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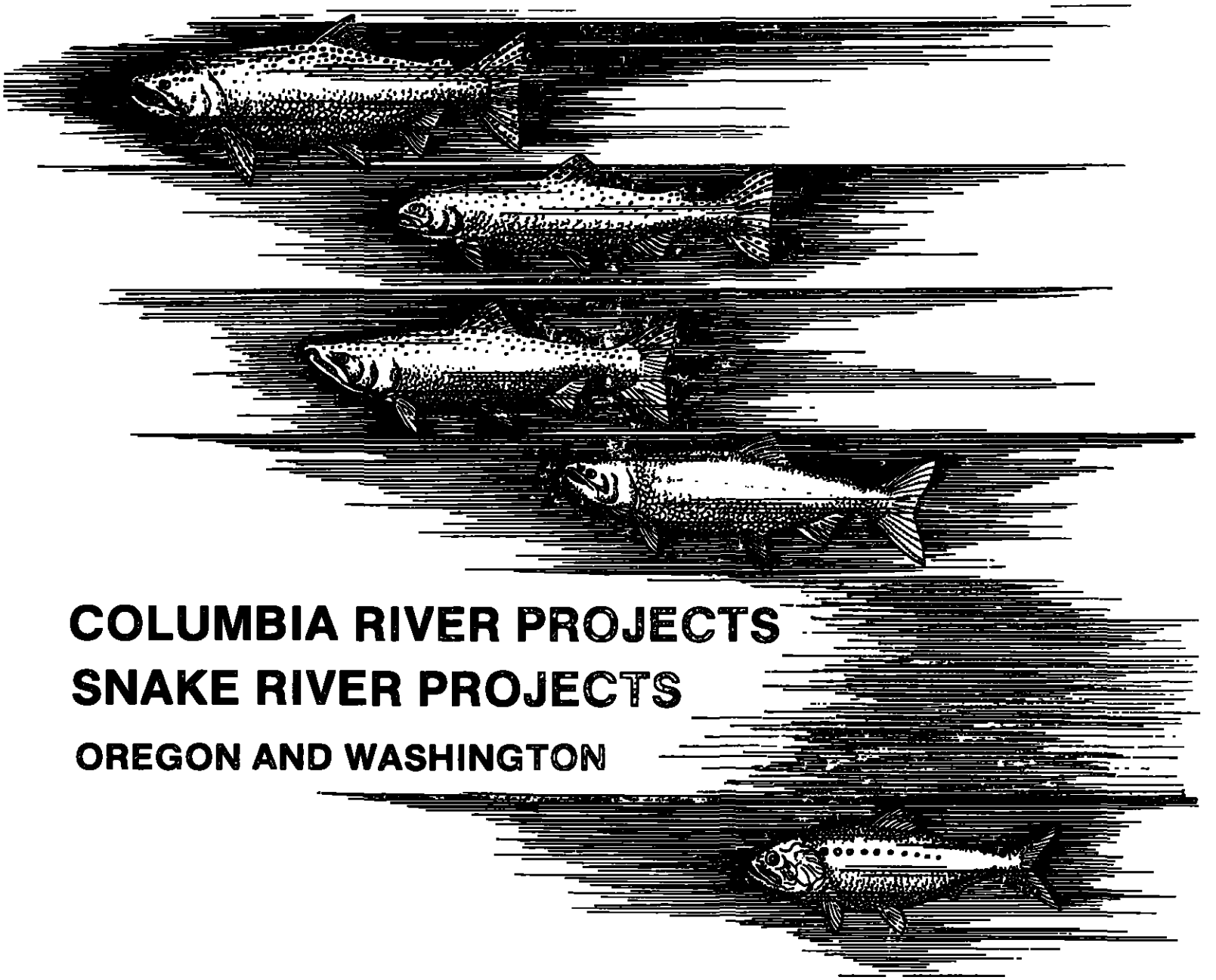
US Army Corps
of Engineers
Portland & Walla Walla Districts

ANNUAL FISH PASSAGE REPORT - 1985



COLUMBIA RIVER PROJECTS
SNAKE RIVER PROJECTS
OREGON AND WASHINGTON

1985

ANNUAL FISH PASSAGE REPORT

COLUMBIA AND SNAKE RIVERS

FOR

SALMON, STEELHEAD AND SHAD

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

NORTH PACIFIC DIVISION
Corps of Engineers
Prepared By:

