.0	3.8	50.0
20		17		0			7	34	49	44.5	.0	3.4	51.0
21		24		3				74	25	24.1	.0	4.4	50.0
22		4		2			3	44	25	24.0	.0	4.0	57.0
23		15		4			4	70	20	32.2	.0	4.0	50.0
24		25		0			1	110	40	21.4	.0	4.0	50.0
25		4		2			1	81	33	23.5	.0	4.2	50.0
26		5		2			2	84	04	12.5	.0	4.3	53.0
27		8		2				83	76	40.5	.0	4.4	50.0
28		10		1			4	143	44	24.2	.0	4.4	50.0
29		5		2				84	14	20.0	.0	4.3	50.0
30		12		3			1	171	34	19.0	.0	4.4	53.0
31		4		1				210	54	20.4	.0	4.4	50.0
TOTALS		1590		334			129	1783	1019				
AVERAGES		51		11			4	58	33	30.5	4.4		

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

TABLE 94

LOWER MONUMENTAL PROJECT
 AUG 1981

DATE	FISH COUNTS						RIVER CONDITIONS							
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SEECHT)	WATER TEMP (DEG F)	
1		7						1	131	45	26.4	.0	4.4	69.0
2		3							102	17	5.1	.0	4.4	69.0
3		8							161	12	19.6	.0	4.4	69.0
4		5							158	18	13.0	.0	4.4	69.0
5		7							64	26	20.7	.0	4.4	69.0
6		2							70	23	20.6	.0	4.4	69.0
7		1							71	26	37.1	.0	4.4	69.0
8		2							40	21	16.5	.0	4.4	70.0
9									31		12.7	.0	4.4	70.0
10		1							104	8	26.7	.0	4.4	70.0
11		5							53		14.5	.0	4.4	71.0
12									14		18.8	.0	4.4	71.0
13		1							19		11.3	.0	4.4	71.0
14				11					67	3	20.9	.0	4.4	71.0
15				2	1				34		18.0	.0	4.4	71.0
16				1					24		6.1	.0	4.4	71.0
17				1	1				30		27.1	.0	4.4	71.0
18									5	1	20.2	.0	4.4	71.0
19				1					16		19.7	.0	4.4	71.0
20				2	1				34	1	11.9	.0	4.4	71.0
21				5	2				59		18.0	.0	4.4	74.0
22				3	3				49	1	16.5	.0	4.4	74.0
23				1				1	27	4	21.0	.0	4.4	74.0
24				1					32		12.1	.0	4.4	74.0
25				3					41	18	13.3	.0	4.4	73.0
26				4					22		26.2	.0	4.0	73.0
27				1				1	44		30.1	.0	4.0	72.0
28				2					28	1	25.8	.0	4.0	72.0
29				2	2				38		10.7	.0	4.0	72.0
30				3					35		5.8	.0	4.0	72.0
31					1	1		1	29		21.3	.0	4.0	72.0
TOTALS		42	43	12	1	3	1	1632	225					
AVERAGLS		4	3	1	1	1	1	53	14	18.3	.0			

TABLE 95

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

TABLE 95

LOWER MONUMENTAL PROJECT
SEP 1981

DATE	FISH COUNTS					RIVER CONDITIONS							
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COMO ADULTS	COMO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF5)	SPILL (KCF5)	TURBIDITY (SEECMI)	WATER TEMP (DEG F)
1			7	1				22		15.5	.0	4.0	71.0
2			12	2	1			52		25.5	.0	3.5	71.0
3			4	1				56		30.4	.0	3.5	71.0
4			5	4				70		31.4	.0	3.5	71.0
5			15	19		1		95		30.5	.0	3.5	71.0
6			8	9	1			101		16.6	.0	3.5	71.0
7			11	8		2		139		11.8	.0	3.0	70.0
8			2	8		1		63		35.3	.0	3.5	70.0
9			11	10		1		73		28.9	.0	3.5	71.0
10			14	25	1	1		225		32.3	.0	3.5	71.0
11			19	16				243	1	33.8	.0	3.5	71.0
12			23	23	1	6		341		28.8	.0	3.5	71.0
13			10	17		2		481		11.4	.0	3.5	71.0
14			15	35		1		336		26.1	.0	3.5	70.0
15			9	54	3	4		446		22.7	.0	3.5	70.0
16			12	30	1	1		279		33.9	.0	3.5	70.0
17			29	56	1	7		659		31.6	.0	3.5	70.0
18			18	47		2		411		25.8	.0	3.5	70.0
19			8	33	1	1		794		23.5	.0	3.5	70.0
20			8	43				658		17.5	.0	3.5	69.0
21			16	53				769		26.7	.0	3.5	69.0
22			8	27				688		31.4	.0	2.5	69.0
23			7	33				597		31.2	.0	2.8	69.0
24			7	9	1	1		440		28.9	.0	2.8	69.0
25			8	36				619		26.3	.0	2.8	68.0
26			4	23				504		12.6	.0	2.9	68.0
27			8	41	1	1		526		19.0	.0	3.0	66.0
28			10	47	1			929		33.4	.0	3.0	66.0
29			7	46				1059		28.3	.0	3.0	65.0
30			11	18		1		741		34.4	.0	3.1	65.0
TOTALS			326	774	13	33		12416	1				
AVERAGES			11	26	1	2		414	1	26.2	.0		

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

TABLE 96

LOWER MONUMENTAL PROJECT
 OCT 1961

DATE	FISH COUNTS					RIVER CONDITIONS							
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	CHINOOK ADULTS	CHUM JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECHM)	WATER TEMP (DEG F)
1			3	23				1115		32.7	.0	3.1	65.0
2			11	39	1	1		1044		37.1	.0	3.1	65.0
3			4	19		1		435		16.5	.0	3.1	65.0
4			7	29				662		11.8	.0	3.2	64.0
5			8	18				1070		34.8	.0	3.0	64.0
6			22	40	1	4		1523		25.9	.0	3.0	63.0
7			16	24	1	1		682		21.7	.0	3.0	63.0
8			4	14	1	1		976		28.2	.0	3.0	63.0
9			6	13				984		32.2	.0	3.0	63.0
10			2	9				806		24.7	.0	2.5	63.0
11				17				583		11.7	.0	2.5	62.0
12			1	4				382		18.5	.0	3.0	61.0
13				13				488		33.9	.0	3.0	61.0
14			4	3				464		34.5	.0	3.0	61.0
15				6				392		26.7	.0	3.0	60.0
16			1	10				474		25.2	.0	3.0	60.0
17			2	20				689		24.2	.0	3.0	60.0
18			4	13				805		15.2	.0	3.0	60.0
19				2				216		30.7	.0	3.0	59.0
20			1	2				332		31.7	.0	3.0	58.0
21				3				274		28.5	.0	3.0	58.0
22			1	7				488		28.8	.0	3.0	58.0
23			1	2				318		28.2	.0	3.0	57.0
24			5	1				343		12.8	.0	3.0	57.0
25			3	2				286		11.4	.0	3.0	57.0
26			1	2				431		37.3	.0	3.0	57.0
27			5	1				292		24.6	.0	3.0	57.0
28			1	4	1			304		33.5	.0	3.0	57.0
29			2	3				412		28.4	.0	3.0	57.0
30				1				529		24.2	.0	3.3	57.0
31				1				251		15.6	.0	3.3	56.0
TOTALS			120	350	5	8		18700					
AVERAGES			5	12	1	2		603		25.6	.0		

TABLE 96

TABLE 97
 STREAM FLOW DATA
 LOWER MONUMENTAL - 1981

	NOVEMBER	DECEMBER
DATE	STREAM FLOW	STREAM FLOW
1	11,800	35,000
2	20,100	40,200
3	29,300	28,200
4	27,100	33,600
5	28,300	38,700
6	24,500	35,600
7	14,600	43,200
8	11,800	43,100
9	21,700	30,400
10	25,400	40,000
11	21,700	34,800
12	23,500	41,600
13	29,700	29,900
14	13,700	39,400
15	11,700	40,100
16	38,900	38,900
17	49,700	31,800
18	48,100	37,100
19	36,600	47,500
20	44,300	41,500
21	18,500	54,700
22	17,000	52,600
23	35,200	57,100
24	40,900	44,000
25	41,700	36,400
26	35,900	44,200
27	44,000	36,200
28	38,400	56,100
29	22,300	50,800
30	36,200	37,300
31		36,600

TABLE 97

TABLE 98

PEAK DAYS OF MIGRATION

LOWER MONUMENTAL DAM - 1969-1981

Year	<u>Spring Chinook</u>		<u>Summer Chinook</u>		<u>Fall Chinook</u>		<u>Steelhead</u>		<u>Sockeye</u>		<u>Coho</u>	
	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish
1969	May 17	2,915	Jun 26	1,630	Sep 24	899	Sep 24	2,680	Jul 11	64	Sep 17	572
1970	May 3	4,472	Jun 16	1,054	Sep 20	512	Sep 20	3,588	Jul 15	23	Sep 13	181
1971	May 27	2,275	Jun 17	1,180	Sep 16	673	Sep 26	2,557	Jul 18	65	Sep 12	189
1972	May 3	3,531	Jul 6	1,445	Sep 19	296	Sep 30	2,936	Jul 19	28	Sep 20	53
1973	May 6	5,075	Jun 19	863	Sep 15	515	Sep 21	2,658	Jul 8	25	Sep 21	113
1974	May 20	1,252	Jun 29	579	Sep 21	171	Oct 10	354	Jul 15	18	Sep 17	40
1975	May 24	1,255	Jul 12	414	Sep 16	208	Sep 16,17	448	Jul 15	19	Sep 12	57
1976	May 7	1,269	Jun 23	468	Sep 14	115	Sep 27	590	Jul 9	29	Sep 12	27
1977	Apr 20	1,800	Jun 24	452	Sep 20	115	Sep 27	1,925	Jul 5	41	Sep 20	14
1978	May 9	3,068	Jun 19	580	Sep 27	42	Sep 26	781	Jul 3	9	Sep 17	22
1979	May 24	520	Jul 1	111	Sep 21	66	Oct 9	459	Jun 24	5	Oct 7	25
1980	May 6	364	Jun 29	127	Sep 30	57	Sep 30	1,181	Jul 12	6	Sep 12	6
1981	May 4	833	Jun 29	314	Sep 17	85	Oct 6	1,323	Jul 6	13	Sep 17	8

TABLE 99

TABLE 99
 MONTHLY TOTALS OF CHINOOK COUNTED OVER LOWER MONUMENTAL DAM
 1969 - 1981

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
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
Total	1		2	84,479	278,602	127,005	83,940	9,949	37,143	9,517	462	8	631,108
13-Year Average				6,498	21,431	9,770	6,457	765	2,857	732			48,547

TABLE 100
 MONTHLY COUNT OF STEELHEAD TROUT
 LOWER MONUMENTAL DAM - 1969 - 1981

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
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
Total	252	1,030	3,466	28,076	12,809	1,282	21,523	52,506	240,501	152,725	5,804	782	520,756
13-Year Average				2,160	985	99	1,656	4,039	18,500	11,748			40,058

TABLE 100

TABLE 101
 YEARLY TOTALS OF SALMONIDS COUNTED OVER LITTLE GOOSE DAM
 1970 - 1981

Year	Chinook	Steelhead	Sockeye	Coho	Total Salmon
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
Total	502,746	453,685	3,697	10,478	970,606
12-Year Average	41,896	37,807	308	873	80,884

TABLE 101

TABLE 102

MONTHLY TOTALS OF SALMONID AND SHAD COUNTED OVER LITTLE GOOSE DAM

1981

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	-	2,798	9,399	3,214	2,217	108	724	626	-	-	19,086
STEELHEAD	-	-	-	1,360	424	119	1,740	2,024	11,559	21,454	-	-	38,680
SOCKEYE	-	-	-	-	1	2	195	2	-	-	-	-	200
COHO	-	-	-	-	-	-	-	1	111	8	-	-	120
TOTAL SALMONID	-	-	-	4,158	9,824	3,335	4,152	2,135	12,394	22,088	-	-	58,086
SHAD	-	-	-	-	-	-	75	9	-	-	-	-	841

TABLE 103
 STREAM FLOW DATA
 LITTLE GOOSE - 1981

DATE	JANUARY DISCHARGE	FEBRUARY DISCHARGE	MARCH DISCHARGE
1	62,900	21,100	32,600
2	66,000	40,200	39,800
3	61,700	52,700	43,400
4	58,500	45,000	45,900
5	56,200	33,800	40,500
6	57,300	42,100	52,300
7	57,800	16,900	29,400
8	61,000	10,400	18,000
9	44,900	35,300	27,900
10	34,500	35,400	38,600
11	21,400	41,700	33,400
12	48,100	30,700	35,700
13	44,300	28,600	36,000
14	52,400	15,100	31,500
15	46,200	19,000	22,800
16	44,900	40,300	30,200
17	27,200	66,500	41,400
18	10,800	58,300	49,800
19	24,700	59,700	45,900
20	23,200	79,900	46,800
21	22,500	62,200	31,900
22	31,300	62,300	28,700
23	40,900	59,400	39,000
24	22,800	57,400	33,200
25	13,800	63,600	39,000
26	41,500	58,900	41,900
27	29,000	55,100	39,500
28	36,400	41,700	36,500
29	39,300		38,400
30	47,100		46,600
31	29,800		48,400

MONTHLY FISH PASSAGE SUMMARY REPORT

TABLE 104

LITTLE GOOSE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

APR 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK FALL JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF)	SPILL (KCF)	TURBIDITY (FEECH)	WATER TEMP (DEG F)
1							82		39.3	.0	2.8	46.0
2							64		32.8	.0	2.3	46.0
3	1						78		47.0	.0	2.4	47.0
4				1			109		44.7	.0	1.9	47.0
5							66		29.7	.0	2.8	47.0
6							70		35.6	.0	2.8	47.0
7							29		39.6	.0	2.3	47.0
8							42		38.8	.0	2.4	49.0
9	2						40		37.5	.0	2.3	49.0
10	1						38		31.0	.0	2.0	50.0
11	5						20		24.5	.0	2.0	50.0
12	5			1			34		14.1	.0	2.5	50.0
13							22		38.0	.0	2.7	50.0
14	8						41		31.9	.0	2.6	49.0
15	8						43		37.3	.0	2.9	49.0
16	15						46		31.0	.0	2.9	49.0
17	14						47		29.7	.0	2.4	50.0
18	19			2			45		23.3	.0	3.0	50.0
19	46						18		29.3	.0	3.4	51.0
20	33						35		47.1	.0	3.4	51.0
21	33						41		54.4	.0	3.4	51.0
22	136			2			43		58.7	.0	2.7	51.0
23	41						24		67.8	.0	2.3	51.0
24	88						30		79.1	.0	3.4	51.0
25	255			2			46		86.4	.0	4.5	52.0
26	422			4			41		85.8	.0	2.9	52.0
27	295						36		91.4	.0	2.9	53.0
28	204			1			50		97.2	.0	2.5	52.0
29	325			3			38		91.5	.0	2.2	52.0
30	733			3			42		98.0	.0	2.0	52.0
TOTALS	2779			19			1360					
AVERAGES	126			2			45		49.7	.0		

TABLE 105

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

TABLE 105

LITTLE GOOSE PROJECT

MAY 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF5)	SPILL (KCF5)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	553			4				43		95.2	.0	3.0	52.0
2	413			3				51		125.2	.0	2.6	52.0
3	348			4				44		127.3	.0	2.4	52.0
4	242			4				17		132.1	.0	2.5	52.0
5	17							8		104.2	.0	.2	52.0
6	646			11				27		86.3	.0	.7	53.0
7	546			16				25		83.6	.0	1.5	53.0
8	113							10		80.0	.0	1.7	53.0
9	142			2				13		65.7	.0	1.7	53.0
10	641			13				29		55.7	.0	1.9	53.0
11	283			8				22		78.1	.0	2.2	53.0
12	370			14				20		63.2	.0	2.0	53.0
13	151			8				8		63.1	.0	2.9	53.0
14	248			9				7		61.8	.0	3.8	54.0
15	542			20				8		70.3	.0	3.4	54.0
16	745			26				8		61.7	.0	3.4	54.0
17	577			24				7		60.5	.0	3.3	54.0
18	455			14				8		53.6	.0	3.4	54.0
19	270			23				8		51.8	.0	4.6	55.0
20	309			15			1	4		51.2	.0	4.8	55.0
21	227			19				8		71.6	.0	4.8	55.0
22	268			24				11		84.0	.0	3.5	55.0
23	36			1				2		110.5	.0	3.4	54.0
24	159			22				10		106.9	.0	3.7	55.0
25	314			17				3		104.6	.0	3.3	55.0
26	47			7				2		120.8	.0	2.8	55.0
27	60			13				6		129.7	2.5	1.8	55.0
28	91			25				1		132.2	.6	2.4	56.0
29	54			6				6		126.8	.0	2.4	56.0
30	56			10				4		122.3	.0	2.0	56.0
31	58			6				4		124.4	.0	1.9	56.0
TOTALS	9031			368				1	424				
AVERAGES	291			13				1	14	90.5	.1		

MONTHLY FISH PASSAGE SUMMARY REPORT

TABLE 106

LITTLE GOOSE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JUN 1981

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECI)	WATER TEMP (DEG F)
1	48			9				8		136.8	4.7	2.0	56.0
2	65			10				10		129.8	2.8	2.5	56.0
3	58			12				2		115.8	.0	1.5	56.0
4	209			19				6		134.1	.0	1.3	56.0
5	77			16				10		120.1	1.5	1.8	56.0
6	64			18				4		107.0	30.7	2.0	56.0
7	114			15				4		131.4	36.2	2.4	57.0
8	55			12				3		129.0	32.3	2.2	57.0
9	275			14				2		171.7	73.3	2.3	57.0
10	110			9				2		181.7	88.5	2.1	57.0
11	83			13				5		153.9	52.9	2.1	57.0
12	52			9						145.8	37.4	2.8	57.0
13	39			6				3		154.6	67.8	1.9	57.0
14	29			3				4		143.6	58.0	2.0	57.0
15	26			2				2		136.6	27.3	2.2	57.0
16		22		4				4		122.5	4.0	2.2	57.0
17		27		7				1		118.1	.0	2.5	57.0
18		30		6				3		122.6	.0	2.4	57.0
19		31		9				1		114.7	.0	2.0	57.0
20		38		2				2		128.3	.0	2.4	57.0
21		30		4				6		123.0	9.1	1.6	57.0
22		13		3				1		103.8	.0	1.4	57.0
23		60		3				3		98.6	.0	2.5	58.0
24		34		7				1		100.1	.0	2.0	58.0
25		112		5				1		85.1	.0	1.7	58.0
26		217		12				9		79.6	.0	3.3	58.0
27		282		28			1	5		71.0	.0	3.6	58.0
28		214		24				10		60.8	.0	4.1	58.0
29		175		12				5		65.3	.0	4.4	58.0
30		306		26			1	2		64.1	.0	4.3	60.0
TOTALS	1304	1591		319			2	119					
AVERAGES	87	106		11			1	4		118.3	17.5		

