



**US Army Corps  
of Engineers**

Portland & Walla Walla Districts

---

# **ANNUAL FISH PASSAGE REPORT-1982**



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



1982

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>
1982 Fish Counting Schedule	1
1982 Fish Ladder Operating Schedule	1-2
1982 Fishway Activities	2

THE DALLES DAM

1982 Fish Counting Schedule	3
1982 Fish Ladder Operating Schedule	3
1982 Fishway Activities	3

JOHN DAY DAM

1982 Fish Counting Schedule	4
1982 Fish Ladder Operating Schedule	4
1982 Fishway Activities	4

McNARY DAM

1982 Fish Counting Schedule	5
1982 Fish Ladder Operating Schedule	5
1982 Fishway Activities	5

ICE HARBOR DAM

1982 Fish Counting Schedule	6
1982 Fish Ladder Operating Schedule	6
1982 Fishway Activities	6

TABLE OF CONTENTS (CONTD)

LOWER MONUMENTAL DAM

<u>Text</u>	<u>Page</u>
1982 Fish Counting Schedule	7
1982 Fish Ladder Operating Schedule	7
1982 Fishway Activities	7

LITTLE GOOSE DAM

1982 Fish Counting Schedule	8
1982 Fish Ladder Operating Schedule	8
1982 Fishway Activities	8

LOWER GRANITE

1982 Fish Counting Schedule	9
1982 Fish Ladder Operating Schedule	9
1982 Fishway Activities	9

## LIST OF TABLES

### GENERAL

#### Table No.

1 Fish Escapement at main stem dams Columbia & Snake 1978-1982

### BONNEVILLE DAM

2 Yearly totals of salmonids fish counted over Bonneville Dam 1938-1982

3 Monthly totals of salmonids and shad counted over Bonneville Dam 1938-1982

4-14 Monthly Discharge, Water Quality Data, and Fish Counts Jan thru Dec 1982

15 Peak days of fish migration - 1938-1982

16 Monthly count of chinook salmon - 1938-1982

17 Monthly count of sockeye salmon - 1938-1982

18 Monthly count of coho salmon - 1938-1982

19 Monthly count of steelhead trout - 1938-1982

20 Monthly count of shad and percent counted over fish ladders 1938-1982

### THE DALLES DAM

21 Yearly totals of salmonids counted over The Dalles Dam 1957-1982

22 Monthly totals of salmonids and shad counted over The Dalles Dam 1982

23-31 Monthly Discharge, Water Quality Data, and Fish Counts Jan thru Dec 1982

32 Peak days of fish migration - 1957-1982

33 Monthly count of chinook salmon - 1957-1982

LIST OF TABLES (CONTD)

THE DALLES DAM

Table No.

- 34 Monthly count of sockeye salmon - 1957-1982
- 35 Monthly count of coho salmon - 1957-1982
- 36 Monthly count of steelhead trout - 1957-1982

JOHN DAY DAM

- 37 Yearly totals of salmonids counted over John Day Dam 1968-1982
- 38 Monthly totals of salmonids and shad counted over John Day Dam 1982
- 39-47 Monthly Discharge, Water Quality Data, and Fish Counts Jan thru Dec 1982
- 48 Peak days of migration 1968-1982
- 49 Monthly count of chinook salmon - 1968-1982
- 50 Monthly count of sockeye salmon - 1968-1982
- 51 Monthly count of coho salmon - 1968-1982
- 52 Monthly count of steelhead trout - 1968-1982

McNARY DAM

- 53 Yearly totals of salmonids counted over McNary Dam 1954-1982
- 54 Monthly totals of salmonids and shad counted over McNary Dam 1982
- 55-64 Monthly Discharge, Water Quality Data, and Fish Counts Jan thru Dec 1982
- 65 Peak days of fish migration - 1954-1982
- 66 Monthly count of chinook salmon - 1954-1982

LIST OF TABLES (CONTD)

McNARY DAM

Table No.

- 67 Monthly count of sockeye salmon - 1954-1982
- 68 Monthly count of coho salmon - 1954-1982
- 69 Monthly count of steelhead trout - 1954-1982

ICE HARBOR DAM

- 70 Yearly totals of salmonids counted over Ice Harbor Dam 1962-1982
- 71 Monthly totals of salmonids and shad counted over Ice Harbor Dam 1982
- 72-81 Monthly Discharge, Water Quality Data, and Fish Counts Jan thru Dec 1982
- 82 Peak days of fish migration - 1962-1982
- 83 Monthly count of chinook salmon - 1962-1982
- 84 Monthly count of steelhead trout - 1962-1982

LOWER MONUMENTAL DAM

- 85 Yearly totals of salmonids counted over Lower Monumental Dam 1962-1982
- 86 Monthly totals of salmonids and shad counted over Lower Monumental Dam - 1982
- 87-95 Monthly Discharge, Water Quality Data, and Fish Counts Jan thru Dec 1982
- 96 Peak days of fish migration - 1969-1982
- 97 Monthly totals of chinook salmon - 1969-1982
- 98 Monthly count of steelhead trout - 1969-1982

LIST OF TABLES (CONTD)

LITTLE GOOSE DAM

Table No.

- 99 Yearly totals of salmonids counted over Little Goose Dam 1970-1981
- 100-108 Monthly Discharge, Water Quality Data, and Fish Counts Jan thru Dec 1982
- 109 Peak days of fish migration - 1970-1981
- 110 Monthly totals of chinook salmon - 1970-1981
- 111 Monthly totals of steelhead trout - 1970-1981

LOWER GRANITE DAM

- 112 Yearly totals of salmonids counted over Lower Granite Dam 1975-1982
- 113 Monthly totals of salmonids counted over Lower Granite Dam 1982
- 114-124 Monthly Discharge, Water Quality Data, and Fish Counts Jan thru Dec 1982
- 125 Peak days of fish migration - 1975-1982
- 126 Monthly totals of chinook counted over Lower Granite Dam 1975-1982
- 127 Monthly totals of steelhead trout counted over Lower Granite Dam 1975-1982

GENERAL

- 128 Fish facility operations and maintenance costs - 1982

LIST OF PLATES

Plate No.

- 1 Chinook Salmon - fish count 1982 - Ice Harbor, Lower Monumental, Little Goose and Lower Granite Dams
- 2 Chinook Salmon - fish count 1982 - Bonneville, The Dalles, John Day and McNary Dams
- 3 Sockeye (Blueback) Salmon - fish count 1982 - Ice Harbor, Lower Monumental, Little Goose and Lower Granite Dams
- 4 Sockeye (Blueback) Salmon - fish count 1982 - Bonneville, The Dalles, John Day and McNary Dams
- 5 Coho (Silver) Salmon - fish count 1982 - Ice Harbor, Lower Monumental, Little Goose and Lower Granite Dams
- 6 Coho (Silver) Salmon - fish count 1982 - Bonneville, The Dalles, John Day and McNary Dams
- 7 Steelhead Trout - fish count 1982 - Ice Harbor, Lower Monumental, Little Goose and Lower Granite Dams
- 8 Steelhead Trout - fish count 1982 - Bonneville, The Dalles, John Day and McNary Dams
- 9 Chinook Salmon migration periods - 1938-1982 - Bonneville Dam
- 10 Sockeye (Blueback) migration periods - 1938-1982 - Bonneville Dam
- 11 Coho (Silver) migration periods - 1938-1982 - Bonneville Dam
- 12 Steelhead Trout migration periods - 1938-1982 - Bonneville Dam
- 13 Daily river discharges, water temperatures and turbidity readings - Bonneville Dam - 1982
- 14 Daily river discharges, water temperatures and turbidity readings - The Dalles Dam - 1982
- 15 Daily river discharges, water temperatures and turbidity readings - John Day Dam - 1982
- 16 Daily river discharges, water temperatures and turbidity readings - McNary Dam - 1982

LIST OF PLATES (CONTD)

Plate No.

- 17 Daily river discharges, water temperatures and turbidity readings - Ice Harbor Dam - 1982
- 18 Daily river discharges, water temperatures and turbidity readings - Lower Monumental Dam - 1982
- 19 Daily river discharges, water temperatures and turbidity readings - Little Goose Dam - 1982
- 20 Daily river discharges, water temperatures and turbidity readings - Lower Granite Dam - 1982
- 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 - 1982

1982 Fish Counting Schedule

1 Jan - 14 Mar	No counting.
15 Mar - 31 Mar	Both ladders counted for one 8-hour shift each 0800-1600 hours, Pacific Standard Time.*
1 Apr - 31 Oct	Both ladders counted for two 8-hour shifts each 0400-2000 hours, Pacific Standard Time.*
1 Nov - 15 Nov	Both ladders counted for one 8-hour shift each 0800-1600 hours, Pacific Standard Time.*
16 Nov - 31 Dec	No counting.

1982 Fish Ladder Operating Schedule

Washington Shore 1 Jan - 5 Jan	In service.
Washington Shore 5 Jan - 8 Mar	Bonneville #2 fishway out of service for inspection and maintenance.
Washington Shore 5 Jan - 22 Jan	Cascade Island section of Washington Shore ladder in service.
Washington Shore 22 Jan	Cascade Island section of the Washington Shore ladder closed for 2.0 hours for oil spill in forebay.
Washington Shore 22 Jan - 8 Mar	Cascade Island section of the Washington Shore ladder in service.
Washington Shore 9 Mar - 15 Nov	In service.

\* Counting was conducted 50 minutes per hour with a 1.2 factor applied to compensate for rest periods at all the projects covered in this report except Little Goose Dam.

BONNEVILLE DAM (cont'd)

Washington Shore	15 Nov - 6 Dec	Out of service for annual maintenance.
Washington Shore	7 Dec - 31 Dec	Cascade Island section of Washington Shore ladder in service with Bonneville #2 fishway out of service for annual maintenance.
Bradford Island	1 Jan - 9 Mar	Bonneville #1 Powerhouse Collection System out of service for contractor modification.
Bradford Island	1 Jan - 22 Jan	B-Branch section of the Bradford Island ladder in service.
Bradford Island	22 Jan	B-Branch section of the Bradford Island ladder closed for 2.0 hours for oil spill in forebay.
Bradford Island	22 Jan - 8 Mar	B-Branch section of the Bradford Island in service.
Bradford Island	9 Mar - 3 May	In service.
Bradford Island	3 May - 4 May	Bonneville #1 Powerhouse Collection System and A-Branch auxiliary water and gate control systems forced out of service for 22.7 hours. Contractor's crane tipped over knocking control panel out of service.
Bradford Island	3 May - 4 May	B-Branch section of Bradford Island ladder in service.
Bradford Island	5 May - 31 Dec	In service.
Bradford Island	31 Dec	Bonneville #1 Powerhouse Collection System and B-Branch out of service for annual maintenance.

1982 Fishway Activities

The Bonneville fish passage facilities, both upstream migrants and downstream migrants, were operated for the entire year on manual due either to deficient design of modifications, incomplete construction, or lack of necessary pieces of control equipment.

Downstream migrant system at Bonneville #2 unwatered for emergency relief gate modification from 12 March through 31 March and 15 November through 31 December for annual maintenance.

THE DALLES DAM - 1982

1982 Fish Counting Schedule

1 Jan - 31 Mar	No counting.
1 Apr - 31 Oct	Two counters on duty 16 hours daily 0400-2000 hours, Pacific Standard Time.*
1 Nov - 31 Dec	No counting.

1982 Fish Ladder Operating Schedule

North Ladder 1 Jan - 29 Nov	In service.
North Ladder 29 Nov - 8 Dec	Out of service for annual inspection and maintenance.
North Ladder 8 Dec - 31 Dec	In service.
East Ladder 1 Jan - 9 Dec	In service.
East Ladder 9 Dec - 31 Dec	Out of service for annual inspection and maintenance.

1982 Fishway Activities

Fish turbine #1 out of service 1 January through 10 January for annual maintenance, 16 August for breaker semi-annual maintenance, and 1 December through 16 December for annual maintenance.

Fish turbine #2 out of service 1 January through 7 January for annual maintenance, 16 August and 17 August for breaker semi-annual maintenance, and 17 December through 31 December for annual maintenance.

Sonar activities conducted by Corps fisheries personnel 22 July through 23 August.

Removed trap and associated equipment from ice-trash sluiceway 27 September through 30 September.

\* See page 1.

JOHN DAY DAM - 1982

1982 Fish Counting Schedule

1 Jan - 31 Mar	No counting.
1 Apr - 31 Oct	Two counters on duty 16 hours daily 0400-2000 hours, Pacific Standard Time.*
1 Nov - 31 Dec	No counting.

1982 Fish Ladder Operating Schedule

North Ladder	1 Jan - 31 Nov	In service.
North Ladder	1 Dec - 8 Dec	Unwatered for annual inspection.
North Ladder	9 Dec - 31 Dec	In service.
South Ladder	1 Jan - 31 Jan	Out of service.
South Ladder	12 Jan - 18 Jan	Unwatered for annual inspection.
South Ladder	1 Feb - 31 Dec	In service.

1982 Fishway Activities

North fish pumps, 1, 2, 3, 4, 5, and 6, out of service for inspection and repair 131.5, 181.5, 680.5, 1546, 3120, and 440.6 hours respectively.

South fish turbines 1, 2, and 3 out of service for maintenance 4 January through 26 March, 4 January through 1 March, and 4 January through 1 March respectively.

\* See page 1.

McNARY DAM - 1982

1982 Fish Counting Schedule

1 Jan - 28 Feb	No counting.
1 Mar - 31 Mar	Counting daily 0800-1600 hours Pacific Standard Time.*
1 Apr - 31 Oct	Counting daily 0400-2000 hours Pacific Standard Time.
1 Nov - 31 Dec	No counting.

1982 Fish Ladder Operating Schedule

North Ladder 1 Jan - 31 Jan	In service.
North Ladder 1 Feb - 12 Feb	Out of service for annual inspection and maintenance.
North Ladder 13 Feb - 31 Dec	In service.
South Ladder 1 Jan - 15 Feb	In service.
South Ladder 16 Feb - 25 Feb	Out of service for annual inspection and maintenance.
South Ladder 16 Feb - 2 Apr	The north powerhouse entrances were out of service for construction of an oil containment wall in the unused back transportation channel.
South Ladder 26 Feb - 31 Dec	In service.

1982 Fishway Activities

Special count one shift per day from 0800 to 1600 hours Pacific Standard Time from 1 March to 31 March for monitoring the dredging of the navigation channel below Ice Harbor Dam. One counter counted the south ladder by direct observation and the north ladder by closed circuit television.

Spillbay 22 was not used during the spill season due to the fish barge loading below it and because of the spillbays proximity to the fingerling facilities.

The traveling screens and fingerling bypass system were in operation for the fingerling passage season.

National Marine Fisheries Service operated the trap in the north ladder as part of their transportation program evaluation.

\* See page 1.

## ICE HARBOR DAM - 1982

### 1982 Fish Counting Schedule

1 Jan - 28 Feb	No counting.
1 Mar - 31 Mar	Counting daily 0800-1600 hours Pacific Standard Time.*
1 Apr - 31 Oct	Counting daily 0400-2000 hours Pacific Standard Time.
1 Nov - 31 Dec	No counting.

### 1982 Fish Ladder Operating Schedule

North Ladder 1 Jan - 23 Feb	In service.
North Ladder 24 Feb - 26 Feb	Out of service for annual inspection and maintenance.
North Ladder 27 Feb - 31 Dec	In service.
South Ladder 1 Jan - 21 Feb	In service.
South Ladder 22 Feb - 23 Feb	Out of service for annual inspection and maintenance.
South Ladder 24 Feb - 31 Dec	In service.

### 1982 Fishway Activities

Special count one shift per day from 0800 to 1600 Pacific Standard Time from 1 March to 31 March for monitoring the dredging of the navigation channel below Ice Harbor Dam. The one counter counted the south ladder by direct observation and the north ladder by closed circuit television.

Portland District's Fishery Management Unit evaluated the powerhouse adult collection system using radio-tagged spring chinook and electronic impedance tunnels during the main part of the spring chinook migration.

Sluiceway gates 2A, 3A, 3B, and 6A were automated with electric hoists for operating the sluiceway as a juvenile bypass system. BioSonics, Inc., evaluated the sluiceway with hydroacoustic equipment to determine its efficiency as a bypass system. The sluiceway operated 21 April through 28 May and 10 June through 20 August.

The University of Idaho trapped and collected adult fall chinook in the south ladder during September as part of the Snake River fall chinook egg bank program.

\* See page 1.

LOWER MONUMENTAL DAM - 1982

1982 Fish Counting Schedule

1 Jan - 31 Mar	No counting.
1 Apr - 31 Oct	Counting daily 0400-2000 hours Pacific Standard Time.*
1 Nov - 31 Dec	No counting.

1982 Fish Ladder Operating Schedule

North Ladder 1 Jan - 15 Feb	In service.
North Ladder 16 Feb - 16 Mar	Out of service for annual inspection, maintenance, and installation of electronic impedance tunnel equipment.
North Ladder 17 Mar - 28 Jul	In service.
North Ladder 29 Jul - 30 Jul	Out of service to remove debris.
North Ladder 31 Jul - 31 Dec	In service.
South Ladder 1 Jan - 28 Mar	In service.
South Ladder 29 Mar - 30 Mar	Out of service for annual inspection and maintenance.
South Ladder 31 Mar - 31 Dec	In service.

1982 Fishway Activities

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

Portland District's Fishery Management Unit evaluated the powerhouse adult collection system using radio-tagged spring chinook and electronic impedance tunnels during the main part of the spring chinook migration.

Walla Walla District conducted a sonar monitoring program to monitor the effectiveness of spills for passing downstream migrating juvenile salmonids.

\* See page 1.

## LITTLE GOOSE DAM - 1982

### 1982 Fish Counting Schedule

1 Jan - 31 Mar	No counting.
1 Apr - 31 Oct	Counting daily 0400-2000 hours Pacific Standard Time with video motion detector system to monitor total project passage.
1 Nov - 31 Dec	No counting.

### 1982 Fish Ladder Operating Schedule

Project Ladder 1 Jan - 10 Jan	In service.
Project Ladder 11 Jan - 22 Jan	Out of service for annual inspection and maintenance.
Project Ladder 23 Jan - 31 Dec	In service.

### 1982 Fishway Activities

Formal fish counting was suspended at the end of the 1981 fish counting season after the powerhouse collection system evaluation conducted in 1981 indicated that fish passed Little Goose without any apparent problems. For 1982, a video motion detection system was developed to count fish as they moved past the fish counting window to give an estimate of total project passage.

Fish pump number two was out of service from 15 December through 31 December due to a cracked packing sleeve on the turbine shaft.

The juvenile collection system was in operation from 8 April to 21 July.

## LOWER GRANITE DAM - 1982

### 1982 Fish Counting Schedule

1 Jan - 28 Feb	No counting.
1 Mar - 31 Mar	Counting daily 0800-1600 hours Pacific Standard Time.*
1 Apr - 31 Oct	Counting daily 0400-2000 hours Pacific Standard Time.*
1 Nov - 15 Dec	Counting daily 0800-1600 hours Pacific Standard Time.*
16 Dec - 31 Dec	No counting.

### 1982 Fish Ladder Operating Schedule

Project Ladder 1 Jan - 11 Jan	In service.
Project Ladder 12 Jan - 27 Jan	Out of service for annual inspection and maintenance and on 30 October to remove debris from ladder.
Project Ladder 28 Jan - 31 Dec	In service.

### 1982 Fishway Activities

One 8-hour counting shift per day from 0800 to 1600 Pacific Standard Time was conducted from 1 March through 31 March and 1 November through 15 December. Two 8-hour shifts from 0400 to 2000 hours Pacific Standard Time was conducted from 1 April through 31 October.

National Marine Fisheries Service operated the adult trap as part of their transportation program evaluation and conducted guiding efficiency tests on the traveling screens.

The juvenile collection system was in operation from 4 April to 29 July.

\* See page 1.

TABLE 1  
FISH ESCAPEMENT AT MAIN STEM DAMS  
COLUMBIA & SNAKE RIVERS 1978 to 1982

SPECIES	BONNEVILLE	THE DALLES	JOHN DAY	MCNARY	ICE HARBOR	LOWER MONUMENTAL	LITTLE GOOSE	LOWER GRANITE	PRIEST RAPIDS	ROCKY REACH
<b>1978</b>										
CHINOOK*	394,600	199,228	174,852	144,148	61,352	56,835	56,069	54,246	44,377	19,551
Spring*	149,863	84,924	72,723	68,414	49,303	47,342	44,327	41,006	21,427	7,317
Summer*	44,323	34,396	30,371	31,589	10,440	8,480	10,471	11,755	16,461	9,461
Fall*	200,414	79,908	71,758	44,145	1,609	1,013	1,271	1,485	6,489	2,773
Jacks	62,269	32,503	36,289	20,670	994	996	1,154	1,216	3,429	3,247
STEELHEAD	104,431	60,485	44,188	34,740	27,142	20,540	24,927	30,068	4,288	2,454
SOCKEYE	18,436	11,845	13,778	18,511	86	96	168	123	12,009	8,155
COHO*	52,590	18,877	8,355	20,356	652	218	307	152	597	1,438
Adults	30,278	5,344	1,055	4,653	159	88	146	25	157	
Jacks	22,312	13,533	7,300	15,703	493	130	161	127	440	
SHAD	861,166	1,234,723	629,005	380,727	16,278	1,620	2	0	21,704	0
<b>1979</b>										
CHINOOK*	276,306	150,647	118,154	95,275	13,929	11,288	12,515	12,548	38,166	14,891
Spring*	51,462	27,297	21,981	21,153	9,247	7,921	7,880	7,539	7,750	2,186
Summer*	34,217	32,298	23,572	2,608	2,083	3,445	3,572	22,689	9,986	
Fall*	190,627	91,052	72,601	49,961	2,074	1,284	1,190	1,437	7,727	2,719
Jacks	55,955	42,886	41,364	25,442	2,422	1,916	1,982	2,578	5,603	3,608
STEELHEAD	113,979	83,364	55,877	50,304	23,117	17,794	21,049	25,046	8,415	4,896
SOCKEYE	52,628	32,791	43,630	37,792	30	31	72	25	45,662	28,747
COHO*	45,328	8,726	5,061	12,800	398	194	390	158	311	244
Adults	29,612	3,890	3,891	6,519	125	120	200	50	272	
Jacks	15,716	4,836	1,170	6,281	273	74	190	108	39	
SHAD	1,039,857	1,398,224	646,187	361,024	10,489	4,908	121	75	20,196	0
<b>1980</b>										
CHINOOK*	245,518	113,951	100,664	80,773	14,717	10,885	10,605	10,986	38,286	10,163
Spring*	60,987	28,237	27,202	23,001	9,668	7,259	6,850	6,758	11,136	2,033
Summer*	31,065	21,133	19,664	18,862	3,305	2,712	3,057	3,447	18,708	6,068
Fall*	153,466	64,581	53,798	38,910	1,744	914	698	781	8,442	2,062
Jacks	37,748	20,016	25,877	17,564	2,934	2,214	1,772	2,385	7,727	2,139
STEELHEAD	129,254	93,963	78,199	66,524	50,221	34,322	38,627	40,454	8,506	4,345
SOCKEYE	58,882	2,088	50,675	44,301	36	48	88	96	52,055	29,906
COHO*	22,052	6,326	1,924	571	58	73	124	43	316	713
Adults	12,974	3,356	1,016	307	50	61	89	30	148	
Jacks	9,078	2,970	908	264	8	12	35	13	168	
SHAD	939,390	1,160,752	638,037	275,223	2,857	4,854	614	308	23,701	0
<b>1981</b>										
CHINOOK*	285,650	135,176	114,359	80,619	22,092	19,991	19,086	19,198	32,605	10,259
Spring*	65,009	41,160	37,677	32,330	16,167	14,275	13,668	13,642	14,787	3,593
Summer*	26,929	19,676	15,813	15,141	3,814	4,092	4,033	3,805	12,380	4,726
Fall*	193,712	74,340	60,869	33,148	2,111	1,624	1,385	1,751	5,438	1,940
Jacks	53,351	33,919	34,567	17,192	2,411	2,207	1,945	2,420	2,671	1,449
STEELHEAD	159,270	113,268	93,172	61,985	41,290	35,923	38,680	40,234	9,004	5,523
SOCKEYE	56,037	35,447	46,146	26,644	142	136	200	218	51,460	30,649
COHO*	30,510	6,941	2,562	3,736	82	63	120	17	433	522
Adults	21,935	2,536	943	1,725	25	19	8	1	132	
Jacks	8,575	4,405	1,619	2,011	57	44	112	16	301	
SHAD	881,179	1,088,958	527,678	193,373	5,048	1,274	84	72	20,857	0
<b>1982</b>										
CHINOOK*	322,809	172,682	114,082	102,225	22,646	21,965	**	19,476	32,062	9,223
Spring*	76,044	44,750	36,530	28,352	14,600	15,303		12,746	9,088	2,827
Summer*	26,614	19,342	16,360	16,574	4,527	4,284		4,528	9,883	3,511
Fall*	220,151	108,590	91,192	57,299	3,519	2,378		2,202	13,091	2,885
Jacks	74,898	60,165	56,966	32,979	2,513	1,943		2,175	5,888	2,881
STEELHEAD	157,640	117,434	108,603	75,099	73,405	62,772		72,840	11,051	6,293
SOCKEYE	50,219	33,331	37,970	15,077	174	154		211	40,461	17,379
COHO*	73,832	7,383	4,063	3,119	348	89		59	1,808	881
Adults	55,816	4,336	2,525	1,356	158	52		31	1,267	
Jacks	18,016	3,047	1,538	1,763	190	37		28	547	
SHAD	780,212	1,002,820	514,861	117,862	19,337	5,043		30	17,971	0

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 Mar - 17 Jun	1 Apr - 13 Jun	17 Apr - 19 Jun
SUMMER	1 Jun - 31 Jul	4 Jun - 3 Aug	6 Jun - 5 Aug	9 Jun - 8 Aug	12 Jun - 11 Aug	14 Jun - 13 Aug		18 Jun - 17 Aug	14 Jun - 13 Aug	20 Jun - 19 Aug
FALL	1 Aug - 15 Nov	4 Aug - 31 Oct	6 Aug - 31 Oct	9 Aug - 31 Oct	12 Aug - 31 Oct	14 Aug - 31 Oct		18 Aug - 15 Dec	14 Aug - 31 Dec	20 Aug - 15 Nov

\* Includes jack counts Fish classified as jacks are under 22 inches in length

\*\* 1981 concludes visual fish counting at Little Goose Dam Counting is now done an automatic system

TABLE 2  
YEARLY TOTALS OF SALMONID FISH COUNTED OVER BONNEVILLE DAM  
1938 - 1982

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 (CONT'D)  
 YEARLY TOTALS OF SALMONID FISH COUNTED OVER BONNEVILLE DAM  
 1938 - 1982

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	276,306	113,979	52,628	45,328	1	23	488,265
1980	245,518	129,254	58,882	22,052	44		455,750
1981	285,650	159,270	56,037	30,510	4	20	531,491
1982	322,809	157,640	50,219	73,832	12		604,512
Total	15,982,826	6,378,392	3,938,937	1,298,421	38,196	1,263	27,638,035
45-Year Average	355,174	141,742	87,532	28,854			614,179

TABLE 2 (CONT'D)

TABLE 3

TABLE 3  
MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER BONNEVILLE DAM

1982

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	312	30,282	45,450	15,439	11,175	34,058	174,348	11,487	258	-	322,809
STEELHEAD	-	-	1,239	4,188	5,335	8,636	39,159	51,329	44,456	3,146	152	-	157,640
SOCKEYE	-	-	-	-	12	20,731	29,207	264	4	1	-	-	50,219
COHO	-	-	-	-	-	-	79	3,687	55,743	13,182	1,141	-	73,832
CHUM	-	-	-	-	-	-	1	3	2	4	2	-	12
PINK	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL SALMONIDS</b>	<b>-</b>	<b>-</b>	<b>1,551</b>	<b>34,470</b>	<b>50,797</b>	<b>44,806</b>	<b>79,621</b>	<b>89,341</b>	<b>274,553</b>	<b>27,820</b>	<b>1,553</b>	<b>-</b>	<b>604,512</b>
<b>SHAD</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1</b>	<b>6,888</b>	<b>655,037</b>	<b>117,325</b>	<b>914</b>	<b>37</b>	<b>9</b>	<b>1</b>	<b>-</b>	<b>780,212</b>

TABLE 4  
DISCHARGE AND WATER QUALITY DATA  
BONNEVILLE DAM - 1982

DATE	JANUARY			FEBRUARY		
	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP
1	167,300	1.5	42.0	199,400	2.0	41.0
2	153,700	1.5	43.0	195,800	2.0	41.0
3	150,000	3.0	43.0	199,300	2.0	41.0
4	191,600	3.0	43.0	198,700	1.8	42.0
5	184,500	2.5	41.0	197,200	1.1	40.0
6	191,600	1.7	41.0	197,800	1.1	40.0
7	193,000	3.5	40.0	198,200	1.5	40.0
8	187,500	3.5	39.0	197,700	2.0	40.0
9	196,800	3.8	39.0	197,600	2.0	39.0
10	191,900	3.8	38.0	196,800	2.0	39.0
11	179,100	3.2	38.0	198,500	2.0	39.0
12	181,600	3.8	39.0	199,400	2.0	39.0
13	191,100	3.8	39.0	199,000	2.0	38.0
14	180,700	4.0	39.0	198,900	2.0	38.0
15	181,400	4.0	39.0	199,700	2.0	39.0
16	165,800	4.0	39.0	207,400	2.2	39.0
17	191,000	4.0	40.0	212,400	2.0	40.0
18	196,400	4.0	40.0	268,600	2.0	40.0
19	196,400	4.0	40.0	316,400	1.4	40.0
20	192,700	4.0	40.0	363,100	.5	40.0
21	189,300	3.5	40.0	340,500	.5	40.0
22	196,200	3.5	40.0	329,500	.5	41.0
23	197,200	2.8	39.0	359,200	.5	41.0
24	196,100	2.0	40.0	374,300	.5	41.0
25	198,600	2.0	40.0	385,600	.6	42.0
26	203,800	2.0	40.0	364,300	1.5	42.0
27	216,500	1.0	41.0	322,300	1.5	41.0
28	220,500	1.6	41.0	339,400	1.5	41.0
29	225,200	1.6	42.0			
30	217,000	1.4	42.0			
31	199,500	1.4	41.0			

TABLE 5

TABLE 5

MONTHLY FISH PASSAGE SUMMARY REPORT U.S. ARMY ENGINEER DISTRICT, PORTLAND								BONNEVILLE PROJECT MAR 1982					
DATE	FISH COUNTS							RIVER CONDITIONS					
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1										341.3	161.7	1.5	41.0
2										348.3	170.4	1.5	41.0
3										340.9	157.8	1.5	41.0
4										341.2	155.8	1.5	41.0
5										344.3	160.9	1.5	41.0
6										317.8	133.3	.8	41.0
7										292.0	106.4	.8	41.0
8										293.4	107.4	.8	43.0
9										301.1	111.7	.9	43.0
10										335.0	173.9	1.1	43.0
11										349.4	185.0	1.1	43.0
12										350.1	173.0	1.5	43.0
13										355.3	176.7	1.5	43.0
14										380.0	200.8	1.5	43.0
15	2						54			397.0	228.4	1.5	43.0
16							50			380.0	213.7	1.5	43.0
17	2						47			375.2	202.7	1.3	44.0
18	2						34			365.3	191.0	1.3	44.0
19	2						33			324.0	147.9	1.5	43.0
20	2						69			298.6	120.9	1.5	44.0
21	1						65			313.2	138.6	1.8	43.0
22	3						49			304.8	126.6	1.8	44.0
23	3						49			300.6	122.8	1.5	44.0
24	9		1				97			301.1	122.3	1.5	44.0
25	5		2				68			302.1	122.4	1.5	44.0
26	14		2				81			292.8	175.2	1.5	44.0
27	27		1				116			280.1	242.8	1.5	44.0
28	22						60			280.3	242.2	1.5	44.0
29	51						135			283.7	138.7	1.9	44.0
30	78						138			279.9	104.1	2.0	44.0
31	83						94			300.6	115.5	2.0	44.0
TOTALS	306		6				1239						
AVERAGES	19		1				73			324.8	159.1		

TABLE 6

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

APR 1982

DATE	FISH COUNTS							RIVER CONDITIONS					
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	Sockeye	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	195						218			302.0	112.4	2.2	45.0
2	274			1			190			297.4	101.8	2.0	45.0
3	340						205			289.4	91.7	2.0	45.0
4	320						115			278.8	81.6	2.5	46.0
5	186			1			87			274.3	79.4	2.5	46.0
6	330						131			309.0	117.0	2.5	45.0
7	495			-			99			296.3	114.2	2.5	46.0
8	403			1			102			255.9	67.1	2.5	46.0
9	677			3			209			247.1	50.0	3.5	47.0
10	647			2			207			225.8	31.3	3.5	46.0
11	786			2			109			249.4	54.8	3.5	47.0
12	1108						203			289.8	80.0	3.5	47.0
13	489			4			78			304.3	93.0	3.5	46.0
14	783			4			95			373.3	171.4	2.8	47.0
15	397			2			77			360.1	165.6	2.5	47.0
16	770			5			77			365.5	169.0	2.0	47.0
17	581			7			124		1	302.3	102.0	2.0	47.0
18	694			13			121			301.7	99.1	2.0	47.0
19	951			12			130			308.1	108.6	1.5	47.0
20	646			7			118			336.1	137.5	1.5	47.0
21	1269			7			198			331.9	133.2	1.5	47.0
22	1137			8			144			312.4	119.9	1.5	50.0
23	646			12			112			270.0	87.0	1.5	50.0
24	583			10			131			278.7	81.1	1.5	50.0
25	862			14			116			284.2	86.3	1.5	50.0
26	952			58			122			263.5	60.3	1.5	51.0
27	2585			75			152			263.7	51.2	1.2	51.0
28	3477			90			172			274.7	73.8	1.4	52.0
29	3320			90			179			301.8	88.8	1.5	51.0
30	2740			106			167			279.9	71.7	1.4	52.0
TOTALS	29768		514				4188		1				
AVERAGES	992		21				140		1	294.2	96.0		

TABLE 7

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

MAY 1982

## FISH COUNTS

## RIVER CONDITIONS

TABLE 7

DATE	CHINOOK ADULTS	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)	
1	2622					174		271.9	58.5	1.6	51.0	
2	2553					159		294.2	79.5	1.6	51.0	
3	2487					144		302.5	91.5	1.5	52.0	
4	1793					125		332.9	120.5	1.5	52.0	
5	2034					149		339.5	130.2	1.4	53.0	
6	2562					211		339.9	128.6	1.4	53.0	
7	1732					157		318.6	95.2	2.4	54.0	
8	1825					199		299.2	86.5	2.4	53.0	
9	1786					160		317.6	103.5	2.0	52.0	
10	1513					184		337.4	120.1	2.0	53.0	
11	1539					218		345.7	126.3	2.2	53.0	
12	1664					235	1	331.3	116.9	2.2	53.0	
13	1727					272		317.4	102.9	2.2	53.0	
14	1680					220		310.4	132.8	2.2	54.0	
15	1406					209	1	318.0	163.8	2.2	54.0	
16	1385					208	1	324.1	169.1	2.2	55.0	
17	1312					205	4	341.9	176.7	2.2	55.0	
18	1082					191		387.4	197.5	2.2	55.0	
19	652					139	2	393.3	170.2	2.0	57.0	
20	573					104	24	379.6	162.7	2.0	56.0	
21	1012					223	79	406.5	199.3	2.0	57.0	
22	619					176	267	363.4	149.9	2.0	57.0	
23	745					169	137	358.6	146.0	2.0	57.0	
24	636					118	149	371.2	160.9	2.0	57.0	
25	692				1	166	1355	382.3	170.3	2.0	57.0	
26	401					7	115	834	386.7	174.4	2.0	58.0
27	360					1	110	763	410.5	199.8	2.2	58.0
28	331					142	498	401.5	192.3	2.0	57.0	
29	355					2	151	795	374.0	163.3	2.2	58.0
30	400					1	160	849	383.8	171.8	2.4	57.0
31	459					142	1129	327.6	128.4	2.4	58.0	
TOTALS	39937		5513			12	5335	6888				
AVERAGES	1288		178			2	172	405	347.4	141.6		

TABLE 8

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

JUN 1982

DATE	FISH COUNTS								RIVER CONDITIONS			
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)
1	424		65				142	1100	514.5	113.2	2.2	58.0
2	387		59			2	133	1538	340.0	119.4	2.0	58.0
3	508		66				155	2431	328.6	112.3	2.5	58.0
4	499		62				174	2476	335.4	126.4	2.5	58.0
5	413		66			1	189	2822	337.1	123.2	2.3	60.0
6	416		74			2	163	2548	348.1	133.3	2.3	58.0
7	360		82			4	169	2979	359.2	122.6	2.5	58.0
8	383		153			6	238	6696	344.9	115.1	2.5	58.0
9	329		114			7	224	10132	324.4	96.4	2.4	58.0
10	336		346			8	323	11149	314.4	91.5	2.4	58.0
11	307		260			16	294	21501	314.2	86.9	2.4	58.0
12	401		226			42	251	30600	317.5	83.6	2.3	58.0
13	422		275			56	248	32355	317.0	82.7	2.3	58.0
14	384		259			126	235	26950	326.6	106.5	2.3	60.0
15	308		227			185	215	42098	383.4	171.3	2.5	60.0
16	293		218			192	190	42820	405.2	202.4	2.5	60.0
17	296		79			207	154	16886	418.1	216.3	2.6	62.0
18	534		67			377	297	66820	414.3	216.9	2.4	62.0
19	429		52			537	310	56323	407.8	198.7	2.4	62.0
20	461		44			716	305	48742	406.8	194.9	3.0	62.0
21	489		76			1199	344	44687	417.3	191.6	2.7	63.0
22	432		74			1387	404	42829	416.1	178.7	2.2	63.0
23	459		78			1543	391	35843	417.8	189.3	2.7	64.0
24	446		75			1446	345	30588	419.2	222.3	2.2	64.0
25	407		58			1471	393	14634	415.7	203.7	2.0	66.0
26	370		50			1451	398	18032	404.8	171.6	2.0	64.0
27	390		61			2419	449	14077	408.5	176.7	2.0	64.0
28	366		41			2423	498	9043	399.0	181.3	2.0	62.0
29	369		132			2447	511	9123	400.7	187.6	2.0	64.0
30	307		75			2461	494	7215	402.4	191.8	2.0	64.0
TOTALS	11925		3514			20731	8636	655037				
AVERAGES	397		117			768	288	21835	371.3	153.6		

TABLE 9

TABLE 9

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

BONNEVILLE PROJECT  
JUL 1982

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	Coho JACKS	Coho ADULTS	Coho JACKS	Sockeye	Steelhead	Shad	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	296		72				2581	505	6541	403.9	238.2	1.6	64.0
2	218		57				1932	434	7743	396.3	224.5	1.8	64.0
3	199		43				1918	446	6196	392.2	216.9	1.8	64.0
4	246		74				1944	486	5529	380.9	250.2	2.0	64.0
5	269		78				1725	431	4520	367.0	197.2	2.0	64.0
6	333		94				2167	632	11003	347.3	158.2	2.0	63.0
7	343		66				2002	698	8994	351.5	170.6	2.2	63.0
8	281		109				1819	708	9282	337.4	130.1	2.2	63.0
9	272		81				1508	760	9371	309.4	95.2	2.1	63.0
10	349		99				1522	772	5549	299.5	86.1	2.1	63.0
11	398		136				1493	892	7564	316.7	98.7	2.1	63.0
12	390		102				1277	822	4011	320.1	109.7	2.6	64.0
13	305		78				1107	819	5840	302.6	65.6	2.5	65.0
14	361		112				934	1282	4327	301.3	60.4	2.5	64.0
15	266		64				742	886	1974	289.0	48.7	2.5	65.0
16	216		110				735	904	1204	274.1	33.3	2.5	65.0
17	305		111	1			557	948	4413	251.4	6.4	3.0	65.0
18	278		143				469	1231	2856	243.0	2.0	3.0	66.0
19	262		138				452	1217	2210	225.2	.0	3.0	66.0
20	225		111				454	1149	1344	240.6	7.9	3.0	66.0
21	298		123				404	1680	935	226.5	.0	3.0	67.0
22	246		149	2			333	1670	751	249.4	.0	3.0	67.0
23	217		94	1			300	1737	1175	233.2	4.1	3.8	67.0
24	217		88	6			231	1789	1000	196.4	.0	3.8	68.0
25	230		83	4			193	2068	857	195.2	.0	3.8	68.0
26	201		96	15	6		132	2365	586	225.9	.0	3.8	68.0
27	234		100	1	3		98	2528	603	222.4	.0	3.8	68.0
28	167		104	3	1		51	2513	392	225.6	2.5	3.8	69.0
29	127		71	5			36	1936	230	230.2	.0	3.8	69.0
30	188		87	4	4		50	2152	178	220.6	.0	4.5	69.0
31	267		98	12	11		41	2699	147	165.0	.0	3.5	69.0
TOTALS	8204		2971	54	25	29207	39159	117325					
AVERAGES	265		96	5	5	942	1263	3785	281.9	71.2			

TABLE 10

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

BONNEVILLE PROJECT  
AUG 1982

## RIVER CONDITIONS

DATE	FISH COUNTS							DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
	CHINOOK ADULTS SPRING	CHINOOK JACKS SUMMER	COHO ADULTS FALL	COHO JACKS	SOCKEYE	STEELHEAD	SHAD				
1	154	107	6	3	29	2134	125	132.8	.0	4.0	69.0
2	140	97	2	5	26	1799	87	174.6	.0	4.4	68.0
3	147	76	5	3	15	2227	76	160.8	.0	4.3	68.0
4	149	111	8	6	14	2097	75	179.1	.0	4.2	68.0
5	108	73	2	1	15	1940	68	206.8	.0	4.3	68.0
6	197	131	3	2	17	2354	45	224.4	.0	3.0	69.0
7	149	129	1	1	9	2156	70	224.9	.0	3.6	69.0
8	178	100	1	5	9	2526	45	225.9	.0	3.8	71.0
9	142	107	3	3	12	1892	30	216.2	.0	3.8	70.0
10	315	165	13	11	10	2405	31	179.7	.0	4.0	69.0
11	234	149	15	13	6	1682	35	175.2	.0	3.8	69.0
12	231	147	13	10	6	1785	24	202.4	.0	4.4	69.0
13	132	91	8	13	2	1178	35	180.8	.0	4.0	69.0
14	339	152	8	15	13	1805	18	155.9	.0	5.0	69.0
15	284	152	13	17	6	1302	19	135.0	.0	5.0	68.0
16	449	193	24	23	6	1770	2	138.6	.0	5.6	69.0
17	366	219	25	17	2	1403	15	170.7	.0	5.4	69.0
18	386	247	34	35	1	1593	9	173.0	.0	5.5	69.0
19	433	315	26	24	2	1171	12	184.2	.0	5.5	69.0
20	595	382	41	38	9	1287	13	200.1	.0	5.5	70.0
21	928	610	120	52	10	1699	9	162.3	.0	4.2	70.0
22	1019	629	132	67	8	1693	9	150.8	.0	4.2	70.0
23	1222	818	186	71	2	1527	10	139.7	.0	4.2	70.0
24	1043	1026	191	85	2	1716	9	154.6	.0	4.2	71.0
25	1198	757	247	173	6	1461	3	140.4	.0	5.8	71.0
26	1742	859	327	107	8	1289	10	110.4	.0	5.0	71.0
27	2004	931	274	100	2	1269	9	104.5	.0	5.0	71.0
28	1519	883	222	101	4	1188	9	100.6	.0	5.0	71.0
29	1289	784	157	45	2	957	6	101.3	.0	5.6	70.0
30	2250	694	169	63	2	1007	2	113.0	.0	6.1	70.0
31	2640	942	233	69	9	1017	4	144.0	.0	6.1	72.0
TOTALS	21982	12076	2509	1178	264	51329	914				
AVERAGES	709	390	81	38	9	1656	29	163.3	.0		