U.S. Army Engineer District
Portland and Walla Walla

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ANNUAL FISH PASSAGE REPORT
COLUMBIA AND SNAKE RIVER PROJECTS
CALENDAR YEAR 1985

BONNEVILLE DAM - 1985

1985 Fish Counting Schedule

1 Jan - 14 Mar	No Counting.
15 Mar - 31 Mar	Fish were counted in both ladders for one 8-hour shift each day, 0800-1600 hours Pacific Standard Time.
1 Apr - 31 Oct	Fish were counted in both ladders for two 8-hour shifts each day, 0400-2000 hours Pacific Standard Time.
1 Nov - 30 Nov	Fish were counted in both ladders for one 8-hour shift each day, 0800-1600 hours Pacific Standard Time. 1/
1 Dec - 31 Dec	No counting.

1985 Adult Fish Facilities Operating Schedule

Bradford Island Fish Ladder

1 Jan - 22 Jan	Powerhouse Collection Channel (PCC) out of service for annual maintenance. A and B branch fish ladders in service.
22 Jan - 7 Dec	A and B branch fish ladders and powerhouse collection channel in service.
7 Dec - 31 Dec	B-branch fish ladder out of service for annual maintenance. A-branch fish ladder and powerhouse collection channel in service.

Second Powerhouse Fish Ladder

1 Jan - 2 Jan	PCC in service.
1 Jan - 6 Feb	Washington shore fish ladder in service.

1/ Fish counting was originally scheduled through 15 November, but was extended to 30 November.

1 Jan - 28 Feb	Cascades Island fish ladder and upstream migrant transportation channel out of service for annual maintenance and modifications.
2 Jan - 26 Jan	PCC out of service for annual maintenance.
26 Jan - 6 Feb	Powerhouse collection channel in service.
6 Feb - 28 Feb	Washington shore fish ladder and powerhouse collection system out of service for annual maintenance.
28 Feb - 4 Dec	Washington shore fish ladder and powerhouse collection system in service.
28 Feb - 4 Nov	Cascades Island fish ladder and upstream migrant transportation channel in service.2/
4 Nov - 6 Dec	Cascades Island fish ladder and upstream migrant transportation channel out of service for annual maintenance.
4 Dec - 31 Dec	Washington shore fish ladder and Powerhouse Collection Channel out of service for annual maintenance.
6 Dec - 31 Dec	Cascades Island fish ladder in service. Upstream migrant transportation channel out of service.

1985 Juvenile Fish Facilities Operating Schedule

First Powerhouse

1 Jan - 25 Feb	Juvenile bypass system out of service for annual maintenance.
25 Feb - 5 Dec	Juvenile bypass system in service.
5 Dec - 31 Dec	Juvenile bypass system out of service for annual maintenance and modifications.

Second Powerhouse

1 Jan - 28 Jan	Juvenile bypass system in service.
28 Jan - 5 Mar	Juvenile bypass system out of service for annual maintenance.

2/ On 3 April Cascades Island fish ladder was dewatered for emergency repairs of FG6-9 diffuser gate.

5 Mar - 30 Dec	Juvenile bypass system in service.
30 Dec - 31 Dec	Juvenile bypass system out of service for annual maintenance.

1985 Fishway Activities

The Washington Department of Game conducted the 1985 fish counting under contract with the Corps of Engineers. Fish counting occurred for 50 minutes of each hour. Counts were multiplied by a 1.2 factor to estimate passage for the full hour. Fish counting was extended from 15 November to 30 November (1985 only) to develop a baseline for fish passage. This was done to prepare for the construction of the new navigation lock.

Because of the inclement weather between 20 November and 30 November, several hours of fish counting were missed as shown in the following table:

COUNTING HOURS MISSED

	BRADFORD ISLAND	WASHINGTON SHORE
20 Nov	-----	1500-1600 hours
21 Nov	1500-1600 hours	1300-1600 hours
22 Nov	0800-1600 hours	0800-1600 hours
30 Nov	1230-1600 hours	1100-1600 hours

In addition to the salmon, steelhead and shad, other fish were observed. These are listed in the following table. These counts are observations only, not net upstream passage and not adjusted for hourly ten minute breaks.

	BRADFORD ISLAND	WASHINGTON SHORE
Sturgeon	30	3
Bass	2	6
Catfish	3	4
Walleye	---	1
Crappie	1	8

Several study groups were involved in the trapping of adult salmonids at Bonneville's Washington shore fish trapping facilities.