TABLE 106

TABLE 107

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

TABLE 107

LITTLE GOOSE PROJECT

JUL 1951

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	CORO ADULTS	CORO JACKS	SUCKEYE	SILVERHEAD	SHAD	DISCHARGE (KFS)	SPILL (KFS)	TURBIDITY (SFPU)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1		226		26				11		54.5	.0	4.4	61.0
2		204		16			15	12		52.1	.0	4.6	61.0
3		157		14			3	10		46.4	.0	5.5	61.0
4		115		18			4	10		40.7	.0	5.5	61.0
5		77		9			5	0		43.1	.0	5.5	62.0
6		51		8			7	17		40.0	.0	5.5	62.0
7		195		19			19	17	3	51.4	.0	4.1	62.0
8		122		7			22	43	1	54.7	.0	4.1	62.0
9		96		15			8	30	5	54.7	.0	4.5	64.0
10		70		14			19	24	3	45.4	.0	4.0	65.0
11		100		15			15	46	1	34.0	.0	4.0	65.0
12		60		20			12	32	1	25.4	.0	5.0	60.0
13		58		9			2	43	2	41.2	.0	5.0	60.0
14		30		6			5	35	2	40.0	.0	5.0	60.0
15		41		12			6	43		35.4	.0	5.0	60.0
16		20		8			7	50	1	25.0	.0	4.8	67.0
17		20		2			3	34	5	30.1	.0	5.0	67.0
18		20		9			6	64	5	45.2	.0	5.0	67.0
19		63		6			8	90		12.2	.0	5.0	67.0
20		28		3			4	50		42.2	.0	5.0	67.0
21		47		4			5	85	5	30.3	.0	5.0	65.0
22		23		1			3	53	16	20.4	.0	5.0	60.0
23		24					2	05	16	34.1	.0	5.0	64.0
24		5		2			5	81	3	22.4	.0	5.0	64.0
25		11		8			1	57	2	20.5	.0	5.0	64.0
26		15		1				71	2	14.2	.0	5.0	64.0
27		3					1	52		45.4	.0	5.0	70.0
28		11		3			1	120	2	20.7	.0	5.0	70.0
29		20		2				100		21.4	.0	5.0	70.0
30		9		1			2	135		20.3	.0	5.0	70.0
31		4		1				132		20.7	.0	5.0	70.0
TOTALS		1452		265			195	1740	75				
AVERAGES		63		9			7	56	4	40.0	.0		

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

TABLE 108

LITTLE GOOSE PROJECT

AUG 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SEECI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1		4					1	106		26.1	.0	5.0	70.0
2		8						105		4.1	.0	5.0	71.0
3		8		1				165		20.0	.0	5.0	71.0
4		8		2				112	7	12.9	.0	4.8	71.0
5		12		1				159		20.9	.0	5.0	71.0
6		5						109		19.0	.0	5.0	71.0
7		6						103		35.0	.0	5.0	71.0
8		2						44		17.4	.0	5.0	72.0
9								25		12.4	.0	5.0	72.0
10		1						64	1	20.2	.0	5.0	72.0
11		3						46		15.0	.0	5.0	72.0
12		3		1				46		16.3	.0	5.0	72.0
13		6						46		15.7	.0	5.0	72.0
14		1						68		19.4	.0	5.0	72.0
15				1				43		18.7	.0	5.0	72.0
16								15	1	6.4	.0	5.0	72.0
17								44		27.4	.0	5.0	72.0
18			1					60		18.3	.0	5.0	72.0
19			1					16		19.6	.0	5.0	73.0
20				1				58		12.0	.0	5.0	73.0
21			3	2				52		15.9	.0	5.0	73.0
22			7					39		12.1	.0	5.0	73.0
23			2					45		18.3	.0	5.0	73.0
24			5	1				60		20.3	.0	5.0	73.0
25			4					103		11.8	.0	5.0	73.0
26			1					59		24.1	.0	5.0	73.0
27							1	71		29.2	.0	5.0	73.0
28								31		27.1	.0	5.0	73.0
29			2					28		11.5	.0	5.0	73.0
30			2	1				48		4.3	.0	4.5	73.0
31			1				1	54		20.4	.0	4.7	73.0
TOTALS		67	30	11		1	2	2024	9				
AVERAGES		5	3	1		1	1	65	3	17.8	.0		

TABLE 108

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

LITTLE GOOSE PROJECT
SEP 1981

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK FALL	CHINOOK JACKS	COMO ADULTS	COMO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECMI)	WATER TEMP (DEG F)
1			5	3				79		18.1	.0	4.7	73.0
2			10	2		1		69		25.0	.0	4.7	72.0
3			2	10				37		30.3	.0	4.3	72.0
4			6	1				55		30.8	.0	4.7	72.0
5			4	4				69		28.9	.0	4.7	72.0
6			3	5		4		86		17.0	.0	4.8	72.0
7			4	11		2		106		11.9	.0	5.8	71.0
8			2	5		3		62		34.9	.0	4.9	71.0
9			5	8		3		142		28.4	.0	4.9	71.0
10			7	12	3	1		135		33.9	.0	4.9	71.0
11			2	12	1	1		98		33.4	.0	5.0	71.0
12			6	11	1	2		164		27.6	.0	5.0	71.0
13			20	17		1		199		11.1	.0	3.8	71.0
14			10	20		2		331		26.6	.0	4.2	71.0
15			5	29		9		321		22.6	.0	4.6	71.0
16			8	26	1	4		386		34.0	.0	5.0	71.0
17			11	34		1		461		33.8	.0	5.0	71.0
18			6	26	1	4		379		25.3	.0	4.1	71.0
19			4	22		10		690		22.7	.0	5.0	71.0
20			5	18		7		509		17.8	.0	5.0	70.0
21			5	15		7		663		25.9	.0	4.1	69.0
22			10	28		12		1075		32.1	.0	5.0	68.0
23			7	29		12		680		30.5	.0	4.1	68.0
24			6	17		9		634		27.5	.0	4.1	67.0
25			4	21		2		475		27.5	.0	4.6	66.0
26			2	23		1		580		12.2	.0	4.5	66.0
27			2	22				571		18.5	.0	4.3	66.0
28			9	30		4		633		31.4	.0	4.6	65.0
29			10	36				845		29.7	.0	4.6	65.0
30			17	30		2		1025		33.4	.0	4.5	65.0
TOTALS			197	527	7	104		11559					
AVERAGES			7	18	1	4		385		26.1	.0		

TABLE 110

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

LITTLE GOOSE PROJECT
 JCT 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK TACKS	LONO ADULTS	CUMU JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCS)	SPILL (KCS)	TURBIDITY (SEEFT)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1			4	46				1010		31.4	.0	4.8	65.0
2			1	20		1		1090		36.5	.0	3.7	65.0
3			13	38		2		1308		12.3	.0	3.3	65.0
4			17	26				1018		15.6	.0	3.5	65.0
5			1	28				895		24.3	.0	4.7	64.0
6			21	32	1	2		1053		25.1	.0	4.2	64.0
7			19	33				990		22.3	.0	3.2	64.0
8			16	20		1		1104		28.1	.0	3.6	64.0
9			11	28		1		1219		33.4	.0	3.6	64.0
10			11	17				862		24.2	.0	3.3	63.0
11			4	9				1031		12.0	.0	3.6	62.0
12			2	15				715		16.2	.0	3.8	62.0
13			3	17				677		33.0	.0	3.8	61.0
14			4	15				644		34.5	.0	3.4	61.0
15			4	7				732		27.0	.0	4.0	61.0
16			2	10				595		26.0	.0	3.5	61.0
17			1	7				407		27.1	.0	3.6	60.0
18			2	5				552		16.5	.0	5.0	59.0
19			4	18				605		31.2	.0	5.0	59.0
20			12	11				640		31.8	.0	5.0	59.0
21			2	6				509		27.9	.0	5.0	59.0
22			1	6				442		28.1	.0	5.0	58.0
23			2	5				384		26.2	.0	3.8	57.0
24				1				377		12.9	.0	4.0	57.0
25			11	3				368		11.7	.0	3.4	57.0
26			4	2				381		34.5	.0	3.8	57.0
27			4	5				350		25.5	.0	3.8	57.0
28				2				308		28.5	.0	4.1	56.0
29			2	3				302		25.4	.0	3.7	56.0
30			1	1				346		28.8	.0	3.7	56.0
31			1	1				335		14.1	.0	3.6	56.0
TOTALS			190	436	1	7		21454					
AVERAGES			7	14	1	1		692		25.2	.0		

TABLE 110

TABLE 111
 STREAM FLOW DATA
 LITTLE GOOSE - 1981

DATE	NOVEMBER STREAM FLOW	DECEMBER STREAM FLOW
1	12,100	34,300
2	20,900	38,600
3	24,500	28,800
4	25,000	33,100
5	31,600	37,800
6	26,600	34,000
7	15,900	41,600
8	12,200	37,000
9	20,600	34,000
10	25,100	39,300
11	21,400	30,900
12	22,700	38,300
13	30,500	29,100
14	13,800	37,300
15	11,700	39,400
16	37,900	36,600
17	46,800	33,900
18	47,700	36,800
19	36,600	43,700
20	43,000	39,900
21	19,100	53,400
22	17,400	52,000
23	33,600	52,400
24	41,200	44,200
25	41,400	37,900
26	35,400	40,600
27	39,200	36,300
28	36,200	55,400
29	24,500	45,600
30	37,700	40,500
31		32,600

TABLE 111

TABLE 112
 PEAK DAYS OF MIGRATION
 LITTLE GOOSE DAM - 1970-1980

Year	<u>Spring Chinook</u>		<u>Summer Chinook</u>		<u>Fall Chinook</u>		<u>Steelhead</u>		<u>Sockeye</u>		<u>Coho</u>	
	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish
1970	May 4	3,464	Jun 28	938	Sep 19	622	Sep 22	2,424	Jul 25	36	Sep 19	146
1971	May 28	1,941	Jun 18	1,160	Sep 17	539	Sep 27	2,515	Jul 14	64	Sep 14	238
1972	May 14	4,309	Jul 7	1,318	Sep 20	148	Oct 3	3,655	Jul 16	22	Sep 20	63
1973	May 1	3,415	Jun 24	1,616	Sep 17	409	Sep 24	1,406	Jul 11	14	Sep 15	111
1974	May 20	1,310	Jul 11	842	Sep 21	160	Oct 5	408	Jul 17	12	Sep 29	43
1975	May 26	1,027	Jul 14	344	Sep 22	165	Sep 20	538	Jul 15	36	Sep 17	49
1976	May 12	1,397	Jun 24	780	Sep 21	93	Sep 27	886	Jul 5	37	Sep 23	57
1977	Apr 23	2,930	Jun 16	542	Oct 1	104	Oct 1	2,446	Jul 2	42	Sep 21	61
1978	May 13	3,318	Jun 22	686	Oct 1	60	Sep 26	783	Jul 8	20	Sep 21	32
1979	May 16	397	Jun 22	275	Sep 28	50	Sep 9	540	Sep 22	10	Sep 9	30
1980	May 13	521	Jun 29	224	Sep 29	29	Sep 30	1,088	Jul 16	9	Sep 21	12
1981	May 16	771	Jun 30	332	Oct 1	55	Oct 3	1,308	Jul 8	22	Sep 22,23	12

TABLE 113
MONTHLY TOTALS OF CHINOOK COUNTED OVER LITTLE GOOSE DAM
1970 - 1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
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				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
Total				56,930	235,193	103,507	74,183	7,220	19,635	5,782	288	8	502,746
12-Year Average				4,744	19,599	8,626	6,182	602	1,636	482			41,896

TABLE 114
MONTHLY COUNT OF STEELHEAD TROUT OVER LITTLE GOOSE DAM
1970 - 1980

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	1,039	2,051	829	65	1,249	2,856	16,650	12,420	1,129	319	38,820
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
Total	668	700	6,527	21,751	7,527	878	13,742	43,072	190,255	160,584	6,267	1,714	453,685
12-Year Average				1,813	627	73	1,145	3,589	15,855	13,382			37,807

TABLE 114

TABLE 115
 YEARLY TOTALS OF SALMONIDS COUNTED OVER LOWER GRANITE DAM
 1975 - 1981

Year	Chinook	Steelhead	Sockeye	Coho	Total Salmonid
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	39,596	218	17	59,029
Total	206,228	228,529	1,660	2,459	438,876
7-Year Average	29,461	32,647	237	351	62,697

TABLE 115

TABLE 116

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER LOWER GRANITE DAM

1981

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	-	1,380	10,730	2,713	2,561	92	1,008	677	37	-	19,198
STEELHEAD	-	-	1,052	1,610	604	98	1,422	1,609	9,391	20,714	3,096	-	39,596
SOCKEYE	-	-	-	-	1	4	202	3	4	4	-	-	218
COHO	-	-	-	-	-	-	-	-	17	-	-	-	17
<hr/>													
TOTAL SALMONID	-	-	1,052	2,990	11,335	2,815	4,185	1,704	10,420	21,395	3,133	-	59,029
<hr/>													
SHAD	-	-	-	-	-	-	10	60	2	-	-	-	72

TABLE 116

TABLE 117
 WATER TEMPERATURE AND STREAM FLOW DATA
 LOWER GRANITE - 1981

DATE	JANUARY			FEBRUARY		
	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY
1	42	63,400	1.2	39	30,100	2.5
2	42	65,100	1.2	39	43,300	2.8
3	42	65,100	1.2	39	46,500	3.0
4	42	62,600	1.2	39	31,500	3.5
5	42	53,600	1.2	39	35,700	3.5
6	42	52,700	2.5	39	42,600	3.5
7	42	57,300	4.4	39	26,700	3.5
8	42	50,500	4.5	39	13,700	3.5
9	42	44,500	5.0	39	33,300	3.5
10	42	42,500	5.0	37	38,300	4.2
11	42	32,600	5.0	37	35,400	5.0
12	42	42,000	5.0	37	28,000	4.7
13	42	50,100	5.0	38	25,600	4.0
14	42	48,400	5.0	39	26,700	4.2
15	42	44,700	5.0	39	26,700	3.5
16	42	36,300	5.0	39	41,100	3.6
17	42	32,300	5.0	39	67,800	3.0
18	42	23,000	5.0	39	57,700	3.0
19	42	21,400	5.0	39	63,200	1.0
20	42	25,200	5.0	40	79,700	.5
21	40	26,100	5.0	40	61,300	.5
22	40	30,400	5.0	40	62,100	.8
23	39	29,100	5.0	41	60,000	.8
24	39	24,100	5.0	41	57,900	.9
25	39	21,700	5.0	41	59,800	1.3
26	39	37,100	5.0	41	57,500	1.5
27	39	30,400	5.0	41	49,100	1.8
28	39	40,100	5.0	42	43,700	2.0
29	39	36,500	5.0			
30	39	42,400	3.5			
31	39	34,200	2.8			

TABLE 118

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

LOWER GRANITE POINT

MAY 1961

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	LAMP ADULTS	CUMU JACKS	SUCKYF	STEELHEAD	SHAD	DISCHARGE (KCS)	SPILL (KCS)	TURBIDITY (SF/FT)	WATER TEMP (F)
	SPRING	SUMMER	FALL										
1								10		40.8	.0	2.2	42.0
2								6		40.5	.0	2.4	42.0
3								6		39.7	.0	2.2	42.0
4								13		39.0	.0	2.2	42.0
5								7		39.5	.0	2.1	42.0
6								4		43.2	.0	2.6	44.0
7								24		34.8	.0	2.0	43.0
8								20		24.4	.0	2.2	43.0
9								8		25.4	.0	2.5	43.0
10								17		34.8	.0	2.2	44.0
11								24		33.1	.0	2.1	44.0
12								53		33.4	.0	2.1	44.0
13								14		33.5	.0	4.2	44.0
14								126		33.0	.0	4.2	44.0
15								54		27.0	.0	4.0	44.0
16								19		28.5	.0	2.6	44.0
17								48		43.0	.0	2.6	44.0
18								28		44.3	.0	2.4	44.0
19								46		41.5	.0	2.6	44.0
20								26		42.3	.0	2.5	44.0
21								80		35.8	.0	2.0	44.0
22								54		33.4	.0	2.2	44.0
23								19		30.5	.0	2.4	44.0
24								20		27.5	.0	2.0	46.6
25								24		26.8	.0	2.2	46.0
26								25		27.2	.0	2.0	47.0
27								49		40.5	.0	2.5	47.0
28								26		45.6	.0	2.1	47.4
29								78		40.1	.0	2.6	47.0
30								60		43.5	.0	2.1	48.0
31 *								60		43.2	.0	2.1	48.0
TOTALS								1052					
AVERAGES								35		37.4	.0		

* No counting due to fish counter training.

TABLE 118

TABLE 119

TABLE 119

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

LOWER GRANITE PROJECT

APR 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK FALL JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SEECIT)	WATER TEMP (DEG F)
1							101		41.6	.0	2.5	48.0
2							81		40.8	.0	2.4	48.0
3							65		39.7	.0	2.4	49.0
4							68		42.7	.0	3.0	49.0
5	1						90		36.4	.0	3.0	49.0
6							83		32.3	.0	2.7	48.0
7							78		36.5	.0	2.4	48.0
8				1			70		34.0	.0	2.6	48.0
9							58		30.9	.0	3.1	48.0
10	1						47		32.2	.0	2.9	48.0
11							42		31.1	.0	3.1	49.0
12							37		24.8	.0	3.3	48.0
13	5						42		33.4	.0	3.3	48.0
14	2						30		30.9	.0	3.5	48.0
15				1			42		28.1	.0	3.6	49.0
16	5			1			35		28.6	.0	3.6	49.0
17	11						39		29.8	.0	3.6	50.0
18	7			1			67		34.0	.0	3.6	50.0
19	14			1			52		37.4	.0	3.5	52.0
20	18						43		40.4	.0	3.6	52.0
21	14			1			41		52.7	.0	3.6	53.0
22	18			2			31		58.8	.0	3.5	53.0
23	19						30		67.2	.0	3.8	55.0
24	30			1			46		73.5	.0	3.6	54.0
25	145						74		86.0	.0	4.0	54.0
26	134			4			46		85.7	.0	2.5	53.0
27	178						38		91.6	5.3	2.4	53.0
28	290			2			48		96.1	10.0	2.5	53.0
29	175						38		91.7	5.8	3.5	52.0
30	295			3			48		99.7	13.2	3.5	53.0
TOTALS	1362			18			1610					
AVERAGES	72			2			54		49.6	1.1		

TABLE 120

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

LOWER GRANITE PROJECT
MAY 1981

DATE	FISH COUNTS							RIVER CONDITIONS					
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF8)	SPILL (KCF8)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	508			2				46		114.6	29.7	2.9	53.0
2	731			5				40		126.9	38.9	3.1	53.0
3	47							30		129.5	41.7	.4	54.0
4	505			3				50		124.5	36.4	1.3	54.0
5	490			1				48		103.6	17.2	1.9	53.0
6	148							22		88.7	.0	2.0	52.0
7	73			1				23		83.9	.0	2.1	52.0
8	634			11				48		74.7	.0	3.0	51.0
9	908			3				29		69.1	.0	3.0	51.0
10	279			2				27		66.0	.0	3.5	51.0
11	139							21		68.6	.0	4.0	52.0
12	477			13				32		62.0	.0	4.0	53.0
13	329			8				19		68.5	.0	4.0	53.0
14	407			8				15		59.3	.0	4.0	53.0
15	121			5				20		62.6	.0	4.4	53.0
16	896			27				16		63.9	.0	4.6	53.0
17	404			5				10		61.2	.0	4.6	54.0
18	359			23				12		52.1	.0	4.9	55.0
19	301			21				9		50.5	.0	5.0	55.0
20	247			3				13		50.5	.0	5.0	55.0
21	394			25				10		68.3	.0	5.0	55.0
22	400			24				14		101.2	4.3	4.2	55.0
23	288			11				6		109.7	.0	1.9	56.0
24	155			13				2		105.9	.0	1.5	56.0
25	116			11				4		104.7	.0	2.3	54.0
26	129			24				8		120.8	10.8	2.6	55.0
27	277			19				9		131.3	21.3	2.7	55.0
28	119			9				8		129.8	19.8	3.0	55.0
29	148			18				7		128.0	18.7	3.0	55.0
30	167			19				3	1	129.6	19.5	3.0	57.0
31	82			16				3		125.7	16.0	3.2	57.0
TOTALS	10400			330				1	604				
AVERAGES	335			12				1	19	91.5	8.8		