TABLE 11

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

SEP 1982

DATE	FISH COUNTS							RIVER CONDITIONS					
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			2022	916	209	84		821	8	151.3	.0	6.1	70.0
2			2906	1187	327	114		946	5	135.6	.0	6.1	70.0
3			9859	2149	1303	322		1752	2	126.1	.0	5.5	70.0
4			10886	3811	2706	551		2617	3	101.1	.0	5.5	70.0
5			7295	3523	3184	593		2419	2	102.7	.0	6.0	70.0
6			5378	2633	3099	483		2251	1	110.5	.0	6.3	70.0
7			6680	2103	3375	460	1	2176		141.1	.0	6.2	71.0
8			7674	2324	3552	392		2418		165.7	.0	6.3	71.0
9			6199	2039	2912	365	1	2356		180.5	.0	6.3	70.0
10			6767	2251	3659	399	1	2309		165.5	.0	4.5	69.0
11			6393	1898	3085	366		1959		141.0	.0	5.3	69.0
12			6001	1695	2142	307	1	1594		131.2	.0	5.0	68.0
13			5883	1777	2256	251		1413	2	145.0	.0	5.5	68.0
14			6251	1644	2156	313		1271		162.4	.0	5.5	68.0
15			5268	1290	2110	299		1456	2	169.1	.0	5.5	67.0
16			5194	1116	1825	238		1475	2	145.0	.0	5.0	68.0
17			5604	1563	2000	282		1984		140.5	.0	6.2	67.0
18			4988	1885	1806	255		1767	1	107.8	.0	6.2	63.0
19			3627	1424	1433	206		1764		112.7	.0	6.2	68.0
20			2365	1080	1286	165		1345	1	130.2	.0	6.2	68.0
21			2565	1364	885	155		1084	2	121.2	.0	6.2	68.0
22			1488	999	592	131		901	3	119.7	.0	6.1	67.0
23			1355	839	626	94		965	2	119.1	.0	5.0	67.0
24			858	523	322	66		810	1	116.8	.0	5.0	66.0
25			1072	559	342	104		972		99.8	.0	5.5	66.0
26			1054	720	282	72		997		99.8	.0	6.0	66.0
27			1053	733	302	68		884	-1	105.6	.0	5.8	66.0
28			889	611	290	63		760	1	120.9	.0	5.8	65.0
29			692	576	183	41		553		125.8	.0	5.8	64.0
30			478	372	201	54		437		114.4	.0	5.8	63.0
TOTALS		128744	45604	48450	7293	4	44456	37					
AVERAGES		4291	1520	1615	243	1	1482	2	130.3	.0			

TABLE 12

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

OCT 1982

DATE	FISH COUNTS						RIVER CONDITIONS					
	CHINOOK ADULTS SPRING	CHINOOK SUMMER	COHO FALL	COHO JACKS	COHO ADULTS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		828	600	255	76		488		115.1	.0	5.8	64.0
2		612	426	203	66		376	1	99.9	.0	5.8	64.0
3		528	406	191	95		349		89.8	.0	5.5	63.0
4		493	358	146	118	1	207	2	98.9	.0	5.8	62.0
5		637	347	119	97		204		115.8	.0	5.8	62.0
6		262	149	83	72		178	1	122.9	.0	5.8	62.0
7		419	303	151	99		127	1	129.0	.0	5.5	62.0
8		447	285	134	151		134		134.9	.0	5.5	62.0
9		293	172	77	157		101	1	122.2	.0	5.0	62.0
10		185	148	101	175		88	1	96.6	.0	5.0	62.0
11		108	134	120	200		80		127.2	.0	5.0	61.0
12		169	119	130	282		108		128.1	.0	5.5	61.0
13		167	123	116	288		76		135.2	.0	5.5	62.0
14		190	107	132	286		72		136.1	.0	5.5	62.0
15		186	112	207	419		39	1	139.3	.0	6.5	62.0
16		133	78	168	400		62		125.2	.0	6.5	62.0
17		100	67	185	557		29	1	125.0	.0	5.5	62.0
18		116	66	227	626		51		153.5	.0	6.3	61.0
19		77	55	118	367		45	-1	162.6	.0	6.3	58.0
20		86	48	127	431		39	1	156.2	.0	5.0	58.0
21		67	32	103	290		23		147.5	.0	5.0	58.0
22		104	61	211	366		34		135.2	.0	5.3	58.0
23		138	73	204	458		32		113.5	.0	6.2	58.0
24		135	94	165	487		36		100.8	.0	6.8	58.0
25		102	64	126	421		17		118.7	.0	6.8	58.0
26		73	50	147	452		47	1	137.4	.0	6.8	58.0
27		77	42	182	509		28	1	150.7	.0	6.8	58.0
28		51	20	83	202		16	-1	165.8	.0	6.8	58.0
29		66	25	126	204		18	-1	176.3	.0	4.5	58.0
30		28	29	100	191		19		181.4	.0	5.0	56.0
31		10	7	57	146		23		177.6	.0	4.5	56.0
TOTALS		6887	4600	4494	8688	1	3146	9				
AVERAGES		222	148	145	280	1	101	1	132.9	.0		

TABLE 13

PAGE 13

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

NOV. 1982

DATE	FISH COUNTS						RIVER CONDITIONS				
	CHINOOK ADULTS	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		19	12	39	94		14	176.9	.0	4.5	56.0
2		23	10	35	55		12	190.1	.0	4.0	56.0
3		13	22	34	58		9	168.0	.0	4.0	56.0
4		15	6	16	58		14	151.5	.0	4.0	55.0
5		14	6	11	39		8	159.1	.0	4.0	55.0
6		14	3	20	75		7	156.1	.0	5.0	55.0
7		15	10	36	110		1	139.7	.0	5.4	55.0
8		14	1	12	43		12	161.6	.0	5.4	55.0
9		4	6	12	48		9	169.0	.0	4.4	54.0
10		12	6	25	71		18	162.9	.0	4.2	54.0
11		3	4	13	47		12	161.5	.0	4.2	55.0
12		4	6	6	39		6	161.9	.0	5.5	53.0
13		5	6	23	43		11	152.0	.0	5.5	52.0
14		1		9	28		11	145.7	.0	5.5	52.0
15		2	2	18	24		8	146.7	.0	5.5	51.0
16								154.9	.0	5.0	51.0
17								160.1	.0	5.0	51.0
18								149.2	.0	5.2	50.0
19								170.7	.0	5.2	51.0
20								144.0	.0	5.0	51.0
21								140.8	.0	5.5	51.0
22								165.2	.0	5.5	50.0
23								166.8	.0	5.5	50.0
24								169.5	.0	5.8	48.0
25								142.9	.0	5.8	48.0
26								147.5	.0	5.8	47.0
27								157.5	.0	5.8	46.0
28								131.2	.0	5.8	46.0
29								159.4	.0	5.8	46.0
30								179.1	.0	5.8	46.0
TOTALS		158	100	309	832		152	1			
AVERAGES		11	7	21	55		10	1	158.0	.0	

TABLE 14  
WATER TEMPERATURE AND STREAM FLOW DATA  
BONNEVILLE - 1982

DATE	DECEMBER			
	WATER	TEMPERATURE	DISCHARGE	TURBIDITY
1		47.0	162,200	7.0
2		47.0	200,200	6.5
3		47.0	185,700	6.0
4		47.0	165,200	4.5
5		47.0	141,700	2.5
6		46.0	156,000	2.5
7		46.0	177,100	3.0
8		46.0	207,300	3.0
9		46.0	192,800	3.0
10		44.0	195,700	5.1
11		44.0	159,800	6.1
12		44.0	153,900	6.1
13		45.0	155,000	6.1
14		45.0	169,000	6.1
15		45.0	162,800	6.1
16		45.0	177,800	4.0
17		45.0	182,100	3.5
18		45.0	169,000	.5
19		44.0	160,900	1.3
20		44.0	192,200	2.0
21		44.0	200,800	2.3
22		43.0	191,900	2.3
23		43.0	160,400	2.3
24		43.0	157,700	2.8
25		43.0	156,800	2.8
26		43.0	135,400	2.8
27		43.0	146,000	2.8
28		42.0	171,400	2.8
29		42.0	170,200	2.8
30		41.0	170,100	3.6
31		41.0	170,100	3.6

TABLE 15  
PEAK DAYS OF FISH MIGRATION  
BONNEVILLE DAM - 1938-1982

<u>Spring Chinook</u>		<u>Summer Chinook</u>		<u>Fall Chinook</u>		<u>Steelhead</u>		<u>Sockeye</u>		<u>Coho</u>		<u>Chum</u>		<u>Shad</u>		
Year	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	
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 - 1938-1979

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
1982	Apr 28	4,067	Jun 13	697	Sep 4	14,697	Jul 31	2,699	Jul 1	2,581	Sep 10	4,058	**		Jun 18	66,820

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

\*\* One Chum was counted on each of the following days: 16 Jul, 5 Aug, 21 Aug, 22 Aug, 29 Sep, 30 Sep, 3 Oct, 18 Oct, 25 Oct, 26 Oct, 6 Nov, 15 Nov.

TABLE 16

TABLE 16  
MONTHLY COUNT OF CHINOOK SALMON  
BONNEVILLE DAM - 1938-1982

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	SPRING	SUMMER	FALL
														Jan 1- May 31	Jun 1- Jul 31	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	6	12	121	51,410	25,159	5,602	17,828	32,909	150,851	2,197	78	16	286,189	76,708	23,430	186,051
1940			504	37,253	28,621	7,027	14,938	58,643	240,515	3,765	287	34	391,587	66,378	21,965	303,244
1941	4		1,360	51,486	19,445	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		357,375	57,289	49,604	250,482
1951		32		28,801	86,055	54,889	24,394	33,785	97,131	6,489	212		331,788	114,888	79,283	137,617
1952		255		8,130	107,807	62,491	21,800	82,290	135,053	2,576	477		420,879	116,192	84,291	220,396
1953	1,254		126,450	42,583	27,228	30,593	27,398	75,145	1,495	333			332,479	170,287	57,821	104,371
1954	2	657	82,877	51,230	46,801	32,596	24,969	80,426	1,189	200			320,947	134,766	79,397	106,784
1955	1,391		84,436	85,769	45,502	37,437	32,833	70,558	1,803	124			359,853	171,596	82,939	105,318
1956	161		8,850	54,438	64,262	36,938	42,203	92,030	1,854	179	2		300,917	63,449	101,200	136,268
1957	328		90,984	45,128	104,243	30,790	34,829	95,457	1,352	175			403,286	136,440	135,033	131,813
1958	468		15,361	59,377	74,375	27,524	19,735	227,504	1,948	127			426,419	75,206	101,899	249,314
1959	182		26,944	34,007	39,581	49,371	24,945	168,187	1,643	168			345,028	61,133	88,952	194,943
1960	184		37,064	32,349	65,247	19,923	22,719	76,327	2,012	224			256,049	69,597	85,170	101,282
1961	476		72,526	25,693	41,302	25,159	22,675	90,688	3,108	353			281,980	98,695	66,461	116,824
1962	1,278		56,201	33,637	52,392	25,093	23,526	91,320	2,759	419			286,625	91,116	77,485	118,024
1963	2,802		43,859	28,810	36,836	27,178	28,586	104,415	5,571	503			278,560	75,471	64,014	139,075
1964	2,418		69,031	19,979	35,814	44,717	26,546	141,525	4,157	235			344,422	91,428	80,531	172,463
1965	1,238		47,083	35,945	38,482	37,515	38,727	112,664	6,074	229			317,957	84,266	75,997	157,694
1966	2,168		92,637	17,864	40,233	31,764	20,608	128,421	6,052	364			340,111	112,669	71,997	155,445
1967	1,620		71,957	11,358	41,847	53,812	25,760	154,323	5,405	155			366,237	84,935	95,659	185,643

TABLE 16 (CONT'D)  
MONTHLY COUNT OF CHINOOK SALMON  
BONNEVILLE DAM - 1938 - 1982

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	99,187	82,919	159,048
1969			1,910	65,371	106,281	59,177	42,976	38,456	187,502	5,511	359		507,543	173,562	102,153	231,828
1970			2,020	78,605	30,351	35,091	29,811	44,559	159,710	4,364	269		384,780	110,976	64,902	208,902
1971			683	60,849	63,985	37,757	40,154	26,749	166,346	8,820	359		405,702	125,517	77,911	202,274
1972			426	154,443	31,271	36,758	34,072	23,577	109,820	3,939	150		394,456	186,140	70,830	137,486
1973			1,585	128,495	12,068	24,164	21,196	31,513	170,895	8,457	262		398,635	142,148	45,360	211,127
1974			434	57,516	76,585	13,424	32,472	15,554	156,543	13,923	308		366,759	134,535	45,896	186,328
1975			162	48,295	55,647	16,989	27,362	37,907	234,145	4,847	212		425,566	104,104	44,351	277,111
1976			587	58,978	53,883	39,130	29,883	48,776	262,615	13,395	526		507,773	113,448	69,013	325,312
1977			3,569	98,710	17,229	21,790	19,233	21,992	171,303	11,805	1,026		366,657	119,508	41,023	206,126
1978			4,291	100,712	44,860	27,125	17,198	23,513	165,411	11,104	386		394,600	149,863	44,323	200,414
1979			790	29,751	20,921	15,924	18,293	41,273	142,241	6,865	248		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
1982			312	30,282	45,450	15,439	11,175	34,058	174,348	11,487	258		322,809	76,044	26,614	220,151
Total	40	45	40,062	2,343,229	1,849,542	1,491,298	1,152,905	1,496,040	7,368,216	226,980	13,924	545	15,982,488	4,231,848	2,644,935	9,105,705
45-Year Average			890	52,072	41,101	33,140	25,620	33,245	163,738	5,044	309		355,174	94,041	58,776	202,349

TABLE 17

TABLE 17  
MONTHLY COUNT OF SOCKEYE SALMON  
BONNEVILLE DAM - 1938-1982

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 - 1982

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
1982					12	20,731	29,207	264	4	1			50,219
Total		76	538	7,859	1,351,503	2,537,228	39,058	2,513	130	32	1	3,938,938	
45-Year Average					175	30,033	56,383	868	56				87,532

TABLE  
18

TABLE 18  
MONTHLY COUNT OF COHO SALMON  
BONNEVILLE DAM - 1938-1982

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 - 1982

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
1982						79	3,687	55,743	13,182	1,141			73,832	18,016
Total	21	12	5	1		169	4,118	138,963	1,014,242	123,347	17,477	66	1,298,421	388,597
45-Year Average							92	3,088	22,539	2,741	388		28,854	22,859

\*\*17-Year Average

TABLE 19

TABLE 19  
MONTHLY COUNT OF STEELHEAD TROUT  
BONNEVILLE DAM - 1938-1982

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	2,582	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 1938-1982

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
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	1,257	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	58,269	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
1982			1,239	4,188	5,335	8,636	39,159	51,329	44,456	3,146	152		157,640	10,762	92,397	54,481
Total	1,565	2,486	43,050	143,614	103,606	215,790	2,151,496	1,931,541	1,652,575	109,298	21,080	2,291	6,378,392	294,321	3,926,851	2,157,220
45-Year Average			957	3,191	2,302	4,795	47,811	42,923	36,724	2,429	468		141,742	6,541	87,263	47,938

TABLE 20

TABLE 20  
MONTHLY COUNT OF SHAD AND PERCENT COUNTED OVER FISH LADDERS  
BONNEVILLE DAM - 1938-1982

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Brad Is.	Percent by Fish Ladders	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 (CONT'D)  
 MONTHLY COUNT OF SHAD AND PERCENT COUNTED OVER FISH LADDERS  
 BONNEVILLE DAM - 1938-1982

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	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	
1982			1	6,888	655,037	117,325	914	37	9	1		780,212	82.8	17.2	
Total			3	11	199,483	5,969,424	4,449,269	83,337	3,467	410	25		10,705,429		
45-Year Average						4,433	132,654	98,873	1,852	77	9		237,898		

TABLE 21  
YEARLY TOTALS OF SALMONID COUNTED OVER THE DALLES DAM  
1957 - 1982

Year	Chinook	Steelhead	Sockeye	Coho	Chum	Pink	Total Salmonid
1957	312,678	129,361	90,201	6,793	75	4	539,112
1958	301,960	121,420	111,039	2,395	31	5	536,850
1959	207,461	156,090	86,259	2,709	25	9	452,553
1960	196,962	111,189	59,441	3,000	35	5	370,632
1961	201,335	134,572	16,689	2,139	-	4	354,739
1962	187,132	163,301	27,127	3,696	-	5	381,261
1963	180,969	118,957	56,931	3,716	23	3	360,599
1964	183,842	110,033	79,042	5,978	-	5	378,900
1965	195,049	141,052	44,279	17,468	1	3	397,852
1966	240,671	146,172	147,886	32,279	-	1	567,009
1967	280,112	121,614	120,589	32,015	1	4	554,335
1968	262,975	147,481	116,897	42,687	-	1	570,041
1969	314,258	112,529	37,226	17,054	-	1	481,068
1970	261,457	99,187	77,678	23,219	-	4	461,545
1971	250,528	151,348	76,103	29,061	-	3	507,043
1972	268,628	135,303	44,671	16,562	-	-	465,164
1973	280,945	100,082	52,303	11,152	-	1	444,483
1974	217,181	70,875	28,827	14,655	-	-	331,538
1975	217,283	57,675	43,198	13,976	-	-	332,132
1976	216,163	82,568	27,747	19,392	-	-	345,870
1977	224,950	133,882	86,252	10,021	-	-	455,105
1978	199,228	60,485	11,845	18,877	-	-	290,435
1979	150,647	83,364	32,791	8,726	-	4	275,532
1980	113,951	93,963	42,088	6,326	-	-	256,328
1981	135,176	113,268	35,447	6,941	-	1	290,833
1982	172,682	117,434	33,331	7,383	-	-	330,830
Total	5,774,223	3,013,205	1,585,887	358,220	191	63	10,731,789
26-Year Average	222,086	115,893	60,996	13,778			412,761

TABLE 21

TABLE 22

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

1982

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	-	10,569	33,296	10,058	9,554	17,466	79,487	12,252	-	-	172,682
STEELHEAD	-	-	-	729	1,289	2,710	22,607	31,410	49,050	9,639	-	-	117,434
SOCKEYE	-	-	-	-	-	11,430	21,742	144	15	-	-	-	33,331
COHO	-	-	-	-	-	-	-	336	5,792	1,255	-	-	7,383
<b>TOTAL SALMONID</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>11,298</b>	<b>34,585</b>	<b>24,198</b>	<b>53,903</b>	<b>49,356</b>	<b>134,344</b>	<b>23,146</b>	<b>-</b>	<b>-</b>	<b>330,830</b>
SHAD	-	-	-	-	4,791	847,893	148,943	1,150	36	7	-	-	1,002,820

TABLE 23

TABLE 23  
DISCHARGE AND WATER QUALITY DATA  
THE DALLES DAM - 1982

DATE	JANUARY			FEBRUARY			MARCH		
	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP
1	156,700	1.5	42.0	187,900	2.0	40.0	328,500	.6	39.0
2	152,200	1.8	41.0	181,600	1.5	40.0	337,500	.6	39.0
3	132,300	1.8	41.0	184,800	1.2	40.0	340,200	.8	40.0
4	194,000	3.0	40.0	197,200	1.0	40.0	333,800	.7	40.0
5	185,000	2.2	40.0	183,700	1.4	39.0	309,400	.7	40.0
6	183,200	3.5	38.0	188,500	2.0	39.0	290,100	.8	41.0
7	178,800	3.5	39.0	192,500	2.0	39.0	276,700	1.2	41.0
8	190,500	3.5	38.0	194,900	2.0	39.0	292,700	.8	41.0
9	192,600	3.4	38.0	186,600	2.0	38.0	298,100	1.3	41.0
10	173,000	3.0	39.0	187,600	1.7	38.0	314,500	1.3	42.0
11	177,800	4.1	38.0	189,600	1.8	38.0	319,400	1.5	42.0
12	180,500	3.5	38.0	186,100	2.1	38.0	334,900	1.4	42.0
13	192,500	4.0	38.0	182,900	2.0	37.0	346,600	1.3	42.0
14	173,500	4.8	38.0	177,300	1.8	38.0	372,900	1.5	42.0
15	173,900	4.5	38.0	161,600	2.4	37.0	372,100	1.3	42.0
16	148,600	4.7	37.0	170,500	2.0	38.0	362,200	1.0	42.0
17	166,800	5.0	37.0	157,700	2.2	38.0	366,500	1.0	42.0
18	167,600	5.0	37.0	248,100	2.0	38.0	358,800	1.0	42.0
19	185,200	4.9	37.0	279,700	1.0	38.0	310,600	1.1	42.0
20	184,500	2.8	38.0	299,600	.8	38.0	290,400	1.1	42.0
21	180,500	2.7	38.0	270,900	1.0	39.0	288,600	1.3	42.0
22	192,400	3.2	38.0	298,600	.6	39.0	285,800	1.2	42.0
23	165,900	3.3	38.0	337,200	.6	40.0	288,500	1.5	42.0
24	139,500	3.0	39.0	363,500	.6	41.0	290,500	1.5	42.0
25	175,400	.5	40.0	376,500	.8	40.0	290,800	1.6	42.0
26	181,600	1.1	39.0	328,300	.8	39.0	283,700	1.5	43.0
27	197,200	1.1	39.0	332,500	.7	39.0	269,600	1.9	43.0
28	199,100	1.1	39.0	311,600	.8	39.0	281,100	1.7	44.0
29	208,700	1.1	40.0				277,300	2.5	43.0
30	198,300	1.2	39.0				272,500	2.4	44.0
31	180,400	1.2	40.0				281,500	2.0	44.0

TABLE 24

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGR INFER DISTRICT, PORTLAND

THE DALLES PROJECT

APR 1982

DATE	FISH COUNTS						DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	COHO JACKS	COHO ADULTS	SUCKEYE	STEELHEAD	SHAD		
1	16						46	279.2	.0	2.4
2	52						39	278.1	6.8	2.2
3	31						39	265.7	67.0	2.4
4	27		1				17	252.8	59.5	2.2
5	31						37	265.2	23.5	1.8
6	64						20	280.3	3.6	2.0
7	78						23	278.6	15.0	2.2
8	54		1				22	239.4	.1	2.3
9	81						19	223.5	.0	2.5
10	119		1				21	217.8	.0	2.6
11	151						32	234.1	.0	2.7
12	244		3				29	270.3	44.0	2.2
13	234			1			43	290.1	47.4	2.0
14	183			4			34	346.3	88.5	2.2
15	172			4			38	340.0	106.3	2.0
16	146			7			30	346.1	128.1	2.0
17	197			2			31	263.9	95.4	2.0
18	322			7			24	268.9	113.2	1.5
19	214			4			19	302.4	121.5	2.0
20	231			6			27	304.5	117.9	1.7
21	410			8			15	322.9	134.6	1.7
22	501			6			9	292.3	58.9	1.0
23	302			6			4	246.7	34.9	1.0
24	943			14			11	265.7	26.2	1.0
25	670			19			23	258.6	13.1	1.0
26	1035			19			15	253.7	14.2	1.3
27	1222			31			10	257.5	.0	1.2
28	922			33			19	284.1	.0	1.5
29	1277			31			8	276.6	.0	1.5
30	1046			33			25	252.1	5.4	1.1
TOTALS	10528		241				729			
AVERAGES	344		11				24	275.2	44.2	

TABLE 25

TABLE 25

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

THE DALLES PROJECT  
MAY 1982

DATE	FISH COUNTS							RIVER CONDITIONS				
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	COHO JACKS	COHO ADULTS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL. (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	1264			35			20		265.4	79.7	1.5	51.0
2	1231			39			28		279.5	89.1	1.5	51.0
3	1040			31			18		294.0	35.2	1.5	51.0
4	1768			51			33		318.2	62.7	1.5	51.0
5	1727			40			28		323.3	64.5	1.5	51.0
6	1353			47			44		330.5	78.4	1.5	52.0
7	1462			76			42		302.9	42.1	1.4	53.0
8	1488			71			30		274.3	45.7	1.5	52.0
9	1302			58			46		316.9	85.9	1.5	52.0
10	1401			73			39		317.3	79.4	1.5	52.0
11	1442			74			34	1	325.1	34.2	1.5	52.0
12	1425			91			38		304.3	41.0	1.5	52.0
13	1537			101			45	6	303.7	24.5	1.5	53.0
14	1153			119			56		305.3	47.4	1.6	53.0
15	1315			167			55		305.6	83.3	1.7	53.0
16	1036			165			98	8	325.0	124.9	2.0	54.0
17	1026			150			50	1	338.0	92.4	1.6	54.0
18	890			111			41	2	393.7	206.3	1.8	54.0
19	675			120			53	1	384.0	160.7	2.0	54.0
20	589			111			36	16	381.2	177.4	1.7	54.0
21	390			100			33	15	402.2	154.2	1.8	55.0
22	597			126			23	29	364.4	109.3	1.8	55.0
23	560			134			38	39	354.9	106.3	1.8	56.0
24	606			102			42	121	364.6	123.3	1.9	57.0
25	616			138			47	479	386.4	128.9	1.8	57.0
26	634			137			41	179	368.7	117.8	1.8	57.0
27	550			115			52	172	414.3	216.6	2.0	57.0
28	332			89			35	427	375.4	136.4	1.8	57.0
29	379			73			39	667	365.0	129.3	1.6	56.0
30	249			55			36	765	356.4	69.2	1.7	57.0
31	376			84			69	1863	302.1	63.3	1.6	57.0
TOTALS	30413			2883			1289	4791				
AVERAGES	981			93			42	266	336.9	97.1		

TABLE 26

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT

JUN 1982

DATE	FISH COUNTS								RIVER CONDITIONS				
	CHINOOK SPRING	ADULTS SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	320			49				44	2063	299.3	14.0	2.3	56.0
2	222			45				46	1479	315.4	50.5	2.3	57.0
3	211			38				42	2345	314.9	45.3	2.1	56.0
4	322			36				45	3596	312.6	104.0	2.5	56.0
5	385			49				59	3117	320.6	131.2	2.6	56.0
6	436			54				52	2230	333.1	181.4	2.6	56.0
7	293			39				49	3265	318.2	130.1	2.2	56.0
8	240			47				49	6260	315.1	90.4	2.2	57.0
9	325			58				38	8262	296.5	57.8	2.2	57.0
10	342			55				30	12043	300.8	58.0	2.0	57.0
11	235			28			1	65	22888	294.5	80.0	2.0	57.0
12	287			34			3	59	24840	301.9	145.1	2.0	57.0
13	316			32			11	81	47766	307.4	141.8	2.5	58.0
14	231			41			28	61	33357	312.8	93.9	2.5	59.0
15	339			50			46	109	45219	381.8	155.8	2.0	59.0
16	261			45			52	101	54768	387.0	139.5	2.2	59.0
17	267			60			176	89	61123	394.8	119.7	2.3	60.0
18	290			54			234	95	65611	407.9	163.1	2.1	61.0
19	305			40			277	76	49094	416.2	203.8	2.3	62.0
20	369			52			526	124	102847	421.6	221.4	2.5	62.0
21	285			31			476	141	59360	419.5	236.0	2.3	63.0
22	321			44			589	124	44036	418.1	218.8	2.1	62.0
23	286			43			795	114	33358	416.9	205.8	2.0	63.0
24	264			29			788	99	33633	419.0	210.5	1.6	63.0
25	224			35			1170	106	31380	412.2	215.2	1.9	62.0
26	310			46			1145	140	27451	408.9	276.7	2.0	62.0
27	288			24			1146	134	18785	402.4	235.2	2.0	60.0
28	249			46			1014	148	18850	401.6	226.5	2.0	62.0
29	269			66			1519	201	16914	401.0	219.4	1.8	62.0
30	233			63			1434	189	11953	401.9	217.8	1.6	62.0
TOTALS	753	7972		1333			11430	2710	847893				
AVERAGES	251	295		44			571	90	28263	361.8	153.0		

TABLE 27

TABLE 27	MONTHLY FISH PASSAGE SUMMARY REPORT U.S. ARMY ENGINEER DISTRICT, PORTLAND						THE DALLES PROJECT JUL 1982						
	FISH COUNTS						RIVER CONDITIONS						
	DATE	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		317		77			1575	206	8799	406.4	234.5	1.6	62.0
2		228		62			1425	175	9946	386.2	251.8	1.7	62.0
3		218		52			1279	174	6154	380.3	233.7	2.0	61.0
4		276		56			1184	216	10806	385.7	267.0	1.7	61.0
5		174		56			1111	170	7313	356.6	188.9	2.0	61.0
6		153		37			1264	195	7952	343.4	187.3	2.2	61.0
7		194		31			1401	238	7219	347.4	180.4	2.5	64.0
8		214		37			1430	265	7907	328.8	122.7	2.0	62.0
9		229		100			1375	358	10921	299.4	88.7	2.0	62.0
10		232		102			1171	369	9993	291.3	116.0	2.5	63.0
11		276		115			1117	421	9756	312.3	111.9	2.4	63.0
12		255		96			1011	451	7068	310.5	126.4	3.2	64.0
13		259		147			872	511	9469	277.3	82.9	2.5	65.0
14		266		128			794	460	4028	281.3	95.0	2.5	65.0
15		246		111			639	472	4618	259.6	81.4	2.4	65.0
16		263		121			561	540	3407	256.3	97.8	2.0	65.0
17		203		91			506	600	3137	238.3	85.0	1.8	65.0
18		278		187			459	657	2216	227.4	90.8	2.0	65.0
19		272		173			339	734	3192	221.8	17.3	2.0	65.0
20		233		120			322	952	3438	225.0	.0	2.5	65.0
21		275		136			359	1157	2993	225.9	.0	2.5	66.0
22		167		134			210	989	1337	244.3	.0	2.2	66.0
23		252		101			282	1166	1777	223.1	.0	2.7	66.0
24		210		117			185	1253	1285	188.3	.0	2.6	68.0
25		191		104			212	1383	1211	190.8	.0	3.0	66.0
26		162		73			183	934	815	218.6	.0	2.8	66.0
27		141		73			154	1353	749	220.9	.0	3.2	68.0
28		140		61			90	1037	535	221.9	.0	2.8	68.0
29		125		59			99	1507	418	211.3	.0	3.5	68.0
30		99		47			41	1356	253	224.9	.0	3.5	68.0
31		151		51			92	2308	231	154.8	.0	3.0	68.0
TOTALS		6699		2855			21742	22607	148943				
AVERAGES		216		92			701	729	4805	272.9	85.8		

TABLE 28

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT

AUG 1982

DATE	FISH COUNTS								RIVER CONDITIONS				
	CHINOOK ADULTS SPRING	CHINOOK SUMMER	CHINOOK FALL	COHO JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHEI)	WATER TEMP (DEG F)
1	166		72			21	2179	153	126.6	.0	3.5	67.0	
2	180		54			23	1996	166	169.6	.0	3.5	67.0	
3	94		49			15	1423	121	158.4	.0	4.0	67.0	
4		89	64			18	927	69	168.7	.0	3.7	68.0	
5		87	68	3		10	1204	74	204.1	15.8	4.0	68.0	
6		110	65			10	1597	53	225.3	21.0	4.0	69.0	
7		155	76			8	1647	67	223.8	.0	3.8	69.0	
8		135	100			3	1447	46	209.4	.0	4.0	59.0	
9		85	87	2		2	1186	46	205.0	.0	4.0	69.0	
10		144	105	5		4	1181	47	176.8	.0	4.2	69.0	
11		137	86			1	6	1438	49	172.9	.0	3.8	68.0
12		192	76	2		2	1234	19	199.7	.0	4.2	68.0	
13		209	84	1		2	1351	44	166.5	.0	4.0	69.0	
14		199	113	2		2	1229	40	150.1	.0	4.2	69.0	
15		150	77	3		2	1071	27	114.8	.0	6.0	69.0	
16		120	92	6		4	651	8	144.0	.0	4.2	68.0	
17		282	108	3		1	1197	21	161.4	.0	4.2	68.0	
18		322	147	1			892	12	171.6	.0	4.5	69.0	
19		296	187	1		1	821	10	176.7	.0	4.0	69.0	
20		223	166	4		9	648	6	195.7	.0	4.0	69.0	
21		316	253	12		17	766	7	150.3	.0	4.2	69.0	
22		352	319	8		7	642	12	130.5	.0	4.8	68.0	
23		458	445	9		10	658	19	142.8	.0	5.0	69.0	
24		504	385	13		12	594	7	142.4	.0	5.5	68.0	
25		603	521	14		6	517	1	130.7	.0	4.5	70.0	
26		545	885	12		12	488	5	107.2	.0	6.0	70.0	
27		507	637	7		8	480	1	101.0	.0	5.5	70.0	
28		840	861	17		10	584	2	93.9	.0	5.0	70.0	
29		704	709	19		14	467	6	91.5	.0	5.7	70.0	
30		492	629	16		11	401	6	110.4	.0	4.5	70.0	
31		545	705	25		23	494	6	145.1	.0	5.5	70.0	
TOTALS	440	8801	8225	185	151	144	31410	1150					
AVERAGES	147	314	265	8	8	7	1013	37	157.0	1.2			

TABLE 29

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

THE DALLES PROJECT  
SEP 1982

DATE	FISH COUNTS								RIVER CONDITIONS			
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)
1		821	693	9	20	2	956	5	142.0	.0	5.5	70.0
2		464	708	16	15	1	503	3	130.0	.0	5.0	70.0
3		220	523	11	11	4	438	13	120.3	.0	4.8	70.0
4		1014	1174	41	43	4	558	2	93.2	.0	5.0	70.0
5		2691	1988	96	116	2	969	1	97.6	.0	5.2	70.0
6		2207	2547	103	122	1	929	1	100.5	.0	5.0	70.0
7		1751	2503	136	150		989	1	138.8	.0	5.0	70.0
8		1863	2549	76	95		1402		158.1	.0	5.0	70.0
9		1887	1767	109	106		1623		174.6	.0	5.0	70.0
10		1885	1659	114	81		1855		157.1	.0	5.5	69.0
11		1901	1760	121	102		2141		132.6	.0	5.0	70.0
12		1896	2064	154	118		2423		124.5	.0	5.0	69.0
13		1943	1753	165	126		3305		135.9	.0	5.2	68.0
14		1037	1398	102	79		2213	1	153.9	.0	5.0	68.0
15		1161	1141	114	75		1398	2	160.8	.0	4.8	68.0
16		1327	1647	82	71	1	1878	1	134.4	.0	5.0	67.0
17		1175	1183	97	84		1483		133.0	.0	4.5	67.0
18		1611	1167	146	109		2037		97.9	.0	5.2	67.0
19		1688	1229	146	115		1895		102.3	.0	5.0	67.0
20		1459	1275	163	144		2141		126.2	.0	4.5	67.0
21		1802	1402	229	169		3207		114.4	.0	4.6	65.0
22		1505	1228	208	91		3426		114.4	.0	4.5	70.0
23		1135	1029	158	120		1708	1	114.6	.0	4.5	66.0
24		798	732	118	60		1243	1	113.6	.0	6.0	65.0
25		864	893	120	68		1445	1	95.3	.0	5.5	65.0
26		906	652	93	42		1239		88.1	.0	5.5	65.0
27		713	566	87	41		1235		107.8	.0	6.0	65.0
28		1327	667	105	52		1405		114.8	.0	5.5	64.0
29		648	610	84	48		1587	2	110.9	.0	5.5	63.0
30		714	567	69	47		1419	1	107.2	.0	5.5	63.0
TOTALS		40413	39074	3272	2520	15	49050	36				
AVERAGES		1347	1302	109	84	2	1635	2	123.2	.0		

TABLE 30

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT

OCT 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	Coho JACKS	Coho ADULTS	Coho JACKS	Sockeye	Steelhead	Shad	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		549	474		52	18		925		109.9	.0	5.5	63.0
2		678	468		80	40		1031	1	98.1	.0	5.5	63.0
3		703	570		66	30		894		82.7	.0	6.0	63.0
4		474	329		56	21		648	1	96.3	.0	6.2	63.0
5		247	315		33	15		547		108.2	.0	6.2	63.0
6		284	232		45	27		350	2	119.5	.0	5.0	63.0
7		377	286		42	17		418		123.6	.0	4.6	62.0
8		298	213		55	16		594	1	124.0	.0	4.5	62.0
9		478	304		54	13		705		108.9	.0	5.0	62.0
10		376	252		33	15		364	1	95.6	.0	5.4	62.0
11		219	213		30	16		247		120.1	.0	5.3	62.0
12		231	187		20	8		253		119.4	.0	5.2	62.0
13		131	143		15	8		188		125.0	.0	5.3	62.0
14		111	126		16	8		165		134.1	.0	5.2	61.0
15		129	88		10	5		144		135.9	.0	5.3	61.0
16		118	126		15	5		171		114.8	.0	5.3	60.0
17		145	127		41	10		233	1	121.3	.0	5.3	60.0
18		100	94		38	7		207		141.6	.0	5.3	60.0
19		125	109		15	7		177		155.2	.0	5.4	58.0
20		111	93		22	12		163		145.8	.0	5.4	59.0
21		61	80		19	13		82		140.3	.0	5.5	59.0
22		67	86		3	6		76		126.3	.0	5.5	59.0
23		117	94		19	10		128		107.1	.0	5.2	58.0
24		74	92		20	11		222		95.8	.0	5.5	58.0
25		131	86		10	11		184		111.5	.0	5.5	58.0
26		95	73		14	6		107		133.1	.0	5.0	58.0
27		51	40		13	5		75		141.0	.0	5.0	57.0
28		36	48		12	6		119		155.2	.0	5.0	57.0
29		70	77		16	5		74		161.9	.0	3.8	56.0
30		54	56		12	3		72		163.4	.0	4.0	56.0
31		58	73		3	2		76		159.1	.0	3.8	56.0
TOTALS		6698	5554		879	376		9639	7				
AVERAGES		216	179		28	12		311	1	125.0	.0		

TABLE 31  
WATER TEMPERATURE AND STREAM FLOW DATA  
THE DALLES - 1982

DATE	NOVEMBER			DECEMBER		
	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP
1	152,100	5.0	55.0	159,300	6.5	46.0
2	185,700	4.5	55.0	188,800	7.1	46.0
3	161,200	4.0	55.0	163,100	7.1	46.0
4	147,900	4.7	55.0	127,000	5.0	46.0
5	151,000	5.0	55.0	109,800	5.5	46.0
6	138,100	4.5	54.0	141,500	5.5	46.0
7	120,300	4.5	54.0	167,600	5.5	46.0
8	152,600	4.1	54.0	186,500	5.5	46.0
9	159,200	4.4	53.0	186,600	6.0	46.0
10	155,900	4.5	53.0	172,000	6.0	45.0
11	154,300	4.0	52.0	156,200	6.0	44.0
12	150,500	4.1	52.0	145,900	5.8	44.0
13	142,100	4.6	51.0	144,400	5.8	44.0
14	122,900	4.2	51.0	160,900	5.9	44.0
15	147,800	5.0	50.0	137,000	5.6	44.0
16	160,800	5.2	50.0	152,100	6.0	44.0
17	149,500	5.1	51.0	154,200	4.5	43.0
18	132,500	5.2	50.0	138,200	4.5	43.0
19	135,300	5.0	50.0	138,400	4.5	43.0
20	130,600	5.0	50.0	176,300	4.5	43.0
21	139,400	5.0	50.0	184,600	2.5	43.0
22	155,200	5.0	49.0	162,400	4.0	43.0
23	160,700	5.0	49.0	158,000	4.0	43.0
24	162,600	4.5	48.0	133,300	4.0	42.0
25	120,700	4.5	48.0	144,600	3.0	42.0
26	151,100	6.0	47.0	114,400	2.0	42.0
27	137,100	5.7	46.0	139,400	2.5	42.0
28	126,400	6.0	46.0	151,600	2.5	42.0
29	149,500	6.0	46.0	165,600	2.5	42.0
30	149,500	6.5	46.0	161,700	3.5	42.0
31				163,800	3.5	42.0

TABLE 32

## PEAK DAYS OF FISH MIGRATION

THE DALLES DAM - 1957-1982

Year	<u>Spring Chinook</u>		<u>Summer Chinook</u>		<u>Fall Chinook</u>		<u>Steelhead</u>		<u>Sockeye</u>		<u>Coho</u>		<u>Chum</u>		<u>Shad</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	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
1982	May 4	1,819	Jun 6	490	Sep 6	4,754	Jul 9	10,921	Jul 1	1,575	Sep 21	398	None		Jun 20	102,847

TABLE 32

TABLE 33

TABLE 33  
MONTHLY COUNT OF CHINOOK SALMON  
THE DALLES DAM - 1957 - 1982

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	SPRING	SUMMER	FALL	
														Jan 1- Jun 3	Jun 4- Aug 3	Aug 4- Dec 31	Jacks
1957			22	42,161	59,410	86,096	35,643	28,828	56,753	3,564	201		312,678	109,723	116,661	86,294	37,374
1958			114	8,268	47,862	59,955	24,381	17,211	141,262	2,788	119		301,960	61,747	80,139	160,074	19,747
1959			8	16,771	32,634	27,799	42,817	20,142	65,229	2,022	39		207,461	50,874	71,362	85,225	39,857
1960			17,073	40,091	52,577	22,549	15,225	46,453	2,720	274			196,962	58,406	75,315	63,241	30,847
1961			43,822	35,059	24,478	24,596	16,866	53,371	3,143				201,335	79,183	50,824	71,328	35,409
1962			33,069	35,629	34,488	21,515	13,461	46,135	2,835				187,132	69,139	57,007	60,986	17,835
1963			19,119	33,207	25,063	20,414	21,865	57,248	4,053				180,969	52,937	47,333	80,699	54,749
1964			340	35,551	24,447	16,801	37,697	17,452	49,811	1,743			183,842	60,691	56,360	66,791	30,900
1965			190	17,870	24,930	17,900	31,072	25,119	74,904	3,064			195,049	43,617	50,527	100,905	67,552
1966			1,068	72,267	22,837	25,530	33,712	14,978	65,380	4,899			240,671	96,628	61,062	82,981	36,482
1967			48,744	22,817	24,718	45,346	23,927	107,427	7,133				280,112	71,976	72,582	135,554	98,817
1968			100	52,144	45,057	32,827	33,272	22,361	72,209	4,800	205		262,975	98,742	67,391	96,842	64,644
1969			65	19,025	80,162	33,432	27,750	29,330	118,890	5,604			314,258	100,482	61,978	151,798	96,244
1970			53,370	29,670	22,903	23,318	34,906	93,633	3,657				261,457	83,549	48,115	129,793	85,471
1971			28,227	44,181	22,011	29,655	16,190	103,370	6,894				250,528	73,655	51,847	125,026	75,329
1972			68,955	33,508	17,354	29,756	21,828	91,666	5,561				268,628	103,107	48,660	116,861	81,668
1973			94,334	15,040	19,548	19,181	23,341	101,771	7,730				280,945	111,088	38,774	131,083	72,088
1974			13,415	41,902	7,141	22,709	13,964	103,804	14,246				217,181	56,397	30,273	130,511	79,840
1975			18,526	32,869	12,155	26,447	28,973	90,193	8,120				217,283	52,483	39,062	125,738	74,418
1976			20,266	35,434	17,828	20,129	17,278	90,933	14,295				216,163	56,570	38,733	120,860	74,275
1977			72,726	16,672	22,084	22,059	12,266	69,927	9,216				224,950	90,373	44,378	90,199	55,067
1978			52,425	30,472	19,477	15,978	11,251	57,786	11,839				199,228	84,924	34,396	79,908	32,503
1979			13,993	12,569	14,310	17,687	20,458	61,757	9,516	357			150,647	27,297	32,298	91,052	42,886
1980			12,434	15,441	7,948	12,832	12,881	43,675	8,740				113,951	28,237	21,133	64,581	20,016
1981			24,227	16,335	8,491	10,779	15,802	53,840	5,702				135,176	41,160	19,676	74,340	33,919
1982			10,569	33,296	10,058	9,554	17,466	79,487	12,252				172,682	44,750	19,342	108,590	60,165
Total			1,907	909,351	861,531	662,972	660,848	513,369	1,996,914	166,136	1,195		5,774,223	1,807,735	1,335,228	2,631,260	1,418,102
26-Year Average				34,975	33,136	25,499	25,417	19,745	76,804	6,390			222,086	69,528	51,355	101,202	54,542