A temporary trapping facility was used during the spring migrations. The permanent adult fish collection and monitoring facility was completed and operated during the summer and fall. The interim trapping facility was removed in the fall.

The National Marine Fisheries Service continued to capture marked fish as part of an evaluation of the juvenile salmonid transportation program.

The Columbia River Intertribal Fish Commission and Washington Department of Fisheries collected scales from adult sockeye for age class investigations. The Columbia River Intertribal Fish Commission, Oregon Department of Fish and Wildlife, and Washington Department of Game collected scales from adult steelhead for age class investigations.

The Corps Portland District Fisheries Field Unit trapped and radio-tagged chinook and sockeye salmon during the spring and summer for evaluation of the adult fishways at McNary and John Day Dams. They trapped 116 chinook and 47 sockeye between April and August. These fish were transported and released at Stevenson, Washington which prevented them from passing through the counting station. The fish counts were adjusted accordingly.

The Oregon Department of Fish and Wildlife used the Adult Fish Collection and Monitoring Facility to collect late spawning "bright" fall chinook as part of a continuing program to establish a "bright" fall chinook egg bank. They trapped 2,921 chinook between 1 September and 24 September. These fish were transported to the Bonneville Fish Hatchery and were not counted at the counting station. The dam counts were not adjusted for these fish because they were not released to continue upstream.

The Washington Department of Fisheries and Oregon Department of Fish and Wildlife observed tule and fall bright chinook salmon from the Washington shore fish counting station to determine the ratio of tules to brights.

The National Marine Fisheries Service continued to evaluate the first and second powerhouse juvenile bypass sampling systems.

The effectiveness of the second powerhouse juvenile bypass facilities continued to be poor. The National Marine Fisheries Service continued research in an effort to determine problem areas and potential remedies. The Corps Portland District Fisheries Field Unit assisted in this effort by using hydroacoustics to determine the behavior and distribution of fish as they approached the turbine intakes.

THE DALLES DAM - 1985

1985 Fish Counting Schedule

1 Jan - 31 Mar	No counting.
1 Apr - 31 Oct	Fish were counted in both ladders for two 8-hour shifts each day, 0400-2000 hours Pacific Standard Time.
1 Nov - 30 Nov	Fish were counted in the east ladder for one 8-hour shift each day, 0800-1600 hours Pacific Standard Time. 3/
1 Nov - 5 Nov	Fish were counted in the north ladder for one 8-hour shift each day, 0800-1600 hours Pacific Standard Time.
5 Nov - 31 Dec	No counting in the north ladder. Ladder out of service.
1 Dec - 31 Dec	No counting in the east ladder.

1985 Adult Fish Facilities Operating Schedule

East Fish Ladder

1 Jan - 11 Mar	Out of service for fish ladder modifications.
11 Mar - 8 Dec	In service.
8 Dec - 12 Dec	Out of service for annual maintenance.
12 Dec - 31 Dec	In service.

North Fish Ladder

1 Jan - 6 Jan	In service.
6 Jan - 11 Jan	Out of service for annual maintenance.
11 Jan - 5 Nov	In service.
5 Nov - 31 Dec	Out of service for fish ladder modification.

3/ Fish counting was originally scheduled through 31 October, but was extended to 30 November.

1985 Ice and Trash Sluiceway Operating Schedule

1 Jan - 31 Mar	Operated with gatewell orifice flow.
1 Apr - 25 Apr	Operated with gatewell orifice flow. Chain gates 1-1, 1-2, and 1-3 open daily, sunrise to sunset. 4/
26 Apr - 6 May	Operated with gatewell orifice flow. Chain gates 1-1, 1-2, and 1-3 open 16 hours each day.
7 May - 6 Jun	Operated with gatewell orifice flow. Chain gates 1-1, 1-2, and 1-3 open 24 hours per day. 5/
7 Jun - 15 Nov	Operated with gatewell orifice flow. Chain gates 1-1, 1-2, and 1-3 open daily, sunrise to sunset.
16 Nov - 31 Dec	Operated with gatewell orifice flow.

1985 Fishway Activities

The Washington Department of Game conducted the 1985 fish counting under contract with the Corps of Engineers. Fish counting occurred for 50 minutes of each hour. Counts were multiplied by a 1.2 factor to estimate passage for the full hour. Fish counting was extended from 31 October to 30 November (1985 only) to monitor the effect on fish passage of construction work in the north shore fish ladder. The construction was to modify the fish ladder.