TABLE 120

TABLE 121

TABLE 121

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

LOWER GRANITE PROJECT

JUN 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COMO ADULTS	COMO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF8)	SPILL (KCF8)	TURBIDITY (SEECHE)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1	63			11						140.2	39.1	2.6	57.0
2	50			9				2		124.4	15.8	1.5	57.0
3	44			6				4		122.5	14.1	2.1	57.0
4	12			7				4		124.2	15.6	2.4	57.0
5	84			27				5		111.8	7.6	2.6	58.0
6	193			19				1		114.4	43.1	2.5	58.0
7	124			16				3		138.9	70.7	3.0	58.0
8	103			16				4		142.5	67.4	3.0	58.0
9	53			9				6		174.4	103.3	2.7	57.0
10	48			6				1		179.3	101.2	2.0	57.0
11	118			20						154.3	66.9	2.0	55.0
12	121			14				4		144.2	54.4	1.8	55.0
13	104			5				7		152.4	92.1	1.7	57.0
14	97			9				2		142.0	71.0	1.9	57.0
15	61			2				2		136.6	51.2	1.8	57.0
16	51			5				1		123.0	35.7	2.1	57.0
17	27			3				6		132.5	23.4	2.5	56.0
18		20		1				6		118.9	10.0	2.6	56.0
19		18		3				2		120.5	11.0	1.7	56.0
20		51		8				5		130.4	46.5	2.4	57.0
21		51		5				2		117.3	36.1	2.4	57.0
22		8		2				3		107.7	12.8	1.4	57.0
23		6						2		105.4	3.3	2.1	57.0
24		14		2			1	3		93.8	5.0	3.0	57.0
25		21		6			1			86.2	.0	3.5	58.0
26		19		2				1		80.6	.0	3.8	58.0
27		197		13				9		70.2	.0	3.4	62.0
28		337		25			1	2		62.0	.0	4.0	60.0
29		128		20				4		63.2	.0	3.8	63.0
30		202		22			1	7		65.5	.0	3.9	63.0
TOTALS	1353	1072		288			4	98					
AVERAGES	80	82		10			1	4		119.3	33.2		

TABLE 122

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

LOWER GRANITE PROJECT

JUL 1961

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFD)	SPILL (KCFD)	TURBIDITY (JUNTS)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1		286		18			4	0		51.4	.0	3.7	62.0
2		259		31			1	2		50.7	.0	3.7	63.0
3		210		33			2	11		50.3	.0	3.9	63.0
4		177		19			6	7		43.7	.0	3.7	60.0
5		104		14			7	11		41.5	.0	5.0	67.0
6		40		8			2	10		43.7	.0	5.0	67.0
7		70		16			12	18		52.2	.0	5.0	66.0
8		135		22			13	8		53.0	.0	1.8	67.0
9		170		11			26	18		45.7	.0	5.0	67.0
10		84		27			12	24		40.5	.0	5.4	67.0
11		70		29			7	42		41.5	.0	5.0	68.0
12		90		19			11	20		27.5	.0	4.5	68.0
13		51		23			10	25		30.0	.0	5.0	63.0
14		48		11			17	47		30.0	.0	5.0	68.0
15		49		12			14	42		32.4	.0	5.0	67.0
16		42		8			3	42		31.2	.0	5.0	67.0
17		10		7			12	40		32.0	.0	5.0	69.0
18		21		4			7	48		41.9	.0	5.0	70.0
19		27		3			5	64		24.1	.0	5.0	69.0
20		20		0			5	69		32.7	.0	5.0	70.0
21		38		8			4	62	4	30.9	.0	5.0	70.0
22		10		4			2	40		39.7	.0	5.0	70.0
23		29		7			1	60		20.3	.0	5.0	71.0
24		30		3			4	65		10.0	.0	5.0	71.0
25		19		1			5	55		24.3	.0	5.0	71.0
26		11		2			1	65		19.9	.0	5.0	72.0
27		3		1			1	34		27.3	.0	5.0	73.0
28		4		5			1	64	5	22.4	.0	5.6	73.0
29		13		6				122		21.1	.0	5.0	73.0
30		4		1			2	175		22.4	.0	5.0	70.0
31		8		6				102	1	21.1	.0	5.0	70.0
TOTALS		2147		404			202	1422	10				
AVERAGES		71		12			7	46	3	33.2	.0		

TABLE 122

TABLE 123

TABLE 123

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

AUG 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCF8)	SPILL (KCF8)	TURBIDITY (SEECHE)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1		10		4				108		20.3	.0	5.0	73.0
2		5					1	112	7	19.1	.0	5.0	73.0
3		10		1			1	138	9	19.0	.0	5.0	72.0
4		8						110	6	16.0	.0	5.0	72.0
5		3						125	8	20.6	.0	5.0	72.0
6		12		1				80	8	19.4	.0	5.0	72.0
7		2						58	6	19.0	.0	5.0	73.0
8		2					1	50	2	18.5	.0	5.0	73.0
9		2						28	1	15.3	.0	5.0	73.0
10								33	1	19.5	.0	5.0	74.0
11								12	1	18.1	.0	5.0	74.0
12		1						23	2	16.6	.0	5.0	77.0
13								7		18.9	.0	5.0	78.0
14		1						33		19.7	.0	5.0	77.0
15		1						28	3	14.0	.0	5.0	76.0
16								13		12.3	.0	5.0	78.0
17								8		23.2	.0	5.0	78.0
18								14		15.3	.0	5.0	77.0
19				1				11		21.4	.0	5.0	77.0
20				1				10		18.8	.0	5.0	76.0
21								43	3	18.5	.0	5.0	76.0
22								20		14.7	.0	5.0	74.0
23								12	2	12.9	.0	5.0	74.0
24			1					35		25.4	.0	5.0	74.0
25			2	2				76	1	11.7	.0	5.0	74.0
26			1	2				74		22.4	.0	5.0	74.0
27			5	2				92		22.9	.0	5.0	74.0
28			1					57		19.9	.0	5.0	73.0
29			2	1				56		16.9	.0	5.0	73.0
30			2					97		11.8	.0	5.0	72.0
31			4	2				46		20.3	.0	5.0	72.0
TOTALS		57	18	17			3	1609	60				
AVERAGES		5	2	2			1	52	4	18.3	.0		

TABLE 124

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

LOWER GRANITE PROJECT
SEP 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COMO ADULTS	COMO JACKS	SOCKEYE	STEELHEAD	SHAU	DISCHARGE (KCF8)	SPILL (KCF8)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1			1	1				29		20.1	.0	5.0	72.0
2			8	5				69		30.6	.0	4.8	72.0
3			2	4				34		27.3	.0	4.8	72.0
4			4	8				63	1	28.2	.0	5.0	71.0
5			9	4				47		27.9	.0	5.0	71.0
6			4	5				52		19.1	.0	5.0	71.0
7			1	11				76		14.7	.0	5.0	71.0
8			6	16				81		25.1	.0	5.0	71.0
9			3	17		2		135		28.9	.0	5.0	71.0
10			1	16		2		171		29.8	.0	5.0	70.0
11			3	12				83		26.3	.0	5.0	70.0
12			4	15	1			99		34.5	.0	5.0	70.0
13			4	14				147		17.2	.0	5.0	69.0
14			5	29				136		20.3	.0	5.0	70.0
15			16	32		2		178		26.1	.0	5.0	70.0
16			4	28				259		29.8	.0	5.0	70.0
17			14	46				298		27.5	.0	5.0	71.0
18			8	74				264		34.9	.0	5.0	69.0
19			23	61		4	4	663		27.9	.0	5.0	68.0
20			2	50		4		756		20.9	.0	5.0	68.0
21			6	46		1		444		23.5	.0	5.0	66.0
22			2	47		1		670		28.6	.0	5.0	66.0
23			16	68				677	1	25.3	.0	5.0	66.0
24			5	26				861		23.1	.0	5.0	66.0
25			6	16				510		24.0	.0	5.0	66.0
26			6	43				598		24.0	.0	5.0	65.0
27			6	30				435		23.9	.0	5.0	64.0
28			1	11				298		30.2	.0	5.0	64.0
29			5	57				698		25.1	.0	5.0	63.0
30			6	35				560		34.1	.0	5.0	62.0
TOTALS			181	827	1	16	4	9391	2				
AVERAGES			6	28	1	2	4	313	1	26.0	.0		

TABLE 124

TABLE 125

TABLE 125

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

LOWER GRANITE PROJECT
 OCT 1981

DATE	FISH COUNTS			RIVER CONDITIONS									
	CHIMOOK ADULTS SPRING	CHIMOOK ADULTS SUMMER	CHIMOOK ADULTS FALL	CHIMOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SECFHT)	WATER TEMP (DEG F)
1			4	47				816		24.0	.0	5.0	62.0
2			7	47				754		27.6	.0	5.0	62.0
3			10	36				1136		20.2	.0	5.0	60.0
4			5	22				1170		21.2	.0	5.0	54.0
5			2	21				678		23.4	.0	5.0	60.0
6			6	39				415		24.0	.0	5.0	54.0
7			11	30			2	816		21.9	.0	4.6	58.0
8			10	53			1	737		22.7	.0	4.8	56.0
9			4	39				1450		28.2	.0	5.0	58.0
10			7	15				1093		26.0	.0	5.0	58.0
11			3	24				423		18.8	.0	5.0	58.0
12			2	21				1147		14.7	.0	5.0	57.0
13			14					664		32.7	.0	5.0	58.0
14			2	15				484		26.6	.0	5.0	58.0
15			1	11				346		22.8	.0	5.0	58.0
16			2	10				654		28.2	.0	5.0	58.0
17			2	11				836		29.5	.0	4.6	57.0
18			2	13				487		24.3	.0	4.8	57.0
19			1	10				350		27.6	.0	4.6	56.0
20				7				547		29.8	.0	4.6	56.0
21				12				445		22.2	.0	5.0	56.0
22			2	14			1	552		23.3	.0	4.6	56.0
23			5	10				371		22.8	.0	5.0	56.0
24			4	2				647		24.3	.0	5.0	56.0
25				8				487		17.0	.0	5.0	56.0
26			1	2				164		26.6	.0	4.8	56.0
27			1	7				363		23.0	.0	5.0	55.0
28			2	6				288		23.8	.0	5.0	55.0
29				1				291		24.6	.0	5.0	55.0
30			2	7				321		27.8	.0	4.8	55.0
31			2	4				572		23.2	.0	4.9	55.0
TOTALS			126	551			4	20714					
AVERAGES			3	18			1	668		24.8	.0		

TABLE 126

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

LOWER GRANITE PROJECT

NOV 1981

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK JACKS	COHO ADULTS	COHO JACKS	SUCKEYE	STEELHEAD	SMAD	DISCHARGE (KCF3)	SPILL (KCF3)	TURBIDITY (SFLOU)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL										
1			4	2				228		17.7	.0	4.8	54.0
2				2				140		20.4	.0	4.7	53.0
3				4				181		23.7	.0	4.7	53.0
4			1	1				194		23.7	.0	4.8	53.0
5								203		22.5	.0	4.8	53.0
6				1				251		23.4	.0	5.0	53.0
7			2	1				332		21.0	.0	4.6	52.0
8				2				168		24.1	.0	4.6	52.0
9				2				76		16.7	.0	4.6	52.0
10			1	2				73		21.5	.0	4.5	52.0
11			1	1				133		21.6	.0	4.5	52.0
12				1				44		22.2	.0	4.4	52.0
13								72		23.3	.0	4.5	51.0
14								154		22.2	.0	4.2	51.0
15			1	2				120		14.1	.0	4.3	51.0
16								64		25.8	.0	4.0	50.0
17								37		24.6	.0	4.0	49.0
18								32		24.7	.0	3.9	49.0
19								82		26.6	.0	3.8	49.0
20			1					91		27.4	.0	4.2	49.0
21								41		20.0	.0	4.0	48.0
22								110		27.7	.0	4.5	48.0
23								24		20.4	.0	4.2	48.0
24				2				8		24.8	.0	4.2	48.0
25								31		24.5	.0	3.8	48.0
* 26										26.0	.0	3.8	48.0
27				2				84		33.1	.0	3.8	48.0
28			1					41		40.3	.0	4.0	48.0
29								48		22.8	.0	4.4	48.0
30								28		23.4	.0	4.6	47.0
TOTALS			12	25				3096					
AVERAGES			1	2				107		28.1	.0		

TABLE 126

* No counter present

TABLE 127

TABLE 127

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

LOWER GRANITE PROJECT
 DFC 1981

DATE	FISH COUNTS					RIVER CONDITIONS						
	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	COHO JACKS	COHO ADULTS	SUCKEYF	STEELHEAD	SHAD	DISCHARGE (KCF/S)	SPILL (KCF/S)	TURBIDITY (SFECHT)	WATER TEMP (DFG F)
1							74		73.4	.0	4.7	46.0
2							46		73.2	.0	4.7	46.0
3							62		74.7	.0	4.7	46.0
4							74		78.7	.0	4.7	45.0
5							44		79.9	.0	4.6	45.0
6							89		73.1	.0	4.6	45.0
7							78		75.5	.0	4.6	45.0
8							70		43.0	.0	4.4	45.0
9							30		74.3	.0	4.0	44.0
10							19		41.9	.0	4.7	44.0
11							56		76.1	.0	7.0	44.0
12							47		40.4	.0	7.8	44.0
13							75		71.0	.0	7.7	43.0
14							70		74.2	.0	7.6	44.0
15							74		74.0	.0	7.8	43.0
16									75.6	.0	7.7	43.0
17									79.9	.0	7.8	43.0
18									79.9	.0	7.9	42.0
19									79.5	.0	4.0	42.0
20									76.8	.0	4.0	42.0
21									51.3	.0	7.5	42.0
22									47.0	.0	7.0	42.0
23									50.7	.0	7.5	42.0
24									52.9	.0	7.4	42.0
25									44.3	.0	7.0	42.0
26									78.4	.0	7.8	42.0
27									78.8	.0	7.0	41.0
28									44.2	.0	7.0	41.0
29									42.5	.0	7.8	40.0
30									43.2	.0	7.7	40.0
31									40.2	.0	7.5	40.0
TOTALS							638					
AVERAGES							43		79.3	.0		

TABLE 128

PEAK DAYS OF MIGRATION

LOWER GRANITE DAM - 1975-1981

Year	<u>Spring Chinook</u>		<u>Summer Chinook</u>		<u>Fall Chinook</u>		<u>Steelhead</u>		<u>Sockeye</u>		<u>Coho</u>	
	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish	Date	Number of Fish
1975	May 27	1,894	Jun 25	477	Sep 26	135	Sep 25	534	Jul 17	26	Sep 16	58
1976	May 24	972	Jun 26	716	Sep 22	75	Sep 29	740	Jul 14	37	Sep 28	61
1977	May 7	2,457	Jul 4	631	Sep 21	107	Oct 9	2,570	Jul 2	32	Sep 21	47
1978	May 13	2,573	Jul 6	933	Sep 20	58	Sep 23	953	Jul 9	21	Sep 22	12
1979	Jun 10	371	Jun 22	275	Sep 22	69	Sep 20	610	Jul 19	2	Sep 24	17
1980	May 17	449	Jul 1	186	Oct 6	26	Sep 3	935	Jul 17	9	Sep 21	7
1981	May 16	925	Jun 28	362	Sep 19,23	84	Oct 9	1,450	Jul 9	26	Sep 19,20	4

TABLE 129

MONTHLY TOTALS OF CHINOOK COUNTED OVER LOWER GRANITE DAM

1975 - 1981

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
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
Total				18,245	99,344	47,068	27,797	3,637	6,082	3,626	426	3	206,228
7-Year Average				2,606	14,192	6,724	3,971	520	869	518	61		29,461

TABLE 130
MONTHLY COUNT OF STEELHEAD TROUT OVER LOWER GRANITE DAM
1975 - 1981

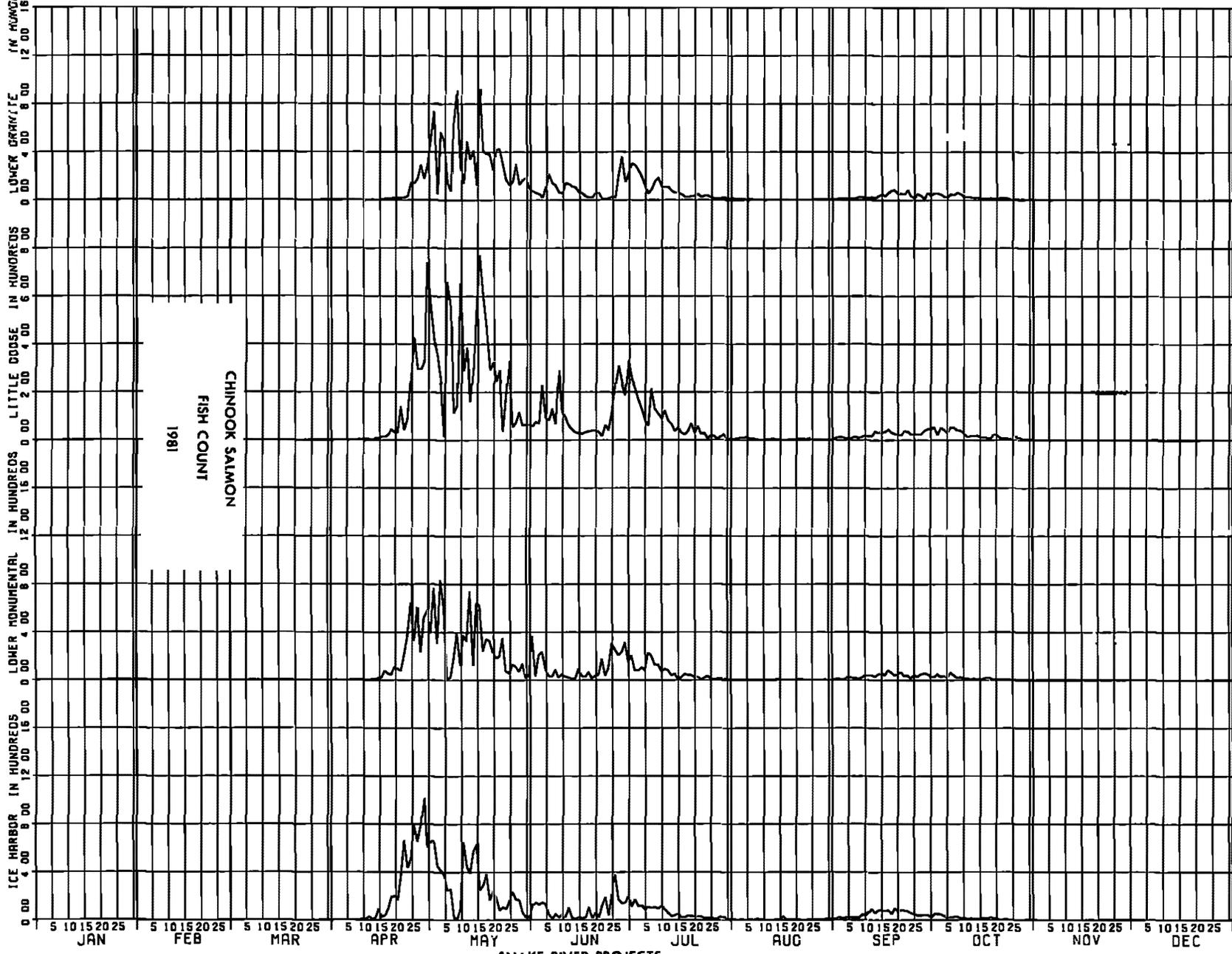
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1975				1,724	1,065	104	102	3,337	6,396	3,584	703	296	17,311
1976	173	21	181	1,120	575	120	527	3,816	8,720	6,837	860	67	23,017
1977		9	142	1,235	229	59	1,538	2,652	16,296	27,492	2,950	435	53,037
1978	354	716	2,276	2,009	252	9	478	2,721	10,829	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		39,596
Total	539	790	5,602	12,063	4,089	442	5,781	20,115	70,066	94,933	12,937	1,172	228,529
7-Year Average				1,723	584	63	826	2,874	10,009	13,562	1,848	*234	32,647

* Did not count in 1980. Average is for five years.