TABLE 34  
MONTHLY COUNT OF SOCKEYE SALMON  
THE DALLES - 1957 - 1982

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1957					125	33,476	54,294	2,081	221	4			90,201
1958					29	28,854	80,324	1,583	248	1			111,039
1959					413	7,176	76,347	2,245	77	1			86,259
1960					2	36,907	22,228	297	7				59,441
1961					66	5,863	10,629	116	15				16,689
1962					55	8,333	18,545	180	14				27,127
1963					199	17,914	38,633	185	-				56,931
1964					23	9,984	68,205	758	72				79,042
1965					184	11,023	31,622	1,438	12				44,279
1966					65	36,539	109,167	2,106	9				147,886
1967					114	15,713	103,862	892	8				120,589
1968					5	77,878	38,542	462	10				116,897
1969					22	15,165	21,933	102	3	1			37,226
1970					1	18,309	56,903	2,387	75	3			77,678
1971					-	8,887	66,841	369	6				76,103
1972					-	9,276	34,924	466	5				44,671
1973					8	19,510	32,674	105	6				52,303
1974					4	3,935	24,790	98	-				28,827
1975					-	7,679	35,291	225	2	1			43,198
1976					1	10,988	16,637	121	-				27,747
1977					5	60,049	26,146	52	-				86,252
1978					24	7,158	4,559	104	-				11,845
1979					-	14,750	17,734	307	-				32,791
1980					-	11,096	30,046	927	19				42,088
1981					-	17,692	17,686	68	1				35,447
1982					-	11,430	21,742	144	15				33,331
Total					1,345	505,584	1,060,304	17,818	825	11			1,585,887
26-Year Average					-	52	19,446	40,781	685	32			60,996

TABLE 35

TABLE 35  
MONTHLY COUNT OF COHO SALMON  
THE DALLES - 1957 - 1982

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total*	Jacks	
1957							220	605	5,615	342	11		6,793		
1958								96	2,132	161	6		2,395		
1959								46	2,428	234	1		2,709		
1960								475	2,288	227	10		3,000		
1961							4	5	1,898	232			2,139		
1962							5	258	3,194	239			3,696		
1963							2	361	2,931	422			3,716		
1964								506	4,723	749			5,978		
1965							7	200	13,064	4,197			17,468		
1966							225	3,850	25,476	2,728			32,279		
1967							192	494	27,860	3,469			32,015	20,456	
1968							372	3,319	36,568	2,346	82		42,687	13,035	
1969							412	970	13,179	2,493			17,054	11,218	
1970							96	2,064	19,983	1,076			23,219	11,327	
1971							1	1,589	26,066	1,405			29,061	11,174	
1972							3	1,090	14,564	905			16,562	10,272	
1973								793	9,443	916			11,152	5,256	
1974								522	10,715	3,418			14,655	9,054	
1975								465	10,356	3,155			13,976	8,534	
1976								608	14,609	4,175			19,392	13,083	
1977							1	91	8,131	1,798			10,021	6,096	
1978								355	13,069	5,453			18,877	13,533	
1979								211	7,109	1,367	39		8,726	4,836	
1980								287	5,064	975			6,326	2,970	
1981								295	6,061	585			6,941	4,405	
1982								336	5,792	1,255			7,383	3,047	
Total								1,540	19,891	292,318	44,322	149	358,220	148,296	
26-Year Average									765	11,243	1,734			13,778	5,704**

\* Total including jacks

\*\* 16-Year average coho jacks

TABLE 36  
MONTHLY COUNT OF STEELHEAD TROUT  
THE DALLES DAM - 1957 - 1982

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
1982			729	1,289	2,710	22,607	31,410	58,745	49,050	9,639				117,434
Total		25	2,677	18,975	18,951	56,765	799,896	735,356	1,632,645	1,203,495	175,513	2,553		3,014,206
26-Year Average				730	729	2,183	30,765	28,283	62,794	46,288	6,751			115,931

\* Subtotal through 31 August

**TABLE 37**  
**YEARLY TOTALS OF SALMONID FISH COUNTED OVER JOHN DAY DAM**  
**1968-1982**

<b>Year</b>	<b>Chinook</b>	<b>Steelhead</b>	<b>Sockeye</b>	<b>Coho</b>	<b>Total Salmonid</b>
1968	233,654	121,256	87,847	38,233	480,990
1969	276,051	86,348	39,847	13,589	415,835
1970	222,506	82,440	78,133	19,543	402,622
1971	193,881	115,977	72,232	40,830	422,920
1972	225,631	141,628	51,793	17,533	436,585
1973	249,492	101,440	64,744	13,359	429,035
1974	167,888	43,756	33,121	14,651	259,416
1975	159,079	32,651	50,774	6,305	248,809
1976	175,911	59,808	30,446	5,806	271,971
1977	194,931	102,558	85,701	1,123	384,313
1978	174,852	44,188	13,778	8,355	241,173
1979	118,154	55,877	43,630	5,061	222,722
1980	100,664	78,199	50,675	1,924	231,462
1981	114,359	95,172	46,146	2,562	258,239
1982	144,082	108,603	37,970	4,063	294,718
<b>Total</b>	<b>2,751,135</b>	<b>1,269,901</b>	<b>786,837</b>	<b>192,937</b>	<b>5,000,810</b>
<b>15-Year Average</b>	<b>183,409</b>	<b>84,660</b>	<b>52,456</b>	<b>12,863</b>	<b>333,387</b>

**TABLE 37**

TABLE 38  
MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER JOHN DAY DAM  
1982

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	-	3,396	30,444	11,031	7,359	10,881	67,271	13,700	-	-	144,082
STEELHEAD	-	-	-	3,393	1,698	1,167	10,168	19,693	50,725	21,759	-	-	108,603
SOCKEYE	-	-	-	-	-	8,708	28,974	286	2	-	-	-	37,970
COHO	-	-	-	-	-	-	-	145	3,032	886	-	-	4,063
CHUM	-	-	-	-	-	-	-	-	-	-	-	-	-
PINK	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL SALMONID</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6,789</b>	<b>32,142</b>	<b>20,906</b>	<b>46,501</b>	<b>31,005</b>	<b>121,030</b>	<b>36,345</b>	<b>-</b>	<b>-</b>	<b>294,718</b>
<b>SHAD</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>369</b>	<b>332,142</b>	<b>181,325</b>	<b>1,015</b>	<b>8</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>514,861</b>

TABLE 39

TABLE 39  
DISCHARGE AND WATER QUALITY DATA  
JOHN DAY DAM - 1982

DATE	JANUARY			FEBRUARY			MARCH		
	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP
1	152,200	1.5	37.6	186,300	1.7	36.4	335,500	1.0	36.2
2	148,700	3.2	37.4	181,000	1.0	36.7	351,600	.8	36.4
3	127,700	1.5	37.2	185,300	1.8	36.6	349,100	1.0	36.9
4	193,800	2.5	36.8	198,100	2.5	36.4	350,400	.8	37.5
5	182,300	3.1	36.2	186,600	2.5	36.1	321,100	1.0	37.8
6	185,600	3.5	36.2	190,300	2.4	36.0	300,900	.5	38.1
7	177,000	3.6	35.5	193,900	2.0	35.7	286,200	.5	38.2
8	187,500	3.5	35.4	195,900	2.2	35.0	299,600	1.0	38.2
9	198,200	3.6	35.0	188,400	1.5	34.8	312,100	1.0	38.1
10	171,800	4.0	34.7	191,100	1.8	34.6	325,200	2.0	38.1
11	174,200	4.0	34.7	193,800	2.0	34.4	340,100	2.0	38.3
12	179,200	2.5	34.4	188,400	1.5	34.0	350,200	1.9	38.5
13	197,400	3.5	34.6	187,600	2.4	33.7	358,800	1.9	38.7
14	171,300	3.5	34.4	181,300	1.5	33.8	380,700	1.7	39.0
15	170,900	3.5	34.3	161,000	1.5	33.9	392,200	1.6	39.1
16	146,900	3.4	34.1	167,200	3.6	33.9	376,600	1.5	39.2
17	164,200	4.0	34.3	154,000	2.5	34.2	380,200	1.3	39.0
18	159,200	4.0	34.4	246,700	1.0	34.5	375,200	1.2	39.2
19	185,500	3.9	34.2	276,300	1.0	34.7	322,700	1.7	39.3
20	182,400	3.9	34.2	291,800	1.0	35.2	300,900	1.5	39.3
21	183,200	4.0	35.0	263,600	1.2	36.0	299,300	1.5	39.1
22	192,600	4.0	35.0	291,400	.5	37.4	295,900	1.2	39.0
23	162,300	2.0	35.1	337,300	.5	37.6	301,000	1.5	39.0
24	127,200	2.9	35.6	363,200	.6	37.2	299,900	1.2	39.3
25	165,000	2.9	35.6	369,700	.8	36.6	300,300	1.7	39.5
26	173,400	3.0	35.8	323,800	.5	36.4	290,800	2.0	40.0
27	190,300	1.5	35.9	341,400	.8	36.4	279,400	1.7	40.3
28	197,000	1.6	35.9	318,200	1.0	36.3	280,700	1.9	40.1
29	207,200	1.8	36.1				279,200	2.1	41.2
30	198,500	1.5	36.3				277,100	1.0	41.2
31	178,600	2.1	36.3				294,000	2.3	41.4

TABLE 40

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

APR 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	COHO JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F.)
1	6							68		290.8	27.4	3.2	41.1
2	-1			2				90		288.4	5.4	3.2	41.4
3	2				1			95		278.4	80.2	2.0	41.3
4	2							48		261.4	79.9	1.8	41.4
5	2							55		275.5	21.6	2.0	41.7
6	2							47		293.0	.0	2.0	41.2
7	5							71		288.7	.0	2.1	41.4
8	8							79		245.9	8.3	2.3	41.6
9	14							110		226.7	11.6	2.3	41.6
10	20							76		225.0	62.8	2.8	41.5
11	14							67		241.6	80.7	2.3	41.7
12	27							111		278.5	34.8	2.0	42.4
13	80		2					368		308.0	50.0	1.0	43.6
14	51							215		359.1	66.9	1.2	43.7
15	39							150		361.2	66.0	1.9	43.7
16	39			1				201		357.9	45.9	1.2	43.6
17	41			1				109		275.5	66.6	2.1	43.6
18	60							67		280.5	51.6	2.0	43.4
19	73							57		313.5	69.4	2.0	43.4
20	82							63		315.7	69.1	2.0	43.3
21	113		1					114		327.7	71.6	1.3	43.9
22	125							64		310.9	81.1	1.6	44.3
23	122							109		251.1	52.2	.7	45.3
24	135							93		276.9	85.9	1.3	45.1
25	175		3					150		264.4	99.7	1.4	45.5
26	249			6				197		262.3	91.6	1.2	45.9
27	687			2				179		263.6	69.2	1.2	46.3
28	618			5				138		290.7	71.1	1.2	46.6
29	420			3				103		282.1	59.8	1.5	47.1
30	157			2				99		259.1	85.3	1.4	47.0
TOTALS	3367		29					3393					
AVERAGES	112		2					113		285.1	55.5		

TABLE 41

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

MAY 1982

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	360			3				91		272.6	99.5	1.3	47.1
2	1115			8				85		280.8	99.5	1.9	47.4
3	1376			17				131		298.9	87.7	1.5	47.8
4	1568			44				165		335.5	83.4	1.8	48.1
5	1351			32				190	1	332.8	105.3	1.7	48.4
6	1339			24				138		336.1	109.8	2.0	48.9
7	1304			50				56		309.5	105.1	1.9	49.4
8	837			29				38		289.0	103.4	1.8	49.0
9	1287			39				32		328.9	105.7	1.9	48.9
10	995			36				17		334.4	105.1	2.0	48.9
11	894			54				54		337.5	98.3	2.3	49.0
12	624			43				67		319.9	92.5	2.0	49.3
13	1057			71				83		327.5	103.5	2.0	49.5
14	1670			116				26		320.2	93.9	2.0	49.8
15	1481			133				25		321.0	112.4	2.0	49.8
16	1340			174				47		336.8	113.8	2.0	50.1
17	1033			179				57		360.2	116.6	2.0	50.4
18	929			107				18		411.3	150.4	2.4	51.0
19	569			110				26		400.1	147.9	2.1	51.0
20	676			143				52		406.2	147.7	2.3	51.2
21	617			138				29	2	417.1	144.8	2.2	51.6
22	671			124				42		383.6	142.6	2.2	52.2
23	682			149				21	1	374.5	145.0	2.1	52.5
24	578			128				19	5	385.8	145.9	1.7	53.0
25	615			157				32	12	406.7	150.0	2.5	52.8
26	685			139				36	36	384.0	123.8	2.6	54.0
27	799			163				31	24	433.2	141.2	2.4	53.2
28	416			77				35	26	406.0	157.9	2.3	52.8
29	359			90				20	44	393.1	171.7	2.2	52.6
30	284			101				24	69	385.3	180.4	2.4	52.6
31	188			67				11	149	321.6	180.4	2.4	52.8
TOTALS	27699			2745				1698	369				
AVERAGES	894			89				55	34	353.2	124.7		

TABLE 42

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

JUN 1982

DATE	FISH COUNTS							RIVER CONDITIONS					
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	COHO JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	439			99				30	325	321.6	143.4	2.2	53.1
2	705			159				29	413	335.9	125.2	2.2	53.1
3	451			97				35	499	340.7	129.5	2.4	53.1
4	403			81				19	599	329.0	99.3	2.3	53.0
5	210			46				17	426	345.2	145.9	2.2	53.3
6	303			39				21	593	352.6	150.4	2.4	53.7
7	384			71				23	729	339.2	138.8	2.5	52.8
8	382			51				20	1497	341.1	105.9	2.3	52.8
9	380			40				20	1347	315.7	97.1	2.1	52.8
10	475			65				14	2344	316.7	90.6	2.0	53.4
11	685			58			1	25	5195	315.7	110.3	2.0	54.5
12	391			53			2	41	6453	314.4	150.4	2.5	54.4
13	385			46			7	27	10212	326.4	150.4	3.0	55.5
14	383			38			9	31	10687	335.1	124.9	2.4	56.0
15	300			37			22	32	13004	401.7	127.8	2.6	56.4
16	222			25			29	38	15533	413.2	122.0	2.9	56.8
17	252			30			62	45	15818	423.4	130.7	2.6	56.9
18	185			34			118	37	26431	432.2	137.1	2.6	56.9
19	271			33			145	37	28959	439.7	150.4	2.7	58.0
20	187			29			190	31	23306	441.4	150.1	2.6	58.5
21	197			26			317	47	24840	438.5	147.6	2.5	58.7
22	223			34			402	55	15101	439.4	157.3	2.5	58.9
23	180			36			461	49	13854	436.7	165.4	2.7	58.2
24	186			25			637	63	7629	439.8	167.1	2.5	58.5
25	153			43			912	48	13704	429.8	155.9	2.3	58.4
26	181			36			857	61	20374	422.0	153.4	2.0	58.7
27	218			39			1035	59	22250	421.7	151.0	2.0	58.8
28	200			41			1048	70	20889	421.5	151.7	2.0	59.0
29	350			47			938	66	13207	421.7	151.6	2.2	59.0
30	236			56			1516	77	15924	420.1	156.3	1.8	59.0
TOTALS	2208	7309		1514			8708	1167	332142				
AVERAGES	442	292		49			435	38	10714	382.3	137.9		

TABLE 43

TABLE 43

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

JUL 1982

DATE	FISH COUNTS						RIVER CONDITIONS					
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	COHO JACKS	COHO ADULTS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	219		47			1268	54	7066	422.7	185.3	2.4	58.8
2	166		34			1322	55	6949	409.9	184.8	2.5	58.6
3	281		37			1388	87	3475	400.3	182.5	1.8	58.2
4	215		24			1365	67	6347	394.5	183.1	2.5	58.2
5	178		52			1422	66	10585	370.6	174.0	1.8	58.3
6	187		26			1506	120	13207	356.2	176.8	2.8	58.4
7	178		39			1320	102	14060	362.0	170.7	1.9	58.3
8	142		37			1664	106	15788	340.9	170.3	1.9	58.7
9	197		81			2017	145	11094	303.5	157.8	1.9	59.3
10	185		54			1830	138	12079	304.7	147.9	3.0	59.6
11	177		37			1667	151	9674	318.3	140.3	2.0	60.0
12	158		73			1536	208	9563	324.4	149.7	2.8	60.8
13	216		67			1498	306	10589	292.5	119.2	2.8	61.9
14	299		99			1180	322	7206	297.9	121.8	2.4	61.4
15	227		52			1147	227	6062	274.9	101.2	2.4	61.5
16	150		52			937	180	4957	265.4	103.2	3.3	61.5
17	171		55			755	206	6198	251.6	108.4	3.3	62.3
18	171		84			726	256	4298	232.0	99.8	3.4	62.7
19	296		121			746	549	1975	231.9	38.4	3.3	62.1
20	169		71			600	365	4005	231.3	59.6	2.7	62.5
21	266		89			459	536	2647	232.9	13.5	3.6	62.7
22	190		99			496	528	3746	252.6	29.0	3.5	62.7
23	101		69			374	270	2383	220.6	37.9	3.5	63.1
24	152		72			298	524	1814	193.3	9.0	3.5	63.3
25	128		72			296	618	1421	194.1	14.1	2.0	63.6
26	117		105			331	548	1405	224.1	17.4	3.5	65.4
27	49		34			242	507	805	228.9	6.6	3.5	65.5
28	119		69			205	648	675	229.4	3.0	3.5	65.8
29	159		54			206	746	670	213.6	3.0	3.2	66.0
30	67		39			102	636	347	235.7	6.2	3.0	66.3
31	115		70			71	877	235	155.1	.2	2.6	65.5
TOTALS	5445		1914			28974	10168	181325				
AVERAGES	176		62			935	328	5849	282.8	94.0		

TABLE 44

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

AUG 1982

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAO	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	55		63			52	633	119	129.1	3.3	2.8		65.2
2	87		62			51	1213	182	171.3	3.3	4.0		65.1
3	95		55			39	840	139	165.3	3.3	3.1		65.3
4	63		47			23	724	137	172.1	3.3	3.0		65.3
5	73		60			12	496	72	215.0	25.8	3.8		65.2
6		43	60			12	587	70	229.2	38.6	3.2		65.2
7		94	32			21	1007	49	230.4	.0	4.0		65.3
8		64	61			13	1124	31	213.9	.0	3.6		65.1
9		103	71			20	1156	30	213.4	.0	4.0		65.5
10		88	107			9	1034	21	180.4	.0	3.3		65.2
11		95	77			9	808	36	175.2	.0	3.5		65.2
12		38	58				498	29	206.7	.0	3.5		65.2
13		135	102				682	19	170.3	.0	3.6		65.3
14		45	63				618	16	153.3	.0	3.4		65.2
15		154	90			1	695	18	113.5	.0	4.3		65.2
16		38	76			4	422	10	106.6	.0	4.8		65.3
17		56	65			4	549	1	166.0	.0	4.4		65.2
18		56	97			5	558	11	174.1	.0	5.0		65.4
19		47	62			2	488	7	179.9	.0	6.0		66.1
20		61	74			1	624	5	205.6	1.9	3.0		66.7
21		198	172			2	731	2	151.9	6.6	2.0		66.6
22		157	173			4	840	2	131.3	.0	6.4		66.4
23		167	220	1		1	738	4	142.5	.0	3.0		67.0
24		208	137			1	383		147.8	.0	7.6		68.0
25		466	333	3			254	1	130.5	.0	6.0		68.3
26		505	542	18	29		357	3	107.1	.0	6.0		67.1
27		278	866	8	6		384		98.3	.0	6.0		67.0
28		421	529	14	6		353	0	95.0	.0	3.2		67.0
29		679	735	18	13		293		91.3	.0	6.5		67.1
30		455	644	17	4		333		109.9	.0	2.4		64.6
31		198	326	2	6		271	1	143.5	.0	5.1		67.1
TOTALS	373	4849	5659	81	64	286	19693	1015					
AVERAGES	75	186	183	10	11	14	635	38	160.0	2.8			

TABLE 45

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

SEP 1982

DATE	FISH COUNTS								RIVER CONDITIONS				
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		204	379	3	3			317	1	148.9	.0	4.0	67.2
2		255	478	2	7			234	3	127.7	.0	6.0	67.3
3		143	240	3	7			265		122.6	.0	4.0	67.1
4		307	845	10	10			414	1	92.9	.0	3.6	66.8
5		625	953	8	17			432		94.7	.0	4.0	66.7
6		1376	1592	27	14			613		102.1	.0	4.8	66.8
7		1354	1805	18	14			910	2	141.2	.0	4.2	66.7
8		1654	2291	33	36		1	880	1	162.2	.0	3.5	66.8
9		665	1158	11	10			847	1	176.7	.0	3.7	66.6
10		1290	1662	40	56		1	1125	2	163.1	.0	3.5	66.1
11		1123	2039	64	66			1337		135.7	.0	4.4	65.5
12		1643	2055	119	141			1645		126.2	.0	3.8	65.2
13		1390	1947	108	77			2339		136.6	.0	4.6	64.9
14		1314	1843	54	60			2495		157.5	.0	3.2	64.5
15		1408	1792	71	47			2665	-1	165.0	.0	3.7	64.2
16		978	1275	80	56			1406	-2	136.3	.0	5.2	63.4
17		978	1333	44	28			1970	-2	132.2	.0	3.5	63.1
18		1312	1687	74	62			2068		101.9	.0	4.6	62.8
19		1278	1456	80	31			2265		102.1	.0	4.2	63.1
20		848	1182	69	55			2845	1	127.4	.0	3.5	62.5
21		1652	1437	120	53			4122		113.2	.0	3.4	62.3
22		1057	1080	70	25			2449		112.5	.0	3.7	62.0
23		1323	1356	145	42			3874		114.1	.0	5.1	61.8
24		777	805	91	40			2955		116.1	.0	5.1	61.8
25		1781	1552	176	102			2227	1	94.5	.0	5.0	61.4
26		611	794	87	41			1915		85.9	.0	5.1	61.4
27		713	923	72	27			1570		107.8	.0	3.9	61.4
28		484	635	52	23			1862		114.7	.0	3.4	61.4
29		377	450	90	27			1554		113.2	.0	2.8	60.6
30		503	804	23	11			1125		105.9	.0	4.0	60.5
TOTALS		29423	37848	1844	1188		2	50725	8				
AVERAGES		981	1262	61	40		1	1691	1	124.4	.0		

TABLE 46

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

JOHN DAY PROJECT  
OCT 1982

DATE	FISH COUNTS							RIVER CONDITIONS					
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHELI)	WATER TEMP (DEG F)
1		447	534	44	22		1123			110.0	.0	2.8	60.6
2		962	780	65	40		1869			95.9	.0	5.0	60.4
3		463	565	31	22		1339			79.0	.0	3.0	60.2
4		320	427	40	18		1079			96.7	.0	3.5	60.2
5		296	341	31	22		1166			107.2	.0	3.0	60.0
6		276	347	27	10		703			119.4	.0	3.5	60.0
7		385	326	48	28		735			121.2	.0	5.0	59.1
8		151	204	26	8		573			122.2	.0	5.0	59.0
9		189	180	16	7		830	1		108.7	.0	4.6	58.8
10		333	213	28	4		661			92.3	.0	4.8	58.6
11		360	256	29	17		721			120.9	.0	4.5	58.4
12		146	161	15	4		494			119.2	.0	4.8	58.2
13		138	171	8	6		511	1		125.3	.0	5.2	57.8
14		108	137	7	5		582			134.0	.0	4.5	57.8
15		187	211	17	12		639			136.6	.0	5.1	57.3
16		165	191	19	7		519			115.5	.0	4.6	56.9
17		121	169	26	4		618			120.3	.0	4.6	56.6
18		92	135	23	6		1002			142.9	.0	4.6	56.4
19		115	111	13	7		486			158.6	.0	4.9	56.0
20		175	137	9	5		580			148.5	.0	4.8	55.4
21		55	74	4	2		262			142.1	.0	3.7	55.1
22		54	93	11	1		406			127.5	.0	3.7	54.9
23		95	139	5	6		510			103.1	.0	3.5	54.9
24		82	166	11	4		835			94.1	.0	4.5	54.9
25		66	135	17	9		771			111.9	.0	3.3	54.4
26		167	219	4	1		660			134.5	.0	4.2	54.1
27		156	206	3	1		727			142.1	.0	3.5	53.8
28		61	89	2	1		219			155.8	.0	3.3	53.7
29		55	104	3	1		191			162.8	.0	3.9	53.4
30		66	178	10	1		360			165.6	.0	3.8	52.9
31		157	258	8	6		588			164.9	.0	3.6	52.8
TOTALS		6443	7257	600	286		21759	2					
AVERAGES		208	234	19	9		702	1		125.0	.0		

TABLE 47

TABLE 47  
WATER TEMPERATURE AND STREAM FLOW DATA  
JOHN DAY - 1982

DATE	NOVEMBER			DECEMBER		
	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP
1	155,200	3.0	52.1	163,200	5.5	42.9
2	192,300	3.5	51.6	192,900	4.0	42.6
3	164,300	3.6	51.5	167,300	3.8	42.5
4	150,800	4.0	51.6	128,000	4.2	42.4
5	154,100	3.6	51.5	110,400	5.1	42.3
6	151,900	4.0	51.0	142,400	5.0	42.3
7	123,700	3.2	50.5	168,800	4.6	42.2
8	152,800	3.5	50.3	190,600	4.0	41.9
9	165,600	3.2	50.2	186,900	4.5	41.7
10	156,900	4.3	49.7	174,200	5.0	41.7
11	156,600	3.8	49.2	158,800	5.0	41.4
12	152,900	3.6	48.8	149,300	4.5	41.1
13	143,600	3.7	48.3	144,500	3.8	41.0
14	125,600	4.4	47.9	159,200	4.2	40.5
15	149,000	3.8	47.7	137,000	4.5	40.4
16	166,300	3.7	47.5	150,600	4.1	40.0
17	148,400	4.5	47.2	158,800	3.6	40.0
18	133,000	3.8	47.0	134,800	2.8	39.8
19	141,400	4.0	46.8	141,300	4.1	39.7
20	129,300	5.9	46.6	176,000	2.0	39.7
21	140,600	4.5	46.2	186,700	2.0	39.6
22	157,800	5.0	45.6	160,300	2.2	39.4
23	161,200	4.8	45.2	164,100	2.5	39.4
24	164,700	4.2	44.9	132,800	2.3	39.1
25	129,500	4.5	44.4	145,200	2.7	39.0
26	156,700	3.6	43.9	112,900	3.8	39.3
27	142,300	4.5	43.7	140,700	3.4	39.1
28	127,100	4.5	43.5	155,300	3.2	38.9
29	152,600	4.4	43.3	166,400	3.5	38.7
30	154,000	4.4	43.1	162,900	3.3	38.2
31				167,200	3.4	37.5

TABLE 48

## PEAK DAYS OF MIGRATION

JOHN DAY DAM - 1968-1982

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
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
1982	May 14	1,746	Jun 2	864	Sep 8	3,945	Sep 21	4,122	Jul 9	2,017	Sep 25	278

TABLE 49

TABLE 49  
MONTHLY COUNT OF CHINOOK SALMON OVER JOHN DAY DAM  
1968 - 1982

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	18,325	7,292	8,992	8,524	44,626	8,422			114,359	37,677	15,813	60,869	34,547
1982				3,396	30,444	11,031	7,359	10,881	67,271	13,700			144,082	36,530	16,360	91,192	56,966
Total		6		330,904	497,387	248,981	294,899	196,713	1,040,011	141,451	783		2,751,135	857,886	541,152	1,352,097	895,309
15-Year Average				22,060	33,159	16,599	19,660	13,114	69,334	9,430			183,409	57,192	36,077	90,140	59,687

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

TABLE 50  
 MONTHLY COUNT OF SOCKEYE SALMON  
 JOHN DAY DAM - 1968-1982

<u>Year</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>
1968						42,175	44,942	690	32	7	1		87,847
1969						13,383	26,174	245	37	8			39,847
1970						18,029	58,176	1,909	19				78,133
1971						5,219	66,183	787	38	5			72,232
1972						6,762	43,704	1,257	68	2			51,793
1973					2	21,283	42,588	864	6	1			64,744
1974						2,024	30,687	403	6	1			33,121
1975						6,154	44,454	163	2	1			50,774
1976						8,907	21,278	258	1	2			30,446
1977					6	52,852	32,269	537	34	3			85,701
1978						5,633	8,006	119	20				13,778
1979						13,466	29,603	560	1				43,630
1980						9,596	40,536	530	13				50,675
1981						17,064	28,975	94	13				46,146
1982						8,708	28,974	286	2				37,970
Total					8	231,255	546,549	8,702	292	30	1		786,837
15-Year Average						15,417	36,437	580	20				52,456

TABLE 51

TABLE 51  
MONTHLY COUNT OF COHO SALMON  
JOHN DAY DAM - 1968-1982

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1968							4	1,311	32,882	3,848	188		38,233
1969							25	308	9,879	3,377			13,589
1970							14	1,026	17,272	1,231			19,543
1971								944	36,401	3,485			40,830
1972								1,253	14,965	1,315			17,533
1973								788	11,350	1,221			13,359
1974								730	11,253	2,668			14,651
1975								85	4,266	1,954			6,305
1976								57	3,739	2,010			5,806
1977								8	534	581			1,123
1978								6	2,676	5,673			8,355
1979							1	132	2,853	1,753	322		5,061
1980								27	1,431	466			1,924
1981								90	2,030	442			2,562
1982								145	3,032	886			4,063
Total							44	6,910	154,563	30,910	510		192,937
15-Year Average								461	10,304	2,061			12,863

TABLE 52  
 MONTHLY COUNT OF STEELHEAD TROUT  
 JOHN DAY DAM - 1968-1982

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1968				3,939	2,659	151	6,094	26,824	68,791	11,405	1,393		121,256
1969			314	3,986	3,691	714	12,004	13,267	40,082	12,290			86,348
1970				1,987	1,279	253	7,373	19,412	46,036	6,100			82,440
1971				1,472	592	263	17,459	19,693	63,868	12,630			115,977
1972				1,523	1,966	356	17,656	20,502	78,138	21,487			141,628
1973				8,019	3,546	785	12,134	15,608	46,566	14,782			101,440
1974				1,713	2,363	1,361	9,713	8,419	12,479	7,708			43,756
1975				760	428	648	6,251	8,583	9,977	6,004			32,651
1976				929	1,248	1,868	9,254	17,964	22,754	5,791			59,808
1977				1,319	418	2,341	18,366	7,088	56,134	16,892			102,558
1978				741	631	1,601	5,573	6,911	22,896	5,835			44,188
1979				602	136	253	8,012	10,717	16,202	18,072	1,883		55,877
1980				4,131	555	577	5,850	18,114	34,700	14,272			78,199
1981				2,061	1,539	2,515	15,999	18,283	34,098	20,677			95,172
1982				3,393	1,698	1,167	10,168	19,693	50,725	21,759			108,603
Total			314	36,575	22,749	14,853	161,906	231,078	603,446	195,704	3,276		1,269,901
15-Year Average				2,438	1,517	990	10,794	15,405	40,230	13,047			84,660

TABLE 53  
YEARLY TOTALS OF SALMONID FISH COUNTED OVER MCNARY DAM  
1954 - 1982

<u>Year</u>	<u>Chinook</u>	<u>Steelhead</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Total Salmonid</u>
1954	126,555	75,059	108,181	950	310,745
1955	108,915	85,575	173,758	643	368,891
1956	114,342	42,554	102,145	683	259,724
1957	292,696	105,728	85,460	2,855	486,739
1958	226,092	87,890	102,397	1,350	417,729
1959	171,490	110,475	83,977	1,970	367,912
1960	176,767	96,895	55,372	1,580	330,614
1961	154,996	103,743	16,388	2,045	277,172
1962	152,756	163,181	29,372	3,195	348,504
1963	154,459	113,646	59,744	3,113	330,962
1964	167,934	100,742	83,931	3,317	355,924
1965	150,907	118,960	42,052	2,700	314,619
1966	223,141	145,130	173,028	8,525	549,824
1967	195,653	77,700	105,635	27,226	406,214
1968	200,488	112,522	101,007	39,518	453,535
1969	213,407	76,681	29,787	53,716	373,591
1970	168,892	69,759	59,636	36,399	334,686
1971	171,448	109,630	52,867	39,358	373,303
1972	168,821	93,820	26,422	45,635	334,698
1973	184,112	64,620	42,731	17,682	309,145
1974	127,858	26,932	26,505	13,746	195,041
1975	133,150	23,663	43,143	3,975	203,931
1976	163,314	54,000	24,632	7,539	249,485
1977	183,581	87,712	80,781	4,622	356,696
1978	144,148	34,740	18,511	20,356	217,755
1979	95,275	50,304	37,792	12,800	196,171
1980	80,773	66,524	44,301	571	192,169
1981	80,619	61,985	26,644	3,736	172,984
1982	102,225	75,099	15,077	3,119	195,520
<b>Total</b>	<b>4,634,814</b>	<b>2,435,269</b>	<b>1,851,276</b>	<b>362,924</b>	<b>9,284,283</b>
<b>29-Year Average</b>	<b>159,821</b>	<b>83,975</b>	<b>63,837</b>	<b>12,515</b>	<b>320,148</b>

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

1982

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	3	1,638	23,487	10,357	8,749	5,091	44,276	8,624	-	-	102,225
STEELHEAD	-	-	1,530	1,764	825	321	4,279	12,621	36,282	17,477	-	-	75,099
SOCKEYE	-	-	-	-	-	812	13,489	281	292	203	-	-	15,077
COHO	-	-	-	-	-	-	141	235	2,148	595	-	-	3,119
CHUM	-	-	-	-	-	-	-	-	-	-	-	-	-
PINK	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL SALMONID</b>	<b>-</b>	<b>-</b>	<b>1,533</b>	<b>3,402</b>	<b>24,312</b>	<b>11,490</b>	<b>26,658</b>	<b>18,228</b>	<b>82,998</b>	<b>26,899</b>	<b>-</b>	<b>-</b>	<b>195,520</b>
<b>SHAD</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>16,991</b>	<b>97,640</b>	<b>2,847</b>	<b>371</b>	<b>9</b>	<b>-</b>	<b>-</b>	<b>117,862</b>

TABLE 55  
DISCHARGE AND WATER QUALITY DATA  
MCNARY DAM - 1982

DATE	JANUARY			FEBRUARY		
	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP
1	153,200	3.6	40.0	166,100	.8	39.0
2	150,400	3.6	40.0	155,700	.8	39.0
3	159,800	3.6	40.0	153,200	.8	39.0
4	175,100	3.3	40.0	182,800	1.2	39.0
5	175,800	4.4	39.0	206,500	1.2	38.0
6	174,300	4.4	39.0	182,900	1.2	38.0
7	204,700	4.4	38.0	167,000	1.6	38.0
8	200,100	4.4	39.0	171,300	1.6	37.0
9	160,300	4.4	37.0	204,900	2.0	37.0
10	131,300	4.4	37.0	188,300	1.5	36.0
11	175,500	4.4	37.0	205,500	2.0	36.0
12	173,500	4.4	37.0	185,700	2.2	36.0
13	181,800	5.1	37.0	162,600	2.2	36.0
14	182,000	4.8	37.0	147,900	2.3	36.0
15	145,500	4.8	37.0	125,700	2.5	37.0
16	131,300	5.0	37.0	178,500	2.6	37.0
17	157,000	5.0	37.0	161,900	2.4	38.0
18	171,500	5.0	37.0	274,600	2.6	39.0
19	171,800	5.0	37.0	271,700	1.0	41.0
20	191,900	5.0	37.0	237,600	1.8	41.0
21	187,900	5.0	37.0	215,600	1.8	40.0
22	201,700	2.4	37.0	282,000	1.0	40.0
23	163,600	4.2	37.0	299,100	.8	40.0
24	134,600	4.2	37.0	281,900	.0	39.0
25	164,700	4.8	37.0	260,500	.0	39.0
26	169,200	.8	37.0	284,000	.7	39.0
27	176,000	.8	37.0	309,600	.2	40.0
28	171,100	.8	38.0	293,900	.2	40.0
29	171,900	.8	38.0			
30	159,000	.8	39.0			
31	142,500	.8	39.0			

TABLE 56

## MONTHLY FISH PASSAGE SUMMARY REPORT

U. S. ADMR ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

MAR 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK	ADULTS	CHINOOK	COHO	COHO	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)										
	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD										
1				1				7		278.6	245.1	.2	40.0						
2								26		291.3	265.6	.4	40.0						
3								20		298.6	242.1	.4	40.0						
4								30		298.0	237.8	.2	40.0						
5								41		298.9	203.7	.0	40.0						
6								38		297.6	220.4	.8	40.0						
7								46		291.5	226.2	.8	40.0						
8								53		266.4	156.6	.8	40.0						
9								36		317.0	224.2	.9	40.0						
10								65		292.1	191.0	.9	40.0						
11								50		339.5	225.6	1.0	41.0						
12								66		316.3	196.8	.7	42.0						
13								62		341.1	270.1	.7	42.0						
14								74		342.9	257.1	.8	42.0						
15								72		342.3	211.9	.8	42.0						
16								82		352.3	234.5	.8	43.0						
17								67		344.0	235.5	.8	43.0						
18								26		340.4	234.7	1.0	43.0						
19								73		322.8	191.6	1.0	43.0						
20								68		297.1	193.7	1.2	43.0						
21								63		317.4	206.5	1.1	43.0						
22								66		305.9	176.2	1.1	43.0						
23								55		297.6	192.9	1.4	43.0						
24								67		289.6	162.4	1.2	43.0						
25								54		277.9	172.9	1.4	43.0						
26								40		277.4	122.5	1.4	43.0						
27								46		268.2	117.6	1.4	43.0						
28								36		266.2	150.6	1.5	44.0						
29								50		270.7	106.9	1.5	44.0						
30								51		272.4	93.5	1.3	44.0						
*	31									266.8	80.5	1.6	44.0						
TOTALS		2		1				1530											
AVERAGES		2		1				51		302.5	195.1								

\* No Counting because of Fish Counter Orientation.