Fish, other than salmon, steelhead and shad, observed by the fish counters are listed in the following table. These counts are observations only, not net upstream passage and not adjusted for hourly ten minute breaks.

	EAST LADDER	NORTH LADDER
Sturgeon	442	7
Bass	60	11
Catfish	32	1
Walleye	99	1

The 1985 fish passage season was the first year of operation of the modified east fish ladder, including the water conservation weirs and the submerged counting station. The north ladder will be similarly modified during the winter of 1985-86.

4/ 4 April, 1310 hours to sunset: Out of service for maintenance.

5/ 4 June, daylight to 1156 hours; 5 June, 0612 hours to sunrise, 7 June: Out of service during submersible traveling screen evaluations.

The Corps Portland District Fisheries Field Unit radio tracking program installed an adult fish trap in the fish lock at the east fish ladder. The intention was to trap and radio-tag adult chinook and sockeye salmon for tracking as part of the evaluation of the McNary and John Day Dam powerhouse collection systems. However, The Dalles' trap failed to trap fish and Bonneville's trapping facilities were used instead.

Prototype submersible traveling screens were tested in turbine 2 at The Dalles Dam by the National Marine Fisheries Service to determine fish guiding efficiency. These evaluations were part of the long term planning for installation of a juvenile bypass system at The Dalles.

Hydroacoustic monitoring was conducted at The Dalles Dam, under Bonneville Power Administration contract, to determine relative numbers of juvenile salmonids passing through turbines, spillway, and sluiceway. These baseline data will be used in future years to develop a monitoring program that will regulate spills to improve juvenile salmonid passage survival.

JOHN DAY DAM - 1985

1985 Fish Counting Schedule

1 Jan - 31 Mar	No counting.
1 Apr - 31 Oct	Fish were counted in both ladders for two 8-hour shifts each day, 0400-2000 hours Pacific Standard Time.
1 Nov - 30 Nov	Fish were counted in both ladders for one 8-hour shift each day, 0800-1600 Pacific Standard Time. 6/
1 Dec - 31 Dec	No counting.

1985 Adult Fish Facilities Operating Schedule

South Fish Ladder

1 Jan	In service.
2 Jan - 4 Feb	Out of service for annual maintenance.
4 Feb - 31 Dec	In service.

North Fish Ladder

1 Jan - 4 Dec	In service.
4 Dec - 17 Dec	Out of Service for annual maintenance.
17 Dec - 31 Dec	In service.

1985 Juvenile Bypass System Operating Schedule

1 Jan - 17 Apr	Under construction.
17 Apr - 15 Nov	In service, turbines 1-8. 7/
23 Apr - 24 Sep	Gatewell fish salvage, turbines 10-16.
15 Nov - 31 Dec	Out of service for annual maintenance and continued construction of the bypass system, turbines 10-16.

6/ Fish counting was originally scheduled through 31 October, but was extended to 30 November.

7/ 26 Apr: Submersible traveling screens installed and operating in turbines 1-5.
1 May: Submersible traveling screens installed and operating in turbines 6-8. Turbine 9 out of service.

1985 Fishway Activities

The Washington Department of Game conducted the 1985 fish counting under contract with the Corps of Engineers. Fish counting occurred for 50 minutes of each hour. Counts were multiplied by a 1.2 factor to estimate passage for the full hour. Because of higher than usual numbers of fish, the agencies and tribes requested that fish counting be extended from 31 October to 30 November (1985 only) as an aid to fisheries management. Because of inclement weather, there was no counting on 22 November, 1500 to 1600 hours.

Fish, other than salmon, steelhead and shad, observed by the fish counters are listed in the following table. These counts are observations only, not net upstream passage and not adjusted for hourly ten minute breaks.

	SOUTH SHORE	NORTH SHORE
Sturgeon	1	11
Bass	147	53
Catfish	10	3
Walleye	1	9
Crappie	1	--

Fishway Activities

The Portland District Fisheries Field Unit hydroacoustic monitoring program continued to regulate spill at John Day for juvenile salmonid passage.

The Portland District's Fisheries Field Unit radio tracking program monitored the fish ladders with automatic data loggers to determine passage times of radio tagged adult salmonids. These passage times were collected incidental to the McNary Dam adult fish passage evaluation.