TABLE 131
 FISH FACILITY OPERATION & MAINTENANCE COST - 1981

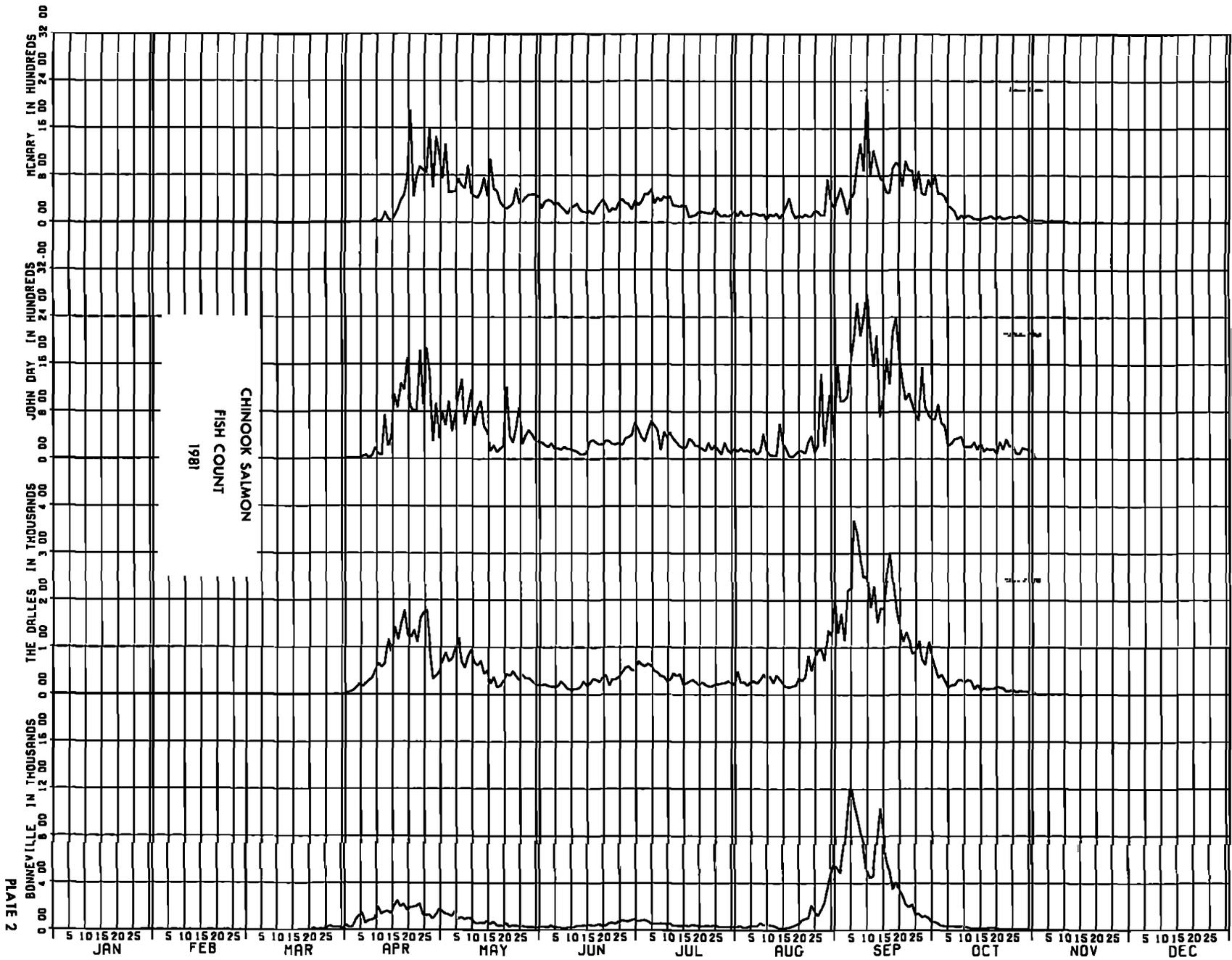
Project	Routine Operations	Fish Counting	Maintenance	Total Operation and Maintenance
Bonneville	\$ 41,177	\$ 61,834	\$ 203,340	\$ 306,351
The Dalles	27,280	52,026	38,144	117,450
John Day	44,442	51,588	89,045	185,075
McNary	59,829	28,645	104,817	193,291
Ice Harbor	32,000	26,500	18,000	76,500
Lower Monumental	35,300	21,400	44,100	100,800
Little Goose	15,111	8,474	54,395	77,980
Lower Granite	15,111	32,934	68,396	116,411