TABLE 57

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGTNEER DISTRICT, PORTLAND

MCNARY PROJECT

APR 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	COHO JACKS	COHO ADULTS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1							74		269.2	90.1	1.6	44.0
2							57		273.2	68.7	1.6	44.0
3							81		224.6	.0	1.8	44.0
4							93		264.7	40.0	1.9	44.0
5	5						64		302.6	74.2	1.9	44.0
6	1						37		250.1	20.9	1.9	44.0
7							46		267.3	41.3	1.9	44.0
8	1						35		238.0	11.4	1.9	45.0
9	2						43		209.6	.0	1.9	45.0
10	1						39		225.6	.0	1.9	45.0
11	10						81		224.9	.0	1.2	45.0
12	22						58		254.8	28.3	1.2	45.0
13	23						68		311.1	81.7	1.6	45.0
14	5						18		333.5	98.2	.6	46.0
15	6						25		343.4	126.5	1.5	46.0
16	53		3				127		229.5	3.1	1.2	46.0
17	11		2				39		296.7	74.6	1.2	46.0
18	20						42		300.8	100.9	1.2	47.0
19	23		1				90		304.5	102.8	.5	47.0
20	9						60		283.3	72.4	.6	47.0
21	35		2				44		297.8	108.3	.8	47.0
22	70		7				39		290.6	69.0	.8	47.0
23	70		6				56		254.5	40.7	.8	48.0
24	94		9				62		262.4	28.2	1.1	48.0
25	125		14				63		244.0	14.3	1.5	48.0
26	89		3				54		251.6	35.4	1.6	48.0
27	102		14				70		252.8	32.8	1.4	48.0
28	180		4				53		265.8	43.9	1.4	49.0
29	247		23				72		273.4	54.2	1.7	50.0
30	308		38				74		256.3	41.4	1.7	50.0
TOTALS	1512		126				1764					
AVERAGES	60		10				59		268.6	50.1		

TABLE 58

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

MCNARY PROJECT  
MAY 1982

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	COHO JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	279			17				46		263.5	62.3	1.8	50.0
2	363			38				43		264.7	53.9	1.8	50.0
3	191			10				62		293.7	83.8	1.6	50.0
4	291			32				30		316.5	98.5	1.6	50.0
5	485			32				22		308.1	114.2	1.8	50.0
6	634			39				29		309.6	127.2	1.8	50.0
7	1248			54				52		288.3	99.2	1.7	50.0
8	1313			91				37		300.6	82.2	1.9	43.0
9	766			35				33		311.8	102.8	1.9	52.0
10	860			60				40		301.0	91.4	1.7	45.0
11	812			42				38		306.6	104.7	1.8	51.0
12	717			82				29		299.5	115.0	1.8	51.0
13	790			59				15		291.6	103.4	1.8	51.0
14	746			60				21		287.0	100.7	1.3	52.0
15	687			47				53		299.3	114.4	2.0	52.0
16	752			69				33		319.7	137.2	2.0	52.0
17	1511			114				25		345.0	159.7	2.0	52.0
18	1010			115				16		367.5	183.5	2.0	53.0
19	956			128				29		371.7	189.6	2.2	53.0
20	887			163				22		390.9	212.5	2.3	47.0
21	723			124				9		369.2	186.4	2.6	54.0
22	518			139				6		345.2	151.8	2.0	54.0
23	623			104				15		353.4	170.5	2.2	54.0
24	540			103				18		383.7	190.8	2.3	55.0
25	410			84				7		372.5	179.4	1.9	55.0
26	408			81				7		365.6	167.9	1.9	55.0
27	350			87				8		416.0	218.2	1.9	56.0
28	501			117				22		378.8	186.0	1.9	55.0
29	698			265				27		379.6	182.9	2.2	55.0
30	405			113				15	4	339.5	146.2	2.0	55.0
31	374			135				16		307.2	116.9	2.0	55.0
TOTALS	20848			2639				825	4				
AVERAGES	673			85				27	4	330.6	136.6		

TABLE 59

## **MONTHLY FISH PASSAGE SUMMARY REPORT**

**U.S. ARMY ENGINEER DISTRICT, PORTLAND**

## MCNARY PROJECT

JUN 1982

## FISH COUNTS

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	JACKS	ADULTS	ADULTS									
1	434			110						6	6	322.6	128.8	2.0	55.0
2	304			110						16	2	315.5	141.0	2.5	55.0
3	264			53						8	5	338.8	179.9	2.5	55.0
4	244			63						7	18	312.1	128.7	2.5	55.0
5	291			93								336.6	162.9	2.0	55.0
6	448			92							12	321.9	135.0	1.9	55.0
7	326			101						4	55	318.2	132.0	1.8	55.0
8	249			42						28	177	336.1	144.5	1.9	55.0
9	313			87						10	292	302.2	113.5	1.3	55.0
10	291			62						7	466	306.0	118.3	2.6	56.0
11	258			38						19	494	299.0	118.0	2.6	56.0
12	412			82						28	159	296.9	111.5	2.5	56.0
13	421			60						11	1248	310.4	122.6	2.2	56.0
14	327			53						14	648	344.5	165.4	2.4	56.0
15	343			67						4	618	396.0	205.9	2.3	59.0
16	300			60						1	19	370	399.2	198.8	2.4
17	361			38						4	2	464	398.5	196.7	2.4
18	286			52						6	10	1924	389.2	180.8	2.4
19	411			56						13	4	753	427.0	217.5	2.4
20	208			32						6	1	369	410.1	199.3	2.4
21	199			45						1		462	405.0	199.3	2.4
22	159			61						4	2	253	434.6	235.5	2.4
23	139			49						26	4	711	441.9	264.2	1.9
24	240			48						36	6	361	443.7	264.0	1.8
25	175			81						31	4	383	417.6	249.8	1.3
26	209			58						75	12	280	379.3	283.7	1.3
27	226			88						90	7	2298	385.2	250.8	1.4
28	209			58						122	12	1409	404.3	263.8	1.0
29	217			80						201	12	1514	371.8	230.7	1.3
30	137			37						192	48	1252	416.7	277.7	1.0
TOTALS	2560	5841		1956						812	321	16991			
AVERAGES	320	265		65						51	11	607	366.0	187.4	

TABLE 60

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

JUL 1982

## RIVER CONDITIONS

DATE	FISH COUNTS								DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)	
	CHINOOK ADULTS	CHINOOK SPRING	CHINOOK SUMMER	CHINOOK FALL	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD					
1	234		32				223	45	1762	396.9	266.7	1.4	60.0
2	442		116				271	34	2014	417.9	316.4	1.4	61.0
3	337		83				381	81	2434	372.4	290.0	1.1	61.0
4	287		108				451	63	2868	368.7	283.8	1.2	61.0
5	277		165				471	42	2796	363.7	237.1	1.4	61.0
6	342		134				740	26	2440	358.5	230.2	1.4	61.0
7	276		91				493	27	2980	339.3	204.4	1.7	61.0
8	354		85				678	33	5354	321.3	143.6	2.0	61.0
9	284		137				1038	46	10183	338.5	137.6	2.0	62.0
10	207		118				607	45	5499	327.5	140.3	2.0	62.0
11	234		45				526	33	4487	279.4	83.7	2.1	62.0
12	202		61				723	57	6083	289.0	98.4	2.2	63.0
13	254		63	4			741	59	5808	307.8	118.5	2.2	63.0
14	172		70				759	101	3145	287.4	96.7	1.8	64.0
15	211		73	1			723	90	2693	284.0	96.8	2.0	64.0
16	259		78	6	4		776	135	4222	269.2	77.9	2.3	64.0
17	281		83	10	2		641	248	3806	250.4	62.7	2.3	64.0
18	219		44	8	2		443	131	4990	230.7	42.5	2.3	64.0
19	183		45	4	2		513	117	3857	250.4	67.5	2.5	64.0
20	205		44	6	2		344	118	2492	263.1	72.5	2.5	66.0
21	200		56	3			371	163	2793	219.6	20.3	2.5	66.0
22	245		59	14	1		410	312	3134	206.3	9.1	2.0	66.0
23	219		27	10	5		249	245	2452	198.7	.0	2.0	65.0
24	163		28	18	4		130	149	2464	188.3	.0	2.0	65.0
25	130		12	5	2		141	272	1293	168.9	.0	2.8	65.0
26	100		20	4	3		115	187	1389	205.3	.0	2.5	65.0
27	102		16	2	5		114	159	1254	217.9	.0	2.6	67.0
28	92		8	2	1		100	220	1104	209.6	.0	2.5	67.0
29	100		13	4			121	377	719	208.6	.0	2.5	67.0
30	122		20	2			76	301	935	204.8	.0	2.5	70.0
31	64		18	7			120	403	190	184.0	.0	2.5	67.0
TOTALS	6797		1952	110	31	13489	4279	97640					
AVERAGES	219		63	6	3	435	138	3150	275.7	99.9			

TABLE 61

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

AUG 1982

DATE	FISH COUNTS							RIVER CONDITIONS			
	CHINOOK ADULTS SPRING	CHINOOK SUMMER JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	90	16	5		80	318	203	158.1	.0	1.7	69.0
2	77	16	6	2	44	387	132	183.6	.0	3.0	69.0
3	90	15	3		21	370	238	167.6	.0	3.0	67.0
4	48	17	2	1	14	293	117	171.0	.0	3.0	67.0
5	68	11		1	18	510	128	215.5	.0	2.0	68.0
6	65	8	1		9	487	225	224.3	.0	2.0	67.0
7	78	15	3		10	520	187	222.1	.0	2.2	67.0
8	67	11	2		10	335	82	188.8	.0	2.2	68.0
9	46	8	2		2	328	49	197.6	.0	2.2	68.0
10	47	8	1		13	529	46	186.0	.0	2.2	68.0
11	82	33	13	5	3	609	110	159.8	.0	1.8	68.0
12	73	27	11	2	3	681	105	168.1	.0	1.8	68.0
13	76	30			8	492	154	162.7	.0	1.8	68.0
14	72	28		5	6	709	60	169.9	.0	2.0	68.0
15	161	41	1		15	488	50	124.4	.0	2.0	68.0
16	95	31	2	1	8	210	128	147.2	.0	2.0	70.0
17	79	18	4	2	4	308	142	153.2	.0	2.1	68.0
18	73	24	2			532	89	171.4	.0	2.1	68.0
19	32	9				299	72	169.2	.0	2.0	67.0
20	40	20	5	2		309	30	171.1	.0	2.0	67.0
21	101	42	8	3	5	321	62	130.0	.0	2.0	67.0
22	108	41	8	5	5	318	52	102.5	.0	2.7	67.0
23	87	31	6	1		318	66	130.8	.0	2.7	67.0
24	89	61	5	2	3	319	59	156.0	.0	2.5	69.0
25	216	91	1	2		343	44	127.8	.0	2.5	69.0
26	160	69				402	37	134.6	.0	2.5	69.0
27	281	95	10	2		400	58	122.3	.0	3.0	70.0
28	419	267	15	1		611	61	105.6	.0	3.0	70.0
29	240	128	12	10		275	20	84.3	.0	3.0	70.0
30	244	144	8	21		328	14	109.8	.0	3.0	70.0
31	195	137	4	27		272	27	130.5	.0	3.0	70.0
TOTALS	583	3016	1492	140	95	281	12621	2847			
AVERAGES	73	131	48	5	5	14	407	92	156.3	.0	

TABLE 62

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

MCNARY PROJECT

SEP 1982

## RIVER CONDITIONS

DATE	FISH COUNTS								DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
	CHINOOK ADULTS SPRING	CHINOOK SUMMER	COHO FALL	COHO JACKS	COHO ADULTS	SOCKEYE	STEELHEAD	SHAD				
1									346	47	120.6	2.8
2	430	247	7	12					27	128.8	.0	70.0
3	417	218	6	13					249	21	.0	70.0
4	208	173	5	25					224	46	117.2	2.2
5	165	215	3	22					279	87	114.5	69.0
6	210	208	1	5		3			235	52	102.3	2.2
7	199	279	6	19		1			214	33	109.4	69.0
8	297	260	8	45					458	1	140.4	2.2
9	847	633	10	36					653		160.7	69.0
10	697	794	8	31					997	11	158.2	2.7
11	1724	1317	30	32					788	10	161.6	68.0
12	944	674	44	53					895	12	136.0	2.0
13	944	723	92	159					661	20	128.5	67.0
14	769	557	18	37					999		131.1	67.0
15	1371	858	29	25					1077		141.2	65.0
16	722	929	6	7					1422		139.4	2.2
17	1082	1263	11	13		7			1518		134.0	64.0
18	825	1144	46	43					1709	4	133.4	2.3
19	1082	1195	55	86		1			983		113.4	64.0
20	559	750	26	27					1060		104.7	2.3
21	754	707	20	54					1246		109.7	64.0
22	826	835	24	48					1219		106.8	2.3
23	882	631	50	60					1213		121.2	64.0
24	899	571	41	61		5			2637		105.4	2.7
25	1329	1002	95	100					2502		110.1	64.0
26	1135	689	74	79					2858		90.5	3.2
27	942	917	47	68		70			3301		99.1	64.0
28	1080	944	32	47		54			2916		101.6	3.1
29	985	977	27	55		68			1877		109.6	64.0
30	557	664	17	28		52			1512		122.1	2.6
TOTALS	23404	20872	841	1307	292	36282	371				81.7	64.0
AVERAGES	780	696	28	44	29	1209	29				121.1	.0

TABLE 63

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

OCT 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK ADULTS		COHO JACKS	COHO ADULTS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
	SPRING	SUMMER									
1	280	215	8	8	15	790	2	100.9	.0	3.0	64.0
2	303	408	21	32	41	1417		93.7	.0	3.0	63.0
3	378	343	22	31	34	1543		82.2	.0	3.0	63.0
4	307	313	16	18	14	1139	3	96.4	.0	3.0	63.0
5	418	336	51	44	11	996		114.2	.0	3.0	63.0
6	464	276	42	34	13	957		115.7	.0	3.4	62.0
7	287	251	8	24	23	938		122.0	.0	3.2	62.0
8	185	183	13	8	8	1245		114.5	.0	3.1	61.0
9	245	158	14	9	3	867	4	113.8	.0	3.2	61.0
10	95	121	1	1	4	225		97.6	.0	3.2	63.0
11	114	74	8	12	6	376		113.0	.0	2.7	60.0
12	111	77	6	7	10	507		112.1	.0	2.7	59.0
13	122	88	2	6	1	426		120.4	.0	2.7	59.0
14	256	102	1	6	1	596		126.6	.0	3.0	57.0
15	159	123	1	8	1	466		133.8	.0	3.2	57.0
16	82	64	1	7	3	484		116.7	.0	3.1	57.0
17	113	35	1	8	2	599		113.2	.0	3.1	57.0
18	106	95		5	3	394		132.2	.0	3.1	57.0
19	89	69		8	2	308		156.7	.0	3.1	57.0
20	93	72	2	6	2	325		112.9	.0	3.0	57.0
21	57	63		1		242		123.4	.0	3.3	57.0
22	97	54	19	24		377		115.9	.0	3.3	56.0
23	60	27	14	8		294		114.2	.0	3.2	56.0
24	55	37	12	12	2	298		97.7	.0	3.0	56.0
25	29	26	1	2		158		110.6	.0	3.0	56.0
26	15	28	1	1		136		130.0	.0	3.0	56.0
27	36	93			4	285		124.6	.0	3.0	56.0
28	41	65				326		143.5	.0	3.2	56.0
* 29	26	55				284		152.6	.0	3.0	56.0
* 30	25	37				261		152.6	.0	2.8	56.0
31	35	53				218		138.2	.0	3.0	56.0
TOTALS	4683	3941	265	330	203	17477	9				
AVERAGES	151	127	12	13	9	564	3	119.1	.0		

\* Morning count only at McNary.

TABLE 64  
WATER TEMPERATURE AND STREAM FLOW DATA  
MCNARY - 1982

	NOVEMBER			DECEMBER		
DATE	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP
1	146,300	3.0	56.0	163,100	4.1	46.0
2	177,300	3.1	56.0	164,700	3.4	46.0
3	159,300	3.4	54.0	133,300	3.8	46.0
4	140,600	3.4	56.0	104,100	5.0	46.0
5	130,700	3.5	54.0	97,300	3.0	46.0
6	126,500	3.5	54.0	158,200	3.5	46.0
7	138,300	3.4	54.0	160,700	4.0	46.0
8	154,400	3.4	54.0	154,300	4.2	46.0
9	156,400	3.2	54.0	177,200	4.2	46.0
10	147,200	3.9	54.0	151,700	4.6	45.0
11	138,100	3.5	54.0	165,400	4.7	44.0
12	149,700	3.4	52.0	136,300	4.8	44.0
13	135,200	3.0	51.0	148,400	3.8	44.0
14	135,900	3.3	51.0	151,300	3.8	44.0
15	157,300	3.0	50.0	125,100	5.0	44.0
16	162,700	3.4	51.0	147,700	4.0	44.0
17	138,400	3.5	50.0	146,100	4.4	43.0
18	123,900	3.4	50.0	128,600	4.4	43.0
19	127,700	3.0	50.0	135,900	4.0	44.0
20	121,000	5.0	50.0	175,400	4.0	44.0
21	119,900	5.0	50.0	166,100	3.8	44.0
22	140,500	5.0	50.0	147,800	3.8	44.0
23	155,600	3.5	50.0	148,600	3.8	43.0
24	164,000	3.5	48.0	139,100	3.8	43.0
25	145,100	4.5	48.0	126,000	3.6	43.0
26	152,100	4.5	47.0	103,600	3.7	43.0
27	128,200	4.4	46.0	137,900	3.8	43.0
28	131,800	3.9	46.0	153,000	3.9	42.0
29	149,400	3.7	46.0	156,700	4.0	41.0
30	153,800	3.4	46.0	181,400	4.0	41.0
31				154,200	4.0	41.0

TABLE 65

TABLE 65  
PEAK DAYS OF FISH MIGRATION  
MCNARY DAM - 1954 - 1982

Year	Spring Chinook		Summer Chinook		Fall Chinook		Steelhead		Sockeye		Coho	
	Number	Date	Number	Date	of Fish	Number	Date	of Fish	Number	Date	of Fish	Date
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
1982	May 17	1,625	Jul 2	558	Sep 10	3,041	Jul 9	10,183	Jul 9	1,038	Sep 12	251

TABLE 66  
MONTHLY COUNT OF CHINOOK SALMON  
MCNARY DAM - 1954 - 1982

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
1982		3	1,638	23,487	10,357	8,749	5,091	44,276	8,624				102,225	28,352	16,574	57,299
Total		42	400,004	968,250	679,775	799,953	329,385	1,252,015	201,370	4,020			4,634,814	1,487,024	1,477,076	1,670,714
29-Year Average		2	13,793	33,388	23,441	27,585	11,358	43,173	6,944				159,821	51,277	50,934	57,611

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

TABLE 67

TABLE 67  
MONTHLY COUNT OF SOCKEYE SALMON  
MCNARY DAM - 1954 - 1982

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1954					1	1,107	93,452	11,382	2,214	25			108,181
1955					43	287	163,902	9,402	121	3			173,758
1956					1	639	94,352	6,882	262	7	2		102,145
1957					13	6,318	74,874	4,233	22				85,460
1958						12,542	82,547	5,474	1,819	15			102,397
1959					21	2,031	73,735	7,981	209				83,977
1960						9,374	43,749	2,241	8				55,372
1961						1,088	14,149	1,138	11	2			16,388
1962						1,721	27,134	511	6				29,372
1963					78	8,712	50,415	535	4				59,744
1964						770	81,536	1,617	8				83,931
1965						328	40,790	923	10	1			42,052
1966						6,202	162,267	4,548	11				173,028
1967						1,935	101,044	2,647	9				105,635
1968						28,928	70,413	1,666					101,007
1969						5,787	23,353	647					29,787
1970						7,152	47,339	5,134	11				59,636
1971						317	50,568	1,982					52,867
1972						366	24,452	1,604					26,422
1973						9,011	32,301	999	420				42,731
1974						188	25,816	486	15				26,505
1975						1,517	41,011	615					43,143
1976						4,461	19,319	415	437				24,632
1977					8	36,708	43,077	739	207	42			80,781
1978						3,211	10,376	714	1,583	2,627			18,511
1979						6,317	29,571	1,547	321	36			37,792
1980						3,400	40,469	432					44,301
1981						4,419	22,042	180	1	2			26,644
1982						812	13,489	281	292	203			15,077
<b>Total</b>					165	165,648	1,597,542	76,955	8,001	2,963	2		1,851,276
<b>29-Year Average</b>						5,712	55,088	2,654	276	102			63,837

TABLE 68  
MONTHLY COUNT OF COHO SALMON  
MCNARY DAM - 1954 - 1982

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
1982								141	235	2,148	595		3,119
Total 68				1		7	466	16,992	296,143	46,220	3,094	1	362,924
29-Year Average							16	586	10,212	1,594			12,515

TABLE 69

TABLE 69  
MONTHLY COUNT OF STEELHEAD TROUT  
MCNARY DAM - 1954-1982

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
1958	62	137	1,069	877	334	1,265	9,967	6,535	50,229	17,415			105,728
1959					1,317	685	748	10,508	32,872	49,542	14,803		87,890
1960					1,579	1,236	908	8,475	22,443	51,749	10,505		110,475
1961					896	580	1,281	7,469	11,428	64,521	17,568		96,895
1962					1,650	762	1,108	11,321	28,288	98,042	22,010		103,743
1963					813	1,751	2,639	8,252	26,282	47,982	25,927		163,181
1964					1,789	805	486	7,602	25,918	53,180	10,962		113,646
1965					1,361	363	231	11,749	31,155	54,450	19,651		100,742
1966					2,279	954	1,476	18,241	26,062	71,180	24,938		118,960
1967					1,434	1,130	152	5,771	14,894	32,310	22,009		145,130
1968					5,451	3,361	247	4,058	22,268	61,167	15,970		77,700
1969					2,304	1,792	711	7,668	13,641	35,836	14,729		112,522
1970					1,347	1,001	340	5,183	15,236	39,150	7,502		76,681
1971					813	374	271	8,931	21,324	62,083	15,834		69,759
1972					1,614	393	130	8,155	20,548	46,393	16,587		109,630
1973					3,178	846	270	6,898	11,121	32,701	9,606		93,820
1974					847	715	681	4,093	5,242	8,648	6,706		64,620
1975					612	209	254	3,623	6,708	9,329	2,928		26,932
1976					936	1,372	1,949	5,772	16,145	22,423	5,403		23,663
1977					1,730	987	2,916	13,132	7,833	43,792	17,322		54,000
1978					1,266	701	1,832	3,444	4,863	15,627	5,708	1,299	87,712
1979					970	681	156	93	4,955	14,648	15,580	3,251	34,740
1980					1,753	3,355	608	381	2,740	14,431	27,706	12,776	50,304
1981					861	1,479	809	878	7,212	12,839	19,961	15,652	66,524
1982					1,530	1,764	825	321	4,279	12,621	36,282	2,294	61,985
Total	1,059	925	8,032	54,669	28,212	22,468	220,923	521,059	1,136,061	421,698	17,786	2,377	2,435,269
29-Year Average			277	1,885	973	775	7,618	17,968	39,175	14,541			83,975

TABLE 70

## YEARLY TOTALS OF SALMONID COUNTED OVER ICE HARBOR DAM

1962 - 1982

<u>Year</u>	<u>Chinook</u>	<u>Steelhead</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Chum</u>	<u>Total Salmonid</u>
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
1982	22,646	73,405	174	348		96,573
<b>Total</b>	<b>1,219,163</b>	<b>1,113,772</b>	<b>9,847</b>	<b>43,275</b>	<b>12</b>	<b>2,386,069</b>
<b>21-Year Average</b>	<b>58,055</b>	<b>53,037</b>	<b>469</b>	<b>2,061</b>		<b>113,622</b>

/

TABLE 70

TABLE 71

TABLE 71  
MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER ICE HARBOR DAM

1982

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	3	656	11,543	4,522	2,347	283	2,601	691	-	-	22,646
STEELHEAD	-	-	1,471	1,931	918	45	2,564	8,895	30,574	27,007	-	-	73,405
SOCKEYE	-	-	-	-	-	2	84	11	53	24	-	-	174
COHO	-	-	-	-	-	-	-	37	270	41	-	-	348
<b>TOTAL SALMONID</b>	<b>-</b>	<b>-</b>	<b>1,474</b>	<b>2,587</b>	<b>12,461</b>	<b>4,569</b>	<b>4,995</b>	<b>9,226</b>	<b>33,498</b>	<b>27,763</b>	<b>-</b>	<b>-</b>	<b>96,573</b>
SHAD	-	-	-	-	-	91	15,145	4,040	59	2	-	-	19,337

TABLE 72  
DISCHARGE AND WATER QUALITY DATA  
ICE HARBOR DAM - 1982

DATE	JANUARY			FEBRUARY		
	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP
1	37,700	1.6	42.0	50,100	1.8	38.0
2	41,000	1.6	41.0	48,400	1.0	38.0
3	41,500	1.6	41.0	48,800	.8	38.0
4	41,800	1.6	41.0	51,300	.8	38.0
5	43,400	1.6	40.0	54,300	.8	38.0
6	39,500	1.6	39.0	40,200	.8	38.0
7	43,400	3.6	39.0	28,500	.8	38.0
8	37,000	3.8	39.0	51,900	1.2	38.0
9	40,900	4.2	39.0	57,600	1.2	37.0
10	27,400	4.2	38.0	45,900	1.5	37.0
11	37,200	4.2	38.0	43,500	1.5	37.0
12	40,900	4.2	38.0	40,800	1.5	37.0
13	42,400	4.2	38.0	39,300	1.5	37.0
14	43,100	4.2	38.0	42,500	1.5	37.0
15	37,000	5.0	38.0	47,500	1.5	37.0
16	27,800	5.0	38.0	82,400	1.5	37.0
17	22,000	5.0	38.0	97,500	1.5	37.0
18	40,200	5.0	38.0	120,900	1.6	38.0
19	38,300	5.0	38.0	109,300	1.7	39.0
20	45,000	5.0	38.0	103,500	.5	39.0
21	54,100	5.0	38.0	114,500	.5	39.0
22	40,700	5.0	38.0	130,000	.5	39.0
23	43,400	5.0	38.0	154,400	.5	40.0
24	37,100	5.0	38.0	139,800	.5	40.0
25	56,900	1.5	38.0	116,500	.3	40.0
26	54,500	1.5	38.0	107,600	.3	40.0
27	48,500	1.8	38.0	100,600	.3	40.0
28	50,600	2.0	38.0	99,500	.3	40.0
29	56,900	1.8	38.0			
30	43,900	1.8	38.0			
31	42,300	2.0	38.0			

TABLE 73

TABLE 73

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## ICE HARBOR PROJECT

MAR 1982

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1							2			105.1	85.7	.3	40.0
2							7			101.7	77.4	.3	40.0
3							12			104.8	63.1	.3	40.0
4							22			116.3	77.4	.9	40.0
5							28			112.7	61.2	.9	40.0
6							28			116.6	93.0	.9	40.0
7							21			104.7	93.0	.9	40.0
8							11			85.6	41.3	.9	40.0
9							11			110.9	84.6	.9	40.0
10							45			114.1	90.1	.9	40.0
11							20			119.9	70.6	.9	40.0
12							37			122.6	60.1	.9	40.0
13							59			129.0	76.8	.9	42.0
14							57			128.5	82.9	.9	43.0
15	1						52			122.2	54.6	.9	43.0
16							56			117.4	46.9	.9	43.0
17							83			115.4	35.6	.8	43.0
18							55			109.9	31.1	.8	43.0
19							61			106.2	24.5	.8	43.0
20							55			93.0	18.7	.8	43.0
21							98			102.6	44.9	.8	43.0
22							90			99.3	24.1	.8	43.0
*										93.2	32.3	.8	43.0
23							95			76.9	18.6	.8	43.0
24							97			86.4	18.9	.8	43.0
25							94			99.1	29.5	.8	44.0
26							96			71.6	.0	.8	44.0
27	1						70			73.2	2.4	.8	44.0
28							53			89.3	4.9	.8	44.0
29	1						56			81.4	2.6	.8	44.0
30										76.2	.0	1.8	45.0
* 31													
TOTALS	3								1471				
AVERAGES	1								51		102.8	46.7	

\* No Count

TABLE 74

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

APR 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK SPRING	ADULTS SIIMMER	CHINOOK FALL	COHO JACKS	COHO ADULTS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1						80			66.8	.0	1.8	45.0
2						52			81.6	5.7	1.8	45.0
3						58			75.3	.0	1.8	45.0
4						100			77.3	10.4	1.8	46.0
5	1					77			98.8	20.8	1.8	46.0
6						61			86.8	8.4	1.8	46.0
7						67			88.0	.0	1.8	46.0
8						44			72.7	2.8	1.8	46.0
9						57			51.7	1.4	1.8	46.0
10						54			66.0	20.9	2.3	46.0
11	1					64			62.4	36.4	2.6	46.0
12	1					39			117.4	42.4	2.3	46.0
13	4					69			110.6	30.3	2.3	46.0
14	6					63			118.9	36.1	2.1	46.0
15						12			127.0	49.7	.5	46.0
16						20			95.1	33.6	.5	46.0
17	2					51			102.1	79.5	.5	46.0
18	1					83			122.2	96.4	.5	47.0
19	1					103			104.2	43.6	.7	47.0
20						81			90.4	45.7	.7	48.0
21	10					78			127.8	65.2	.7	48.0
22	2					90			109.5	46.2	.7	48.0
23	13					58			100.8	43.5	1.2	48.0
24	17					52			116.6	58.3	1.2	48.0
25	23					52			120.2	42.4	1.2	48.0
26	43					39			122.6	42.3	1.2	49.0
27	66					56			115.0	32.9	1.2	49.0
28	96					54			122.5	50.8	1.2	49.0
29	131					100			123.4	43.7	1.2	49.0
30	238					117			117.6	43.4	1.2	50.0
TOTALS	656							1931				
AVERAGES	36							64	99.7	34.4		

TABLE 75

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

MAY 1982

DATE	FISH COUNTS						RIVER CONDITIONS					
	CHINOOK ADULTS SPRING	CHINOOK SUMMER	FALL JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SEECHEI)	WATER TEMP (DEG F)
1	232					91			125.9	58.2	1.2	51.0
2	179					68			118.3	63.8	1.2	51.0
3	278					70			115.0	60.7	1.2	51.0
4	211		3			62			129.7	61.7	1.6	51.0
5	224		1			55			121.7	44.2	1.7	51.0
6	197		1			32			125.6	48.3	1.6	51.0
7	362		1			35			120.2	53.2	1.8	51.0
8	626		1			40			121.5	46.7	1.9	51.0
9	755		4			46			104.9	55.8	1.9	51.0
10	807		8			52			107.6	50.6	2.0	52.0
11	673		8			35			109.5	45.9	2.0	52.0
12	631		8			37			106.7	43.5	2.0	52.0
13	462		2			38			111.1	46.9	2.0	52.0
14	407		6			29			109.7	46.4	2.0	52.0
15	386		15			30			128.6	46.1	2.0	52.0
16	344		12			21			134.4	69.1	2.0	53.0
17	243		1			21			145.9	64.1	2.0	53.0
18	524		2			30			157.0	57.5	2.0	53.0
19	409		5			25			167.8	81.5	1.8	54.0
20	656		20			19			150.7	60.1	2.3	55.0
21	477		15			15			139.0	51.8	2.3	55.0
22	458		10			18			135.6	55.2	2.3	55.0
23	229		11			15			144.4	67.4	2.3	55.0
24	130		6			5			160.7	67.8	2.3	55.0
25	159		8			7			156.2	58.0	2.3	55.0
26	291		12			6			152.8	57.0	2.6	55.0
27	245		5			4			195.4	100.1	2.3	55.0
28	209		12			4			174.8	84.7	2.6	54.0
29	131		8						145.4	83.8	2.6	54.0
30	237		10			5			127.3	83.1	2.6	54.0
31	169		7			3			112.8	78.4	2.6	54.0
TOTALS	11341		202			918						
AVERAGES	366		7			31			134.1	61.0		

TABLE 76

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

JUN 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	111			5				2		115.3	68.8	2.6	54.0
2	211			4				2		117.9	46.4	2.6	54.0
3	91			2				1		120.7	45.8	2.6	53.0
4	51			1				1		117.3	35.6	2.6	53.0
5	142			3						122.9	42.3	2.6	53.0
6	218			11				3		138.3	50.4	2.6	53.0
7	377			17				1		130.1	41.6	2.6	53.0
8	379			12				2	1	131.8	41.8	3.1	54.0
9	289			11				2	4	120.4	37.7	3.0	55.0
10	243			17				4	14	101.7	24.2	3.2	56.0
11	190			13				1	8	105.3	31.4	3.1	56.0
12		218		10					29	100.8	31.3	3.2	56.0
13		201		12					3	108.7	49.7	3.2	56.0
14		199		2					19	152.2	64.6	3.2	56.0
15		301		5						172.4	99.0	3.2	52.0
16		207		8				5		178.8	114.3	3.2	54.0
17		156		7				1		194.0	128.8	3.2	54.0
18		75		1				1		194.6	114.2	3.2	53.0
19		60		2				2		202.6	103.4	2.6	53.0
20		33								193.2	94.8	2.6	53.0
21		49		1						190.0	91.2	2.6	53.0
* 22		19						1		196.7	97.9	1.5	54.0
23		27		1				1		195.7	96.3	1.5	54.0
24		17		1						193.0	94.3	1.2	54.0
25		23		2				2		176.5	83.9	1.2	54.0
26		76		5				6		166.7	66.8	1.2	54.0
27		134		8				4		167.2	66.1	1.2	54.0
28		73		5				1		164.1	64.3	1.4	54.0
29		69		8					9	160.3	70.4	1.2	54.0
30		104		5				2	1	167.5	90.4	1.3	54.0
TOTALS	2302	2041		179				2	45	91			
AVERAGES	209	107		6				2	2	10	153.2	69.6	

\* AFTERNOON SHIFT ONLY

TABLE 77

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

ICE HARBOR PROJECT

JUL 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	Sockeye	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHELI)	WATER TEMP (DEG F)
1		161		8			2	5	28	156.5	71.6	1.4	54.0
2		156		7				2	5	168.0	76.0	1.4	55.0
3		141		12				2	17	154.5	68.2	1.9	55.0
4		127		7				2	33	145.7	67.4	1.9	55.0
5		168		14				10	25	131.9	68.6	1.9	55.0
6		219		14				7	124	119.3	60.7	2.0	56.0
7		118		11			1	4	137	114.1	57.6	2.1	56.0
8		129		10				20	262	111.3	30.3	2.2	56.0
9		129		7			7	8	77	112.7	31.5	2.4	56.0
10		105		12			10	16	70	105.3	40.6	2.4	61.0
11		78		11				28	215	82.1	41.1	2.4	62.0
12		68		11			6	37	256	85.8	43.4	2.5	62.0
13		69		6			5	26	450	87.9	23.1	2.7	62.0
14		61		11			15	33	432	80.6	16.6	2.8	62.0
15		36		5			14	51	449	88.9	16.0	2.5	63.0
16		23		6			2	42	305	83.5	20.0	2.8	62.0
17		18		2			2	71	325	75.4	20.2	2.8	63.0
18		43		4			6	78	563	68.5	21.8	3.8	63.0
19		44		5			6	103	660	63.0	.0	4.0	63.0
20		36		6			1	121	1188	52.0	.0	4.0	63.0
21		30		16			1	48	1382	59.0	.0	4.2	63.0
22		16		11				131	1159	50.3	.0	4.0	64.0
23		30		2			1	144	886	52.3	.0	4.0	64.0
24		21		2			1	174	395	32.7	.0	4.0	64.0
25		23		14				273	695	31.6	.0	4.5	65.0
26		18		3			2	174	1594	42.9	.0	4.5	65.0
27		13		4			2	156	1179	40.4	.0	4.5	67.0
28		12		5				175	912	44.7	.0	5.0	67.0
29		10						147	494	44.4	.0	5.0	68.0
30		7		5				233	513	29.9	.0	5.0	68.0
31		5		2				241	315	31.0	.0	5.0	68.0
TOTALS	2114		233				84	2564	15145				
AVERAGES	68		8				5	83	489	82.1	25.0		

TABLE 78

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

AUG 1982

DATE	FISH COUNTS							RIVER CONDITIONS					
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1		7		1			4	287	200	25.6	.0	5.0	68.0
2		6		1		1	3	233	296	35.1	.0	5.0	68.0
3		5				2		391	231	32.4	.0	5.0	68.0
4		8		1			4	345	269	31.9	.0	5.0	68.0
5		5		1	1	1		351	233	32.9	.0	4.0	68.0
6		4				2		274	351	38.7	.0	4.0	68.0
7		7		1				455	373	39.4	.0	4.0	68.0
8		4				1		484	238	35.1	.0	4.0	68.0
9								272	262	41.1	.0	4.0	68.0
10		3		1	4			377	177	28.0	.0	4.0	68.0
11								436	34	30.7	.0	4.0	68.0
12			4	1	3			341	155	24.8	.0	4.5	68.0
13			5	1	1			483	61	23.4	.0	4.5	68.0
14			4	1				420	53	19.8	.0	4.4	69.0
15			1	2				276	205	17.5	.0	4.2	69.0
16			3					198	149	29.3	.1	5.0	69.0
17			2					216	78	30.9	.0	5.0	70.0
18			6	1	1			218	68	30.9	.0	5.0	70.0
19			1	2				244	113	26.5	.0	5.8	70.0
20			2	5	1		1	283	127	32.3	.0	5.8	70.0
21			1	2				247	109	23.3	.0	5.0	70.0
22			6	3				208	70	19.1	.0	5.0	71.0
23			4	2	4			185	53	20.3	.0	5.0	71.0
24			3	1	1		1	161	40	40.1	.0	5.0	72.0
25			3	3	1			212	61	32.6	.0	5.0	72.0
26			1	9	1			246	14	24.0	.0	5.0	72.0
27			5	4	4			225	2	22.9	.0	5.0	72.0
28			21	15	4			216		13.6	.0	5.0	72.0
29			10	12				103	2	11.7	.0	5.0	72.0
30			22	19				260		22.5	.0	5.0	72.0
31			20	20	1	1		248	16	24.4	.0	5.0	72.0
TOTALS		49	124	110	30	7	11	8895	4040				
AVERAGES		5	6	4	2	1	4	287	139	27.8	.0		

TABLE 79

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

ICE HARBOR PROJECT

SEP 1982

DATE	FISH COUNTS							DISCHARGE (KCFS)	RIVER CONDITIONS		
	CHINOOK ADULTS SPRING	CHINOOK SUMMER	COHO JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD		SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1.	15	17	2	2			218	11	31.3	.0	5.0
2	18	17	2	3			211	8	34.5	.0	5.0
* 3	19	14					114		31.2	.0	5.0
4	17	22					409	1	25.3	.0	5.0
5	18	13	1				225		24.3	.0	5.0
6	7	15					159		23.6	.0	5.0
7	10	11					184	5	25.8	.0	5.0
8	34	23	4	5			174		38.8	.0	5.0
9	47	24					246	1	36.6	.0	5.0
10	73	61	7	14			449		35.6	.0	5.0
11	58	52	2	7			422	1	26.7	.0	5.0
12	83	80	3	9			269		16.8	.0	5.0
13	37	55	2	1			223		31.2	.0	5.0
14	41	30	8	8			360	2	33.6	.0	5.0
15	65	54	12	14			762	4	37.4	.0	5.0
16	65	71	9	24			1120		41.9	.0	4.7
17	82	74	13	19			1185		33.9	.0	5.0
18	73	94	2	1			1174		32.6	.0	4.7
19	59	56	3	7			1319	4	31.8	.0	4.7
20	56	41		2			1281		33.2	.0	4.7
21	26	30	5	1			1330	2	37.5	.0	4.9
22	52	49	1				1192	3	38.0	.0	4.9
23	42	81	3	8			1439	4	35.7	.0	4.9
24	57	59	8	3			1986		39.0	.0	4.6
25	50	58	4	9			2249	6	36.6	.0	4.6
26	49	59	7	7			2562	5	35.7	.0	4.6
27	44	53	5	4			2938	1	28.9	.0	4.6
28	29	35	2	6			2306		39.5	.0	4.6
29	32	33					2268		30.6	.0	4.2
30		35	31	2			1800		34.7	.0	4.2
TOTALS	1293	1308	107	163	53	30574	59				
AVERAGES	43	44	5	7	5	1019	4	32.7	.0		

\* Morning Shift Count Only

TABLE 80

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

OCT 1982

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1				23	47	2	3	6	2161	25.9	0	4.2	64.0
2				38	60	5	6	1	2513	23.5	0	4.4	64.0
3				21	26	2	3	2	2000	29.0	0	4.4	64.0
4				12	41	6	2	5	1457	33.9	0	4.4	63.0
5				21	26	1	3	2	1772	32.6	0	4.4	63.0
6				15	15	1	1	2	1296	39.7	0	4.4	63.0
*				1	31	1		4	1351	33.5	0	3.5	63.0
8				11	26		1	2	932	34.4	0	3.5	62.0
9				4	17	1	1		1070	32.4	0	3.5	62.0
10				9	11				1031	35.6	0	3.5	61.0
* 11				20	25				935	43.5	0	3.5	61.0
12				2	13	1			887	29.0	0	5.0	60.0
13				11	13	1			780	32.8	0	5.0	60.0
14				1	13				798	31.8	0	5.0	60.0
15				2	10				686	35.8	0	5.0	60.0
16				5	11				813	30.6	0	5.0	60.0
17				2	14				785	32.0	0	5.0	60.0
18				1	10				525	40.6	0	5.0	60.0
19					13				512	27.7	0	5.0	59.0
20				2	9				608	38.1	0	5.0	60.0
** 21					4				210	40.5	0	5.0	59.0
22					9				350	31.7	0	5.0	57.0
23					3				581	22.4	0	5.0	57.0
24					6				418	28.9	0	5.0	57.0
25					1	2			419	36.0	0	5.0	57.0
26						9			423	44.2	0	5.0	57.0
27					3	3			316	39.3	0	5.0	56.0
* 28					1				176	39.8	0	4.8	56.0
29					1	2			434	47.8	0	4.8	56.0
30					2	9			351	44.9	0	4.8	55.0
31					1	3			417	44.4	0	4.8	55.0
TOTALS				210	481	21	20	26	27007	2			
AVERAGES				8	16	2	2	3	871	2	34.9	0	

\* Morning count only

\*\* 1/2 day count only

TABLE 81

TABLE 81  
WATER TEMPERATURE AND STREAM FLOW DATA  
ICE HARBOR - 1982

DATE	NOVEMBER			DECEMBER		
	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP
1	52,400	4.8	55.0	53,100	5.0	46.0
2	50,900	4.8	55.0	54,600	5.0	45.0
3	34,300	4.8	55.0	50,300	5.0	45.0
4	28,100	4.8	54.0	46,100	5.0	45.0
5	32,000	4.8	54.0	32,500	5.0	45.0
6	33,900	4.8	53.0	48,000	5.0	44.0
7	32,700	4.8	53.0	50,900	5.0	44.0
8	46,000	4.8	53.0	54,300	5.0	44.0
9	36,000	4.8	52.0	47,700	5.0	44.0
10	39,300	4.8	52.0	41,400	5.0	43.0
11	37,100	4.8	52.0	50,700	5.0	43.0
12	35,400	4.8	51.0	50,200	5.0	43.0
13	35,400	4.8	51.0	49,400	5.0	42.0
14	32,000	4.8	50.0	38,900	5.0	42.0
15	34,900	4.8	50.0	49,300	5.0	42.0
16	36,800	4.8	49.0	29,900	5.0	42.0
17	40,100	5.0	49.0	55,400	5.0	41.0
18	43,300	5.0	49.0	42,400	5.0	41.0
19	54,700	5.0	48.0	54,400	5.0	41.0
20	38,400	5.0	48.0	52,300	5.0	41.0
21	31,900	5.0	48.0	44,800	5.0	41.0
22	47,100	5.0	48.0	50,200	5.0	42.0
23	46,000	5.0	40.0	66,900	5.0	42.0
24	43,200	5.0	48.0	66,800	5.0	42.0
25	30,200	5.0	48.0	47,700	5.0	42.0
26	37,400	5.0	47.0	33,100	5.0	41.0
27	28,700	5.0	47.0	41,700	5.0	41.0
28	36,800	5.0	46.0	44,600	5.0	41.0
29	37,500	5.0	46.0	47,800	5.0	41.0
30	41,000	5.0	46.0	52,400	5.0	41.0
31				45,500	5.0	40.0

TABLE 82  
PEAK DAYS OF MIGRATION  
ICE HARBOR DAM - 1962-1982

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
1982	May 10	815	Jun 15	306	Sep 12	163	Sep 27	2,938	Jul 14	15	Sep 15	33

TABLE 83

TABLE 83  
MONTHLY COUNT OF CHINOOK SALMON  
ICE HARBOR DAM - 1962 - 1982

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	7,166	803	9,318	2,152	349		39,233	12,178	14,701	12,354
1966			23,382	19,294	10,611	1,933	10,756	2,740					75,882	43,881	16,983	15,018
1967			15,973	18,137	9,020	22,218	820	11,947	6,815				84,930	35,593	30,315	19,022
1968			1,595	41,398	12,119	17,751	3,433	16,588	5,275	493	29		98,681	44,773	29,531	24,377
1969	195		697	43,181	24,918	12,861	2,369	12,027	3,555	708	3		100,514	52,090	30,917	17,507
1970			12,167	33,881	12,338	8,185	1,747	7,702	1,456	219	3		77,698	47,931	19,382	10,385
1971			1,104	25,089	19,265	13,364	873	8,960	1,593				70,248	32,638	26,606	11,004
1972			14,535	34,734	7,544	15,177	1,869	6,089	2,684				82,632	50,350	22,846	9,436
1973			34,277	23,627	10,925	4,254	840	6,657	1,241				81,821	60,639	12,829	8,353
1974			842	16,670	5,315	6,494	483	2,066	574				32,444	19,361	10,269	2,814
1975			1,314	17,796	5,817	3,972	506	1,875	406				31,686	21,401	7,727	2,558
1976			3,146	19,269	8,544	3,921	349	1,123	204				36,556	25,056	10,026	1,474
1977			24,003	17,626	9,328	3,606	297	1,370	284				56,514	44,421	10,337	1,756
1978			14,891	29,333	9,999	4,888	892	1,064	269	16			61,352	49,303	10,440	1,609
1979			1,731	6,528	2,234	1,216	379	1,489	333	19			13,929	9,247	2,608	2,074
1980			1,678	7,321	2,285	1,569	301	1,034	504	25			14,717	9,668	3,305	1,744
1981	1		6,744	8,542	2,884	1,751	161	1,530	470	9			22,092	16,167	3,814	2,111
1982	3		656	11,543	4,522	2,347	283	2,601	691				22,646	14,600	4,527	3,519
Total	1	205	170,473	453,970	205,400	175,687	25,461	142,275	42,946	2,671	74	1,219,163	673,992	343,373	201,798	
21-Year Average		10	8,118	21,618	9,781	8,366	1,212	6,775	2,045				58,055	32,095	16,351	9,609

TABLE 84  
MONTHLY COUNT OF STEELHEAD TROUT  
ICE HARBOR DAM - 1962-1982

<b>Year</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Total</b>
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	952	18,914	20,861			44,205
1968				2,558	2,933	357	952	8,107	45,552	17,270	3,692	962	82,383
1969	132	41	807	4,971	2,430	321	3,348	5,715	27,219	14,953	3,874	78	63,889
1970				1,597	1,067	389	2,620	7,611	30,101	8,290	1,891	304	53,870
1971			458	1,938	843	215	3,064	2,996	42,481	15,034			67,029
1972				1,853	553	152	3,062	6,503	34,134	17,336			63,593
1973				1,570	827	254	1,785	2,699	22,021	9,155			38,311
1974				972	359	104	1,482	2,202	3,661	3,748			12,528
1975				564	409	76	1,223	3,878	6,816	3,252			16,218
1976				508	142	165	1,714	5,138	11,141	5,077			23,885
1977				685	220	308	3,654	3,017	30,610	16,326			54,820
1978				908	88	43	1,308	2,907	15,094	6,092	702		27,142
1979	454			538	114	60	1,995	1,778	6,136	9,717	2,325		23,117
1980		1,420		2,796	563	39	1,303	4,333	22,064	15,424	2,279		50,221
1981		797		1,106	433	137	2,305	1,431	16,563	16,669	1,849		41,290
1982		1,471		1,931	918	45	2,564	8,895	30,574	27,007			73,405
<b>Total</b>	268	287	6,876	41,894	16,509	4,439	44,610	98,603	582,602	289,792	25,804	2,088	1,113,772
<b>21-Year Average</b>			327	1,995	786	211	2,124	4,695	27,743	13,800			53,037

TABLE 85

## YEARLY TOTALS OF SALMONID FISH COUNTED OVER LOWER MONUMENTAL DAM

1969 - 1982

<u>Year</u>	<u>Chinook</u>	<u>Steelhead</u>	<u>Sockeye</u>	<u>Coho</u>	<u>Total Salmonid</u>
1969	86,700	71,434	1,127	6,466	165,727
1970	75,310	62,167	240	2,972	140,689
1971	68,885	70,114	808	2,171	141,978
1972	72,220	66,857	415	733	140,225
1973	80,557	39,530	206	1,333	121,626
1974	31,728	15,139	114	812	47,793
1975	33,013	17,363	146	572	51,094
1976	34,395	21,822	364	361	56,942
1977	49,301	47,749	293	122	97,465
1978	56,835	20,540	96	218	77,689
1979	11,288	17,794	31	194	29,307
1980	10,885	34,322	48	73	45,328
1981	19,991	35,923	136	63	56,113
1982	21,965	62,772	154	89	84,980
<b>Total</b>	<b>653,073</b>	<b>583,526</b>	<b>4,178</b>	<b>16,179</b>	<b>1,256,956</b>
<b>14-Year Average</b>	<b>46,648</b>	<b>41,680</b>	<b>298</b>	<b>1,156</b>	<b>89,783</b>

TABLE 85

TABLE 86  
MONTHLY TOTALS OF SALMONID AND SHAD COUNTED OVER LOWER MONUMENTAL DAM

1982

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	-	372	11,319	5,031	2,773	264	1,631	575	-	-	21,965
STEELHEAD	-	-	-	2,026	1,123	35	1,851	7,373	22,426	27,938	-	-	62,772
SOCKEYE	-	-	-	-	-	3	143	-	8	-	-	-	154
COHO	-	-	-	-	-	-	-	15	47	27	-	-	89
<b>TOTAL SALMONID</b>	-	-	-	2,398	12,442	5,069	4,767	7,652	24,112	28,540	-	-	84,980
<b>SHAD</b>	-	-	-	-	-	3	4,345	693	1	1	-	-	5,043

TABLE 87  
DISCHARGE  
LOWER MONUMENTAL - 1982

DATE	JANUARY	FEBRUARY	MARCH
	DISCHARGE	DISCHARGE	DISCHARGE
1	39,100	53,900	102,100
2	40,100	50,500	97,200
3	40,500	50,600	105,000
4	47,000	57,900	111,400
5	43,400	55,500	113,500
6	44,300	38,400	108,800
7	42,400	30,900	98,400
8	42,500	58,500	89,400
9	39,900	56,900	108,700
10	27,900	48,200	111,500
11	38,400	45,800	118,300
12	44,100	40,900	123,400
13	46,000	40,200	125,400
14	45,900	44,600	128,400
15	38,800	56,900	117,900
16	28,700	88,100	123,400
17	24,800	99,400	113,600
18	42,100	110,400	113,200
19	39,700	103,700	109,100
20	46,100	107,700	96,500
21	56,200	110,700	101,200
22	48,700	127,800	102,000
23	38,400	151,100	96,100
24	41,400	134,800	79,800
25	60,400	116,400	89,400
26	53,900	104,200	100,900
27	52,600	101,400	72,800
28	53,000	94,700	79,900
29	56,400		90,600
30	49,800		83,100
31	41,900		79,200

Water quality data was not collected 1 January thru 1 April 1982.