The new juvenile bypass system with submersible traveling screens was completed through turbine 9 during the spring. The National Marine Fisheries Service conducted tests to evaluate the efficiency of the system at guiding and passing fish by the dam. The juvenile bypass system through turbine 12 is expected to be operational by spring, 1986, with the entire system through turbine 16 to be completed prior to the 1987 outmigration.

The National Marine Fisheries Service continued to operate the airlift sampling device at turbine 3 for juvenile salmonid indexing.

MCNARY DAM - 1985

1985 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.

1985 Fish Ladder Operating Schedule

North Ladder:

1 Jan - 18 Feb	In service.
19 Feb - 21 Feb	Out of service for annual inspection and maintenance.
22 Feb - 31 Dec	In service.

South Ladder:

1 Jan - 22 Feb	In service.
23 Feb - 28 Feb	Out of service for annual inspection and maintenance.
1 Mar - 31 Dec	In service.

1985 Fishway Activities

The Washington Department of Game conducted the 1985 fish counting under contract with the Corps of Engineers. To monitor the dredging of the navigation channel below Ice Harbor Dam, one 8-hour counting shift was conducted from 0800-1600 hours Pacific Standard Time from 1 March through 31 March. One counter counted fish in the south ladder by direct observation and the north ladder by closed circuit television. Two 8-hour counting shifts were conducted from 0400-2000 hours Pacific Standard Time from 1 April through 31 October. Both fish ladders were counted by direct observation.

The Portland District's Fisheries Field Unit evaluated the effectiveness of the powerhouse adult fish passage facilities.

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

The juvenile collection system was in operation from 29 March to 26 September.

ICE HARBOR DAM - 1985

1985 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.

1985 Fish Ladder Operating Schedule

North Ladder:

1 Jan - 18 Feb	In service.
19 Feb - 27 Feb	Out of service for annual inspection and maintenance.
28 Feb - 13 Sep	In service.
13 Sep	Out of service for four hours for cleaning out debris.
13 Sep - 31 Dec	In service.

South Ladder:

1 Jan - 10 Feb	In service.
11 Feb - 18 Feb	Out of service for annual inspection and maintenance.
19 Feb - 31 Dec	In service.

1985 Fishway Activities

The Washington Department of Game conducted the 1985 fish counting under contract with the Corps of Engineers. To monitor the dredging of the navigation channel below Ice Harbor Dam, one 8-hour counting shift was conducted from 0800-1600 hours Pacific Standard Time from 1 March through 31 March. Two 8-hour counting shifts were conducted from 0400-2000 hours Pacific Standard Time from 1 April through 31 October. One counter counted fish in the south ladder by direct observation and the north ladder by closed circuit television.

The ice and trash sluiceway was operated as a juvenile bypass from 29 March to 20 August.

The University of Idaho trapped and collected adult fall chinook in the south ladder during September and October for brood stock for Lyons Ferry Salmon Hatchery.

LOWER MONUMENTAL DAM - 1985

1985 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.

1985 Fish Ladder Operating Schedule

North Ladder:

1 Jan - 20 Feb	In service.
21 Feb - 27 Feb	Out of service for annual inspection and maintenance.
28 Feb - 31 Dec	In service.

South Ladder:

1 Jan - 18 Jan	In service.
19 Jan - 20 Feb	Out of service for annual inspection and maintenance.
21 Feb - 31 Dec	In service

1985 Fishway Activities

The Washington Department of Game conducted the 1985 fish counting under contract with the Corps of Engineers. Two 8-hour counting 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.

National Marine Fisheries Service dipped the gatewells of one turbine unit as part of the smolt monitoring program for the Water Budget Center.

Bonneville Power Administration funded a hydroacoustic program at Lower Monumental Dam to collect information on juvenile fish passage at the project.

The juvenile bypass system operated from 29 March to 20 August.

LITTLE GOOSE DAM - 1985

1985 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 fish passage over the dam.
1 Nov - 31 Dec	No counting.

1985 Fish Ladder Operating Schedule

Project Ladder:

1 Jan - 23 Jan	In service.
24 Jan - 14 Feb	Out of service for annual inspection and maintenance.
15 Feb - 31 Dec	In service.

1985 Fishway Activities

The juvenile collection system was in operation from 28 March to 23 July.

LOWER GRANITE DAM - 1985

1985 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.

1985 Fish Ladder Operating Schedule

Project Ladder:

1 Jan - 3 Jan	In service.
4 Jan - 23 Jan	Out of service for annual inspection and maintenance.
24 Feb - 31 Dec	In service.