PLATE 1
SDB
NUMBER 1



CHINOOK SALMON
FISH COUNT
1981

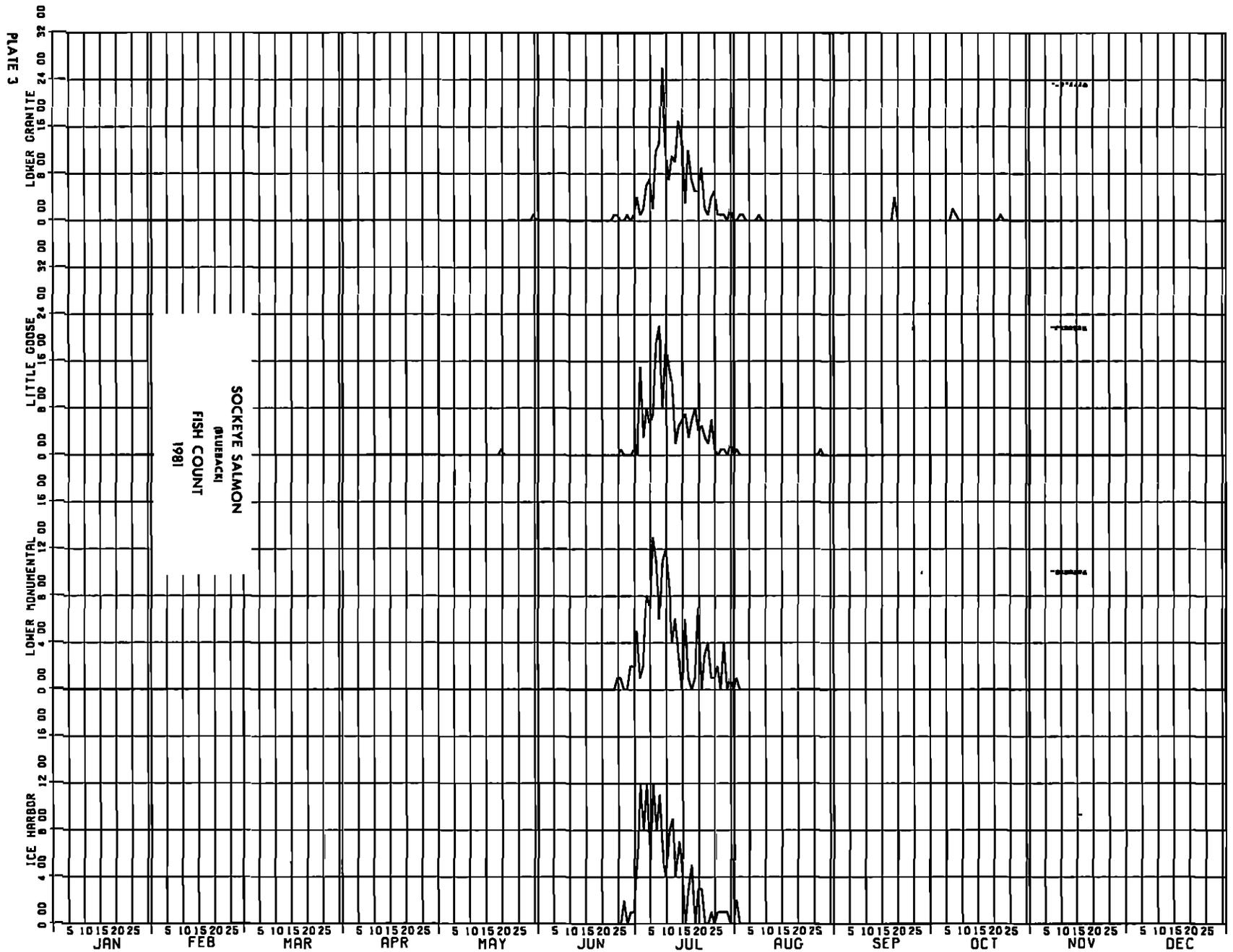
SNAKE RIVER PROJECTS
U.S. ARMY ENGINEER DISTRICT, WALLA WALLA



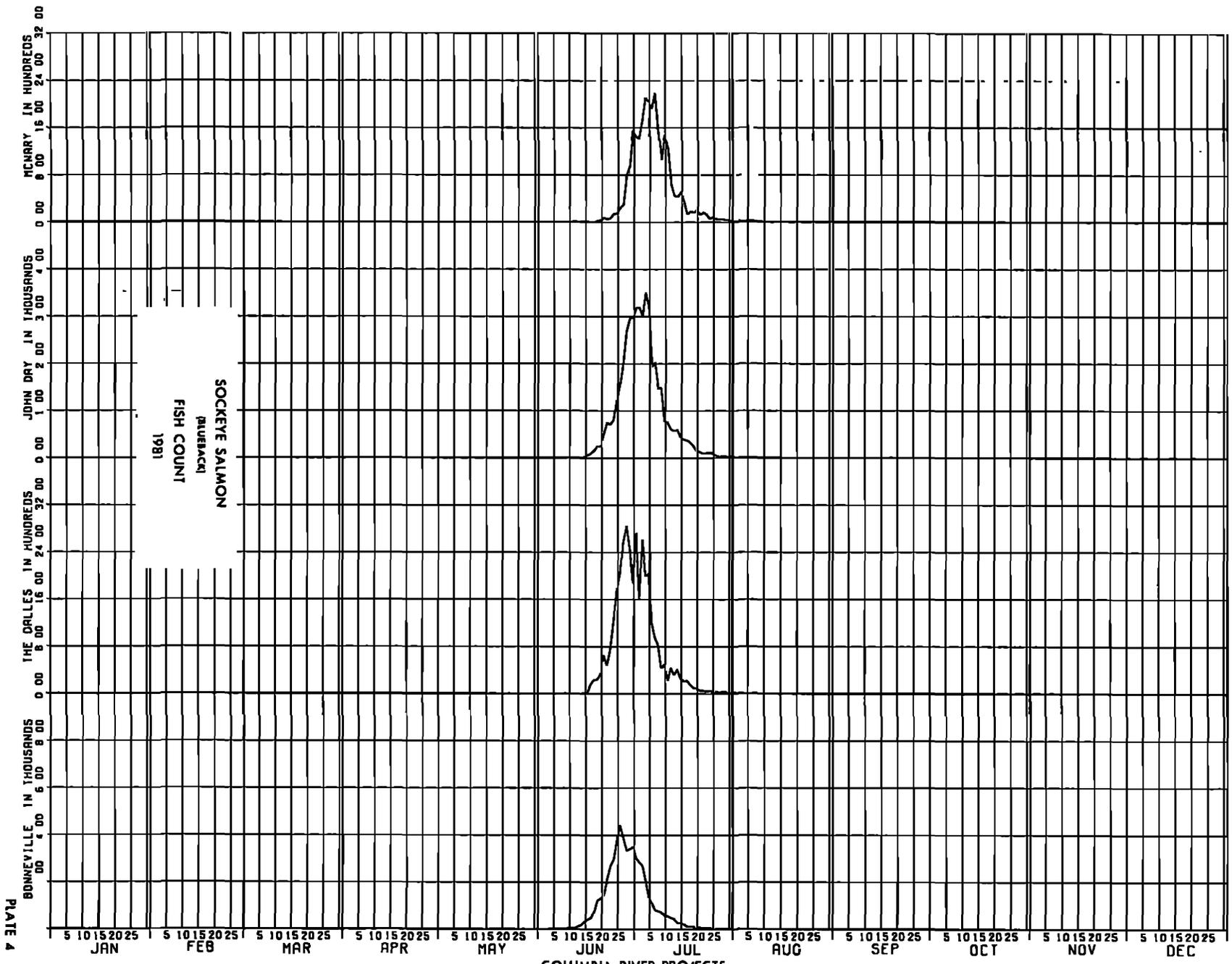
CHINOOK SALMON
FISH COUNT
1981

COLUMBIA RIVER PROJECTS
U.S. ARMY ENGINEER DISTRICT, PORTLAND

PLATE 2

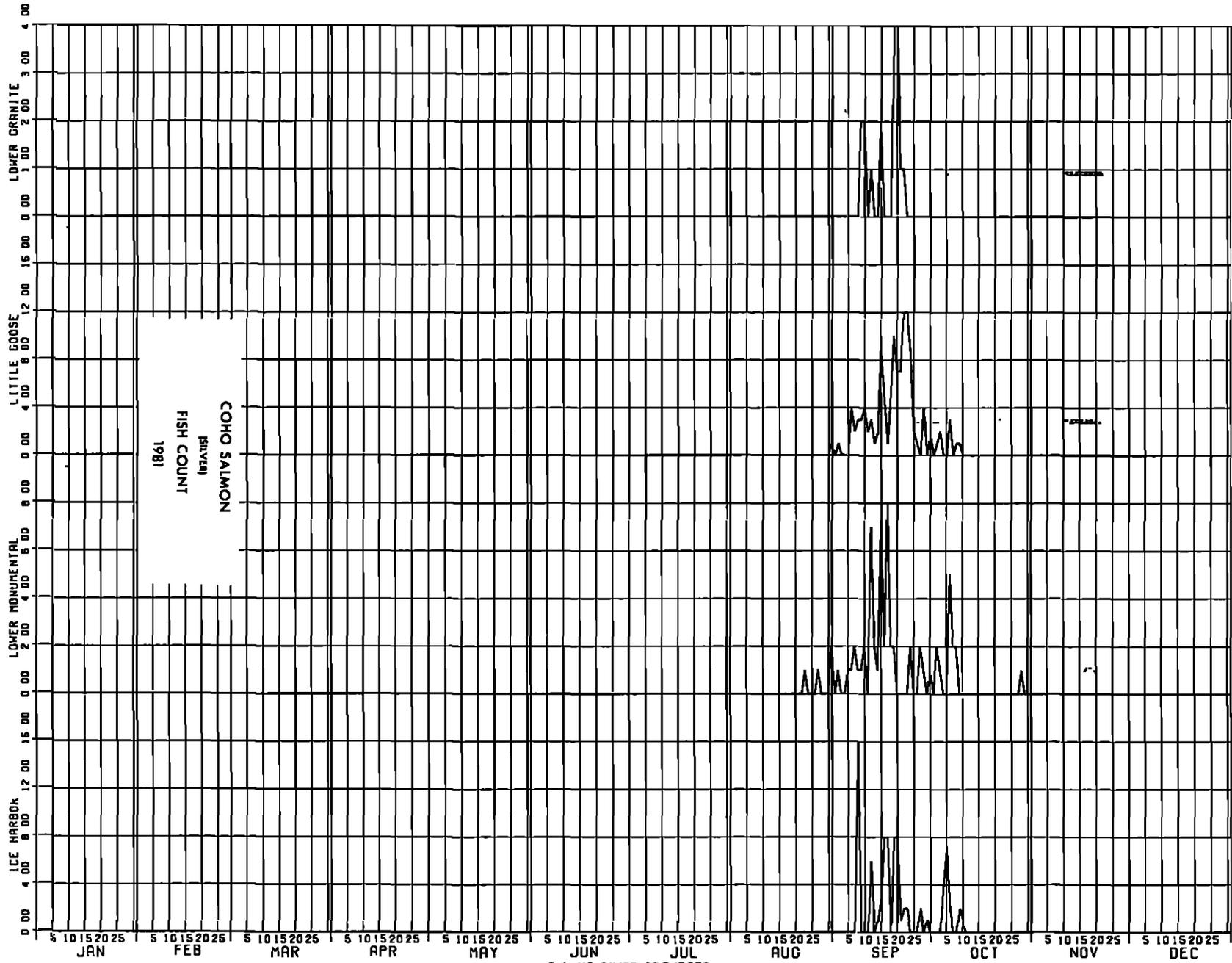


SNAKE RIVER PROJECTS
U.S. ARMY ENGINEER DISTRICT, WALLA WALLA



SOCKEYE SALMON
(PUEBLACK)
FISH COUNT
1981

PLATE 4



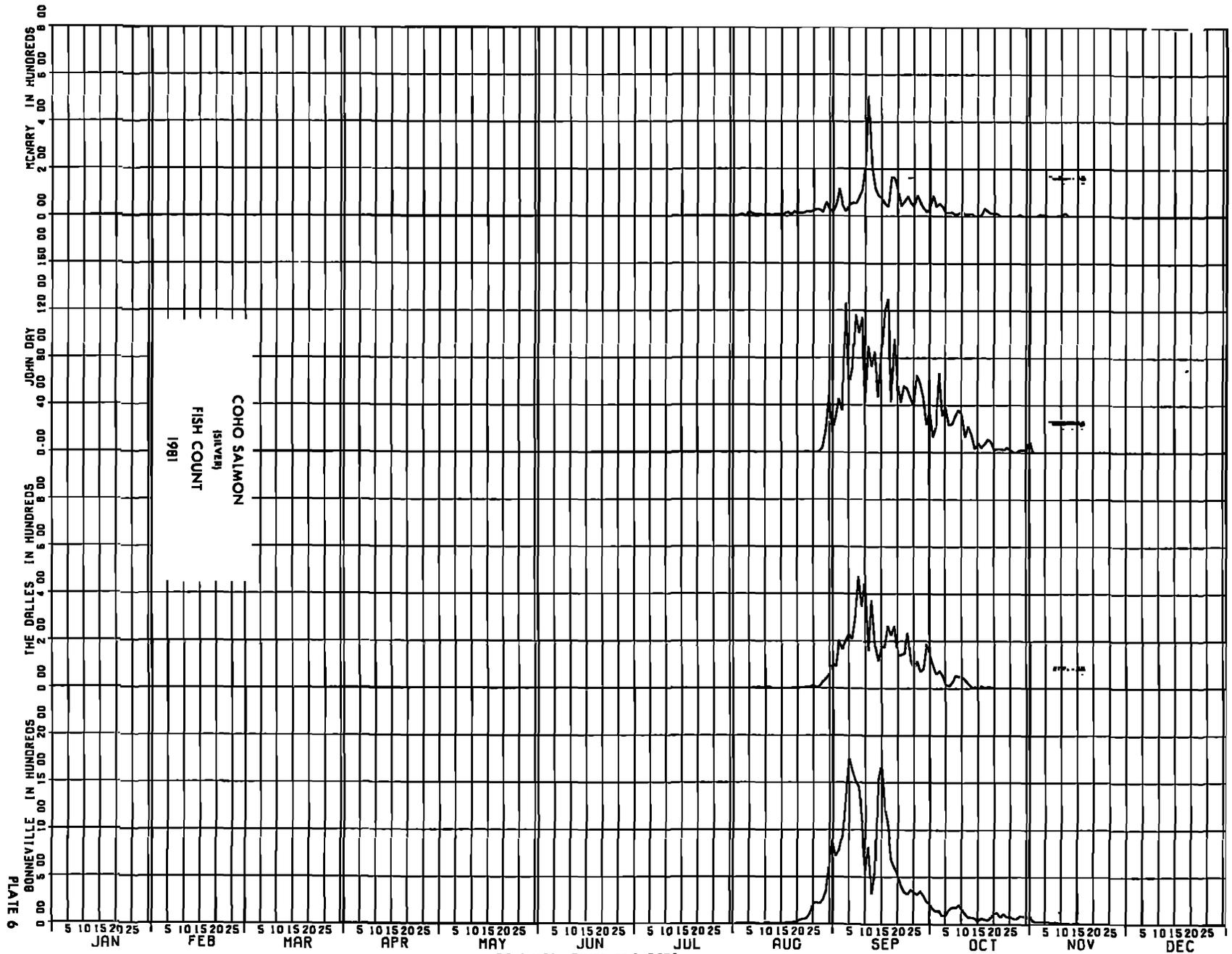
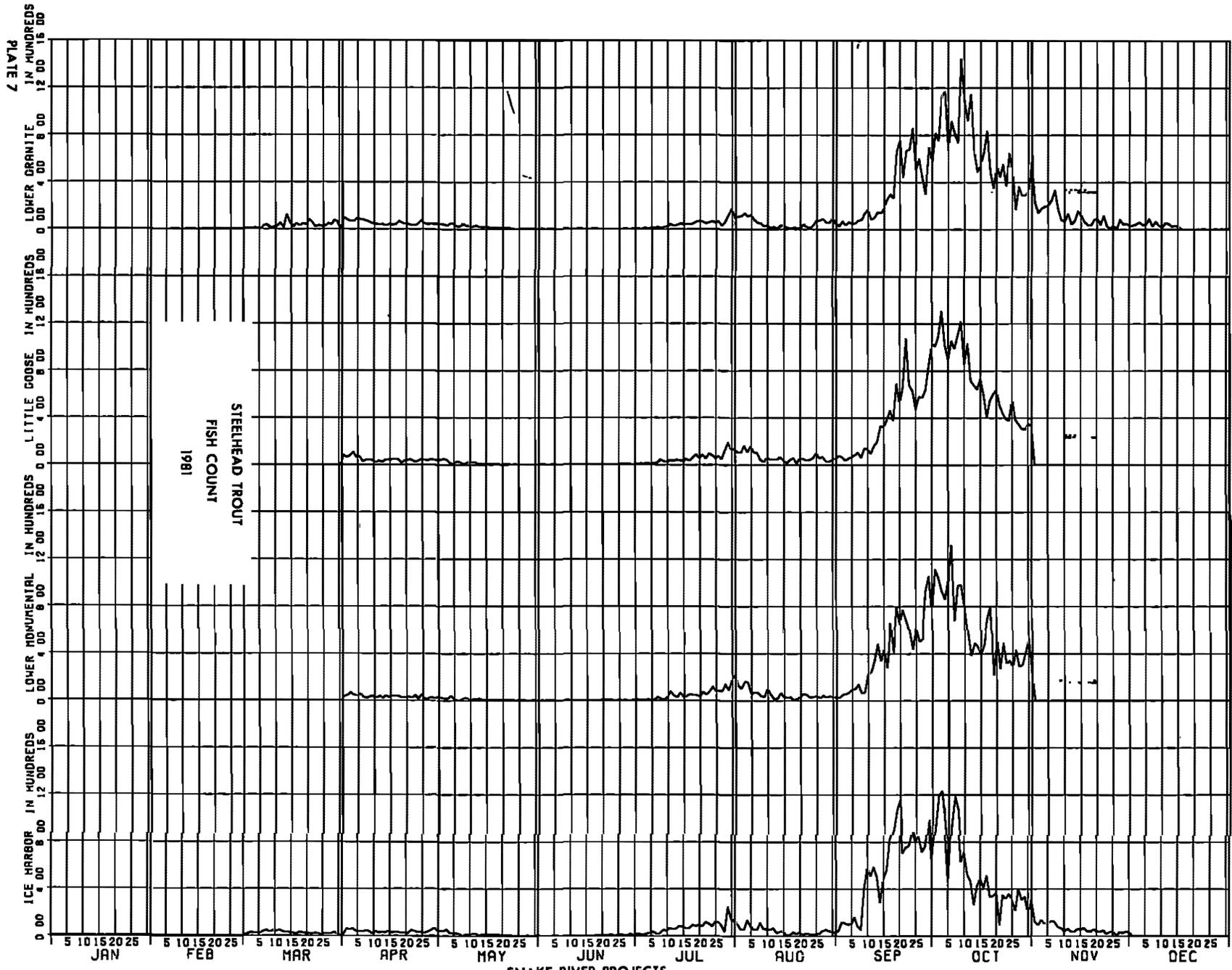


PLATE 6

PLATE 7



STEELHEAD TROUT
FISH COUNT
1981

SNAKE RIVER PROJECTS
U.S. ARMY ENGINEER DISTRICT, WALLA WALLA

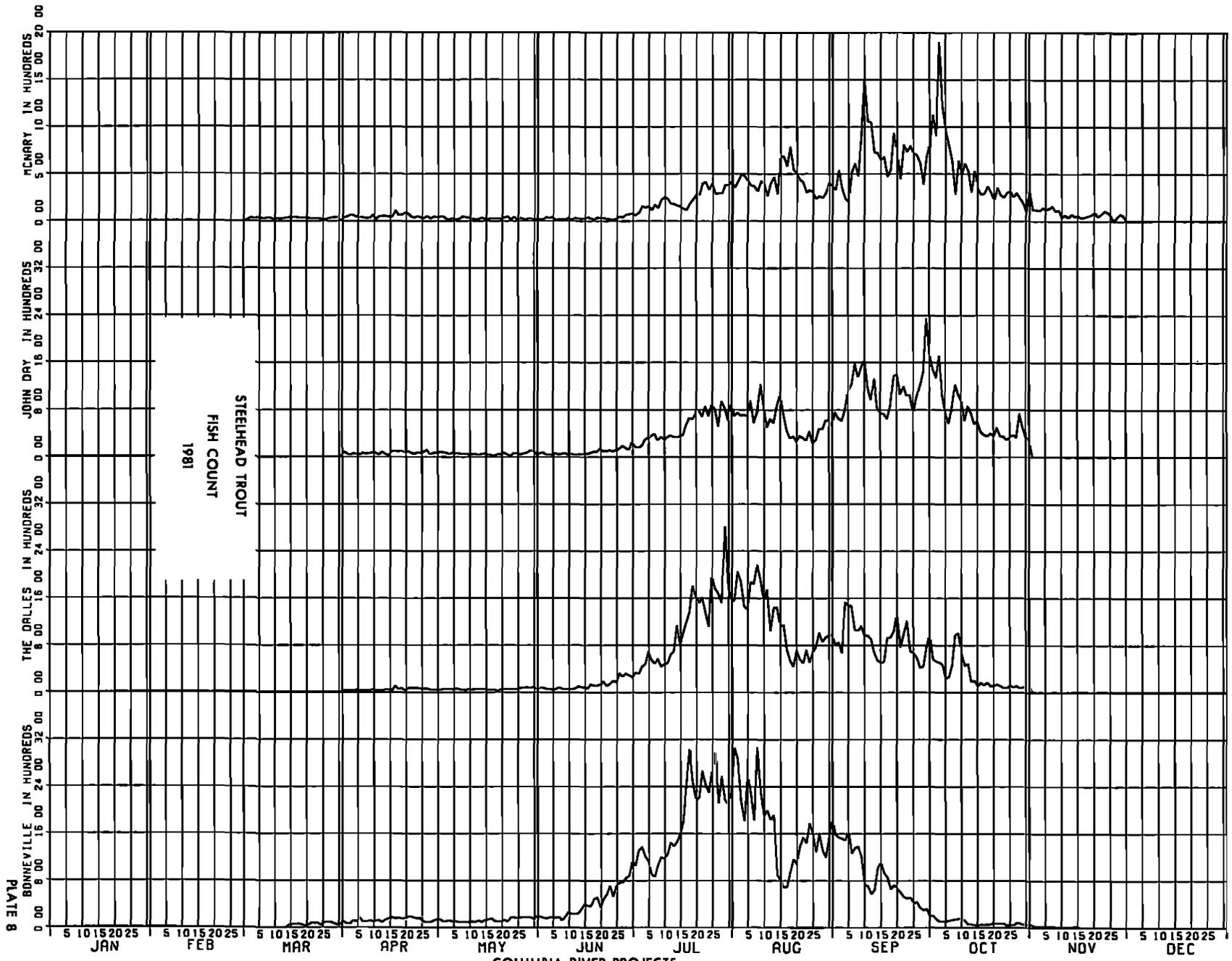


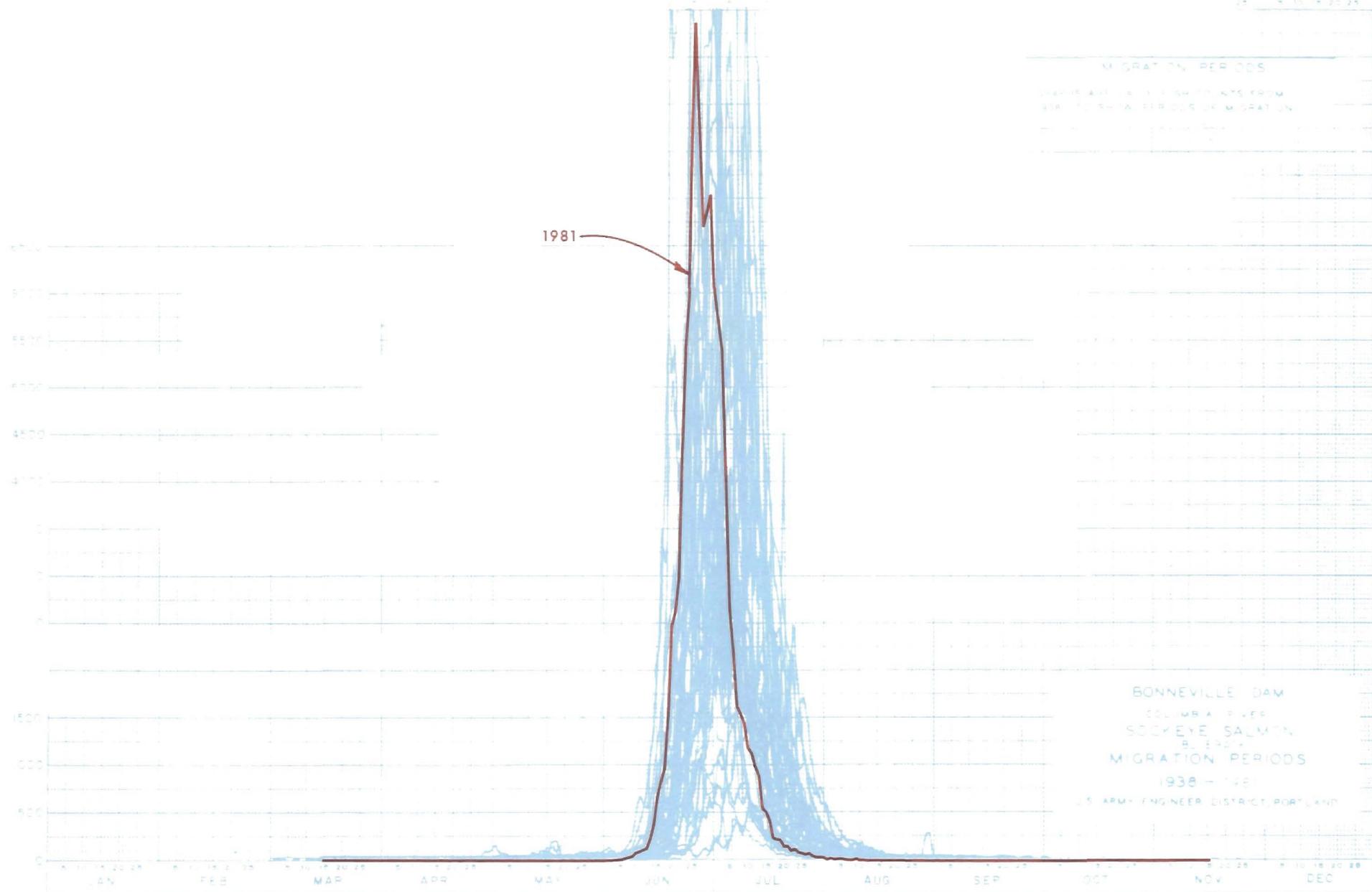
PLATE 8

NOTE:

The scales for the plate on the succeeding pages are of different magnitude. When comparing the runs of fish be sure to note the differences.

MIGRATION PERIODS
GRAPHICALLY SHOWS FISH COUNTS FROM
1938 TO 1981. PERIODS OF MIGRATION
ARE INDICATED BY SHADING.

1981



BONNEVILLE DAM
COLUMBIA RIVER
SOCKEYE SALMON
MIGRATION PERIODS
1938 - 1981
U.S. ARMY ENGINEER DISTRICT PORTLAND

DAYS

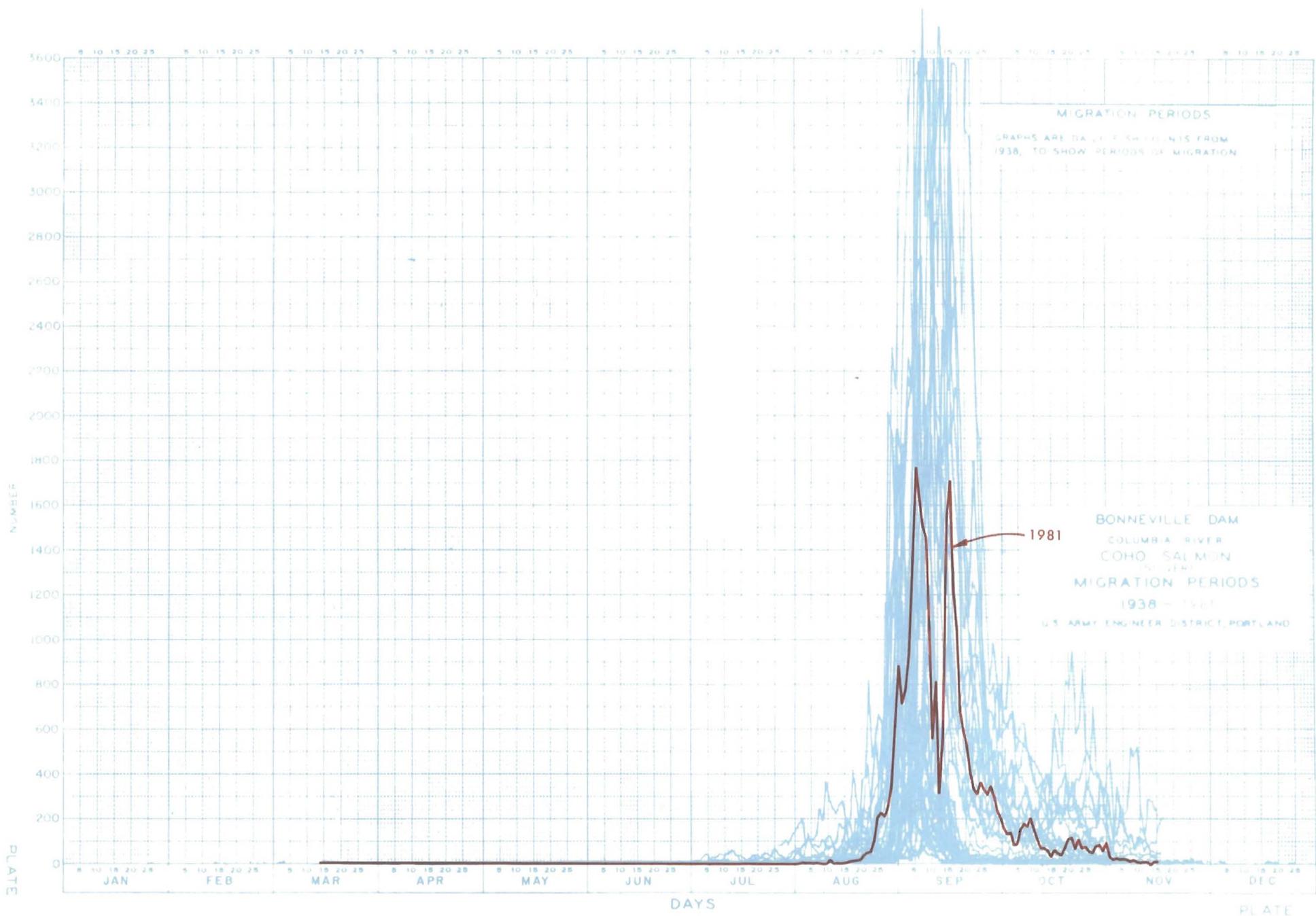
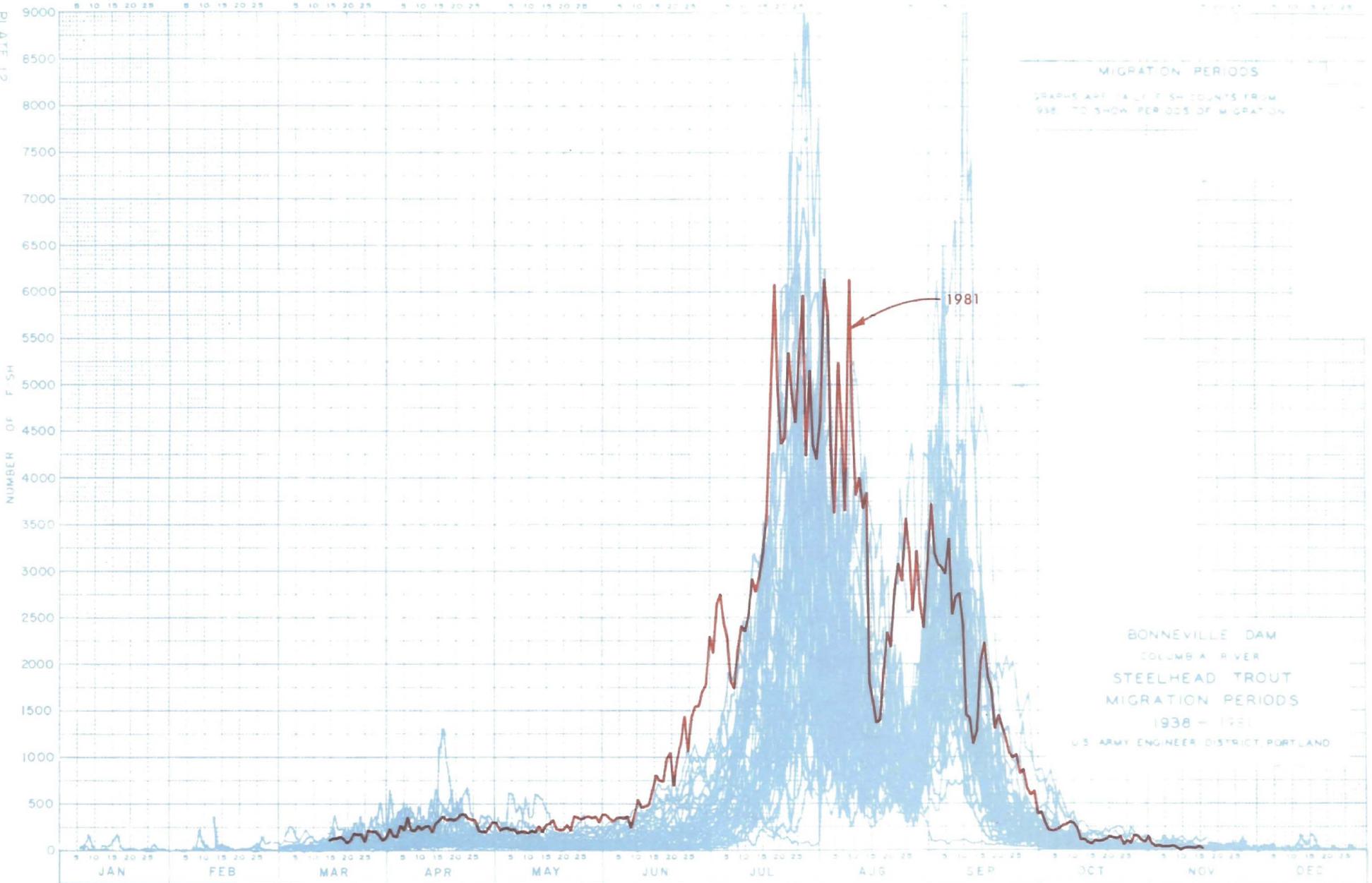