TABLE 88

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

LOWER MONUMENTAL PROJECT  
APR 1982

DATE	FISH COUNTS						RIVER CONDITIONS				
	CHINOOK SPRING ADULTS	CHINOOK SUMMER FALL JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	1					78		71.6	.0	1.6	44.0
2						81		88.0	.5	1.6	44.0
3						106		77.5	.0	1.5	44.0
4						92		82.7	15.6	1.5	44.0
5						104		102.5	11.8	1.5	45.0
6						83		92.0	.0	1.6	45.0
7	1					69		91.0	.0	1.6	45.0
8						42		71.5	6.1	1.6	45.0
9						57		60.5	3.3	1.6	45.0
10	1					42		63.1	30.1	1.6	45.0
11						37		61.8	43.6	1.6	45.0
12	2					58		112.7	28.9	1.6	45.0
13						46		111.1	20.8	1.6	45.0
14						6		123.7	21.0	.5	45.0
15						5		125.2	23.0	.5	47.0
16						54		95.7	35.8	.5	47.0
17	1					32		102.0	84.5	.5	47.0
18	1					23		117.4	102.1	.5	48.0
19	1					56		103.1	58.3	.5	48.0
20	1					45		94.6	59.2	.5	48.0
21	7					88		125.3	76.0	.5	48.0
22	1					64		109.2	76.2	.5	48.0
23	1					55		101.0	62.3	.9	48.0
24	4					53		117.5	83.6	.9	48.0
25	7					78		115.8	71.5	.9	48.0
26	48		1			136		122.6	69.6	1.2	48.0
27	49		1			137		118.8	47.7	1.2	48.0
28	56		1			99		125.3	52.5	1.2	50.0
29	131					108		121.1	44.0	1.2	51.0
30	54					92		116.1	64.2	1.2	51.0
TOTALS	369		3			2026					
AVERAGES	20		1			68		100.7	39.7		

TABLE 89

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJECT

MAY 1982

DATE	FISH COUNTS						DISCHARGE (KCFS)	RIVER CONDITIONS			
	CHINOOK ADULTS SPRING	SUMMER	CHINOOK FALL JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	104					106		125.1	99.1	1.2	52.0
2	34			1		80		109.9	90.2	1.2	51.0
3	192			1		137		124.6	70.5	1.5	51.0
4	165					89		128.2	70.6	1.5	51.0
5	239		1			55		124.5	72.4	1.5	51.0
6	266		2			53		129.9	84.0	1.5	51.0
7	308		4			70		125.2	87.0	1.5	51.0
8	385					62		121.0	86.0	1.5	51.0
9	243		3			32		105.3	75.5	1.5	51.0
10	908		3			36		109.3	71.8	2.0	51.0
11	687		7			47		106.3	64.6	2.0	51.0
12	546					45		106.8	77.9	2.0	51.0
13	352		4			47		114.2	84.8	2.2	52.0
14	683		6			20		109.3	76.3	2.5	52.0
15	172					13		128.1	94.6	2.0	52.0
16	224		1			9		130.3	118.0	2.0	53.0
17	536		9			21		146.2	98.6	2.0	52.0
18	391		2			33		158.7	135.1	2.0	53.0
19	623		5			33		167.7	108.8	2.0	53.0
20	648		10			16		153.6	100.4	2.0	54.0
21	477		14			23		137.6	91.8	2.0	54.0
22	316		11			12		132.7	81.4	2.0	54.0
23	244		3			14		148.9	107.6	2.0	54.0
24	241		8			18		159.4	94.9	2.0	54.0
25	281		8			7		156.9	87.4	2.0	54.0
26	783		10			14		160.5	84.0	2.0	54.0
27	338		10			12		193.1	91.3	2.3	54.0
28	374		11			13		173.3	87.7	2.3	54.0
29	267		18			1		146.3	95.1	2.3	54.0
30	68		1			2		122.9	100.0	2.3	54.0
31	66		5			3		111.0	86.2	2.3	54.0
TOTALS	11161		158			1123					
AVERAGES	360		6			36		134.4	89.5		

TABLE 90

MONTHLY FISH PASSAGE SUMMARY REPORT U.S. ARMY ENGINEER DISTRICT, PORTLAND								LOWER MONUMENTAL PROJECT					
DATE	FISH COUNTS							RIVER CONDITIONS			JUN 1982		
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	64			6				1		111.3	71.6	2.3	54.0
2	71			5				3		118.0	64.1	2.3	53.0
3	93			3				2		120.4	63.2	2.3	53.0
4	274			3				1		118.7	44.8	2.3	53.0
5	115									123.2	75.2	2.3	53.0
6	620			5						136.2	79.3	2.3	53.0
7	346			3				2		132.2	53.3	2.3	53.0
8	609			22				2		130.7	46.0	2.3	53.0
9	298			13				2		121.6	37.1	2.3	54.0
10	393			19				5		100.9	32.5	2.3	54.0
11	245			12				1	1	103.7	38.4	2.5	54.0
12	190			9				2		107.0	64.2	2.5	54.0
13	186			8				1		109.2	78.5	2.6	55.0
14		305		13				3		153.3	51.1	2.6	55.0
15		193		6				2		171.6	75.1	2.6	55.0
16		190						1		182.2	59.0	2.6	55.0
17		124								190.2	71.6	2.6	55.0
18		81		4						195.1	81.2	2.6	56.0
19		39		1						202.7	95.8	2.6	56.0
20		28		4						191.1	100.2	2.6	57.0
21		36		3						190.4	94.8	2.6	57.0
22		24		1			1	1		197.5	94.8	2.6	57.0
23		52		1			2	1		197.9	99.5	2.7	57.0
24		41		2				1		192.9	123.6	2.7	57.0
25		49		1				1		181.3	113.8	2.7	57.0
26		18		1						169.1	112.4	2.7	58.0
27		21		4						168.7	115.5	2.7	58.0
28		56		2			2			167.4	112.0	2.7	58.0
29		70		5					1	162.8	101.0	2.7	58.0
30		42		2				1	1	169.1	111.2	2.7	58.0
TOTALS	3504	1369		158			3	35	3				
AVERAGES	270	81		6			1	2	1	153.9	78.7		

TABLE 91

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJECT

JUL 1982

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		78		1			1	2		153.3	111.6	2.7	58.0
2		126		4			2	7	2	167.0	117.0	2.7	58.0
3		176		10			2	3	2	151.8	116.8	2.7	59.0
4		211		15			1	3	5	145.6	118.6	2.0	59.0
5		198		11			5	4		130.1	109.4	2.0	59.0
6		290		15				1	30	120.6	95.4	2.5	59.0
7		263		13			4	3		109.5	69.5	2.8	60.0
8		195		11			12	7		110.4	36.7	2.8	60.0
9		215		5			6	8		114.8	53.3	2.8	60.0
10		122		20			12	17		100.7	43.7	2.8	60.0
11		116		11			6	16		79.7	51.1	2.8	60.0
12		71		6			2	24		89.2	49.8	3.0	60.0
13		56		7			7	25		85.3	49.3	3.0	60.0
14		51		5			9	11	60	81.8	48.9	3.0	60.0
15		41		6			14	24	185	89.6	37.7	3.0	60.0
16		31		1			7	40	158	83.4	36.4	3.0	60.0
17		20					3	34	127	74.9	36.5	3.1	61.0
18		20					8	18	117	67.3	29.3	3.1	61.0
19		17		1			7	18	202	65.0	10.4	3.1	62.0
20		52		1			10	57	400	58.1	.0	3.1	62.0
21		32		2			5	95	409	59.2	3.6	3.1	63.0
22		60		4			2	139	631	52.7	7.5	3.1	63.0
23		42		1			6	96	467	51.0	6.3	3.1	64.0
24		24		2			3	63	209	37.5	.0	3.1	64.0
25		13		2			2	107	309	38.8	.0	3.1	65.0
26		19					2	91	131	44.5	.0	3.1	69.0
27		27		1			4	336	333	44.6	.0	3.1	68.0
28		12					1	173	208	47.2	.0	3.1	69.0
* 29		5						43		45.3	.0	3.1	70.0
30		14		1				152	230	29.4	.0	3.1	70.0
31		17		3				234	130	32.7	.0	3.1	70.0
TOTALS		2614		159			143	1851	4345				
AVERAGES		84		6			5	60	207	82.6	40.0		

\* LEFT LADDER ONLY

TABLE 92

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

LOWER MONUMENTAL PROJECT

AUG 1982

DATE	FISH COUNTS							RIVER CONDITIONS					
	CHINOOK ADULTS	SPRING CHINOOK	FALL JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)	
1		10			1			326	119	26.5	.0	3.5	70.0
2		22			2			301	192	39.1	.0	3.8	70.0
3		3			6			269	95	31.8	.0	4.0	70.0
4		3			1			124	37	34.4	.0	4.0	70.0
5		0			1			167	30	34.1	.0	4.0	70.0
6		6			1			260	79	40.6	.0	4.0	69.0
7		1			1			108	7	40.7	.0	4.0	69.0
8		5						318	44	33.3	.0	4.0	69.0
9		3						206	52	40.8	.0	4.0	69.0
10		4			4			498	14	30.7	.0	4.0	70.0
11		3			2			412		28.2	.0	4.0	70.0
12					1			274		25.0	.0	4.0	70.0
13		6						344		25.1	.0	4.0	70.0
14			6			1		286		24.4	.0	4.0	70.0
15			7	1				287		20.3	.0	4.0	70.0
16			1	1		1		220		28.4	.0	4.0	70.0
17			2			1		248		32.1	.0	4.0	70.0
18			5	1				183	6	32.9	.0	4.0	70.0
19			4	1				163	1	26.1	.0	4.0	70.0
20			2		2			233	2	32.1	.0	4.3	70.0
21					1	1		228		24.1	.0	4.0	70.0
22			5	4				221		20.0	.0	4.0	71.0
23			1	2		1		173	4	23.3	.0	4.0	71.0
24			5	1		1		152	6	42.9	.0	4.0	71.0
25			4	1		1		148	1	32.1	.0	4.0	71.0
26			2		1			217		27.9	.0	4.0	71.0
27			8	4				270		22.8	.0	4.0	72.0
28			25	10				190		14.4	.0	4.0	72.0
29			3					109		11.7	.0	4.0	72.0
30			21	15				238		24.3	.0	4.0	72.0
31			17	13		1		200	4	24.7	.0	4.0	72.0
TOTALS		72	118	74	9	6		7373	693				
AVERAGES		6	7	3	1	1		238	41	28.9	.0		

TABLE 93

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJECT

SEP 1982

## RIVER CONDITIONS

DATE	FISH COUNTS						DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
	CHINOOK ADULTS SPRING	CHINOOK SUMMER	FALL JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD		
1.	16	3				237		30.0	.0	4.0
2	8	18	1			155		35.5	.0	4.0
3	11	10	1			246		35.4	.0	4.0
4	11	15	1			184		26.0	.0	3.5
5	11	6				137	1	27.1	.0	3.5
6	9	5	1			171		25.0	.0	3.5
7	8	20				175		26.7	.0	4.0
8	16	8			1	122		39.4	.0	4.0
9	12	18				167		36.3	.0	4.0
10	19	17				229		36.6	.0	4.0
11	22	31				329		29.0	.0	4.0
12	28	39	1	1		309		17.3	.0	4.0
13	26	42	1			332		31.2	.0	4.0
14	16	10			2	306		36.0	.0	4.0
15	30	23	1			341		38.1	.0	4.0
16	25	39				373		41.6	.0	4.0
17	25	33	1			514		34.1	.0	4.0
18	30	67				849		34.0	.0	4.0
19	48	50				674		35.0	.0	4.0
20	22	61	1	1		733		34.0	.0	3.8
21	35	126		1	2	1641		39.1	.0	3.7
22	16	32				869		38.6	.0	3.7
23	25	49	1			771		37.0	.0	3.6
24	17	46	8	7		1205		39.9	.0	2.5
25	29	18	1	2		1246		36.5	.0	2.0
26	25	54	2	3		1555		38.3	.0	2.0
27	14	33	1	4	3	1849		31.4	.0	1.5
28	29	53	5			2459		41.3	.0	1.5
29	17	30	1			1724		31.0	.0	1.5
30	34	41				2524		35.4	.0	1.5
TOTALS	634	997	28	19	8	22426	1			
AVERAGES	21	33	2	3	2	748	1	33.9	.0	

TABLE 94

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## LOWER MONUMENTAL PROJECT

OCT 1982

DATE	FISH COUNTS								RIVER CONDITIONS				
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHEI)	WATER TEMP (DEG F)
1			17	25	2	2		1878		26.7	.0	1.5	63.0
2			15	27	6	2		1638		26.3	.0	1.8	63.0
3			14	21	2			1982		29.3	.0	1.8	62.0
4			8	20		4		2001		34.3	.0	3.0	62.0
5			8	8		1		1155		35.0	.0	3.0	62.0
6			8	32	2	1		1462		40.8	.0	3.0	62.0
7			8	25	1			2018		35.8	.0	3.0	61.0
8			22	36				1363		35.0	.0	3.0	61.0
9			3	21				1130		32.5	.0	3.0	60.0
10			10	21				1439		37.6	.0	3.0	60.0
11			16	25				1287		44.4	.0	3.0	60.0
12			3	8				760		29.8	.0	3.0	60.0
13			5	23				1101		34.6	.0	3.2	60.0
14			2	14				851		32.3	.0	3.2	60.0
15			3	10		1		847		35.0	.0	3.2	60.0
16			1	3	1			583		32.8	.0	3.2	59.0
17			6	3				745		33.3	.0	3.2	59.0
18			2	2				416		40.9	.0	3.2	58.0
19			4	7				584		28.0	.0	3.2	58.0
20			1	6				485		39.5	.0	3.2	58.0
21			3	8				410		40.9	.0	3.2	57.0
22			4	7				556		35.0	.0	3.2	57.0
23			4	4				658		24.4	.0	3.2	57.0
24			1	6				402		31.1	.0	2.8	57.0
25			1	4				475		38.0	.0	2.5	57.0
26			5	4				343		44.4	.0	2.5	56.0
27			3	5		1		387		38.2	.0	2.5	56.0
28			2	2		1		249		43.3	.0	2.5	56.0
29			1	3				262		45.9	.0	2.5	56.0
30			1	6				248	1	45.4	.0	2.5	55.0
31				8				223		47.3	.0	2.5	55.0
TOTALS		181	394	15	12			27938	1				
AVERAGES		6	13	2	2			901	1	36.1	.0		

TABLE 95  
STREAM FLOW DATA  
LOWER MONUMENTAL - 1982

DATE	NOVEMBER	DECEMBER
	DISCHARGE	DISCHARGE
1	51,700	53,500
2	54,600	54,400
3	33,500	50,800
4	28,600	46,600
5	34,400	35,500
6	36,000	51,900
7	33,300	53,400
8	43,200	53,200
9	40,300	49,400
10	37,400	43,200
11	38,200	54,100
12	35,900	50,000
13	37,300	53,600
14	33,300	35,600
15	35,900	54,200
16	36,400	30,000
17	41,500	55,400
18	45,400	42,100
19	58,300	57,000
20	40,000	53,800
21	30,700	47,200
22	49,700	55,000
23	46,700	67,800
24	49,100	68,000
25	30,700	49,900
26	38,200	33,600
27	29,400	42,800
28	37,300	45,400
29	39,400	48,000
30	44,400	54,400
31		47,500

TABLE 95

TABLE 96  
PEAK DAYS OF MIGRATION  
LOWER MONUMENTAL DAM - 1969-1982

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
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
1982	May 10	911	Jun 14	318	Sep 21	161	Sep 30	2,524	Jul 15	14	Sep 24	15

MONTHLY TOTALS OF CHINOOK COUNTED OVER LOWER MONUMENTAL DAM  
1969 - 1982

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
1982			372	11,319	5,031	2,773	264	1,631	575				21,965
Total	1	2	84,851	289,921	132,036	86,713	10,213	38,774	10,092	462	8		653,073
14-Year Average			6,061	20,709	9,431	6,194	730	2,770	721				46,648

TABLE 98

MONTHLY COUNT OF STEELHEAD TROUT  
LOWER MONUMENTAL DAM - 1969 - 1982

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
1982					2,026	1,123	35	1,851	7,373	22,426	27,938		62,772
Total	252	1,030	3,466	30,102	13,932	1,317	23,374	59,879	262,927	180,663	5,804	782	583,528
14-Year Average					2,150	995	94	1,670	4,277	18,781	12,905		41,681

**TABLE 99**  
**YEARLY TOTALS OF SALMONIDS COUNTED OVER LITTLE GOOSE DAM**  
**1970 - 1981**

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

**NOTE:** 1981 concludes visual fish counting at Little Goose Dam.  
Counting is now done by an automatic system.

**TABLE 99**

TABLE 100  
DISCHARGE  
LITTLE GOOSE DAM - 1982

DATE	JANUARY	FEBRUARY	MARCH
	DISCHARGE	DISCHARGE	DISCHARGE
1	36,600	46,700	100,600
2	38,000	47,900	98,500
3	41,400	47,700	103,800
4	45,900	54,100	111,700
5	43,400	52,800	110,100
6	41,600	37,200	105,700
7	41,200	33,600	97,800
8	43,200	55,300	94,400
9	39,600	55,600	110,800
10	25,900	46,100	111,000
11	37,600	44,900	119,500
12	41,600	38,900	121,600
13	42,900	37,200	125,400
14	42,400	41,900	124,900
15	35,100	50,100	114,200
16	28,200	77,400	117,700
17	26,900	86,800	113,200
18	36,500	102,300	108,800
19	37,300	92,700	108,900
20	42,800	94,700	96,400
21	58,700	100,400	105,100
22	48,600	113,800	99,900
23	34,100	141,300	92,700
24	38,600	127,500	78,700
25	55,500	113,300	92,000
26	48,300	105,900	96,400
27	45,300	102,300	72,200
28	45,800	97,700	82,000
29	51,200		87,000
30	47,300		80,200
31	38,500		77,600

Water quality data was not collected 1 January thru 1 April 1982.

TABLE 101  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 LITTLE GOOSE PROJECT  
 APRIL 1982

DATE	FISH COUNTS	DISCHARGE	TURBIDITY	WATER TEMP
1	119	67,700	2.0	46.0
2	106	88,700	1.7	46.0
3	29	77,700	1.7	46.0
4	3	82,900	1.9	46.0
5	22	98,100	1.7	45.0
6	43	89,200	1.7	45.0
7	58	83,800	1.7	45.0
8	100	75,000	1.5	45.0
9	127	58,300	1.5	46.0
10	108	64,600	1.5	46.0
11	84	63,900	1.6	46.0
12	97	106,500	1.6	46.0
13	81	105,900	.8	48.0
14	62	118,200	.7	48.0
15	62	114,200	.7	48.0
16	82	99,200	.9	48.0
17	111	102,600	.9	48.0
18	29	118,400	.9	46.0
19	64	101,200	.9	46.0
20	43	97,800	.9	46.0
21	134	124,400	1.2	48.0
22	135	112,900	1.3	45.0
23	139	104,200	1.5	48.0
24	233	113,100	1.8	49.0
25	144	124,600	1.0	50.0
26	124	121,100	1.3	51.0
*	27	118,600	1.3	51.0
28	411	125,500	1.5	51.0
29	538	120,600	1.7	50.0
30	757	121,700	1.5	50.0
Total	4,045			
Average	140			

\* No Counting

TABLE 102

MONTHLY FISH PASSAGE SUMMARY REPORT  
 LITTLE GOOSE PROJECT  
 MAY 1982

DATE	FISH COUNTS	DISCHARGE	TURBIDITY	WATER TEMP
1	1,084	124,600	1.5	51.0
2	769	121,000	1.7	50.0
3	514	125,500	1.4	49.0
4	984	133,700	1.5	50.0
5	549	124,700	1.6	50.0
6	644	129,000	1.8	51.0
7	760	118,900	1.8	51.0
8	676	122,700	1.6	51.0
9	548	112,700	1.7	51.0
10	530	111,900	1.9	51.0
11	1,327	107,000	2.0	50.0
12	1,785	109,900	2.1	52.0
13	1,798	116,800	2.0	52.0
14	1,229	118,700	2.0	53.0
15	1,529	132,900	2.0	54.0
16	917	141,500	2.0	55.0
17	954	147,300	2.0	54.0
18	1,042	161,900	1.9	54.0
19	1,014	166,200	1.9	53.0
20	863	150,500	2.2	57.0
21	628	134,900	2.0	54.0
22	413	132,600	1.5	52.0
23	665	149,000	1.8	52.0
24	1,001	160,100	1.9	53.0
25	580	154,800	2.0	54.0
26	205	162,400	2.0	54.0
27	1,371	191,400	2.0	54.0
28	720	174,600	2.0	53.0
29	429	146,600	1.9	53.0
30	730	122,800	1.7	51.0
31	116	113,400	1.5	51.0
Total	26,374			
Average	851			

TABLE 102

TABLE 103

MONTHLY FISH PASSAGE SUMMARY REPORT  
 LITTLE GOOSE PROJECT  
 JUNE 1982

DATE	FISH COUNTS	DISCHARGE	TURBIDITY	WATER TEMP
1	66	114,600	1.5	51.0
2	244	119,200	2.3	51.0
3	15	118,800	1.7	52.0
4	10	117,900	2.2	52.0
5	53	128,400	2.1	53.0
6	45	137,800	2.2	53.0
7	46	134,800	2.6	54.0
8	268	133,900	2.4	54.0
9	690	120,900	2.5	55.0
10	1,202	100,800	2.7	56.0
11	1,667	102,400	2.9	57.0
12	1,665	102,200	2.9	56.0
13	1,264	120,100	2.0	56.0
14	1,222	151,300	3.0	57.0
15	677	171,000	2.8	57.0
16	389	186,500	2.8	57.0
17	216	191,400	2.3	57.0
18	112	205,300	2.4	57.0
19	54	205,600	2.5	57.0
20	45	190,100	2.5	58.0
* 21		200,700	2.0	57.0
* 22		195,500	1.5	58.0
23	56	193,900	1.3	58.0
24	45	193,700	1.1	58.0
25	43	184,700	1.1	58.0
26	45	169,100	1.2	60.0
27	47	167,400	1.1	59.0
28	48	167,500	1.1	58.0
29	20	168,500	1.0	59.0
30	29	167,900	2.4	59.0
Total	10,283			
Average	367			

\* Out of Service

TABLE 104  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 LITTLE GOOSE PROJECT  
 JULY 1982

DATE	FISH COUNTS	DISCHARGE	TURBIDITY	WATER TEMP
1	162	159,600	2.4	59.0
2	268	166,500	2.2	58.0
3	668	154,700	1.9	60.0
4	19	146,600	1.9	59.0
5	6	132,400	2.0	60.0
6	38	123,900	2.0	59.0
7	84	113,500	2.6	60.0
8	1,019	111,500	2.8	60.0
9	1,088	119,400	2.8	60.0
10	924	103,800	2.9	60.0
11	1,044	82,000	2.5	63.0
12	982	93,200	2.9	62.0
13	1,477	87,800	2.9	64.0
14	1,720	83,100	2.8	63.0
15	1,800	89,400	2.8	63.0
16	1,847	82,500	3.0	63.0
17	1,751	74,800	3.3	66.0
18	1,057	70,400	4.1	65.0
19	1,363	64,500	4.3	66.0
20	774	59,300	3.8	65.0
21	276	57,900	4.0	65.0
22	154	52,200	4.0	65.0
23	491	49,000	4.0	65.0
24	794	38,600	4.2	66.0
25	697	39,000	4.2	66.0
26	972	44,000	4.6	68.0
27	601	43,600	4.5	68.0
28	745	46,500	4.5	68.0
29	1,245	43,300	4.6	69.0
30	513	30,100	4.7	72.0
31	1,333	31,900	4.6	72.0
Total	25,912			
Average	836			

TABLE 104

TABLE 105  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 LITTLE GOOSE PROJECT  
 AUGUST 1982

DATE	FISH COUNTS	DISCHARGE	TURBIDITY	WATER TEMP
1	181	26,500	3.5	70.0
2	787	37,400	4.0	70.0
3	906	31,800	4.5	70.0
4	1,039	34,100	3.8	69.0
5	171	33,700	3.8	69.0
6	1,439	40,000	3.9	71.0
7	1,569	39,300	4.0	71.0
8	199	32,100	4.0	71.0
9	88	37,400	4.5	74.0
10	41	32,200	4.2	71.0
* 11		28,100	4.3	70.0
* 12		25,100	4.0	70.0
* 13		22,100	2.7	71.0
* 14		24,100	3.5	71.0
* 15		21,300	3.5	71.0
* 16		26,700	3.0	71.0
* 17		28,700	2.8	71.0
* 18		29,300	2.8	72.0
* 19		25,700	3.1	72.0
* 20		33,500	3.0	72.0
* 21		25,800	3.2	72.0
* 22		21,000	3.5	72.0
* 23		23,400	3.3	72.0
* 24		43,600	3.5	72.0
25	381	30,700	3.5	74.0
26	696	25,200	4.0	73.0
27	1,052	24,100	4.6	73.0
28	127	16,100	4.5	73.0
29	83	12,100	4.6	73.0
30	1,676	22,300	4.3	72.0
31	938	25,000	4.3	72.0
Total	11,373			
Average	669			

\* Out of service

TABLE 106

MONTHLY FISH PASSAGE SUMMARY REPORT  
 LITTLE GOOSE PROJECT  
 SEPTEMBER 1982

DATE	FISH COUNTS	DISCHARGE	TURBIDITY	WATER TEMP
1	425	30,000	3.5	72.0
2	670	36,000	4.0	73.0
3	860	34,500	4.1	72.0
* 4		26,100	4.0	72.0
* 5		27,200	4.4	72.0
6	267	24,400	4.3	72.0
7	1,981	27,000	3.9	72.0
8	810	37,600	3.8	72.0
9	98	34,800	3.8	71.0
* 10		36,400	3.8	71.0
* 11		29,200	3.0	71.0
12	47	19,600	3.2	70.0
13	127	30,800	3.0	70.0
14	426	34,500	3.0	70.0
15	785	38,700	3.8	69.0
16	696	42,900	2.7	68.0
17	922	32,700	3.0	68.0
18	881	35,200	3.4	68.0
19	1,292	33,800	4.0	68.0
20	938	33,700	3.8	68.0
21	983	39,000	3.8	68.0
22	1,336	38,100	3.5	67.0
23	1,350	37,100	3.6	67.0
24	1,351	38,600	4.0	66.0
25	1,761	36,600	4.2	66.0
26	1,612	37,200	4.0	65.0
27	1,866	31,700	4.2	64.0
28	1,761	40,800	3.2	64.0
29	2,054	29,700	3.2	64.0
30	2,100	35,400	3.2	64.0
Total	27,399			
Average	1,054			

\* Out of service

TABLE 106

TABLE 107  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 LITTLE GOOSE PROJECT  
 OCTOBER 1982

DATE	FISH COUNTS	DISCHARGE	TURBIDITY	WATER TEMP
1	1,786	26,900	4.3	64.0
2	1,876	26,100	4.3	63.0
3	1,663	28,700	4.2	63.0
4	1,168	30,500	4.2	63.0
5	1,380	34,200	4.2	62.0
6	1,400	37,800	3.8	62.0
7	1,700	36,200	3.8	62.0
8	1,985	35,800	4.0	61.0
9	4,501	34,900	3.7	61.0
10	1,398	38,400	4.1	60.0
11	1,320	44,700	4.1	60.0
12	1,248	28,000	4.0	60.0
13	976	32,200	4.0	60.0
14	1,102	31,900	3.9	60.0
15	1,096	35,600	3.2	60.0
16	992	33,600	3.2	60.0
17	918	31,700	3.2	59.0
18	865	39,700	3.2	59.0
19	937	28,300	3.2	59.0
20	820	40,400	3.8	57.0
21	699	39,900	3.6	56.0
22	460	33,300	3.5	56.0
23	802	22,900	3.8	56.0
24	1,020	33,100	3.5	56.0
25	880	36,200	3.0	56.0
26	1,194	37,100	3.2	56.0
27	899	37,200	3.0	56.0
28	883	41,700	2.8	56.0
29	957	47,200	2.8	56.0
30	816	47,400	2.6	55.0
31	238	46,200	2.8	55.0
Total	37,979			
Average	1,225			

TABLE 107

TABLE 108  
STREAM FLOW DATA  
LITTLE GOOSE - 1982

<u>DATE</u>	<u>NOVEMBER DISCHARGE</u>	<u>DECEMBER DISCHARGE</u>
1	49,000	50,900
2	53,800	56,900
3	33,800	46,900
4	28,200	46,900
5	33,900	36,300
6	35,300	51,400
7	33,400	52,800
8	43,500	50,200
9	40,600	48,000
10	33,200	43,000
11	37,600	51,700
12	36,800	49,200
13	35,300	47,900
14	32,300	39,400
15	34,500	47,900
16	36,300	37,500
17	40,300	50,000
18	44,000	45,400
19	53,600	54,900
20	41,000	52,400
21	30,500	46,500
22	48,000	51,900
23	44,900	65,300
24	47,400	66,800
25	31,900	46,600
26	36,500	32,300
27	29,800	43,200
28	33,100	44,500
29	40,200	46,600
30	41,300	48,000
31		45,800

TABLE 108

TABLE 109  
PEAK DAYS OF MIGRATION  
LITTLE GOOSE DAM - 1970-1981

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
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

NOTE: 1981 concludes visual fish counting at Little Goose Dam.  
Counting is now done by an automatic system.

TABLE 110  
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				17,490	34,570	10,661	4,344	520	2,472	528	19	1	70,605
1974				136	14,224	4,451	6,213	556	749	449	9		26,787
1975				152	14,161	6,487	4,182	540	1,143	295			26,960
1976				612	17,403	9,470	3,575	302	642	355			32,359
1977				16,973	19,936	6,707	4,181	182	842	355			49,176
1978				8,190	29,195	10,676	6,172	717	621	498			56,069
1979				947	4,436	4,396	1,391	254	802	289			12,515
1980				508	5,250	2,560	1,488	191	368	240			10,605
1981				2,798	9,399	3,214	2,217	108	724	626			19,086
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

NOTE: 1981 concludes visual fish counting at Little Goose Dam.  
Counting is now done by an automatic system.

TABLE 111  
MONTHLY COUNT OF STEELHEAD TROUT OVER LITTLE GOOSE DAM  
1970 - 1981

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
				1,052	345	133	678	3,556	8,988	6,142			20,894
				1,340	272	155	1,951	2,738	18,753	22,179			47,388
				1,625	216	20	593	2,617	11,547	8,309			24,927
				742	222	16	1,614	2,326	5,278	10,851			21,049
				3,063	668	43	821	3,858	15,305	14,869			38,627
				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

NOTE: 1981 concludes visual fish counting at Little Goose Dam.  
Counting is now done by an automatic system.

TABLE 112  
 YEARLY TOTALS OF SALMONIDS COUNTED OVER LOWER GRANITE DAM  
 1975 - 1982

<b>Year</b>	<b>Chinook</b>	<b>Steelhead</b>	<b>Sockeye</b>	<b>Coho</b>	<b>Total Salmonid</b>
1975	28,460	17,311	209	921	46,901
1976	31,667	23,017	531	900	56,115
1977	49,123	53,037	458	268	102,886
1978	54,246	30,068	123	152	84,589
1979	12,548	25,046	25	158	37,777
1980	10,986	40,454	96	43	51,579
1981	19,198	40,234	218	17	59,667
1982	19,476	72,840	211	59	92,586
<b>Total</b>	<b>225,704</b>	<b>302,007</b>	<b>1,871</b>	<b>2,518</b>	<b>532,100</b>
<b>8-Year Average</b>	<b>28,213</b>	<b>37,751</b>	<b>234</b>	<b>315</b>	<b>66,513</b>

TABLE 113  
MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER LOWER GRANITE DAM

1982

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	-	42	9,121	4,650	3,217	329	1,399	650	62	6	19,476
STEELHEAD	-	-	1,778	2,202	1,472	66	817	9,118	20,219	32,850	3,945	373	72,840
SOCKEYE	-	-	-	-	-	3	193	13	2	-	-	-	211
COHO	-	-	-	-	-	-	-	-	23	34	2	-	59
<b>TOTAL SALMONID</b>	<b>-</b>	<b>-</b>	<b>1,778</b>	<b>2,244</b>	<b>10,593</b>	<b>4,719</b>	<b>4,227</b>	<b>9,460</b>	<b>21,643</b>	<b>33,534</b>	<b>4,009</b>	<b>379</b>	<b>92,586</b>
<b>SHAD</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>16</b>	<b>14</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>30</b>

TABLE 114  
DISCHARGE AND WATER QUALITY DATA  
LOWER GRANITE DAM - 1982

DATE	JANUARY			FEBRUARY		
	DISCHARGE	TURBIDITY	WATER TEMP	DISCHARGE	TURBIDITY	WATER TEMP
1	42,100	3.8	40.0	42,300	1.5	38.0
2	39,300	5.0	40.0	46,700	1.5	38.0
3	42,700	4.8	40.0	47,200	2.1	38.0
4	45,000	4.7	39.0	49,100	2.5	38.0
5	40,600	5.0	38.0	49,400	2.7	37.0
6	38,200	5.0	38.0	46,200	3.0	37.0
7	40,400	5.0	37.0	41,100	3.0	37.0
8	46,300	4.8	37.0	48,200	3.0	36.0
9	41,900	4.9	37.0	44,900	3.0	34.0
10	30,700	4.8	37.0	45,400	4.0	33.0
11	37,600	4.5	36.0	47,600	4.0	33.2
12	42,800	4.5	36.0	42,200	4.0	34.0
13	35,800	5.0	36.0	44,500	4.5	34.0
14	34,500	5.0	36.0	43,300	4.8	34.0
15	32,400	5.0	37.0	52,600	5.0	35.0
16	32,900	5.0	36.0	78,000	4.5	36.0
17	38,800	5.0	36.0	93,000	1.5	36.0
18	34,400	4.5	37.0	89,500	.9	37.0
19	34,300	4.6	37.0	95,000	.9	37.0
20	42,900	5.0	37.0	92,100	.5	38.0
21	46,000	5.0	37.0	110,600	.7	38.0
22	47,900	5.0	37.0	112,300	.5	39.0
23	38,200	4.8	37.0	147,100	.5	39.0
24	43,700	3.7	37.0	129,600	.7	39.0
25	56,900	3.0	37.0	115,300	1.0	39.0
26	50,400	3.5	37.0	102,600	.9	39.0
27	49,000	1.5	37.0	101,700	1.0	39.0
28	49,500	1.0	37.0	101,100	1.0	40.0
29	51,300	1.0	37.0			
30	48,900	1.0	37.0			
31	39,400	1.5	37.0			

TABLE 115

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

MAR 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK SPRING ADULTS	CHINOOK SUMMER JACKS	COHO FALL JACKS	COHO ADULTS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1					23			98.8	37.5	1.5	40.0
2					22			100.5	33.4	1.0	38.0
3					19			104.6	47.4	1.0	39.0
4					14			111.5	69.4	1.0	39.0
5					30			110.5	84.4	.8	40.0
6					11			107.0	85.4	.7	40.0
7					17			104.2	93.2	.9	40.0
8					24			99.4	61.2	1.0	41.0
9					23			108.2	80.4	1.0	41.0
10					14			114.6	91.5	1.0	41.0
11					32			123.0	68.4	1.0	42.0
12					90			121.3	57.8	1.0	42.0
13					38			121.9	76.5	1.0	43.0
14					31			118.9	81.9	1.2	43.0
15					77			113.6	35.7	1.3	42.0
16					65			115.1	29.6	1.8	42.0
17					71			112.2	24.7	1.8	42.0
18					73			111.1	22.9	1.9	42.0
19					89			105.7	20.6	2.0	42.0
20					92			102.6	31.6	2.0	42.0
21					65			104.3	50.7	2.2	42.0
22					122			100.8	18.8	2.3	42.0
23					91			94.0	18.6	2.4	42.0
24					94			93.0	36.1	2.3	42.0
25					109			95.6	26.4	2.3	42.0
26					110			95.2	16.2	2.0	43.0
27					86			73.4	.0	2.0	44.0
28					65			82.3	9.1	2.2	43.0
29					85			83.5	2.9	2.0	45.0
30					96			77.2	.0	2.0	45.0
*	31							76.2	.0	2.0	45.0
<b>TOTALS</b>					1778						
<b>AVERAGES</b>					59			102.6	42.3		

\* No Count

TABLE 116

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## LOWER GRANITE PROJECT

APR. 1982

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	COHO JACKS	COHO ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1							105			73.7	.0	1.8	46.0
2							79			79.7	.0	2.5	46.0
3							106			84.5	.0	2.1	46.0
4							80			80.1	.0	2.1	45.0
5							54			90.3	.0	2.1	45.0
6							72			80.3	.0	2.1	45.0
7							87			79.2	.0	2.0	45.0
8							51			76.5	.0	2.1	45.0
9							92			70.5	.0	1.5	46.0
10	1						75			64.7	.0	1.6	46.0
11							58			62.9	.0	1.3	46.0
12							77			96.9	.0	1.5	47.0
13	1						65			108.0	.0	1.2	48.0
14							84			107.6	.0	.9	48.0
15							47			120.6	.0	1.1	48.0
16							36			104.8	.0	1.2	47.0
17							34			108.7	13.4	1.3	48.0
18							86			117.1	29.2	1.6	48.0
19							100			100.9	14.3	1.8	46.0
20							51			95.9	13.8	1.8	46.0
21							68			112.8	30.1	1.8	46.0
22	2						66			102.5	13.6	2.0	47.0
23							90			110.4	17.2	1.9	47.0
24	1						95			112.5	19.2	1.9	49.0
25							68			120.2	23.0	1.9	50.0
26	1						54			123.1	25.0	1.9	50.0
27	2						77			121.3	20.2	1.9	50.0
28	5		1				66			123.1	19.5	1.9	50.0
29	8						97			121.4	17.4	1.7	50.0
30	19		1				82			121.8	28.4	1.6	50.0
TOTALS	40		2				2202						
AVERAGES	4		1				73			99.1	9.5		