PLATE 12



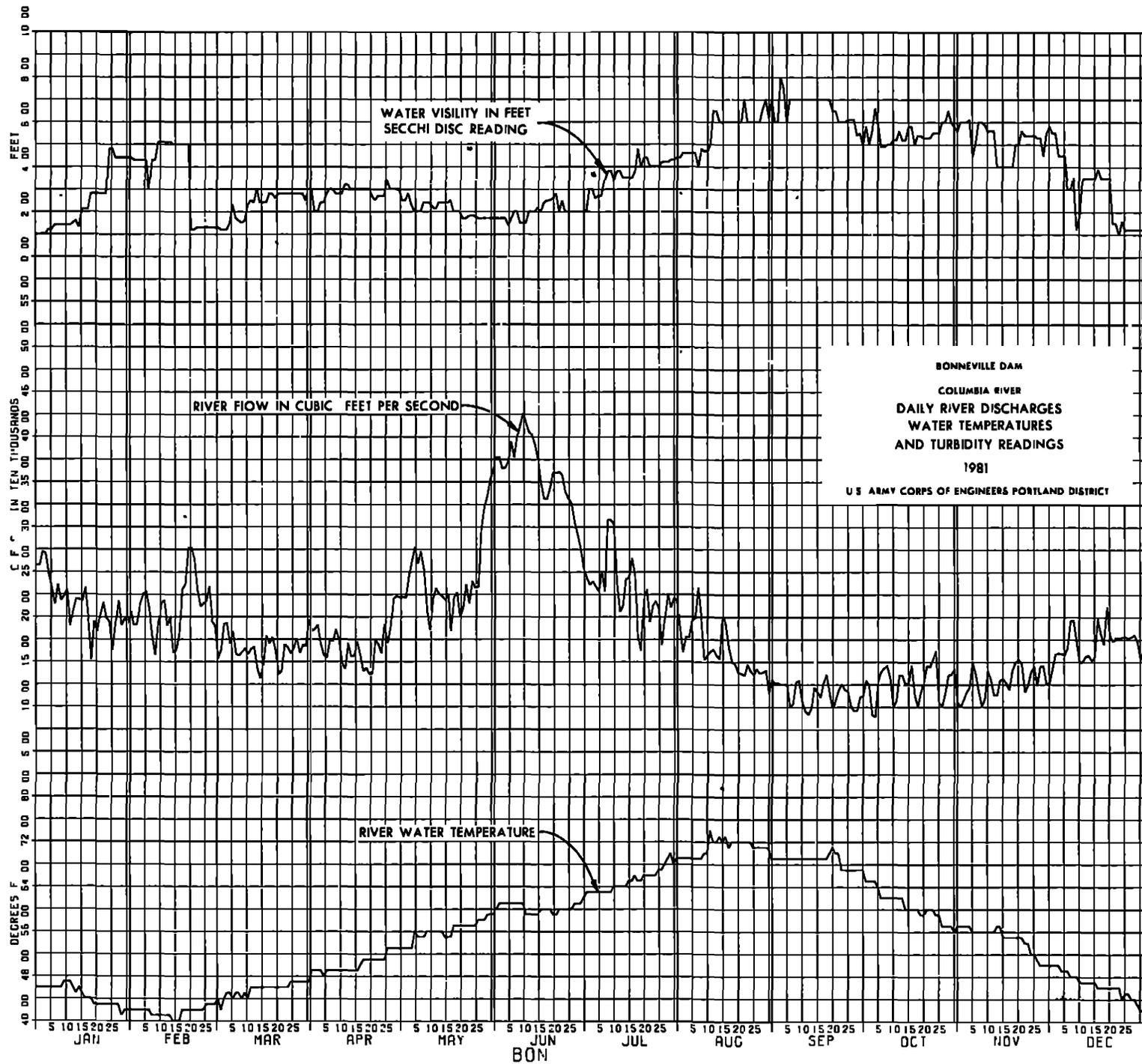
MIGRATION PERIODS

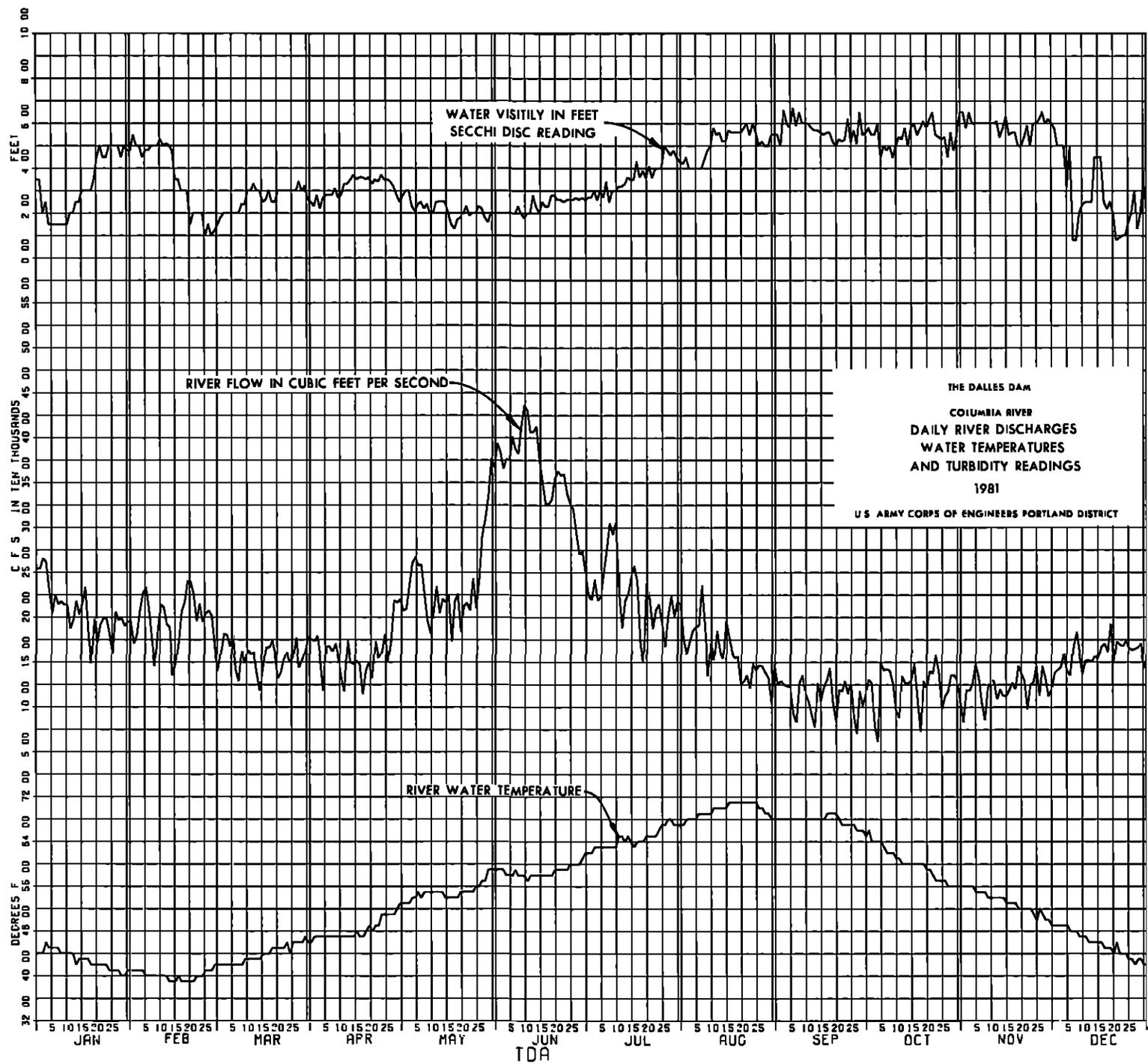
GRAPHS ARE TAKEN FROM COUNTS FROM 1938 TO SHOW PERIODS OF MIGRATION

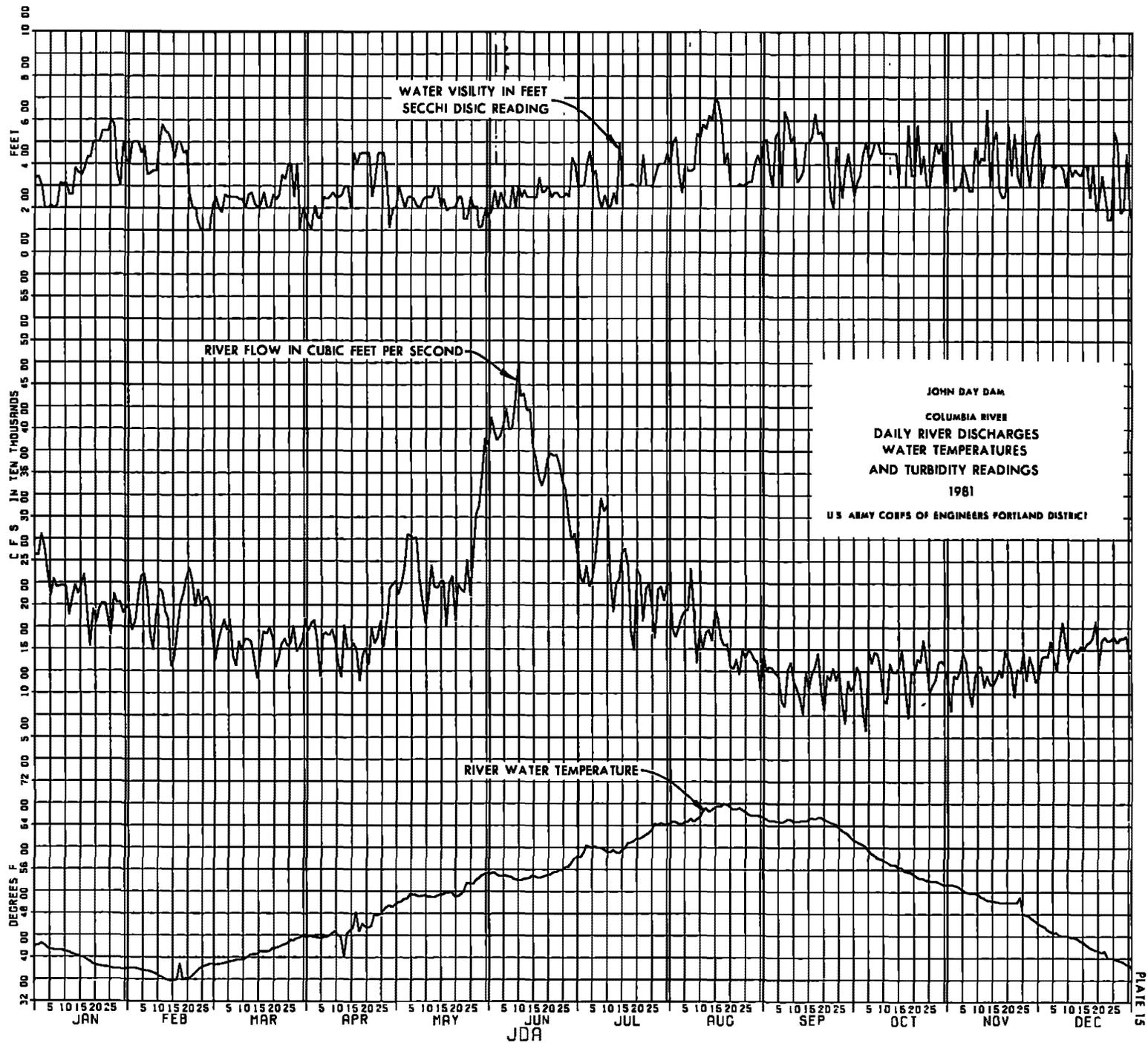
BONNEVILLE DAM
COLUMBIA RIVER
STEELHEAD TROUT
MIGRATION PERIODS
1938 - 1981
U.S. ARMY ENGINEER DISTRICT, PORTLAND