TABLE 117

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

MAY 1982

DATE	FISH COUNTS						RIVER CONDITIONS					
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFPS)	SPILL (KCFPS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	19						68		123.7	49.3	1.6	50.0
2	30						71		119.6	49.8	1.8	50.0
3	48						109		131.6	42.5	1.8	50.0
4	50						79		131.7	44.4	1.5	50.0
5	38		1				90		128.0	37.6	1.7	51.0
6	51		1				64		130.2	43.3	1.6	50.0
7	66		1				58		118.6	38.6	1.6	50.0
8	169						85		119.5	36.4	1.6	50.0
9	229						82		112.3	30.3	1.8	51.0
10	137		1				62		114.2	32.8	1.8	51.0
11	161		2				56		111.3	30.8	1.8	52.0
12	268		2				83		107.5	26.6	1.8	52.0
13	734		4				70		116.7	36.1	2.0	53.0
14	517		3				66		118.2	37.7	2.1	54.0
15	756		4				49		131.1	49.5	2.5	54.0
16	650		6				55		138.7	50.1	2.5	55.0
17	392		8				34		148.6	42.0	2.6	55.0
18	267		4				23		159.2	39.1	2.3	55.0
19	335		8				32		165.0	40.9	2.3	54.0
20	325		3				29		148.0	22.1	1.7	52.0
21	359		8				17		138.1	16.6	1.8	52.0
22	606		12				30		138.4	8.3	1.9	52.0
23	303		9				38		148.8	18.4	1.9	52.0
24	284		10				17		159.9	36.5	2.1	53.0
25	522		19				23		158.8	33.7	2.1	54.0
26	359		12				19		169.1	42.1	2.1	54.0
27	211		7				18		185.7	56.6	2.0	53.0
28	253		9				17		176.0	57.3	1.6	51.0
29	101		6				1		152.9	37.0	1.2	50.0
30	196		3				10		130.4	15.3	1.0	50.0
31	522		20				17		117.9	1.9	1.1	51.0
TOTALS	8958		163				1472					
AVERAGES	289		7				47		137.1	35.6		

TABLE 118

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## LOWER GRANITE PROJECT

JUN 1982

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	248			14				12		110.0	.0	1.3	52.0
2	97			6				10		109.3	.0	1.5	53.0
3	109			2				7		113.1	1.0	1.6	53.0
4	88			17				6		129.5	18.2	2.0	53.0
5	77			4				4		141.2	26.6	2.0	55.0
6	267			22				5		136.6	32.4	2.5	55.0
7	193			7				6		130.2	20.1	3.0	55.0
8	289			13				1		125.4	15.9	2.5	56.0
9	353			20			3	2		116.0	4.9	2.5	56.0
10	156			13				1		102.3	2.0	2.8	57.0
11	215			20				1		108.6	1.9	2.5	56.0
12	524			32				4		115.0	.0	3.2	57.0
13	199			10						118.3	1.0	3.0	57.0
14	128			10				1		151.8	41.9	3.4	58.0
15	130			7						165.2	52.8	3.0	56.0
16	151			12						188.2	83.9	2.0	54.0
17	145			5				1		198.5	85.6	1.8	55.0
18		97		3				1		206.0	91.3	1.4	55.0
19		85		3				1		201.9	81.3	1.2	56.0
20		83		6						196.2	76.3	1.0	56.0
21		51		2						199.1	85.7	1.0	57.0
22		32		2				1		198.3	83.7	1.0	57.0
23		35		1						198.7	90.4	1.0	57.0
24		55		1				1		193.7	88.1	1.0	58.0
25		59		1						183.8	75.5	1.5	58.0
26		102		1						177.2	91.9	1.2	58.0
27		231		9						171.6	67.9	1.1	57.0
28		107		2				1		171.5	65.1	1.1	57.0
29		71		5						173.5	72.9	1.1	57.0
30		22		1						172.8	71.5	1.3	57.1
TOTALS	3369	1030		251			3	66					
AVERAGES	198	79		8			3	3		156.8	47.7		

TABLE 119

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

JUL 1982

DATE	FISH COUNTS						RIVER CONDITIONS						
	CHINOOK SPRING	ADULTS SUMMER	CHINOOK FALL	JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCF8)	SPILL (KCF8)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		124		4				1		162.7	48.8	1.1	58.0
2		115		8			1	2		165.4	52.0	1.6	58.0
3		202		8				2		154.4	34.7	1.5	59.0
4		205		10			1	2		145.0	26.0	1.6	59.0
5		159		11				2		133.1	14.5	1.6	60.0
6		116		13				3		122.2	4.0	1.6	60.0
7		67		13				2		110.1	.0	1.5	60.0
8		107		10				3		107.0	.0	1.8	60.0
9		131		9			3	5		106.9	.0	2.0	60.0
10		251		26			10	6		108.1	.0	2.0	60.0
11		244		11			8	11		92.9	.0	2.0	62.0
12		121		9			7	9		92.6	.0	2.2	63.0
13		164		12			10	12		84.9	.0	2.6	63.0
14		86		18			15	22		83.2	.0	2.6	64.0
15		84		3			14	23	3	87.7	.0	3.0	64.0
16		87		12			17	20		82.3	.0	3.1	65.0
17		128		7			7	34		75.3	.0	3.3	65.0
18		91		17			28	29		65.3	.0	3.3	65.0
19		96		6			14	37	1	58.8	.0	3.4	65.0
20		64		4			10	37		64.3	.0	3.8	65.0
21		36		7			15	40		58.5	.0	4.0	64.0
22		50		5			9	60		51.8	.0	4.1	64.0
23		24					5	54		49.5	.0	4.4	64.0
24		65		2			12	64		38.5	.0	4.5	68.0
25		50		5			4	54	1	37.5	.0	4.6	68.0
26		32		6			2	52	5	38.1	.0	4.6	69.0
27		18		1				44		38.2	.0	4.6	69.0
* 28		20		6				25		40.3	.0	4.7	69.0
* 29		5		2				28		39.8	.0	5.0	67.0
* 30		7		4				62		39.4	.0	4.6	68.0
31		18		1			1	72	6	35.6	.0	4.8	68.0
TOTALS		2967		250			193	817	16				
AVERAGES		96		8			9	26	3	82.9	5.6		

\* MORNING COUNT ONLY

TABLE 120

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

AUG 1982

DATE	FISH COUNTS							RIVER CONDITIONS					
	CHINOOK ADULTS	SPRING JACKS	SUMMER JACKS	CHINOOK ADULTS	COHO JACKS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFs)	SPILL (KCFs)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	35		5					189	4	29.1	.0	4.8	69.0
2	27		7				4	399	2	36.0	.0	4.8	69.0
3	24		1				2	337		33.6	.0	5.0	70.0
4	30		1					270	2	34.3	.0	5.0	70.0
5	9						1	314	1	33.0	.0	5.0	71.0
6	17		2					287	2	37.6	.0	5.0	71.0
7	4							185		38.7	.0	5.0	73.0
8	5						3	191	1	33.9	.0	4.8	73.0
9	1		1					70		22.1	.0	5.0	73.0
10	3		4					166	2	24.4	.0	5.0	73.0
11	8							291		29.2	.0	5.0	73.0
12	9							477		28.7	.0	5.0	73.0
13	14		3					510		31.8	.0	5.0	71.0
14	14		2				1	709		28.1	.0	5.0	71.0
15	6		3				1	413		23.3	.0	5.0	71.0
16	7		1					304		26.5	.0	5.0	71.0
17			1					389		28.3	.0	5.0	71.0
18		3	1					286		27.8	.0	5.0	72.0
19		1	2					271		25.5	.0	5.0	72.0
20			1					257		30.1	.0	5.0	72.0
21		2	1					254		25.1	.0	5.0	72.0
22		4	1					191		23.0	.0	5.0	73.0
23		7	3				1	195		21.7	.0	5.0	71.0
24		4						201		27.6	.0	5.0	71.0
25		1	1					193		26.0	.0	5.0	71.0
26		4	1					165		25.8	.0	5.0	71.0
27		9						352		24.0	.0	5.0	74.0
28		10						480		26.6	.0	5.0	73.0
29		2	6					205		18.7	.0	5.0	72.0
30		5	6					269		21.5	.0	5.0	72.0
31		8	3					298		21.9	.0	5.0	72.0
TOTALS	213	60	56				13	9118	14				
AVERAGES	13	5	3				2	294	2	27.9	.0		

TABLE 121

TABLE 121

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

LOWER GRANITE PROJECT  
SEP 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK SPRING ADULTS	CHINOOK SUMMER JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		12	3			254		27.4	.0	5.0	72.0
2		12	14			271		33.8	.0	5.0	72.0
3		11	12			277		33.3	.0	5.0	72.0
4		13	16			451		30.9	.0	4.5	72.0
5		14	12			299		29.3	.0	5.0	72.0
6		3	7			210		26.0	.0	5.0	72.0
7		6	13			214		26.3	.0	5.0	73.0
8		6	19			189		35.7	.0	5.0	72.0
9		14	17			254		29.2	.0	5.0	72.0
10		6	29			367		33.2	.0	5.0	71.0
11		20	31			376		29.6	.0	5.0	70.0
12		10	13			253		28.1	.0	4.8	69.0
13		15	16			226		29.2	.0	4.8	68.0
14		18	46			504		32.6	.0	4.8	67.0
15		20	45	1	1	509		33.0	.0	4.8	67.0
16		17	34			400		32.4	.0	5.0	66.0
17		13	26	1		436		31.3	.0	5.0	66.0
18		10	34	4	1	479		35.1	.0	5.0	65.0
19		17	41			648		33.8	.0	5.0	65.0
20		7	40			498		32.1	.0	5.0	64.0
21		21	61			746		38.4	.0	5.0	65.0
22		17	40			784		37.8	.0	5.0	65.0
23		29	78			1119		35.3	.0	5.0	64.0
24		17	54	2		1268		38.6	.0	5.0	64.0
25		24	32			1222		37.8	.0	4.9	63.0
26		24	47	1	1	1578		34.5	.0	4.8	63.0
27		10	37	4	2	1114		31.5	.0	4.8	63.0
28		20	59	1	2	2026		39.2	.0	4.1	63.0
29		6	49		2	1187		29.7	.0	4.6	63.0
30		14	48	1	1	2060		34.5	.0	3.5	63.0
TOTALS	426	973	15	8	2	20219					
AVERAGES	14	32	2	1	2	674		32.7	.0		

TABLE 122

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## LOWER GRANITE PROJECT

OCT 1982

## 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	JACKS	ADULTS	JACKS	ADULTS	JACKS	ADULTS	JACKS							
1				29	29			4			1997			34.8	.0	4.6	63.0
2				13	25	2					2112			33.2	.0	4.6	62.0
3				9	12	1	1				2534			32.7	.0	4.8	62.0
4				5	12	1	1				1046			29.2	.0	4.8	62.0
5				4	15						1356			33.6	.0	4.8	61.0
6				4	19	1					1639			36.6	.0	4.6	60.0
7				8	33	2	3				1722			35.6	.0	4.4	60.0
8				6	18						1360			35.1	.0	3.7	59.0
9				14	16						1695			37.0	.0	3.8	58.0
10				9	11						1556			38.4	.0	3.4	58.0
11				10	19	1					1476			42.8	.0	3.5	58.0
12				24	23	1					800			27.7	.0	2.9	58.0
13				24	21						757			29.8	.0	3.1	58.0
14				11	16	1	2				927			30.5	.0	2.9	58.0
15				1	12	1	1				1356			34.1	.0	3.7	58.0
16				6	2	2	1				1925			33.9	.0	3.8	57.0
17				3	7						1339			34.1	.0	3.5	57.0
18				5	4	1	1				864			34.3	.0	3.9	57.0
19				6	9		1				636			33.9	.0	3.6	57.0
20				7	1	1					508			34.2	.0	3.5	57.0
21				2	10	2					792			34.1	.0	3.6	56.0
22					15						704			32.2	.0	3.6	56.0
23					13		1				569			34.3	.0	3.5	55.0
24				4	14						637			34.3	.0	3.8	55.0
25				6	18						351			36.5	.0	3.5	55.0
26				2	6						340			38.0	.0	3.5	55.0
27				3	3						250			36.8	.0	3.1	54.0
28				6	22						405			43.4	.0	4.1	54.0
29				1	16						475			44.4	.0	3.5	53.0
* 30											134			47.4	.0	3.5	53.0
.31					4	4					588			46.9	.0	3.8	55.0
TOTALS				219	431	15	19				32850						
AVERAGES				8	14	1	2				1060			35.8	.0		

\* Dewater the ladder/back in service 1600 hours

TABLE 123

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

NOV 1982

## RIVER CONDITIONS

	CHINOOK ADULTS	CHINOOK SPRING	COHO SUMMER	COHO FALL	JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1					1			193	43.1	.0	4.1	54.0
2					1	4		239	47.1	.0	3.2	53.0
3					5			317	36.0	.0	4.2	52.0
4					4		1	281	27.6	.0	4.2	52.0
5					1	7		197	37.4	.0	4.0	52.0
6					1	4		424	39.1	3.0	3.6	53.0
7					1	5		197	36.5	.0	3.2	51.0
8					1			216	45.6	.0	3.4	52.0
9					2			222	41.6	.0	3.6	52.0
10								139	25.8	.0	3.6	51.0
11					2			163	38.5	.0	3.6	50.0
12					4			181	38.6	.0	4.6	50.0
13					5			238	35.5	.0	4.7	49.0
14					2			150	35.8	.0	4.7	49.0
15					1			140	33.3	.0	4.6	48.0
16					2			91	36.2	.0	4.6	48.0
17					1	1		78	37.7	.0	4.6	48.0
18								88	42.5	.0	4.7	48.0
19								78	51.8	.0	4.2	46.0
20								58	43.2	.0	4.0	46.0
* 21									38.6	.0	4.0	46.0
22					2			47	45.9	.0	4.0	46.0
23					5			42	38.5	.0	4.0	45.0
24								60	37.7	.0	3.6	45.0
* 25									40.3	.0	3.6	45.0
26					1			14	35.2	.0	4.0	45.0
27								25	35.8	.0	5.0	45.0
28								41	37.0	.0	5.0	45.0
29								12	39.2	.0	5.0	44.0
30								14	43.1	.0	5.0	44.0
TOTALS		16	46	1	1			3945				
AVERAGES		2	3	1	1			141	38.8	1		

\* No Counter

TABLE 124

MONTHLY FISH PASSAGE SUMMARY REPORT

LOWER GRANITE PROJECT

U.S. ARMY ENGINEER DISTRICT PORTLAND

DEC 1982

## FISH COUNTS

## RIVER CONDITIONS

DATE	CHINOOK ADULTS			CHINOOK COHO			DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHEI)	WATER TEMP (DEG F)
	SPRING	SUMMER	FALL JACKS	ADULTS	JACKS	SOCKEYE STEELHEAD SHAD				
1						25	50.5	.0	4.7	44.0
2						28	47.2	.0	5.0	44.0
3			1			13	43.6	.0	4.0	44.0
4						35	49.1	.0	4.4	44.0
5				2		66	45.6	.0	4.1	44.0
6						29	52.1	.0	4.0	44.0
7						35	50.2	.0	4.0	44.0
8						14	48.5	.0	3.8	43.0
9			1			30	46.7	.0	3.6	43.0
10			2			29	40.9	.0	4.8	43.0
11						23	55.2	.0	4.8	43.0
12						17	43.3	.0	5.0	43.0
13						17	39.5	.0	5.0	43.0
14						12	48.6	.0	5.0	43.0
*15							41.9	.0	5.0	43.0
16							47.5	.0	5.0	43.0
17							47.0	.0	5.0	43.0
18							43.65	.0	5.0	42.0
19							55.6	.0	5.0	42.0
20							49.6	.0	5.0	41.0
21							46.4	.0	5.0	41.0
22							52.7	.0	5.0	41.0
23							64.1	.0	4.5	41.0
24							63.8	.0	4.2	41.0
25							45.4	.0	4.0	41.0
26							37.9	.0	4.0	41.0
27							45.5	.0	4.1	41.0
28							46.4	.0	4.0	41.0
29							45.6	.0	4.0	41.0
30							47.1	.0	4.0	40.0
31							43.2	.0	4.5	39.0
TOTALS	3	3				373				
AVERAGES	0	1				27	47.9	.0		

\* No Counter

TABLE 125

TABLE 125  
PEAK DAYS OF MIGRATION  
LOWER GRANITE DAM - 1975-1982

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
1982	May 15	760	Jul 10	277	Sep 23	107	Sep 3	2,534	Jul 18	28	Sep 27	6

TABLE 126  
 MONTHLY TOTALS OF CHINOOK COUNTED OVER LOWER GRANITE DAM  
 1975 - 1982

<b>Year</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Total</b>
1975				1	11,693	8,722	4,854	1,183	1,462	474	71		28,460
1976				149	14,358	10,438	5,074	428	605	535	80		31,667
1977				12,824	22,892	6,718	4,622	203	961	776	125	2	49,123
1978				3,329	29,983	11,464	6,976	1,234	698	519	42	1	54,246
1979				234	4,461	4,455	1,794	256	1,003	302	43		12,548
1980				328	5,227	2,558	1,916	241	345	343	28		10,986
1981				1,380	10,730	2,713	2,561	92	1,008	677	37		19,198
1982				42	9,121	4,650	3,217	329	1,399	650	62	6	19,476
<b>Total</b>				18,287	108,465	51,718	31,014	3,966	7,481	4,276	488	9	225,704
<b>8-Year Average</b>				2,286	13,558	6,465	3,877	496	935	535	61	1	28,213

TABLE  
127

TABLE 127  
MONTHLY COUNT OF STEELHEAD TROUT OVER LOWER GRANITE DAM  
1975 - 1982

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1975				1,724	1,065	104	102	3,337	6,396	3,584	703	296	17,311
1976	173	21	181	1,120	575	120	527	3,816	8,720	6,837	860	67	23,017
1977	9	142		1,235	229	59	1,538	2,652	16,296	27,492	2,950	435	53,037
1978	354	716	2,276	2,009	252	9	478	2,721	10,829	9,528	788	108	30,068
1979	12	44	802	962	192	16	1,197	2,602	5,143	11,323	2,487	266	25,046
1980			1,149	3,403	1,172	36	517	3,378	13,291	15,455	2,053		40,454
1981			1,052	1,610	604	98	1,422	1,609	9,391	20,714	3,096	638	40,234
1982			1,778	2,202	1,472	66	817	9,118	20,219	32,850	3,945	373	72,840
Total	539	790	7,380	14,265	5,561	508	6,598	29,233	90,285	127,783	16,882	2,183	302,007
8-Year Average			923	1,783	695	64	825	3,654	11,286	15,973	2,110	273	37,751

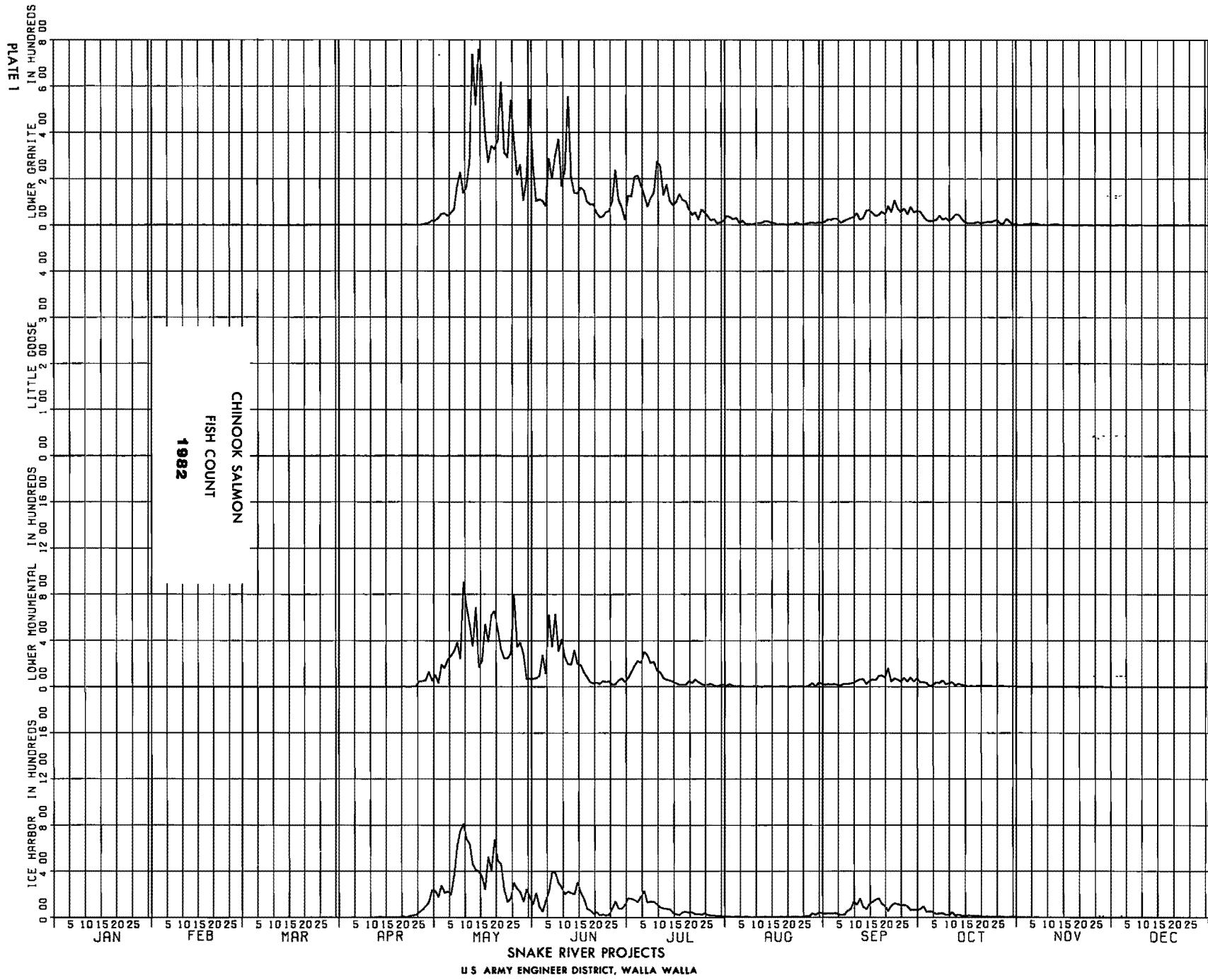
TABLE 128  
FISH FACILITY OPERATION & MAINTENANCE COST - 1982

Project	Routine Operations	Fish Counting	Maintenance	Total Operations and Maintenance
Bonneville	\$ 33,540	\$ 59,493	\$ 113,804	\$ 206,837
The Dalles	24,419	54,978	36,578	115,975
John Day	38,616	77,093	95,936	211,645
McNary	30,961	28,043	170,565	229,569
Ice Harbor	54,800	35,415	36,950	127,165
Lower Monumental	44,370	29,514	45,503	119,387
Little Goose	16,757	Ø	40,786	57,543
Lower Granite	16,757	23,676	83,990	124,423

**NOTE:**

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

1981 concluded visual counting at Little Goose Dam. Counting is presently being done by an automatic system, therefore, Little Goose Dam fish run graph is blank.



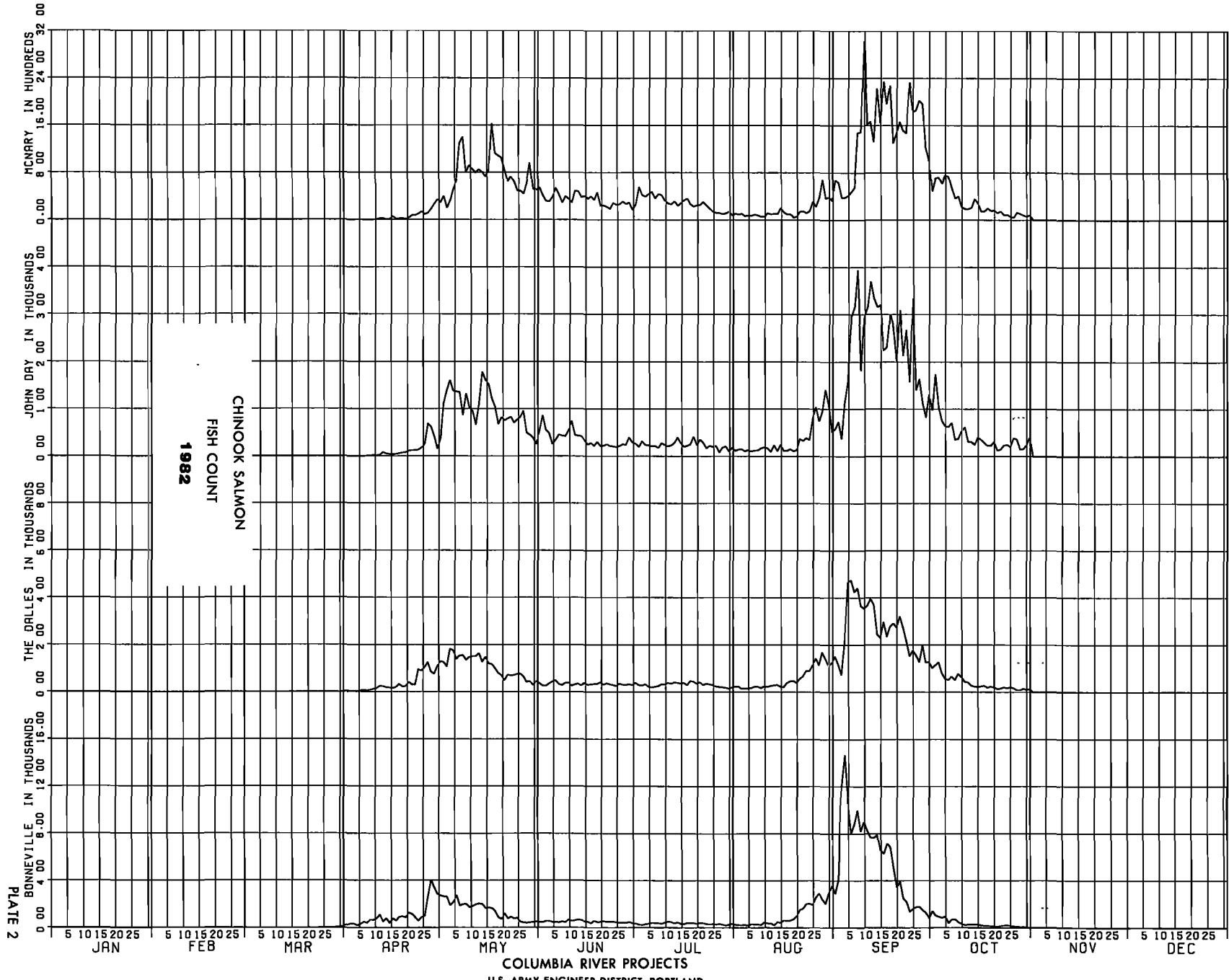
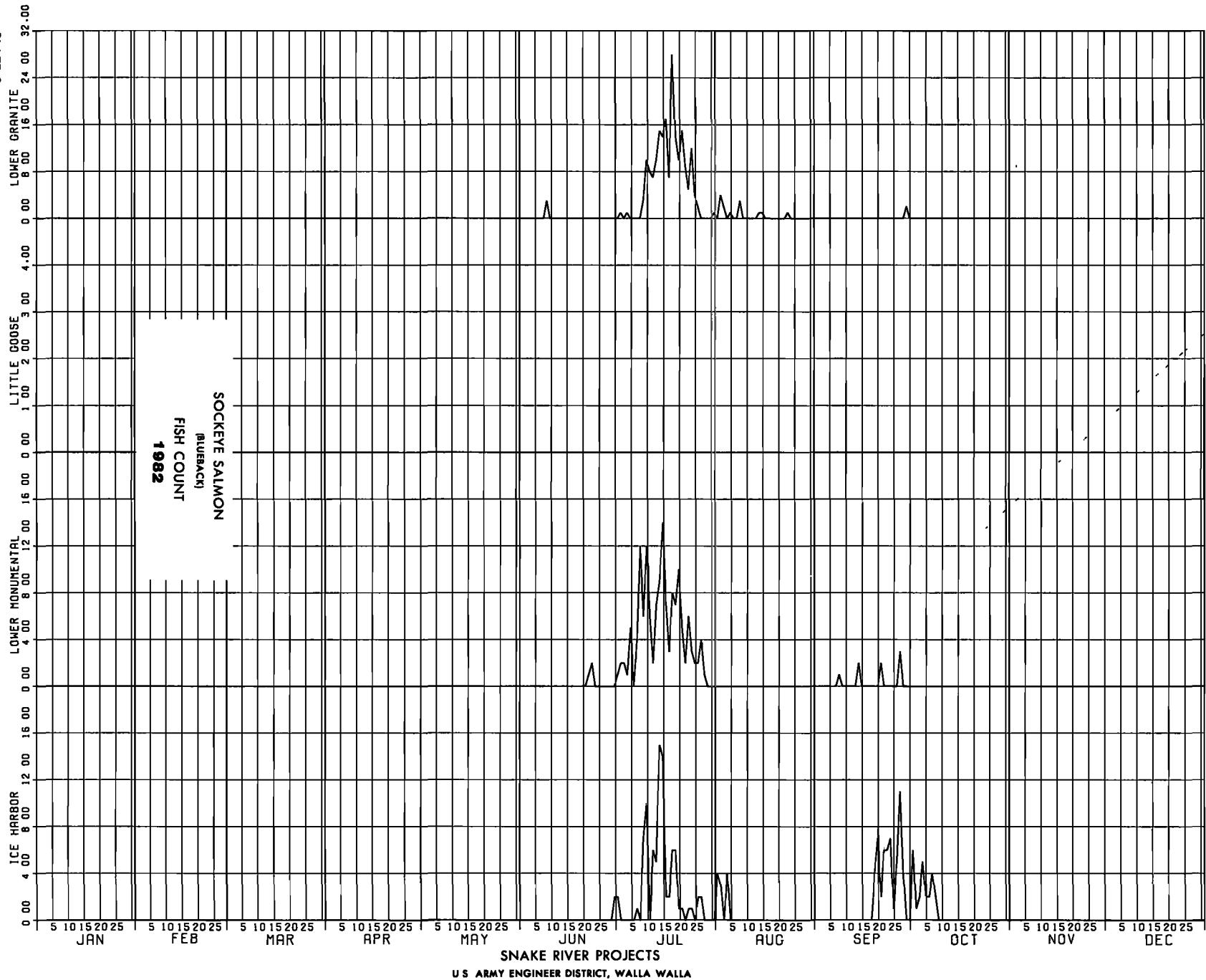


PLATE 3



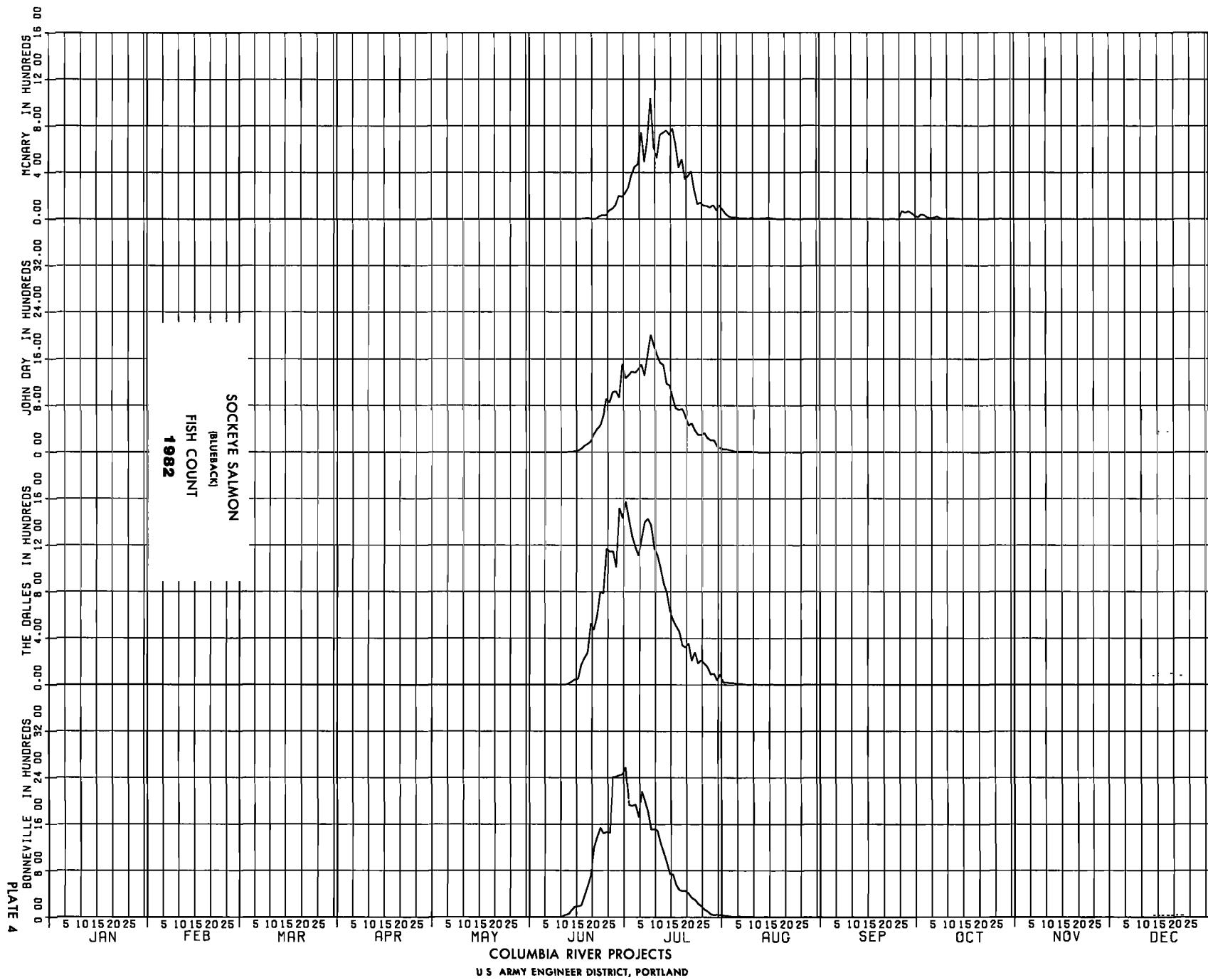
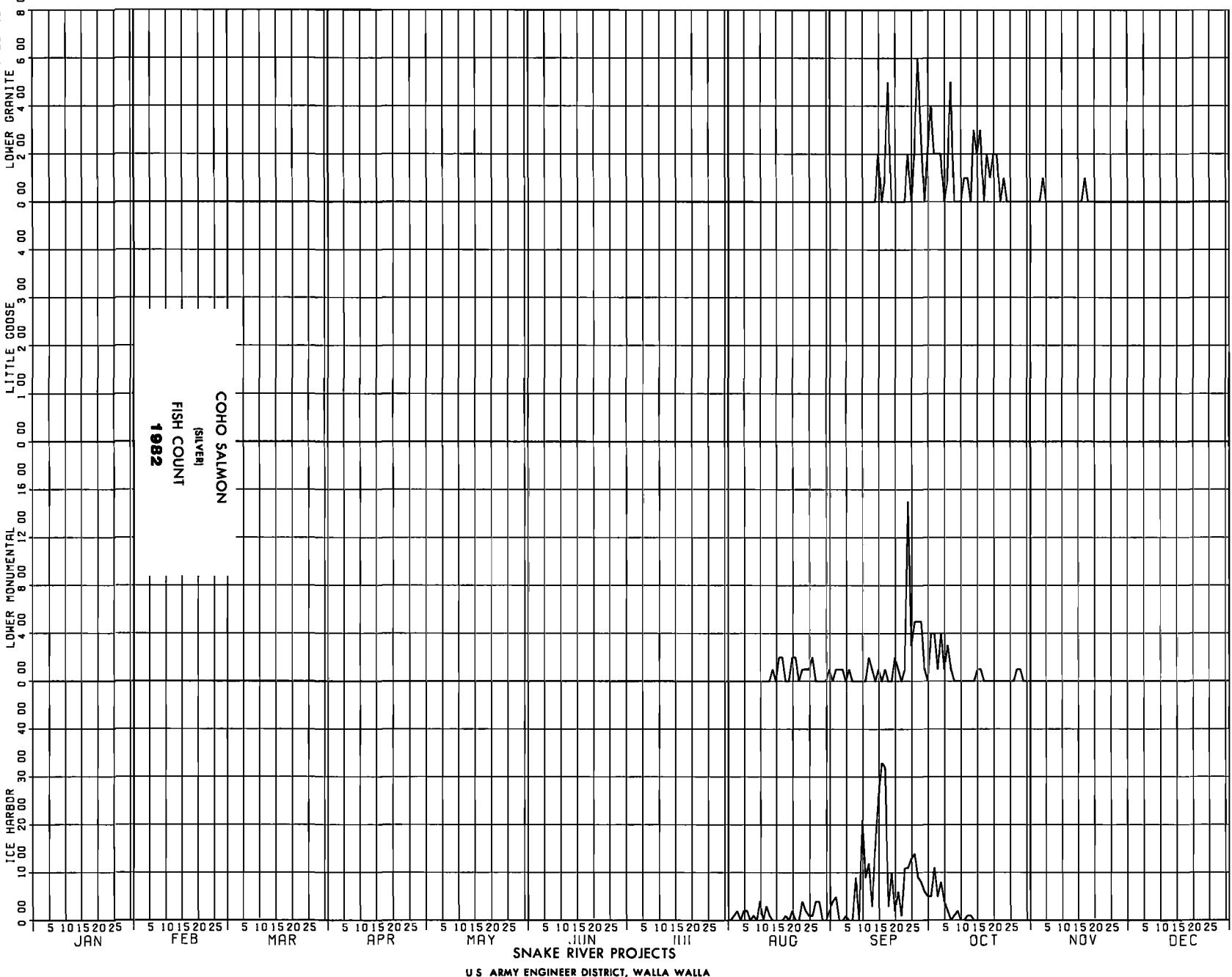
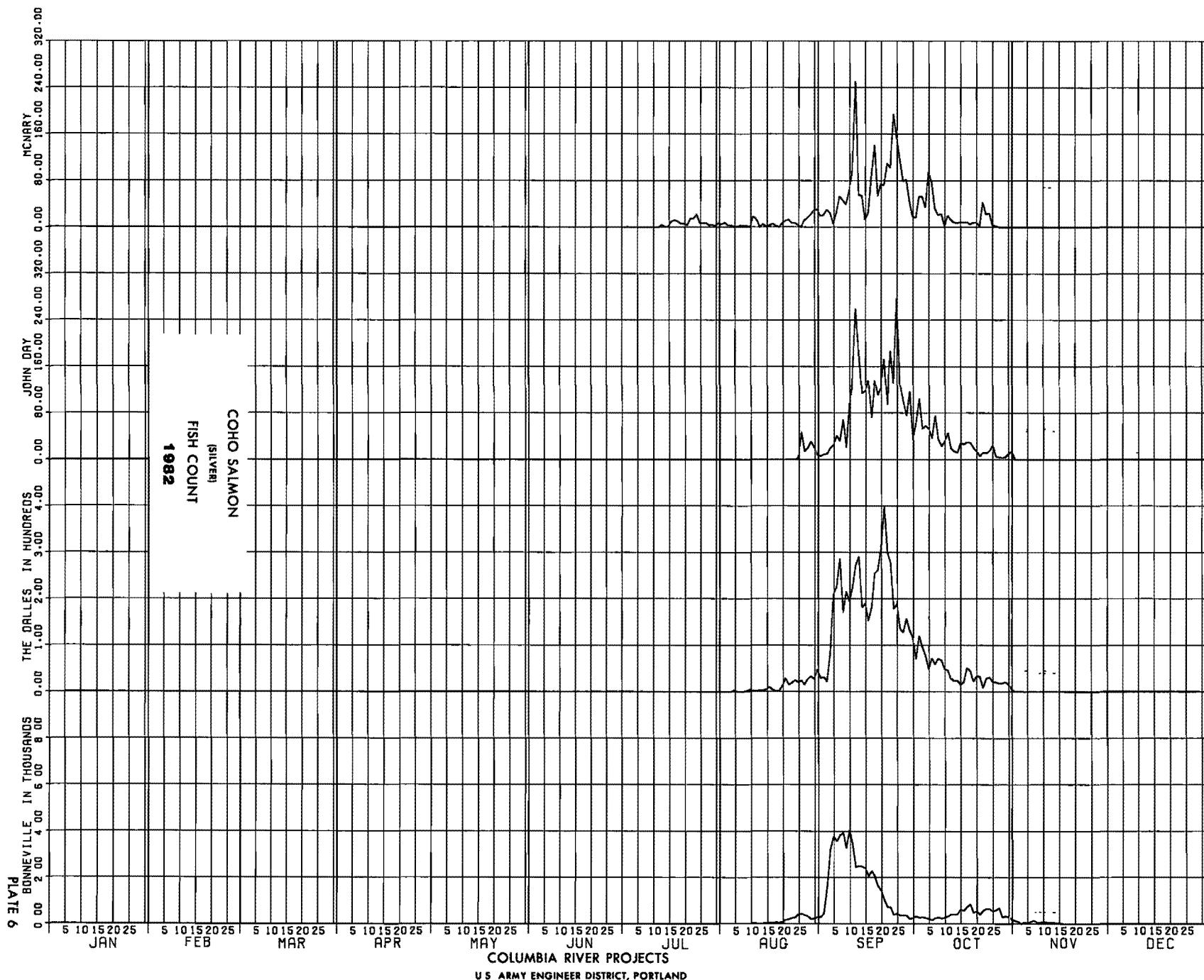
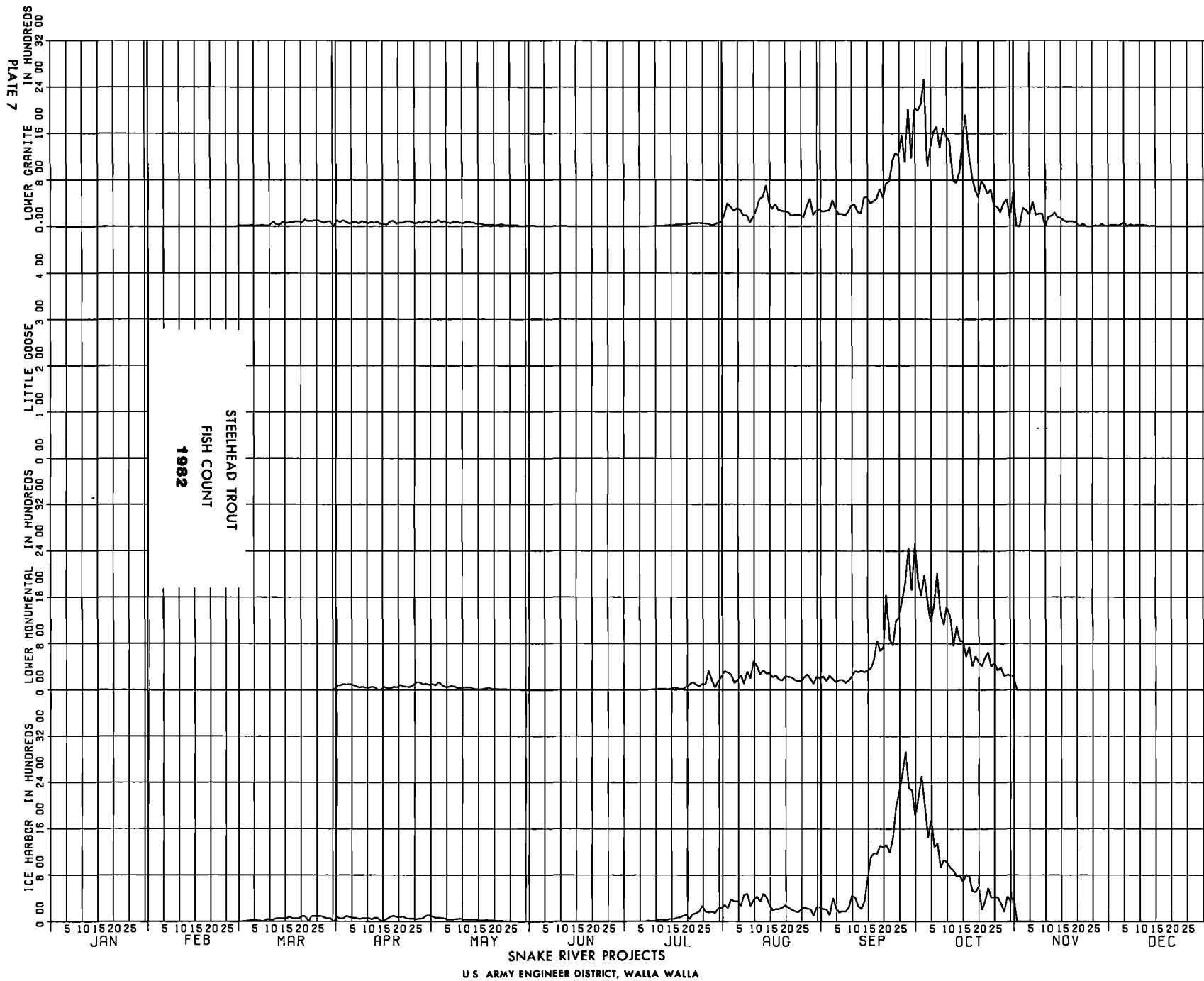
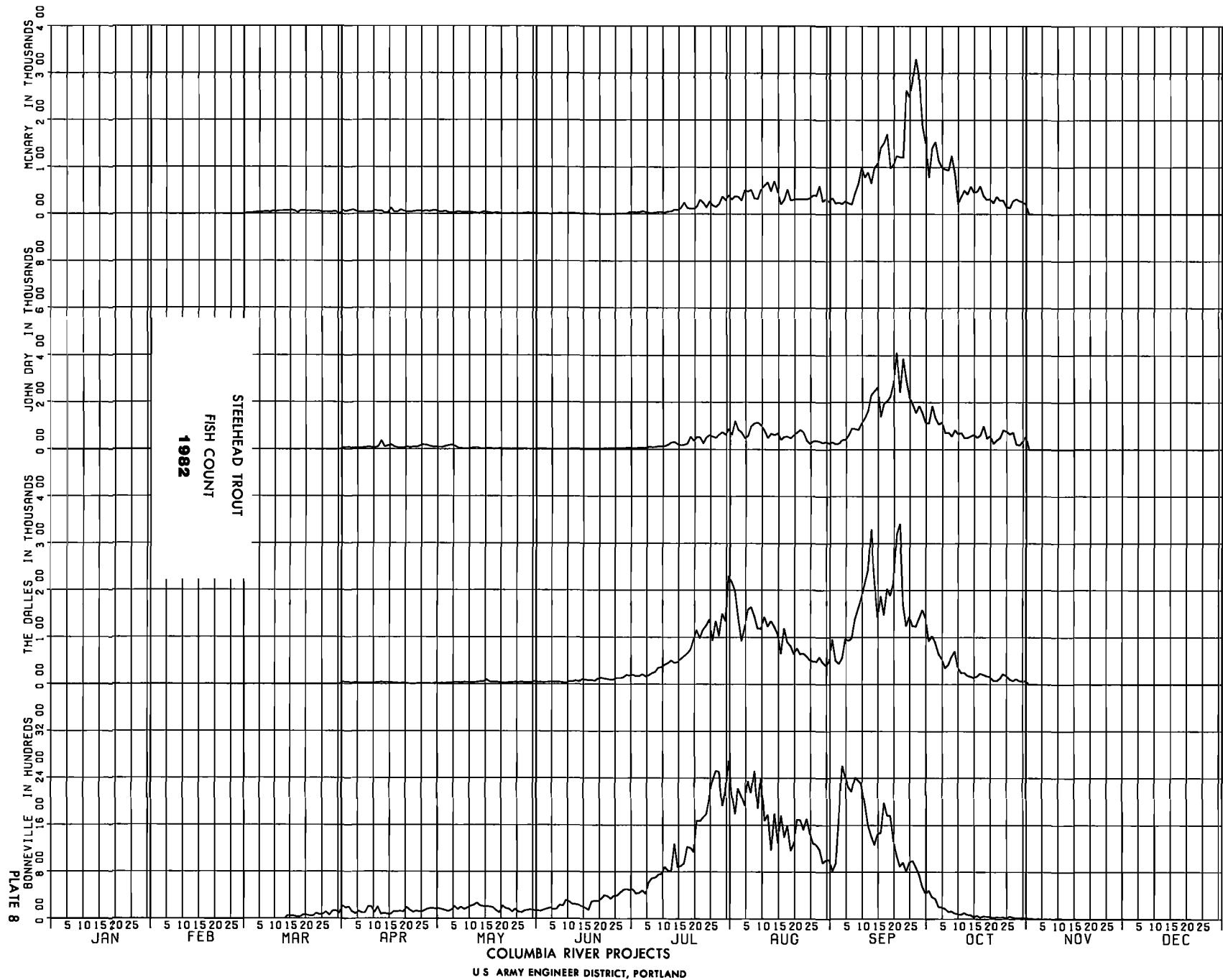


PLATE 5









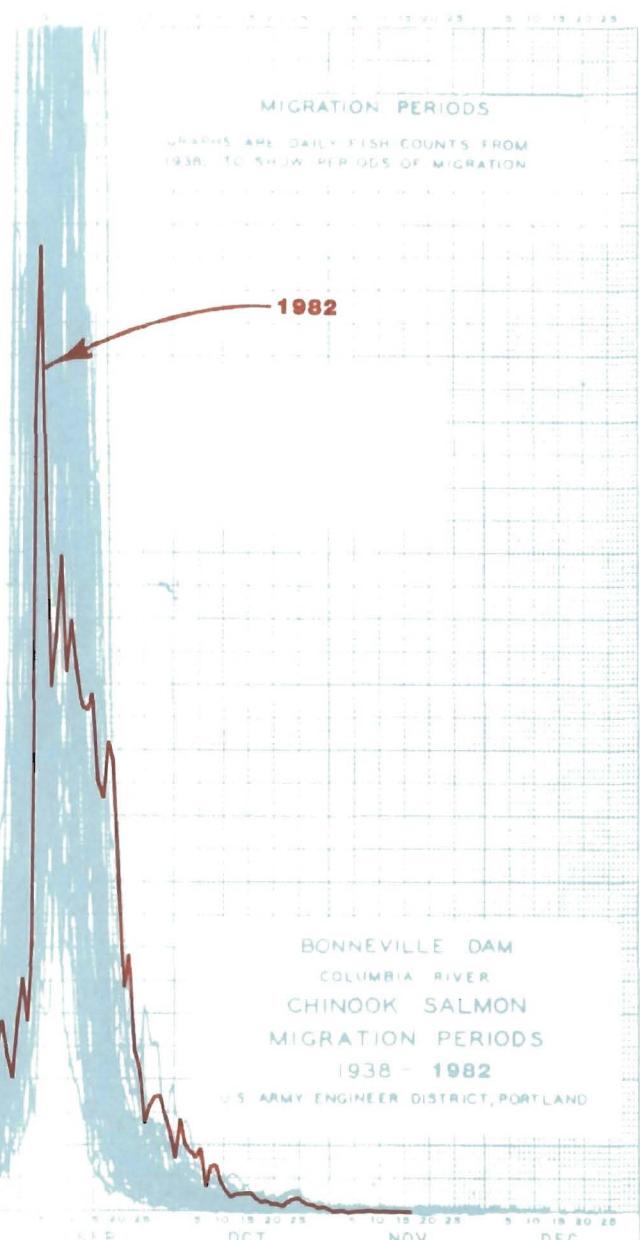
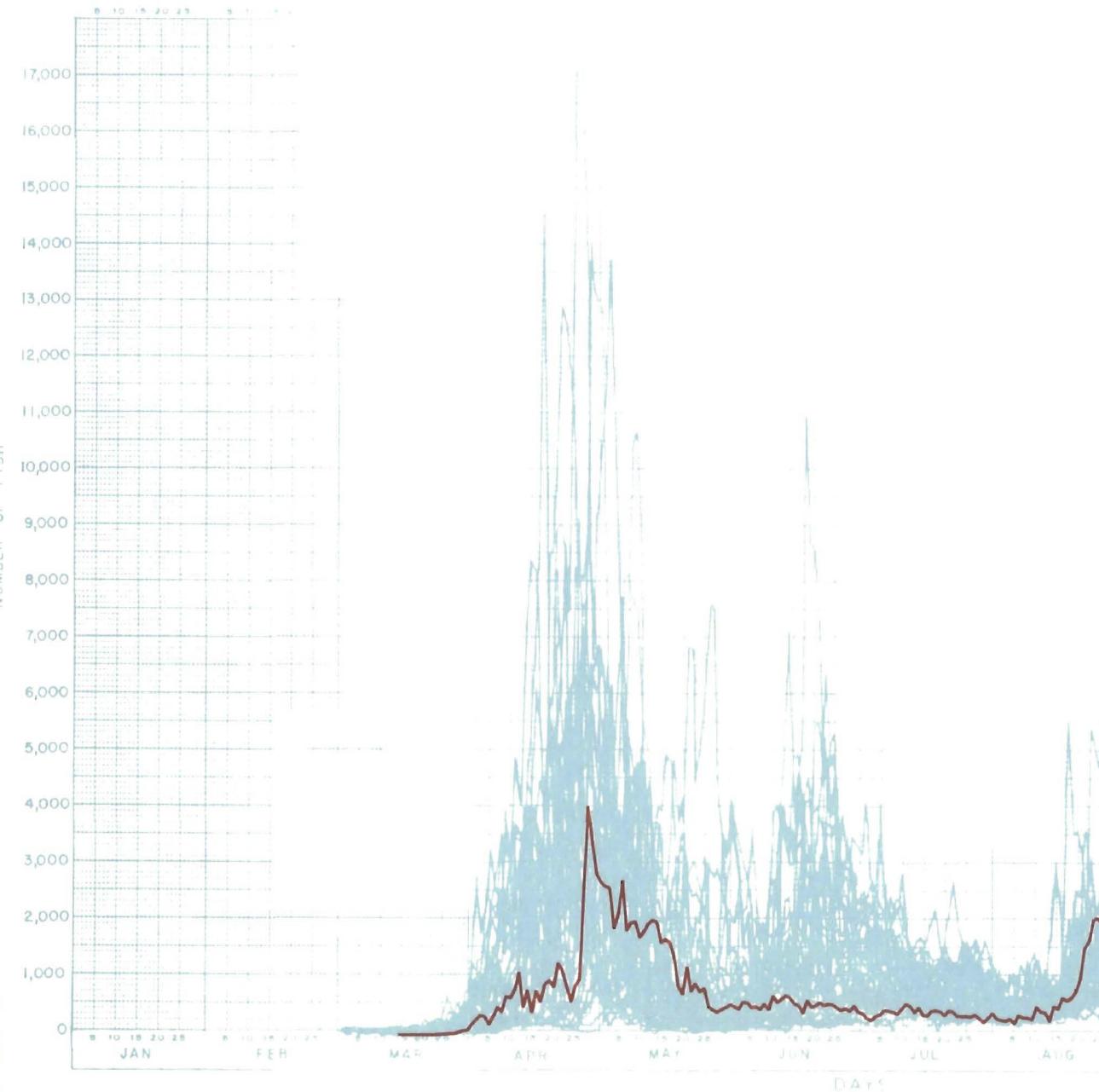
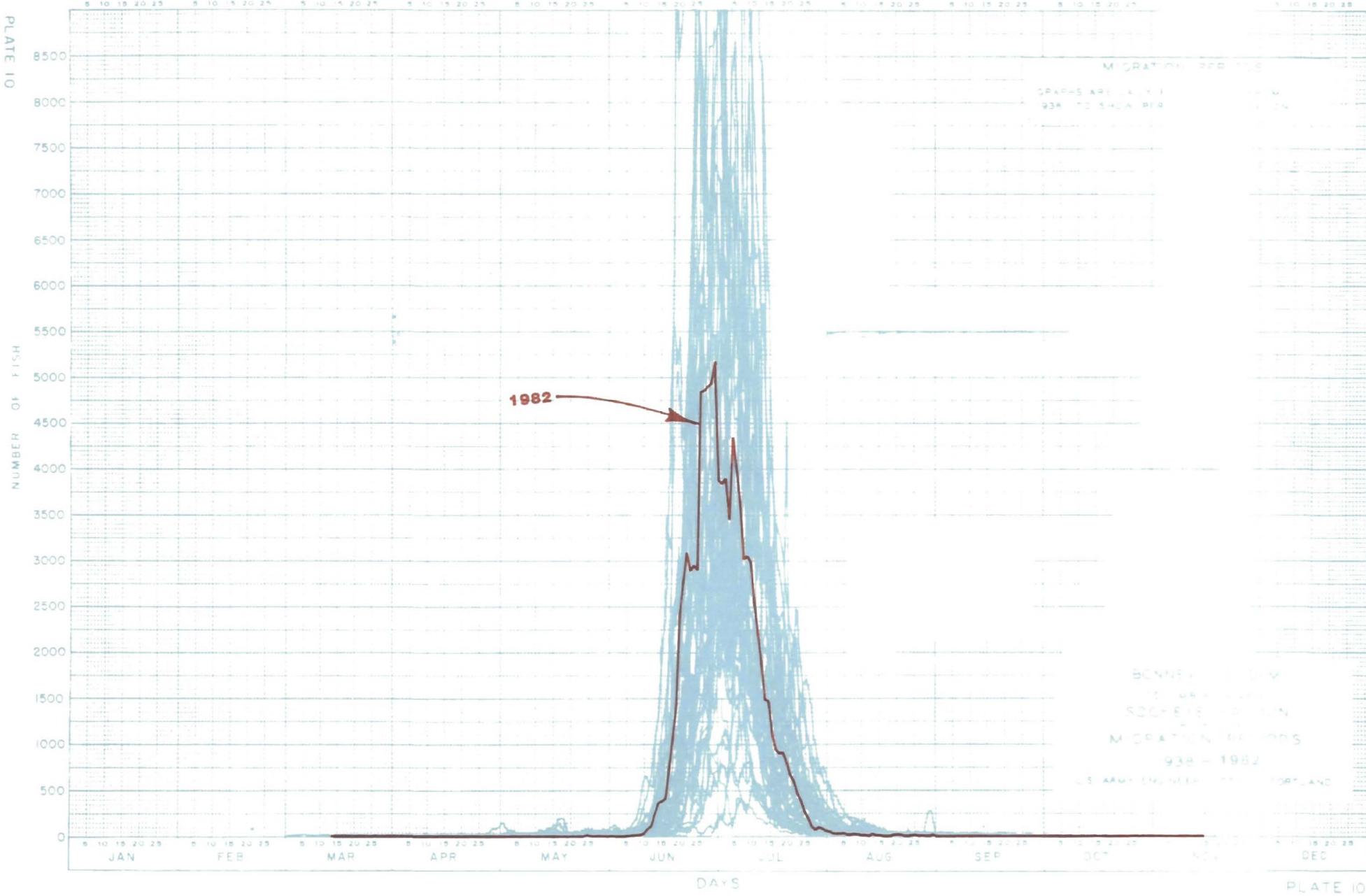
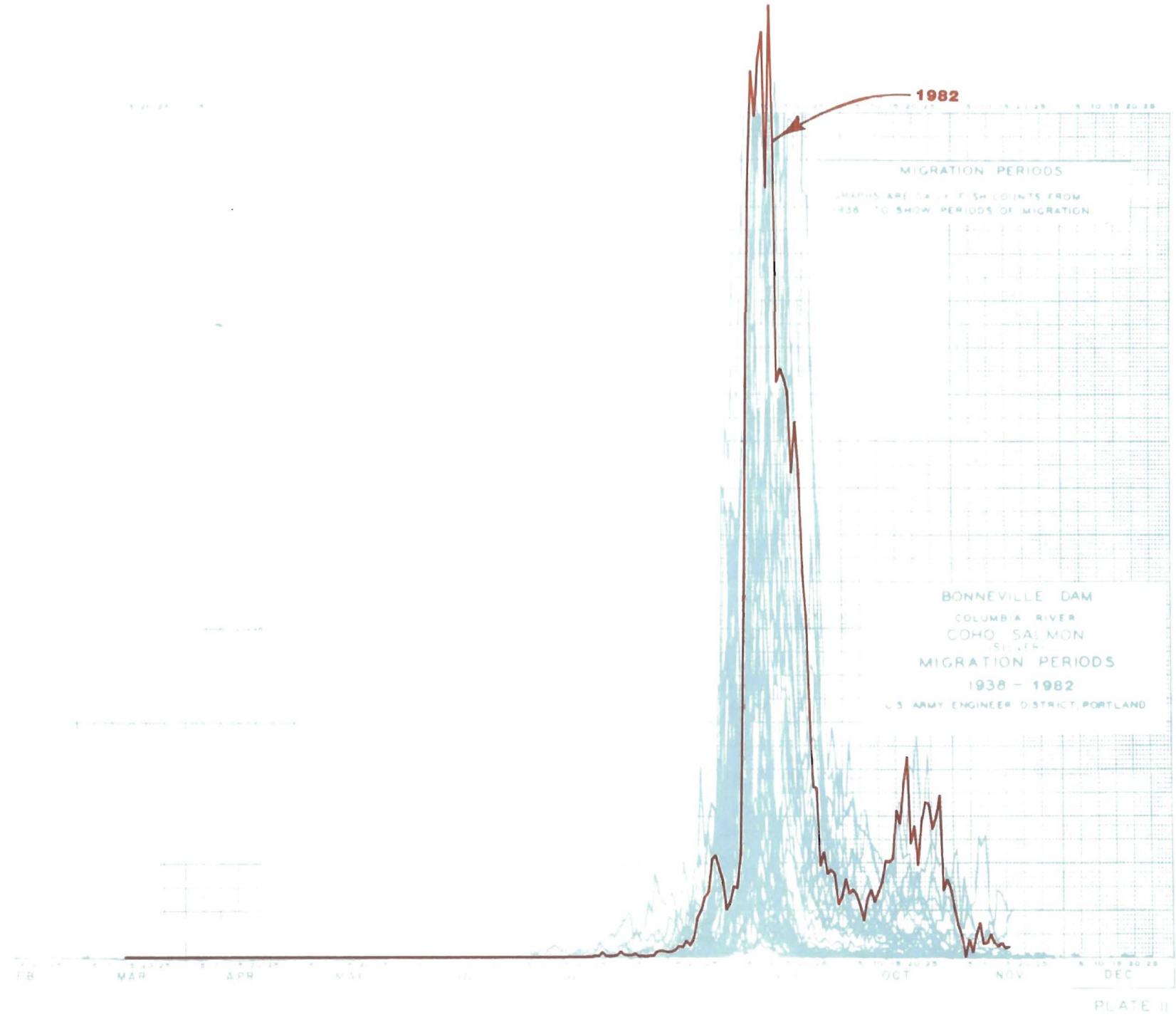


PLATE 9

PLATE 9





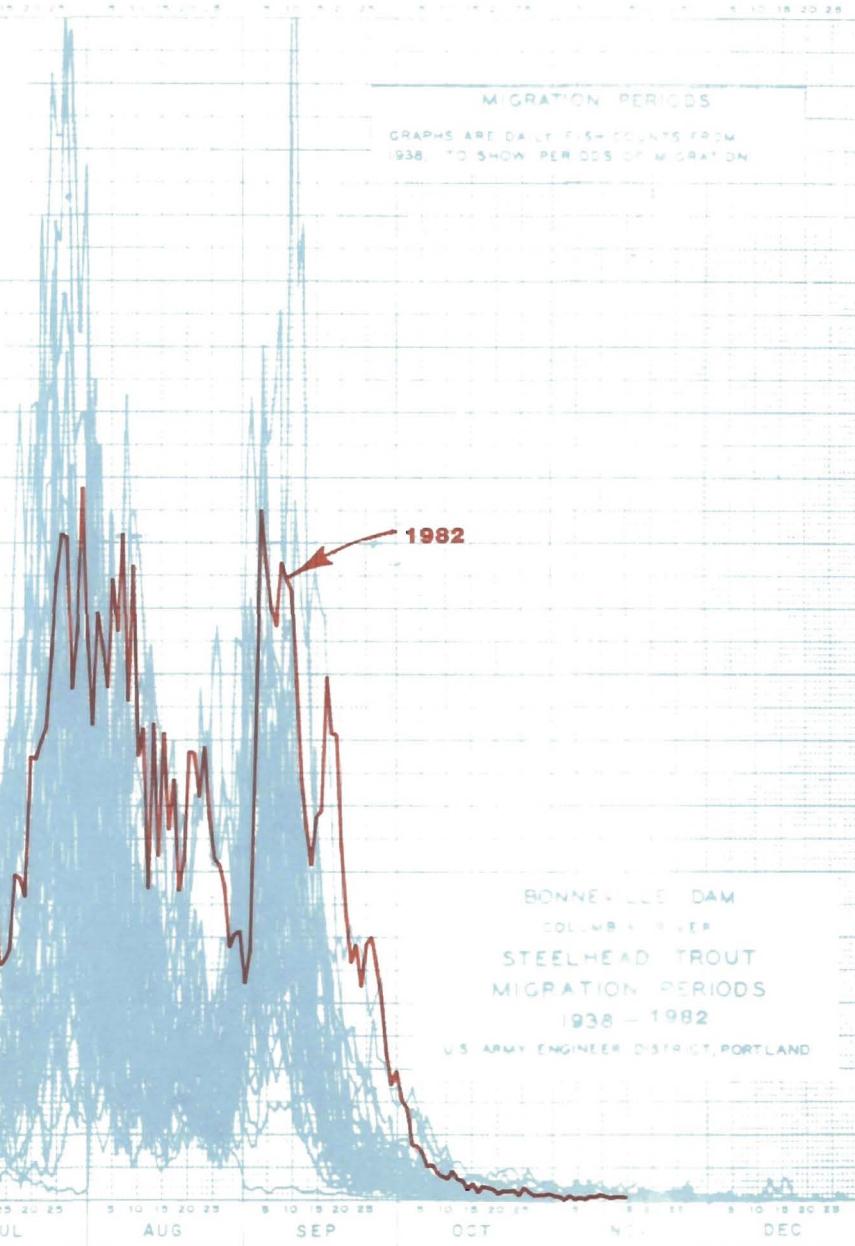
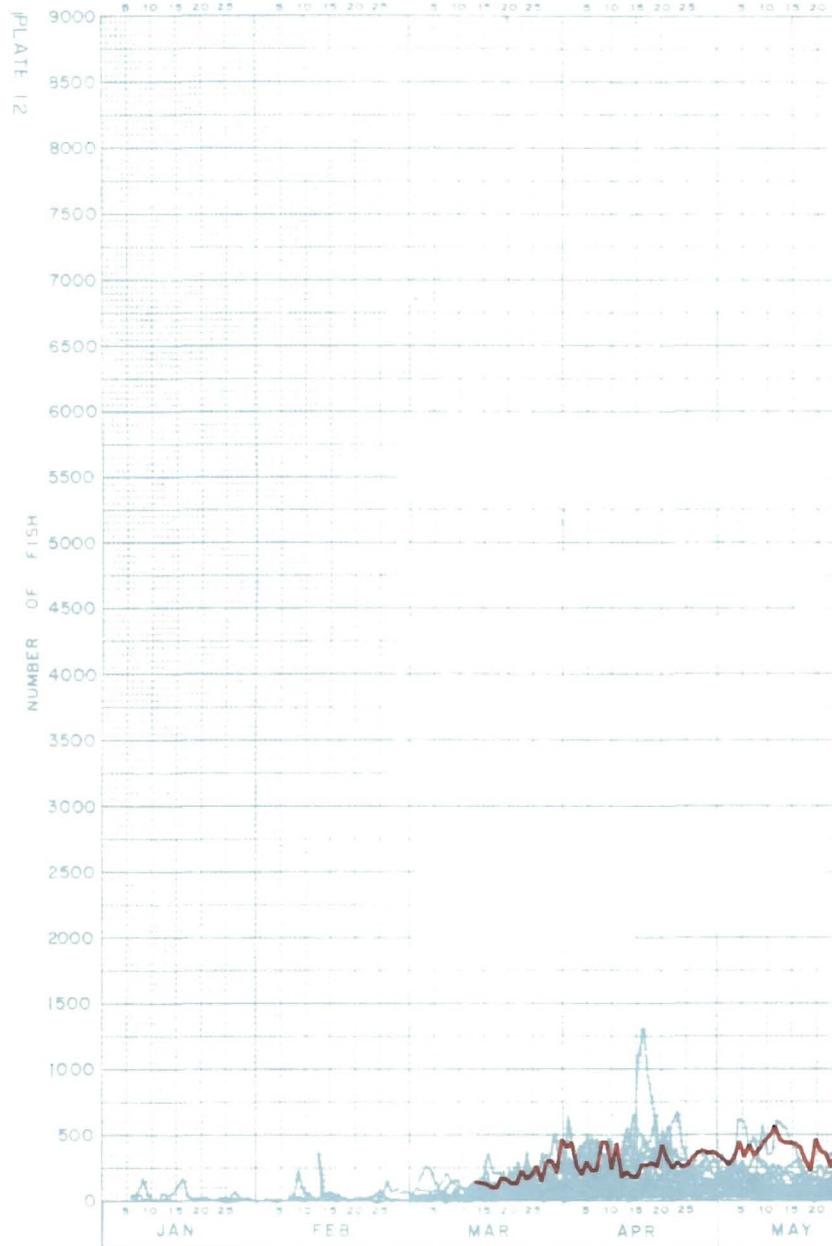


PLATE 12

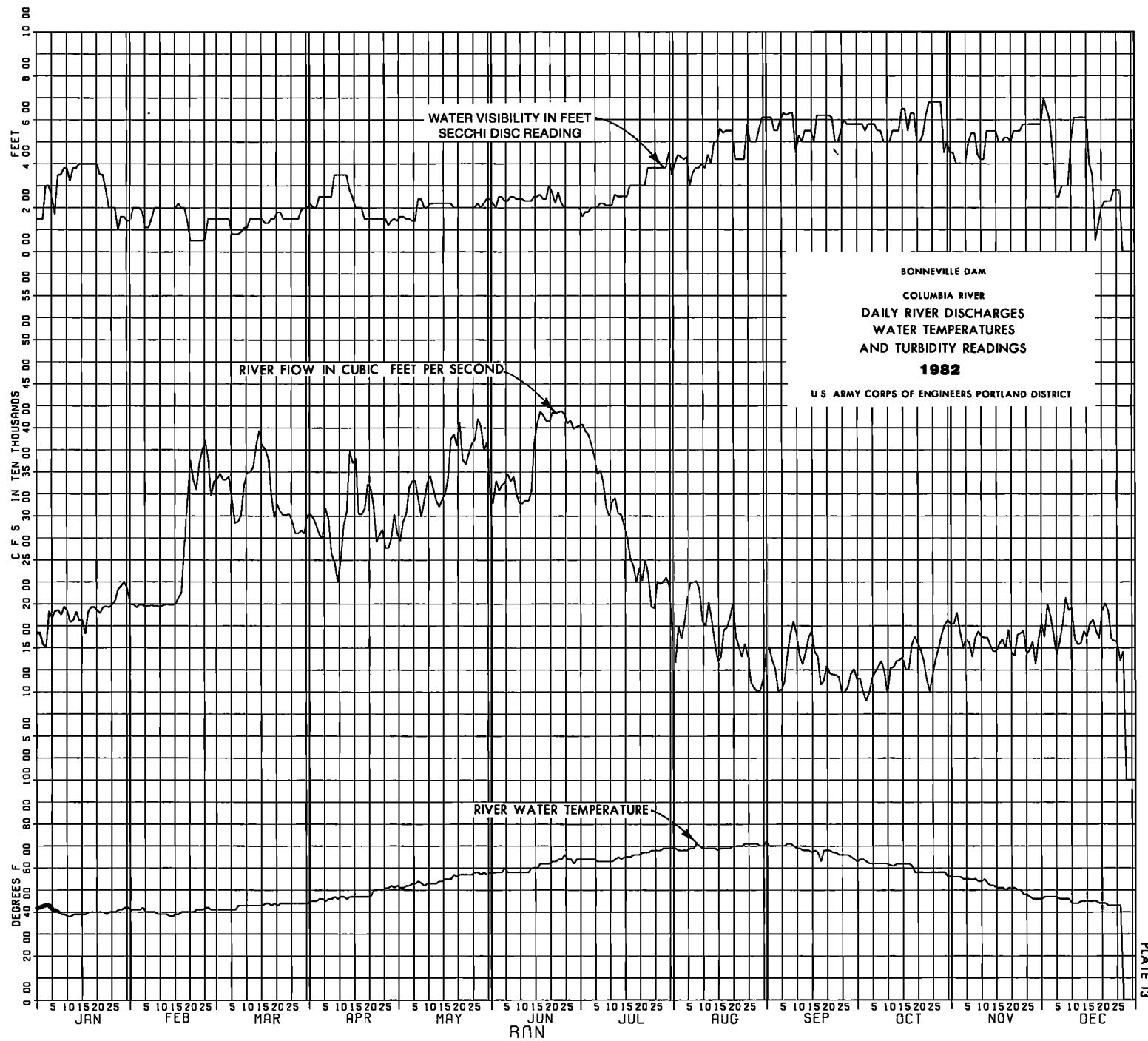
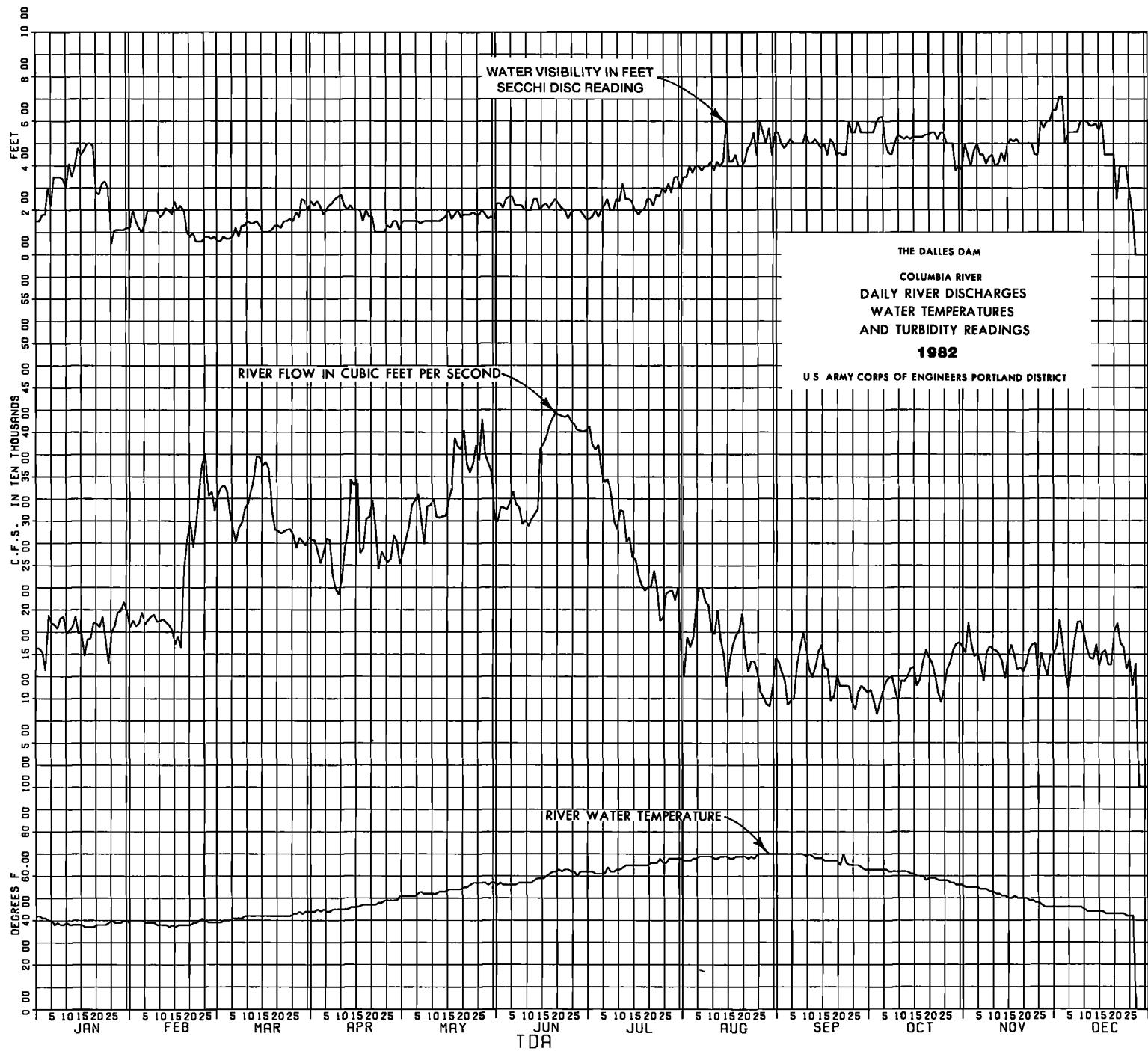
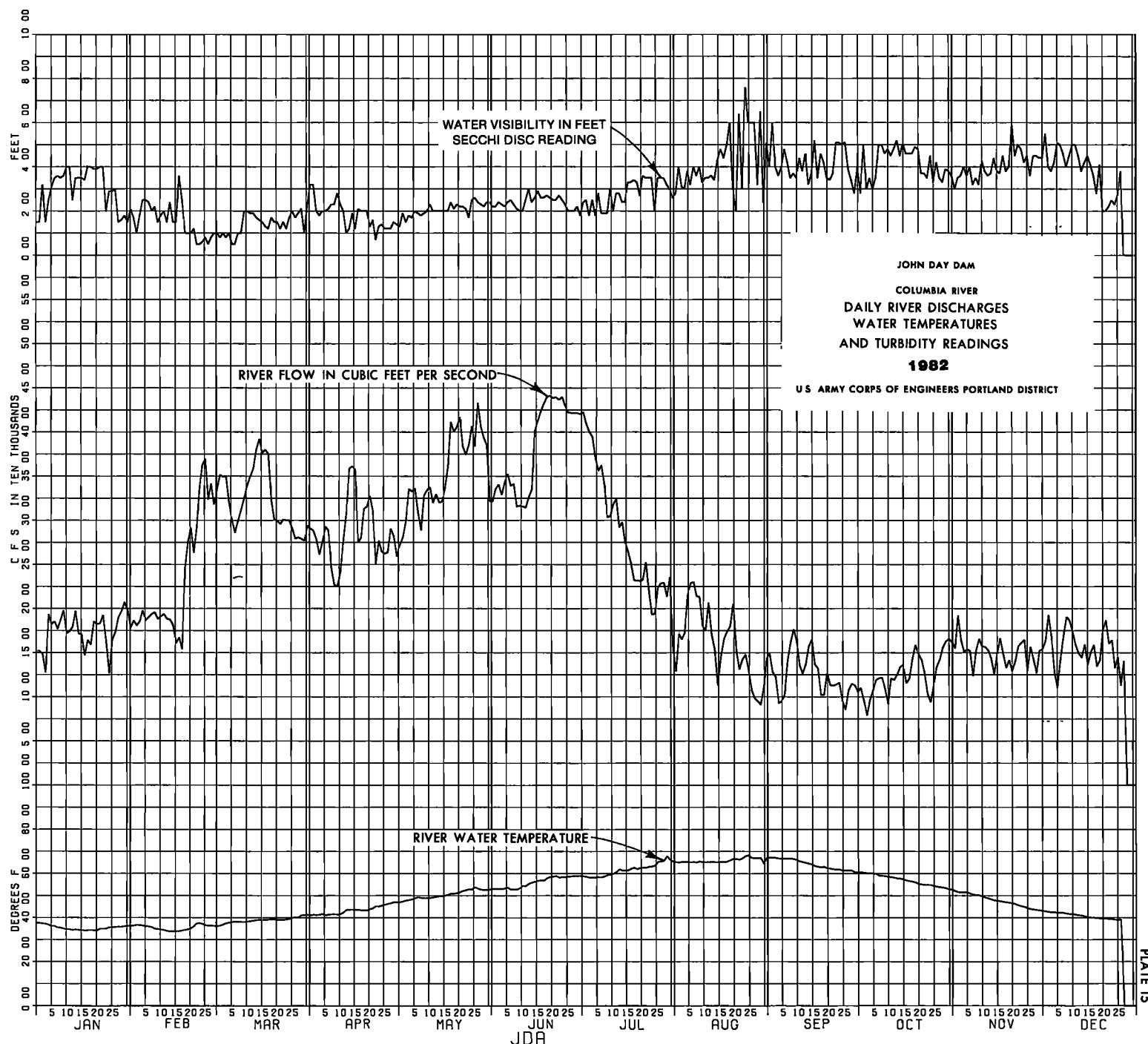
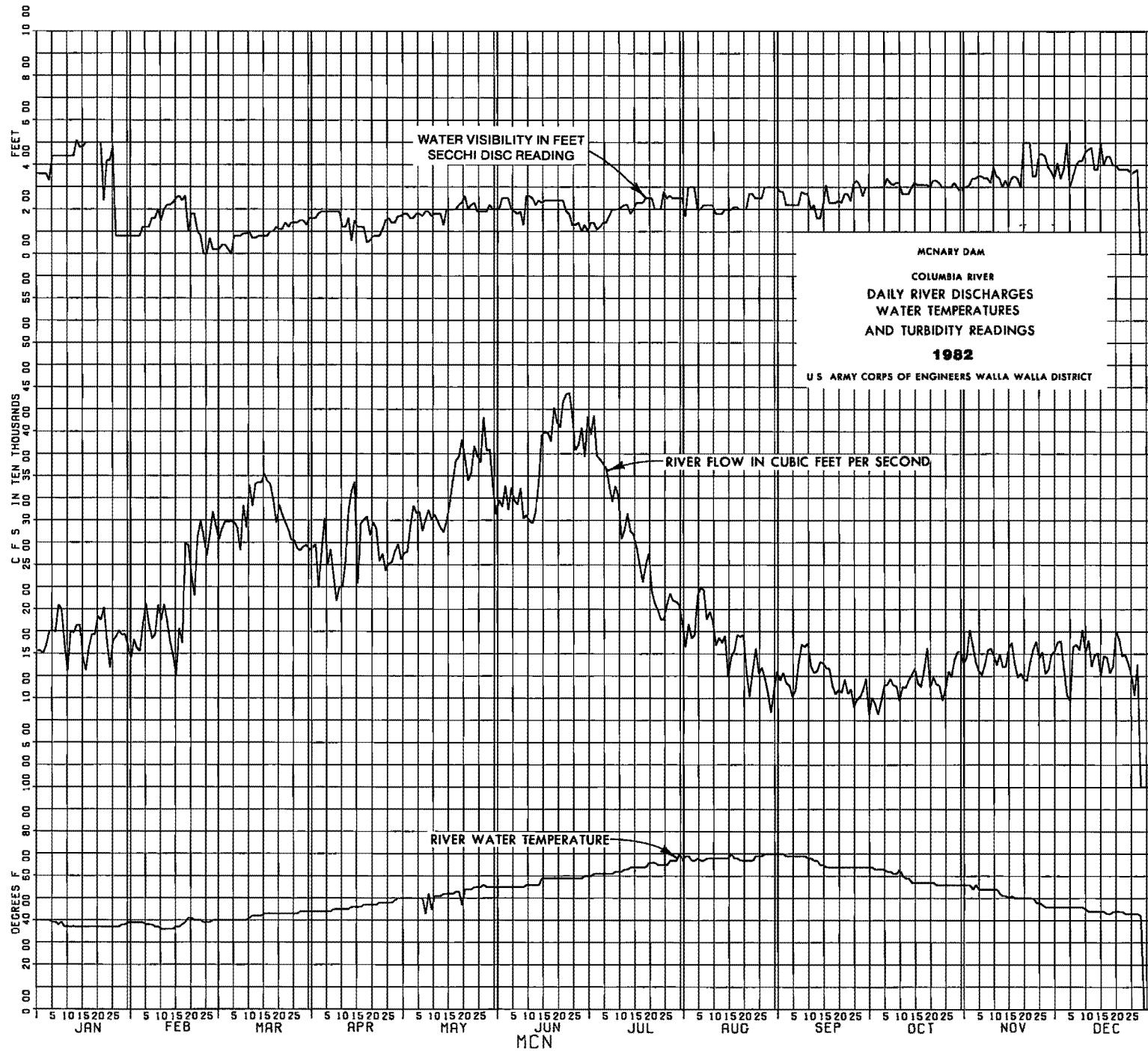
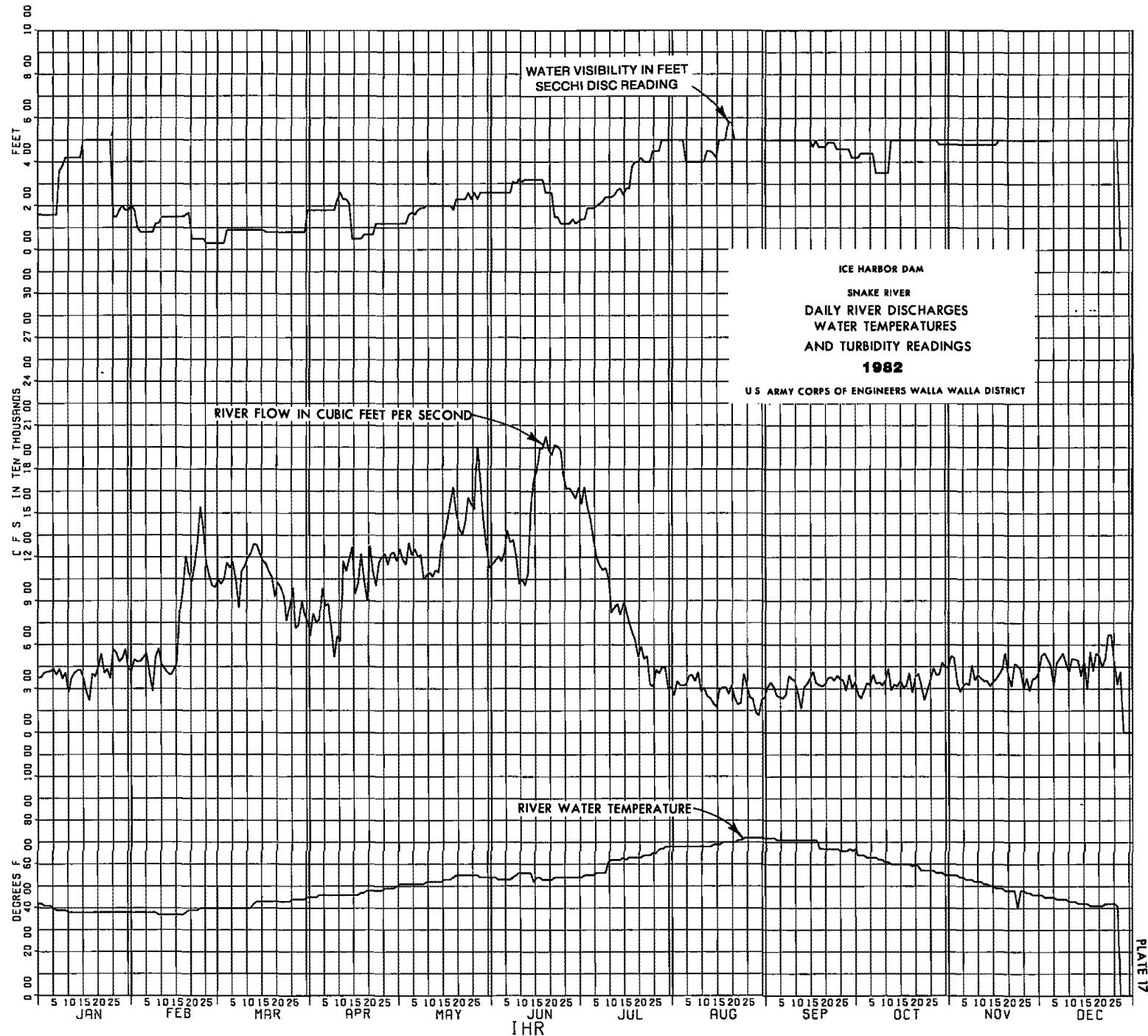