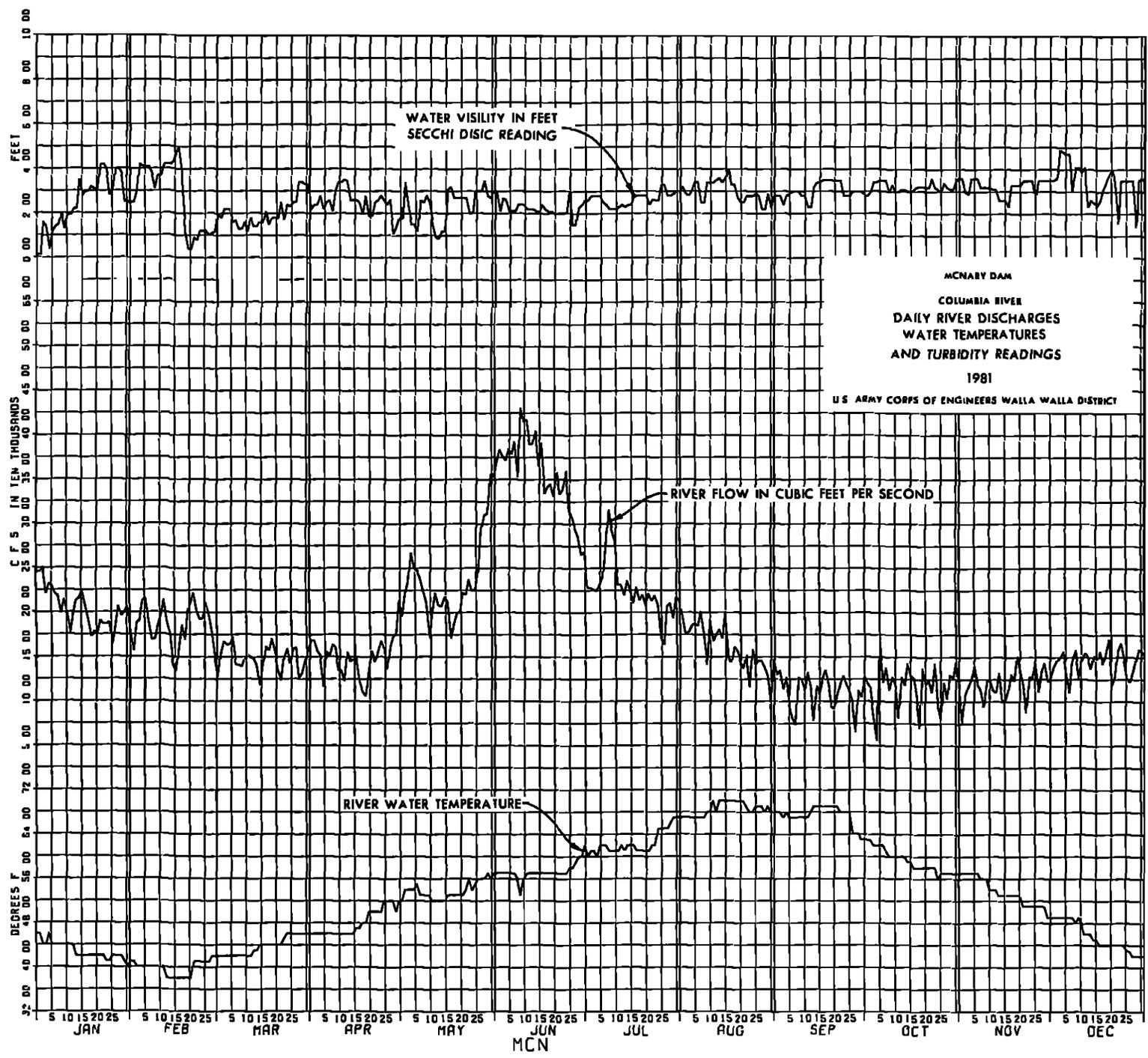
DAYS

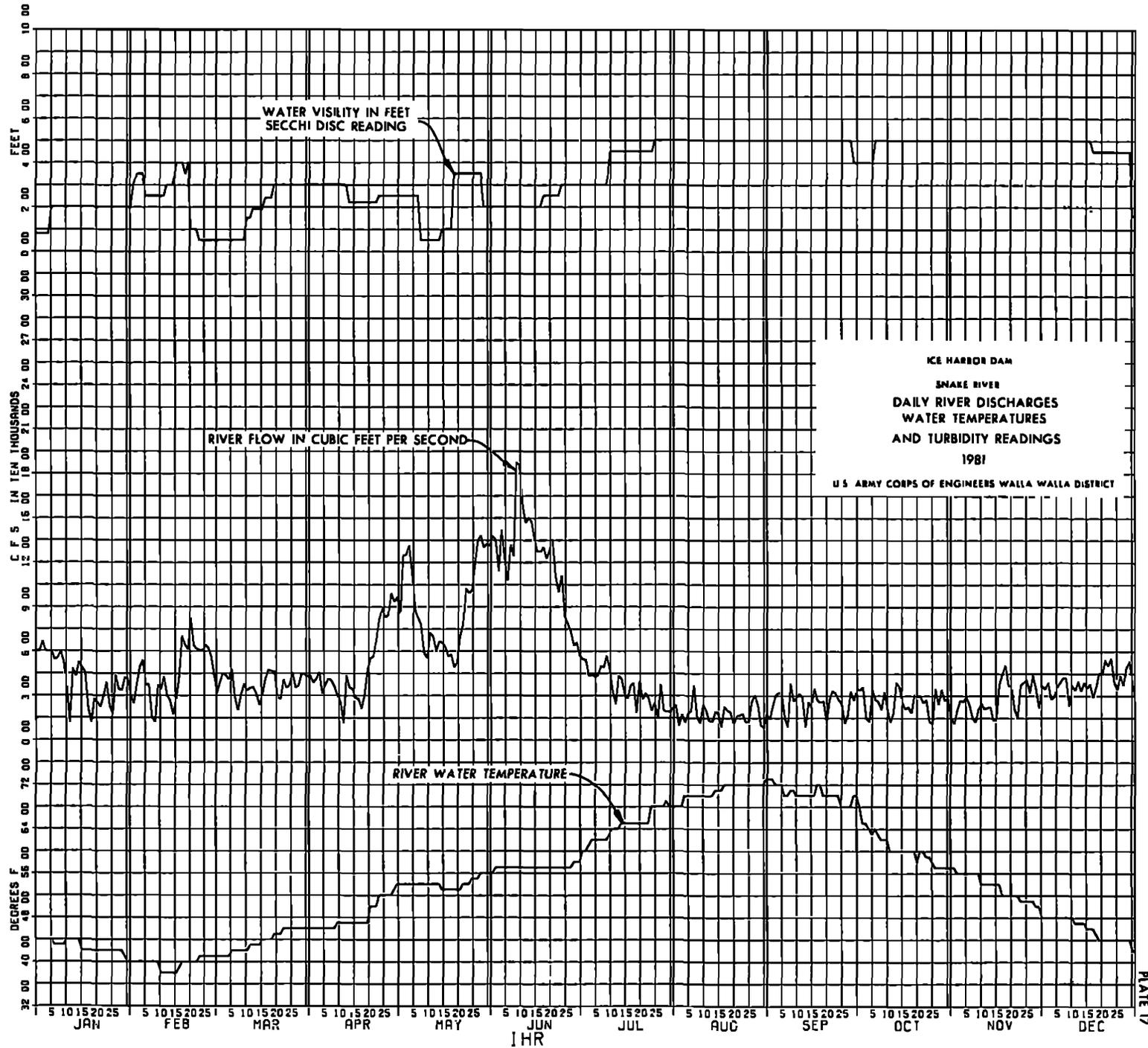
PLATE

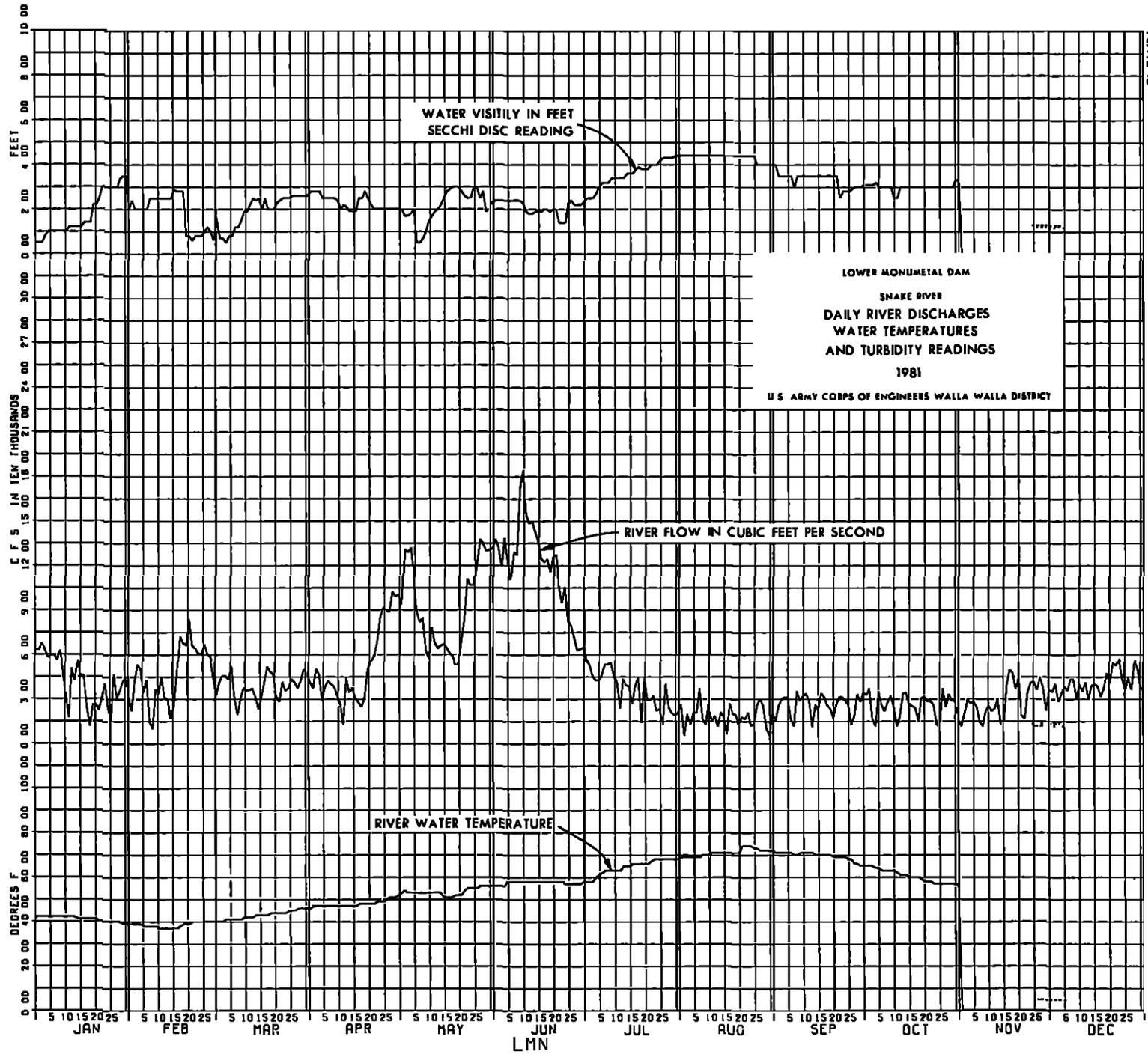


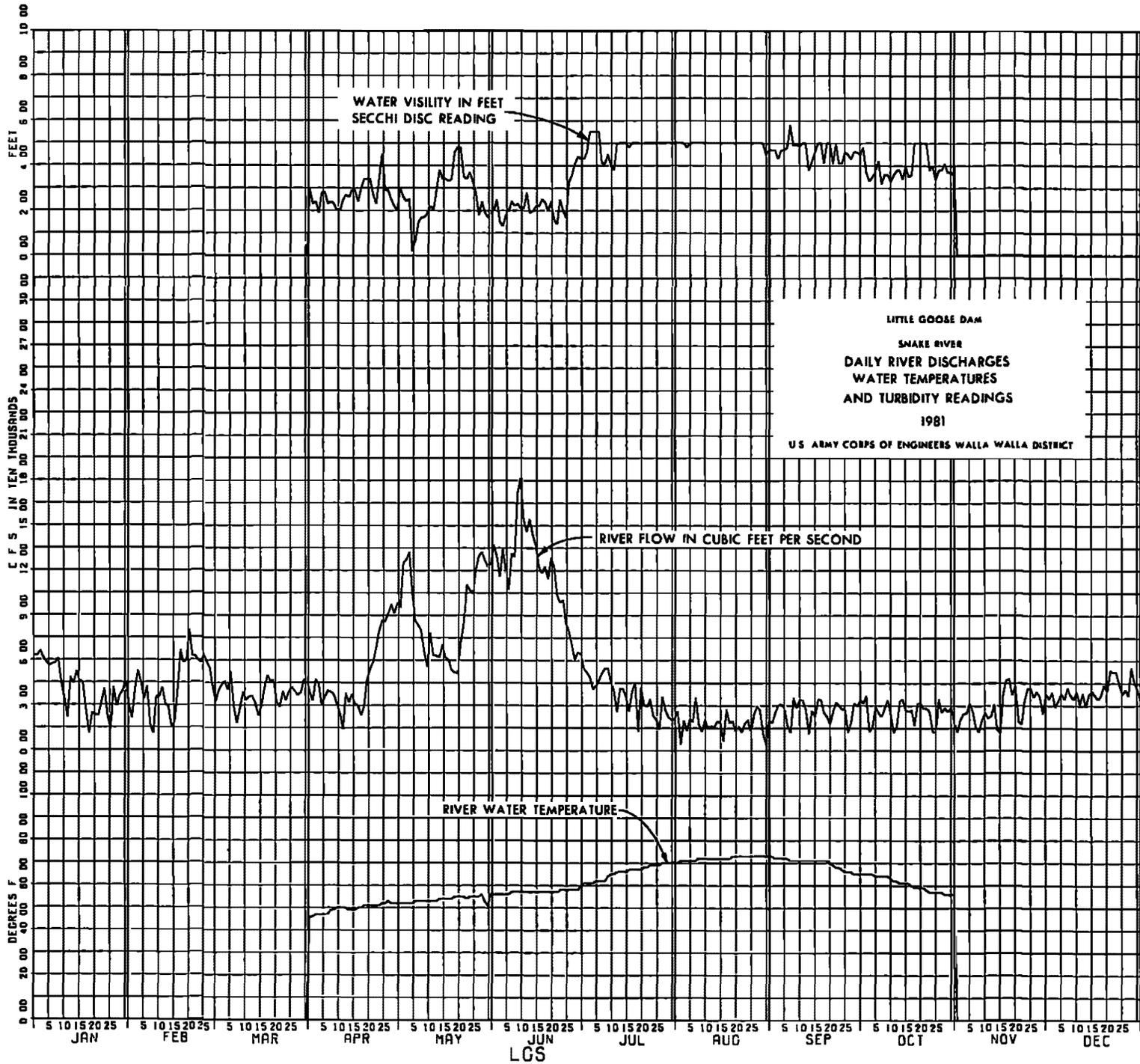


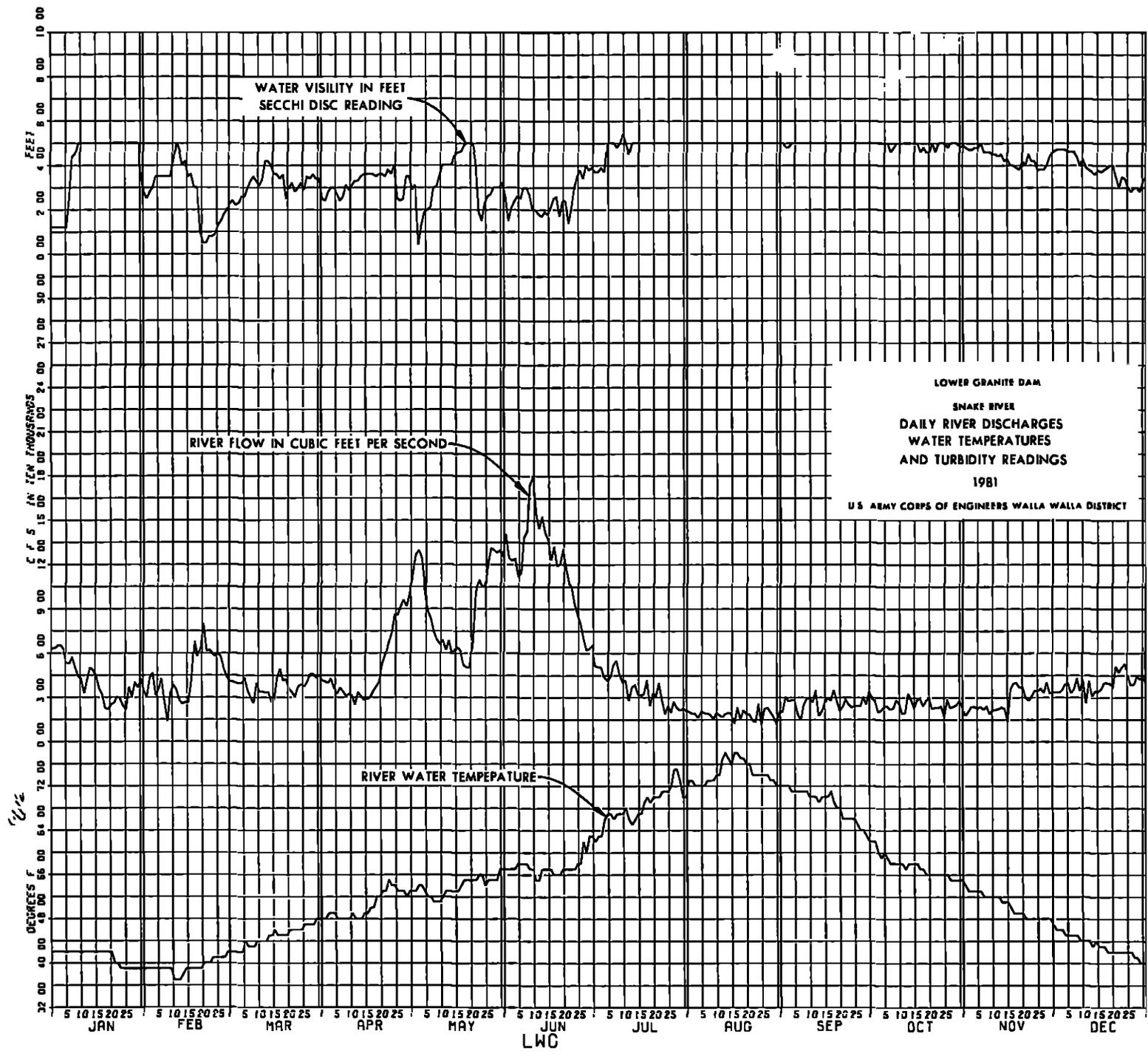




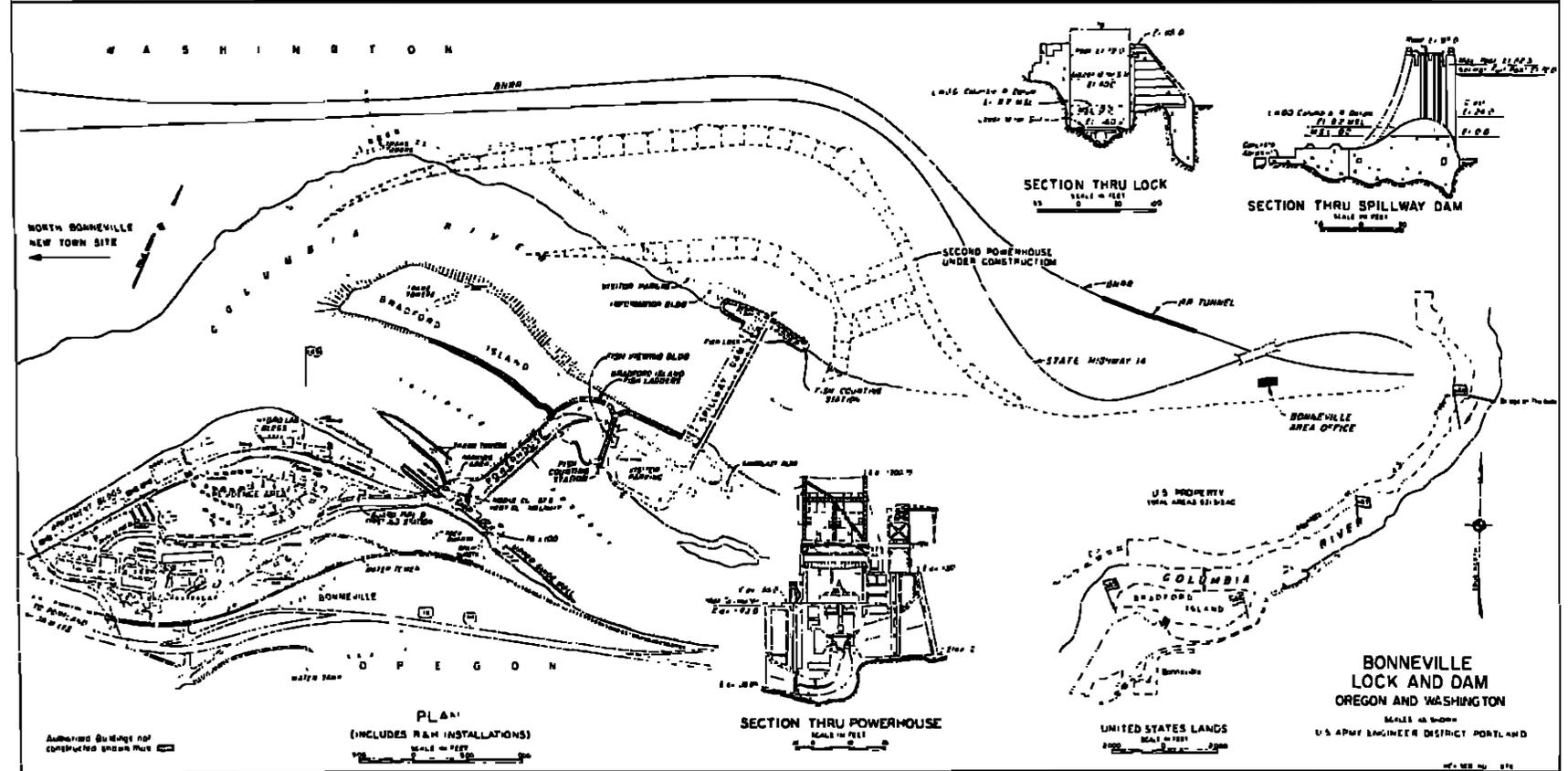
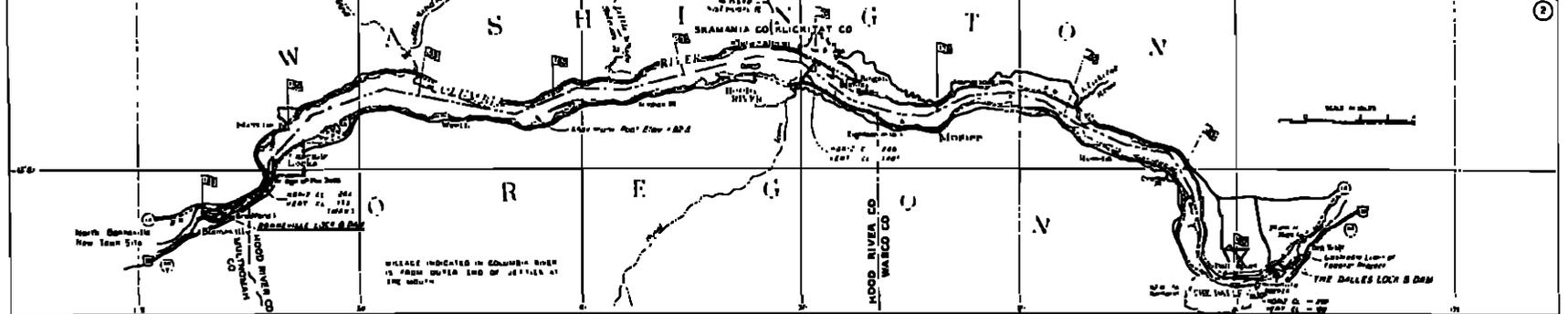


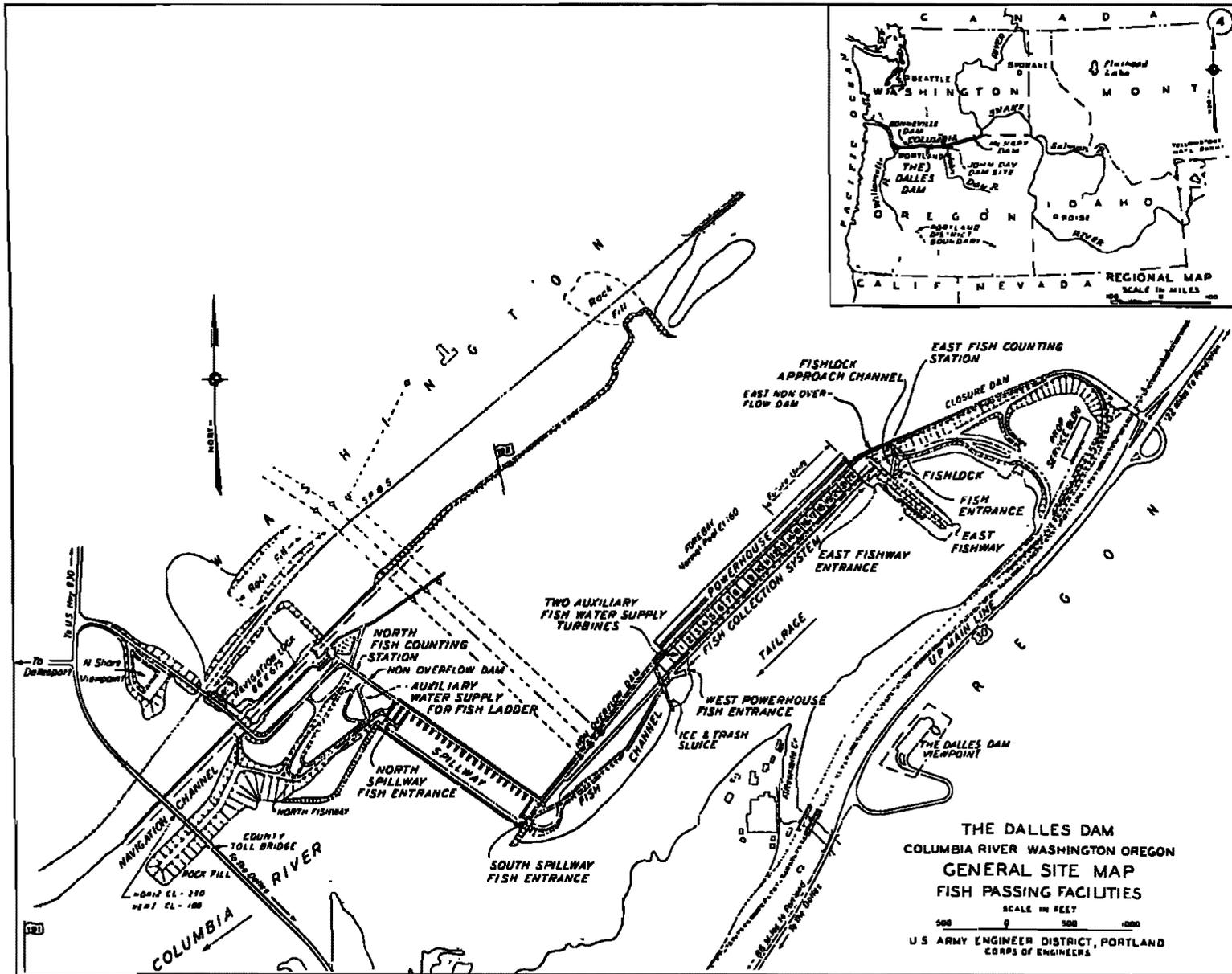


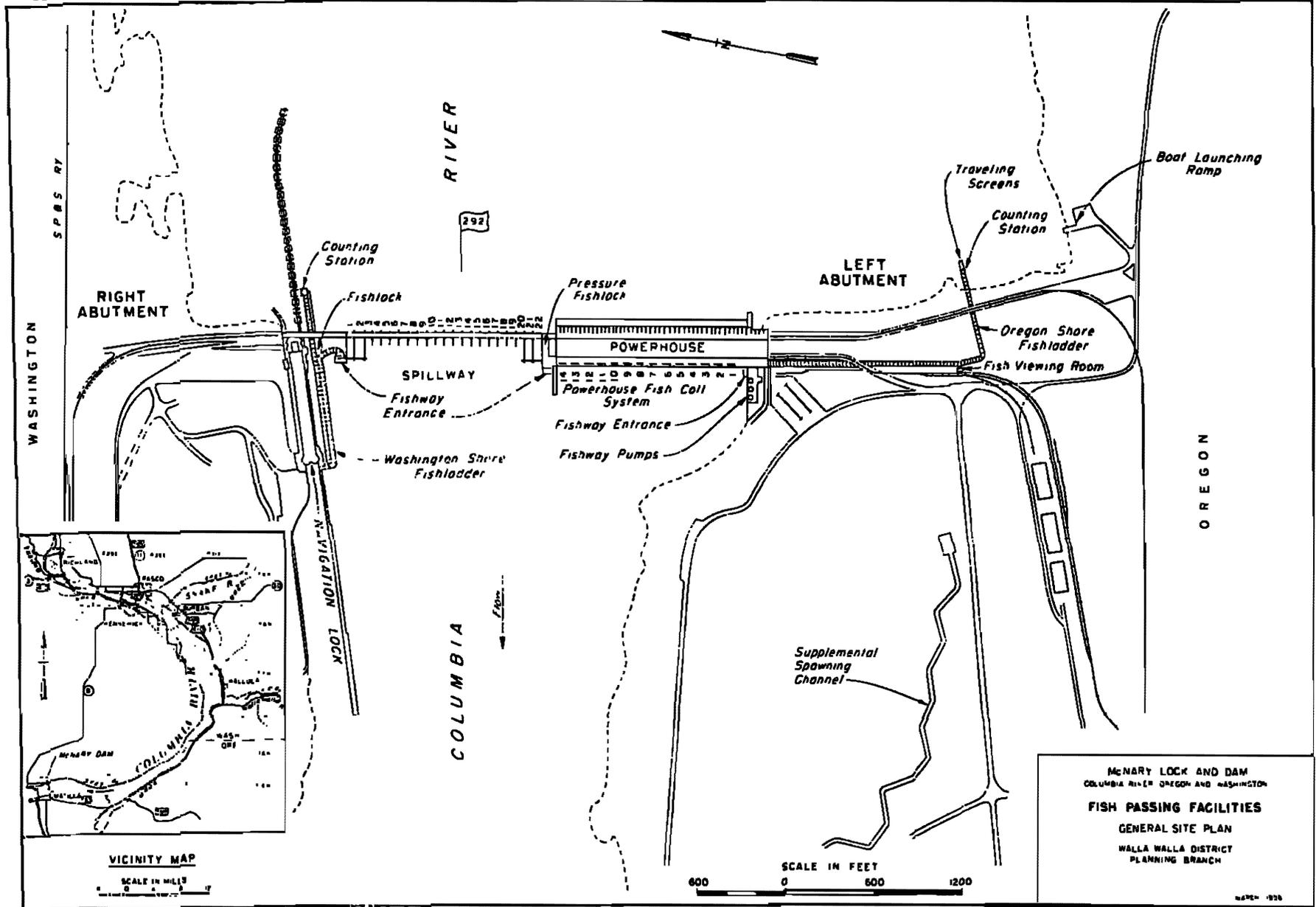


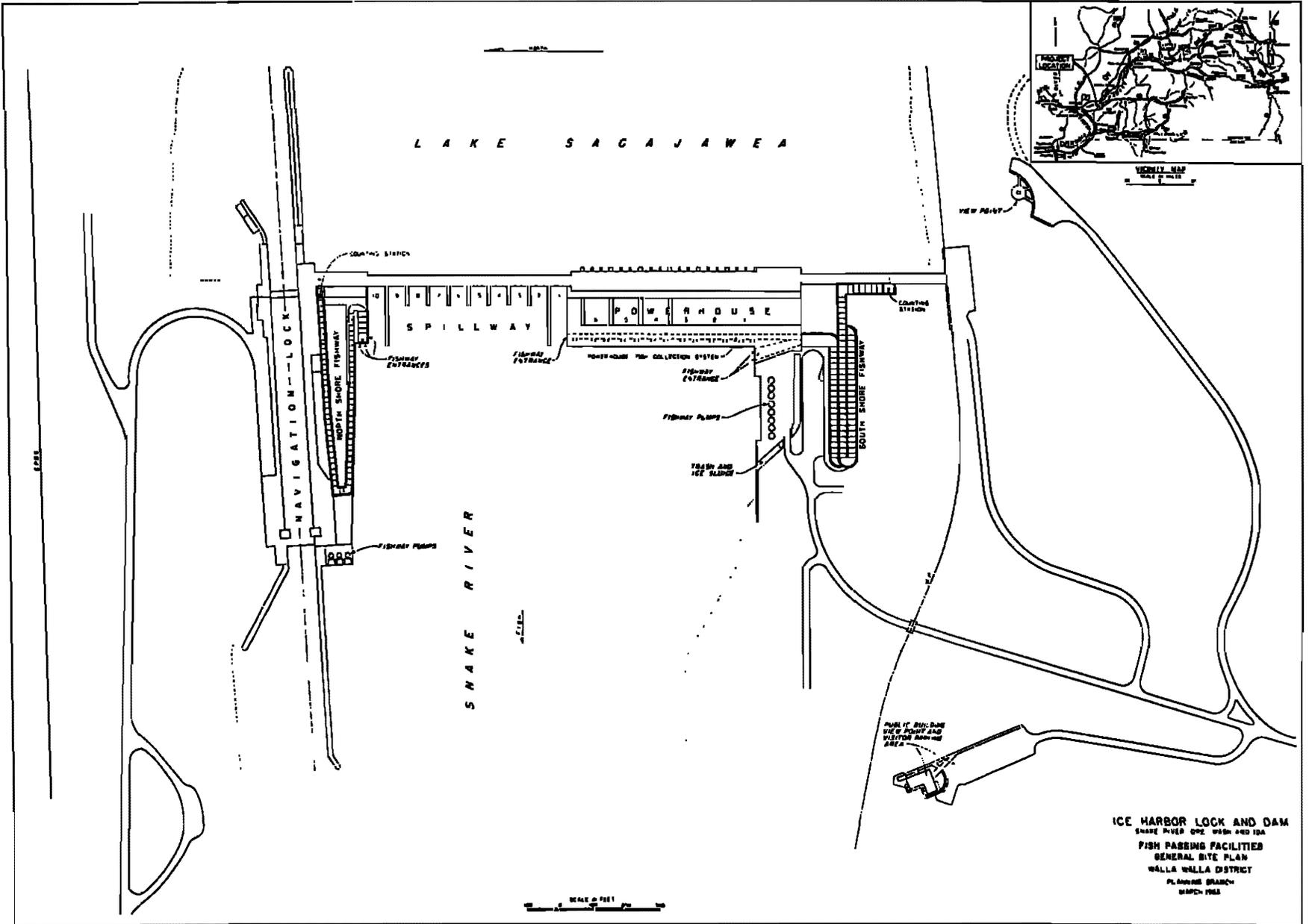


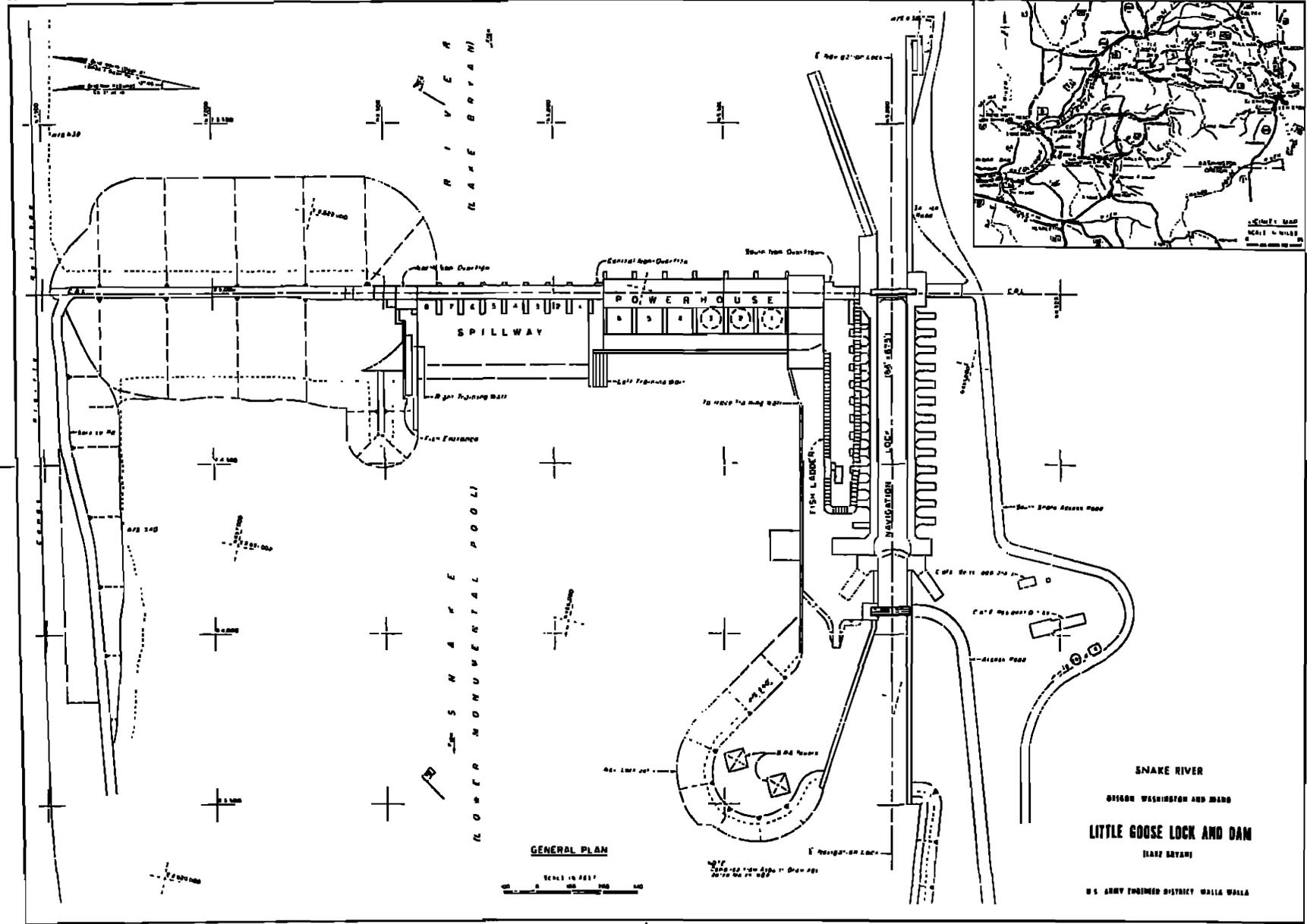
U^{1/2}









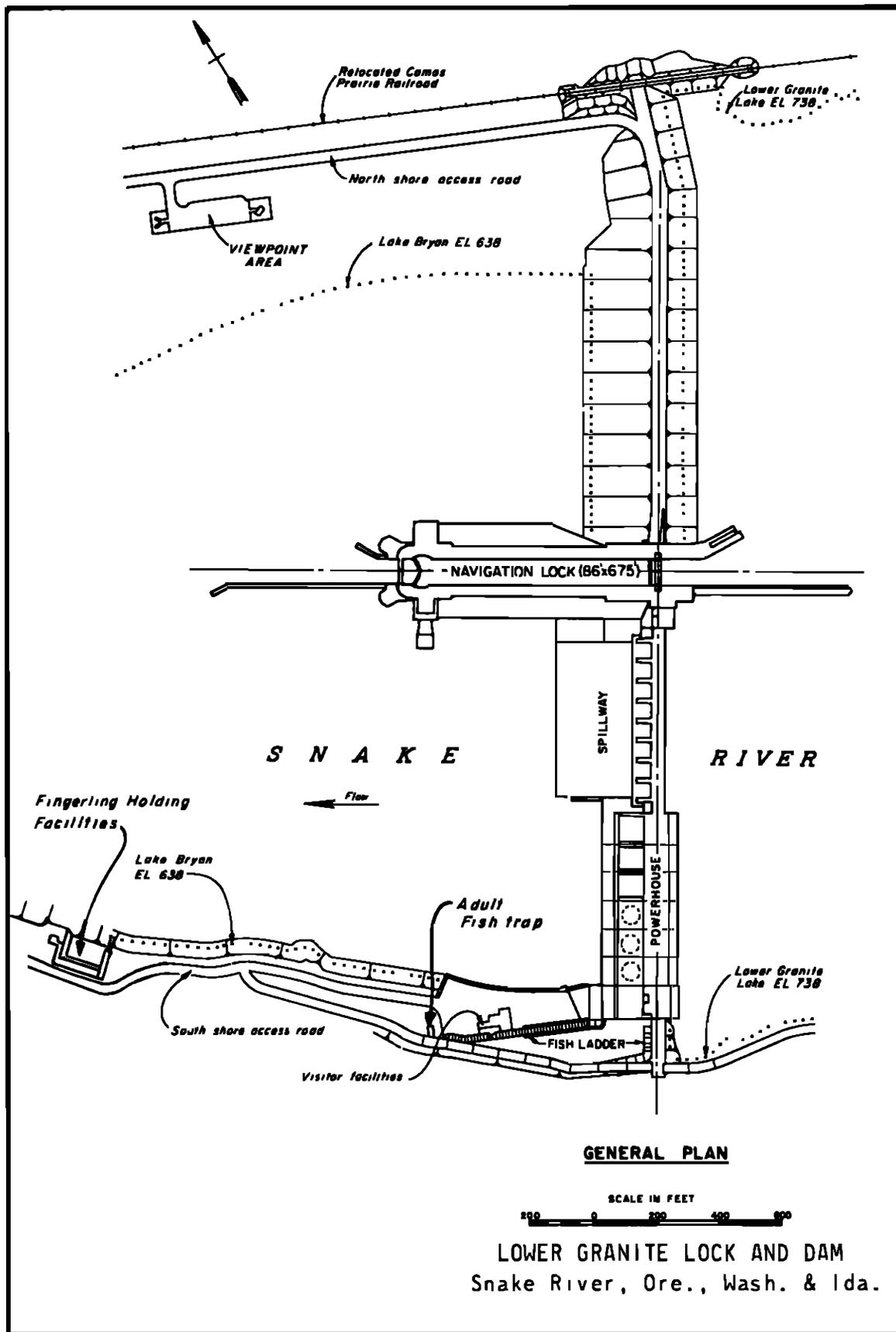


GENERAL PLAN

SCALE IN FEET
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000

SLAKE RIVER
OSYON WASHINGTON AND IDAHO
LITTLE GOOSE LOCK AND DAM
SLAKE RIVER

U. S. ARMY ENGINEER DISTRICT WALLA WALLA



GDG-1-0-1/14