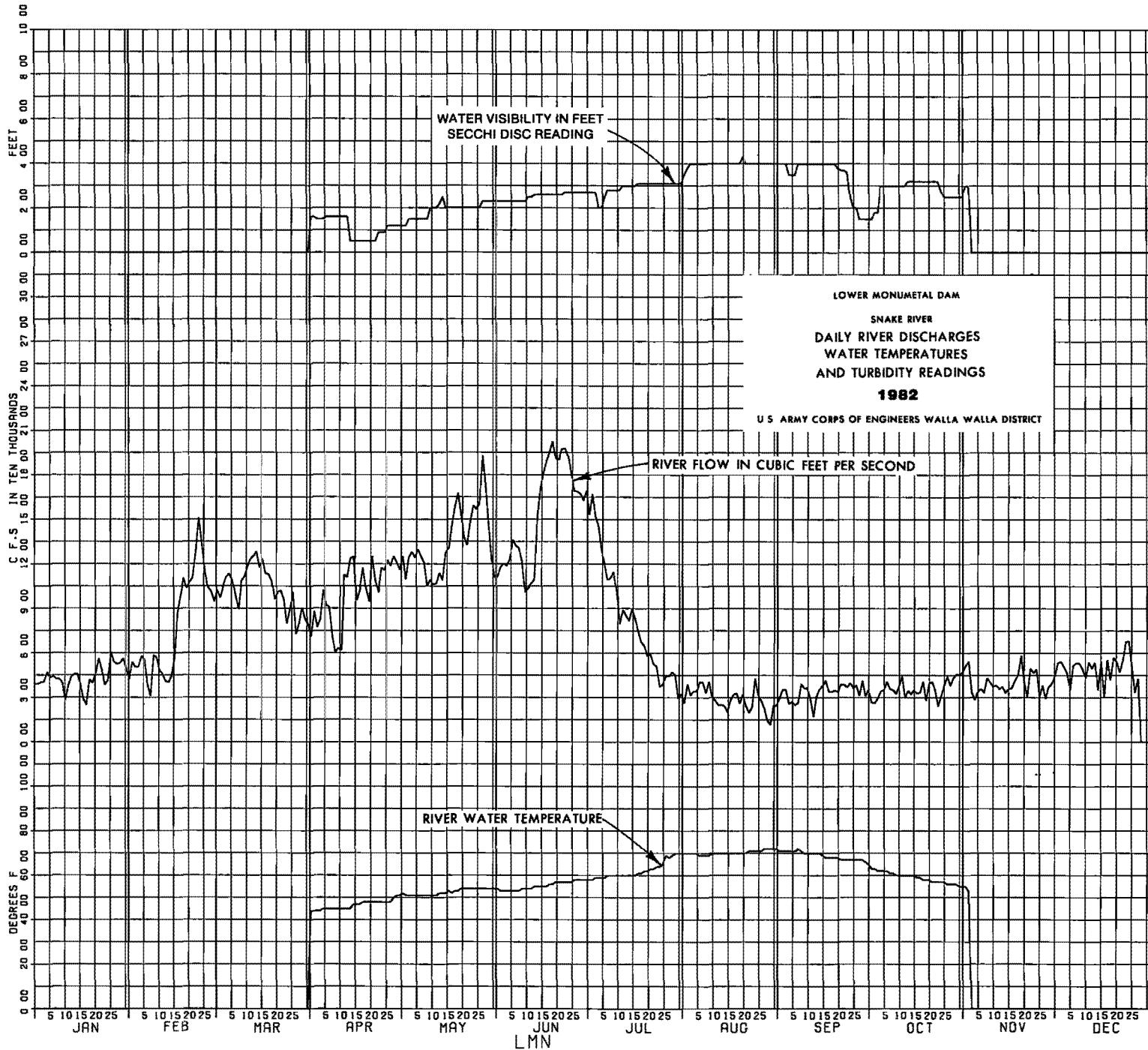
PLATE 13

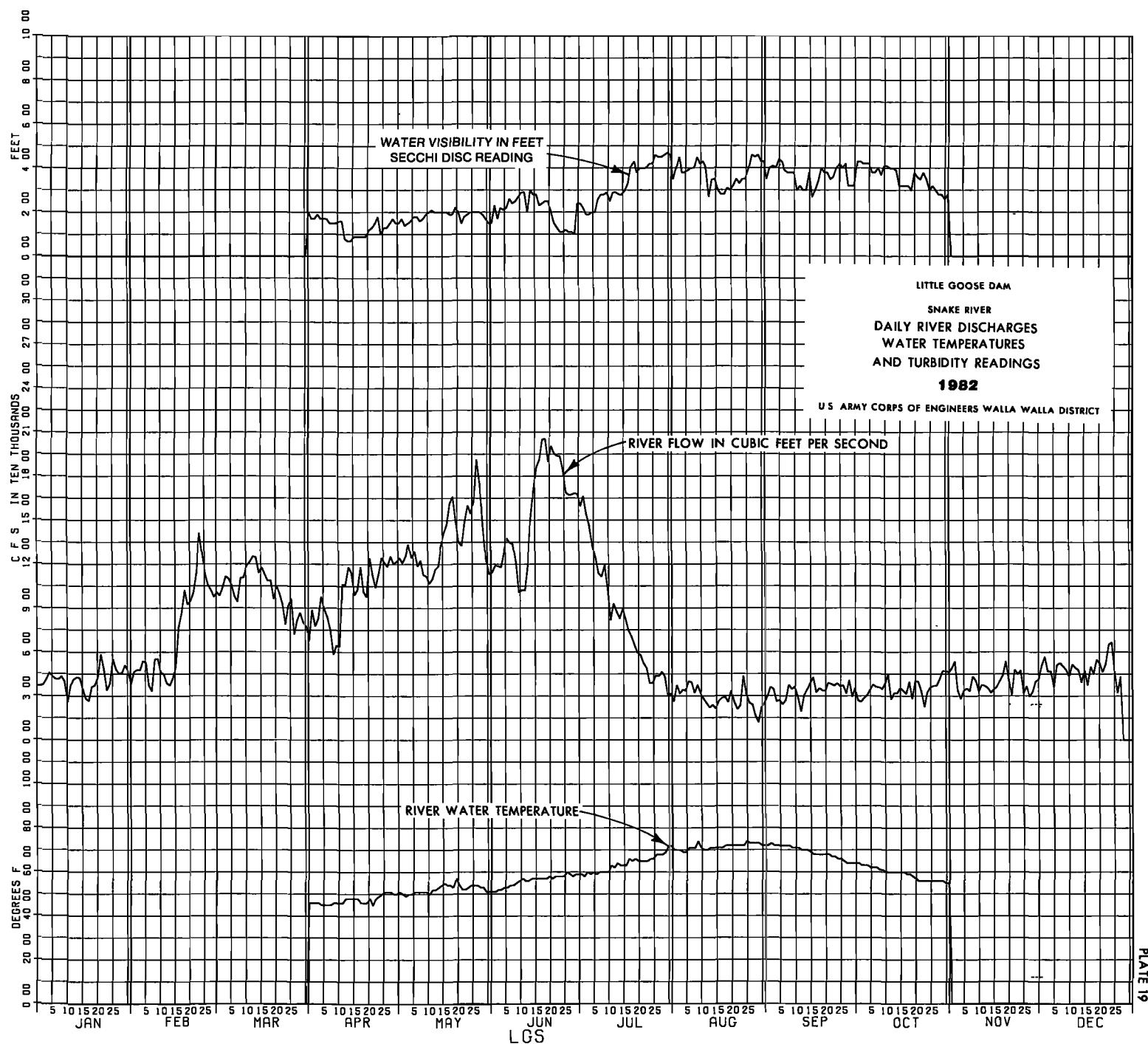


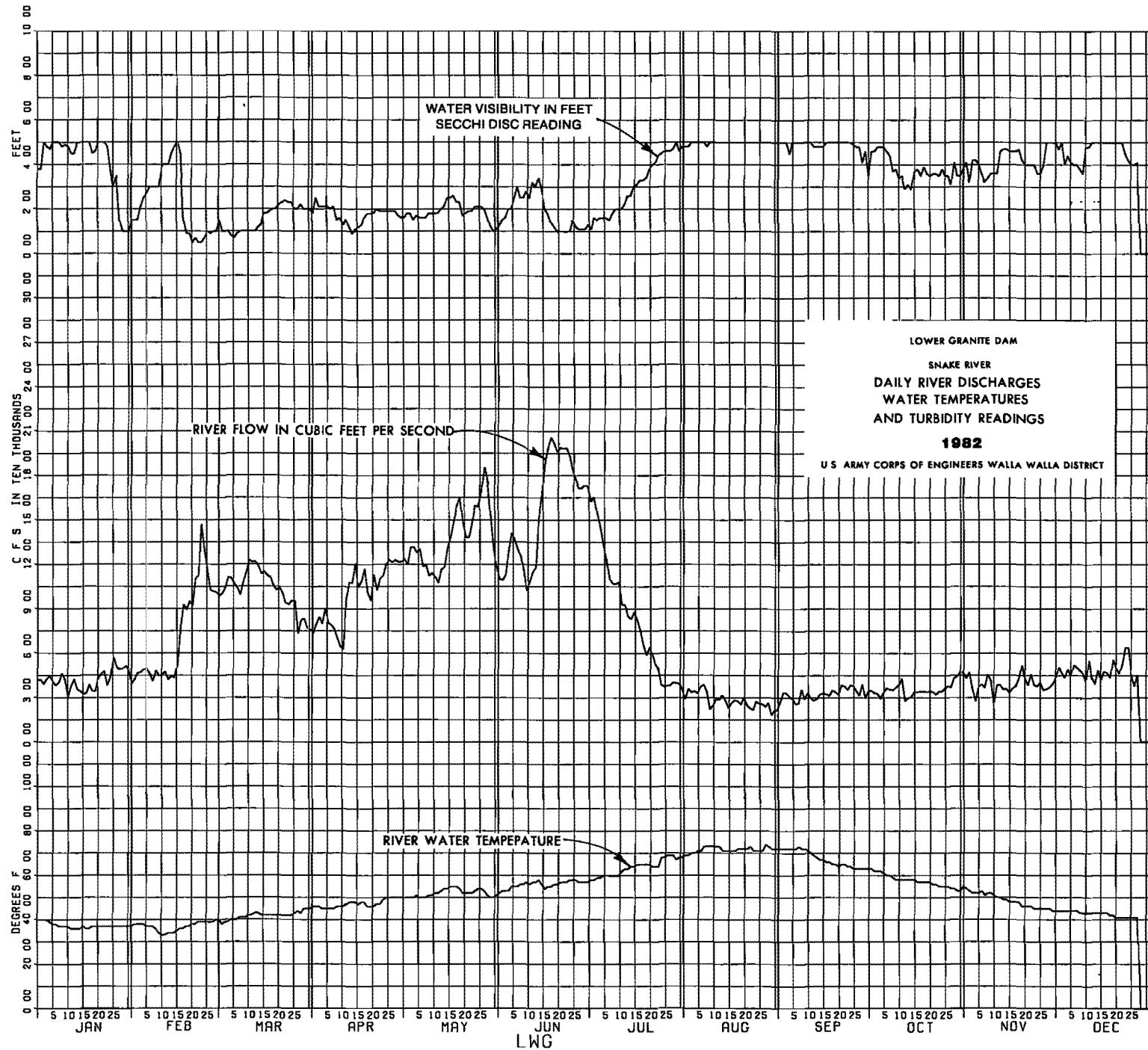


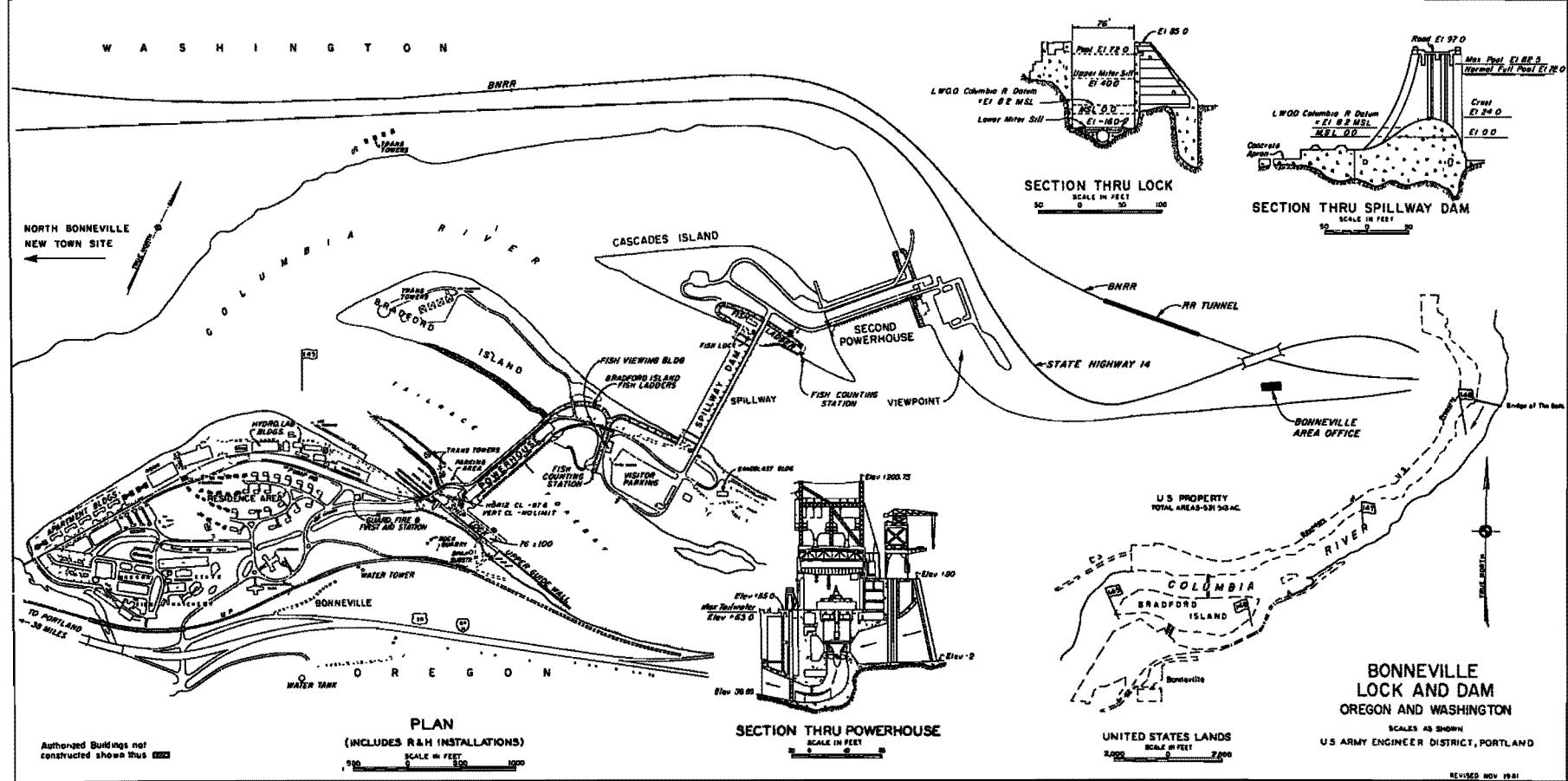
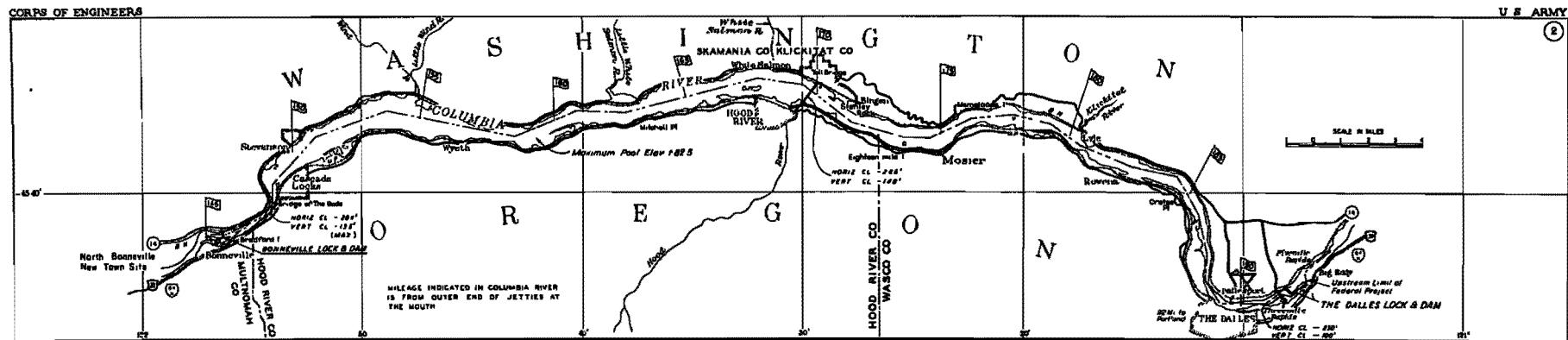






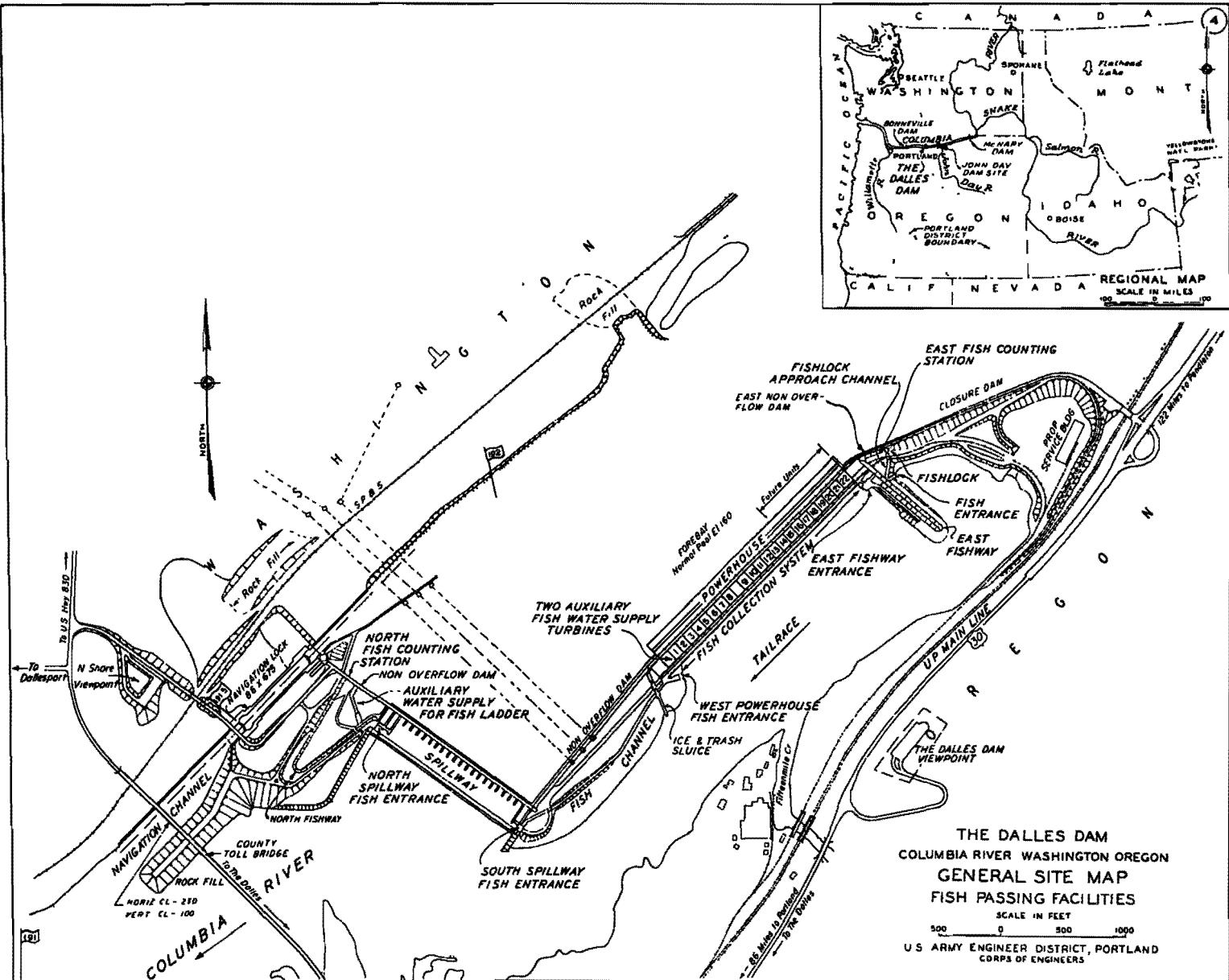






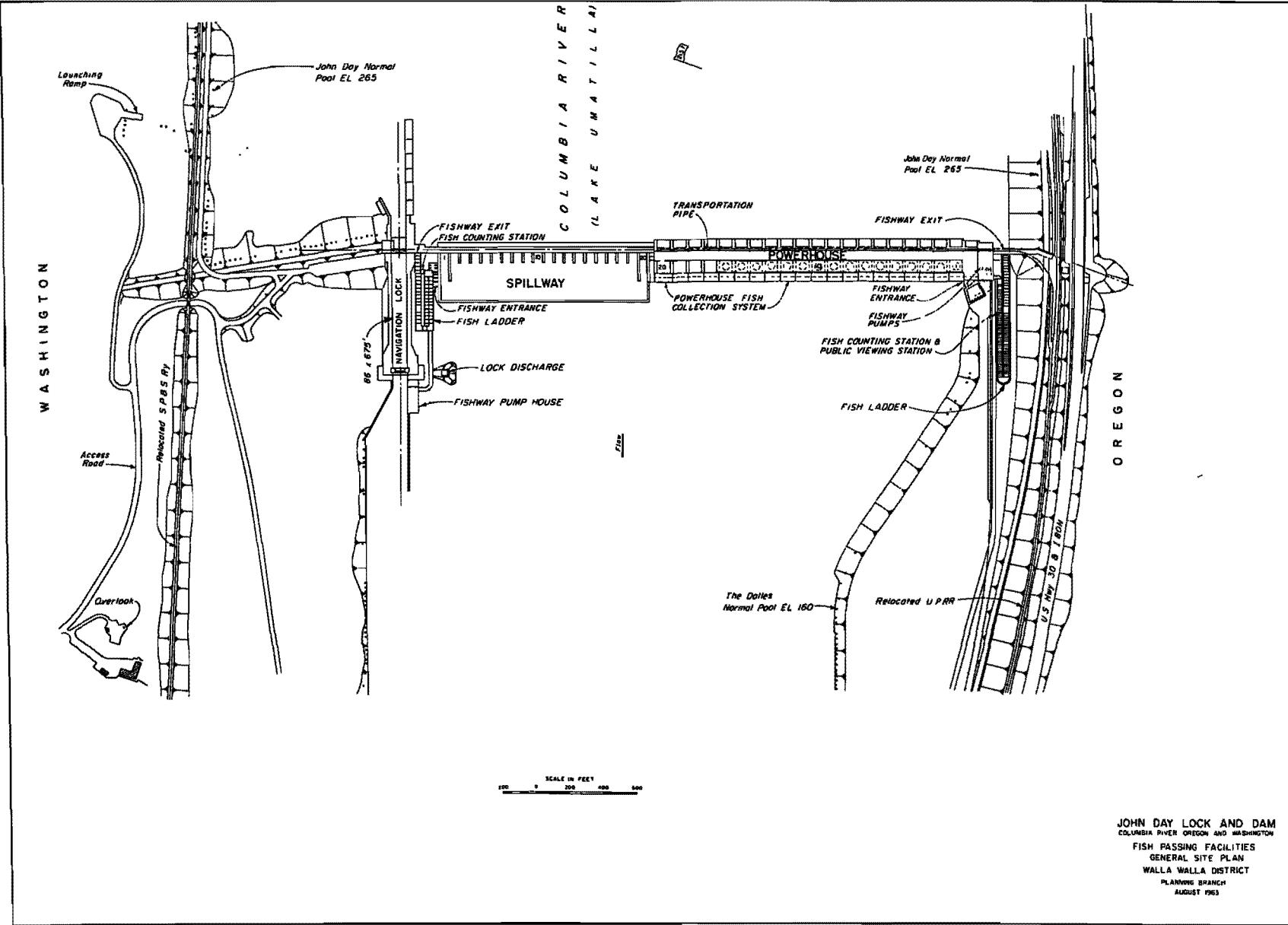
CORPS OF ENGINEERS

U S ARMY



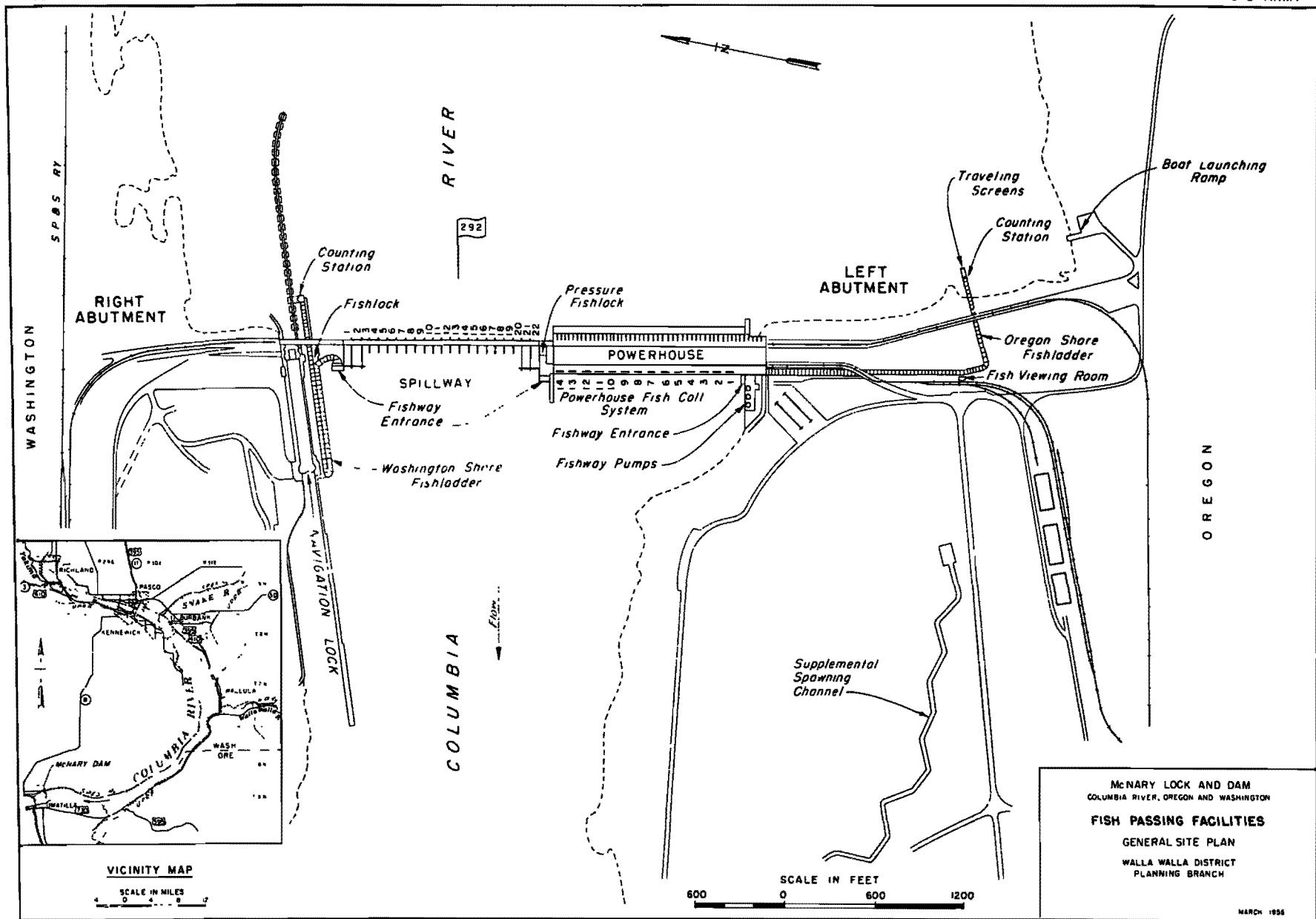
CORPS OF ENGINEERS

U S ARMY



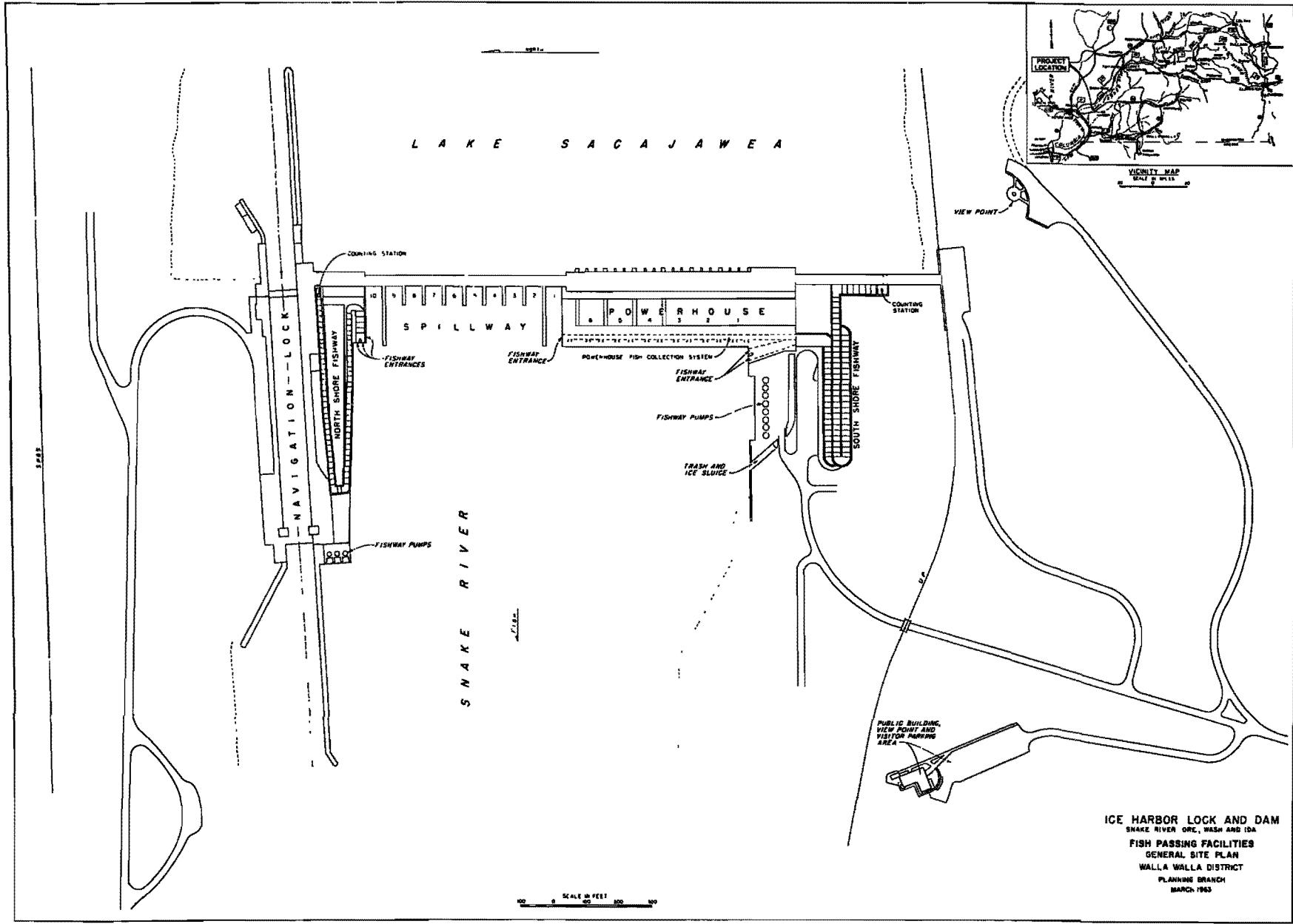
CORPS OF ENGINEERS

U S ARMY



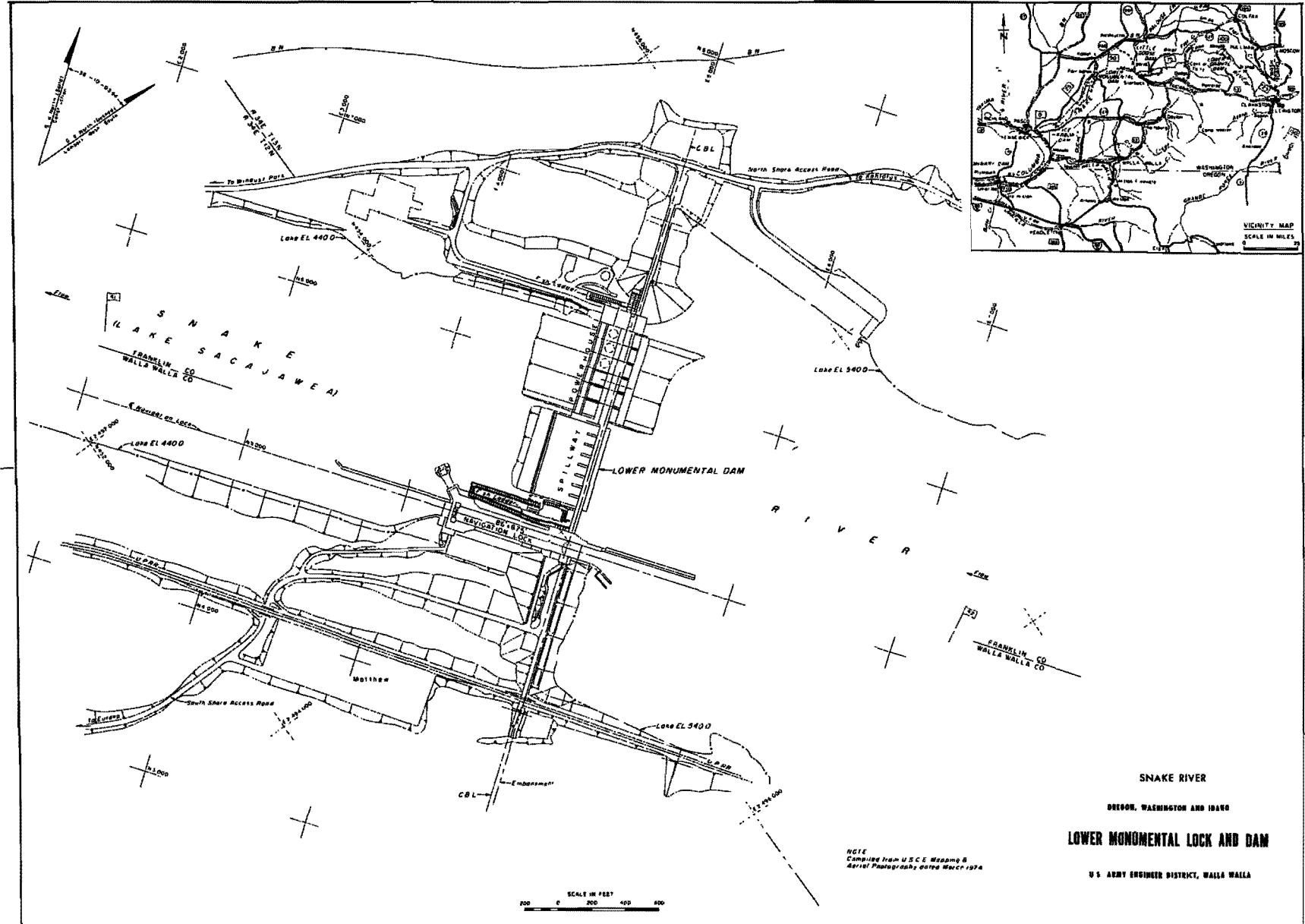
CORPS OF ENGINEERS

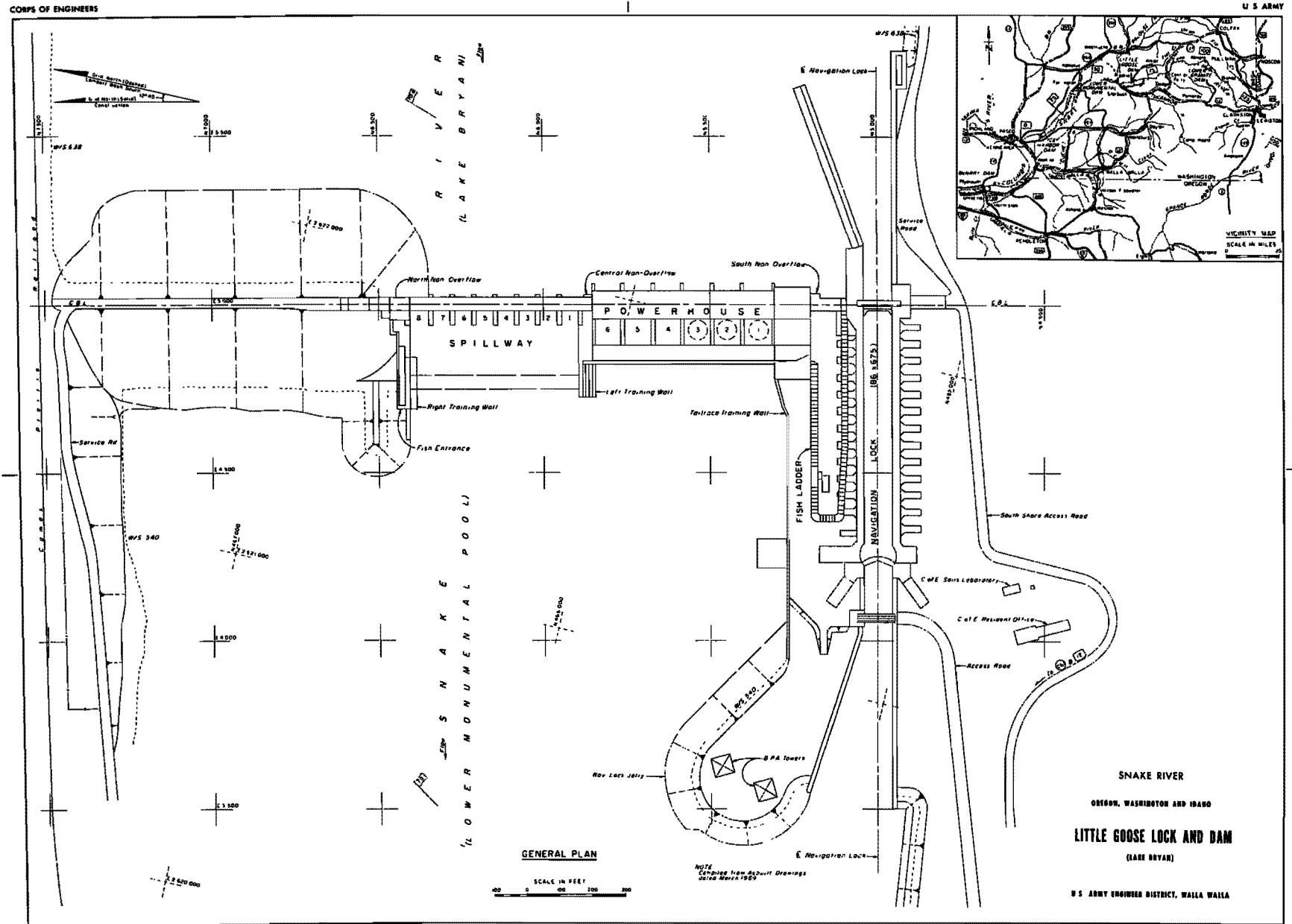
U S ARMY

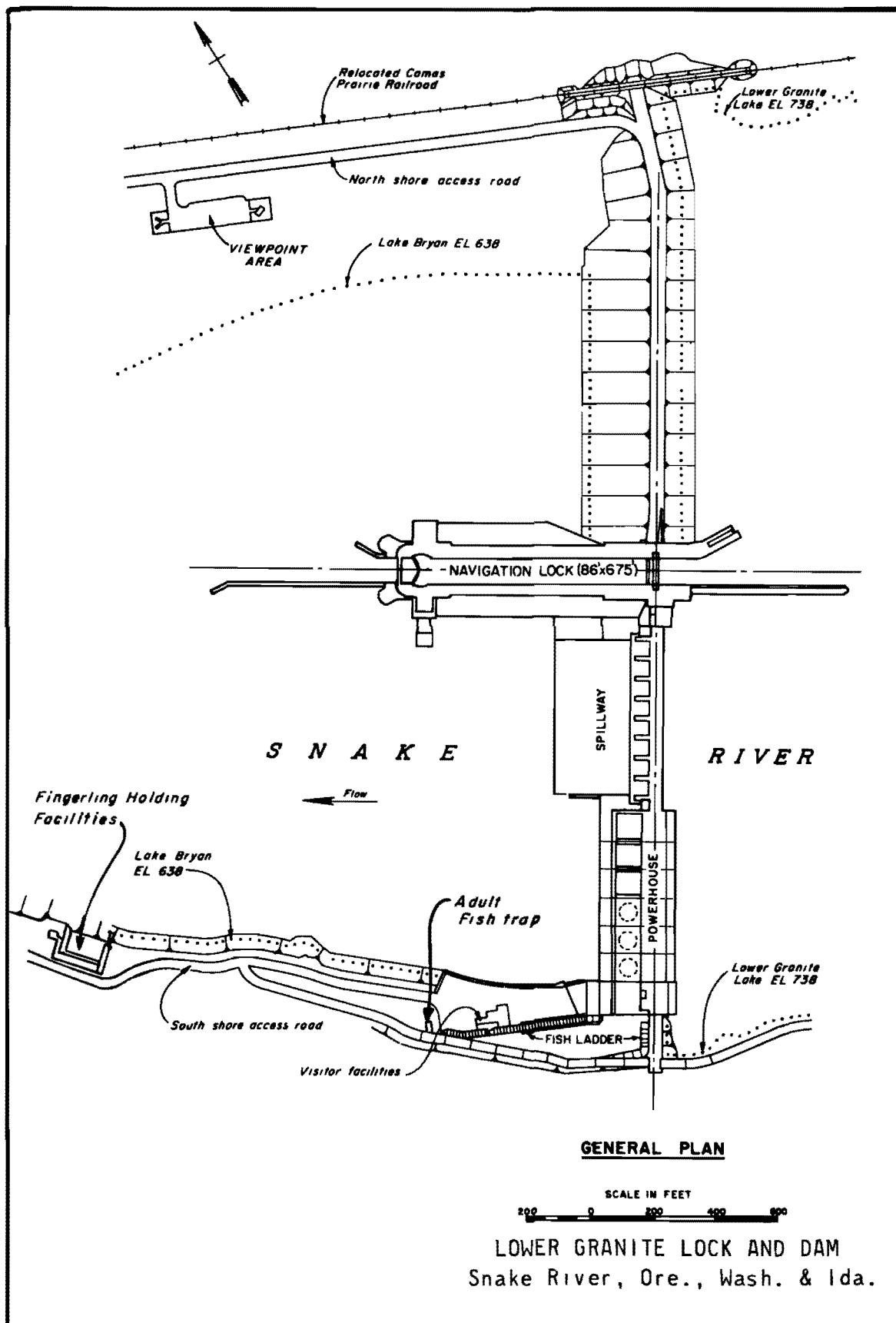


**COEPS OF ENGINEERS**

1







GDG-1-0-1/14