1985 Fishway Activities

The Washington Department of Game conducted the 1985 fish counting under contract with the Corps of Engineers. One 8-hour counting shift was conducted from 0800 to 1600 Pacific Standard Time from 1 March through 31 March and 1 November through 15 December. Two 8-hour counting shifts were conducted from 0400 to 2000 hours Pacific Standard Time from 1 April through 31 October.

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

A hydroacoustic evaluation of juvenile salmonid passage was conducted to determine if the forebay trash boom affected juvenile passage.

The juvenile collection system was in operation from 27 March to 23 July.

TABLE 1
FISH ESCAPEMENT AT MAIN STEM DAMS
COLUMBIA AND SNAKE RIVERS 1981 to 1985

SPECIES	BONNEVILLE	THE DALLES	JOHN DAY	McNARY	ICE HARBOR	LOWER MONUMENTAL	LITTLE GOOSE	LOWER GRANITE	PRIEST RAPIDS	ROCKY REACH
1981										
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	34,547	17,192	2,411	2,207	1,945	2,420	2,671	1,449
STEELHEAD	159,270	113,268	95,172	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	1,029,958	527,678	193,373	5,048	1,274	84	72	20,857	
1982										
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	3,311
Fall*	220,151	108,590	91,192	57,299	3,519	2,378		2,202	13,091	2,885
Jacks	74,878	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	
1983										
CHINOOK*	244,346	156,190	139,866	121,636	20,259	19,082	**	16,200	31,021	9,019
Spring*	56,721	36,856	33,480	31,636	12,602	12,731		10,026	10,780	3,512
Summer*	23,458	17,051	14,834	16,199	4,922	3,917		4,662	9,573	3,112
Fall*	164,167	102,283	91,552	73,081	2,735	802		1,512	10,668	1,795
Jacks	58,236	41,335	43,440	29,902	1,978	1,632		2,253	3,787	1,744
STEELHEAD	218,439	171,055	154,425	125,254	88,475	80,562		86,234	31,114	19,698
SOCKEYE	100,5[illegible]5	84,2[illegible]	91,917	40,9[illegible]	216	118		122	90,008	26,079
COHO*	15,173	3,459	1,640	2,470	465	110		51	502	237
Adults	4,917	1,203	933	819	221	66		25	317	
Jacks	10,256	2,256	707	1,651	244	44		26	185	
SHAD	1,422,674	1,931,912	1,165,547	417,131	13,942	12,584		552	90,008	
1984										
CHINOOK*	374,425	203,920	188,373	159,071	17,757	17,866	**	16,517	42,729	14,604
Spring*	51,045	33,848	32,035	27,476	9,183	9,641		7,921	12,662	4,171
Summer*	28,507	22,472	22,795	21,196	6,307	7,016		7,219	17,372	6,999
Fall*	244,873	147,600	133,543	110,401	2,267	1,209		1,377	12,695	3,434
Jacks	107,998	70,798	69,874	56,390	2,596	3,006		3,961	6,576	3,147
STEELHEAD	315,560	219,123	201,154	135,515	94,030	88,655		98,923	26,017	17,228
SOCKEYE	152,541	101,171	107,951	56,906	105	63		49	114,761	73,290
COHO*	29,487	3,142	2,080	2,841	22	26		0	172	923
Adults	16,759	1,860	1,297	897	17	23		0	125	
Jacks	12,728	1,282	783	1,944	5	3		0	47	
SHAD	1,275,791	1,190,118	576,516	280,754	8,475	8,144		388	25,172	
1985										
CHINOOK*	463,873	370,982	337,624	288,483	47,981	42,437	**	36,567	62,161	20,815
Spring*	90,961	76,514	72,389	63,265	33,527	31,765		27,737	24,706	8,910
Summer*	29,870	25,385	23,489	22,029	5,290	4,845		6,639	17,324	6,781
Fall*	343,042	269,083	241,746	203,189	9,164	5,827		2,191	20,131	5,124
Jacks	167,444	145,007	149,281	120,963	10,574	8,642		5,605	11,065	3,986
STEELHEAD	343,987	276,025	247,093	188,204	128,481	109,718		118,463	34,502	22,718
SOCKEYE	166,340	117,254	124,941	98,457	24	68		35	118,342	54,077
COHO*	56,857	4,825	1,652	6,917	10	24		2	219	613
Adults	38,550	3,070	791	2,784	8	21		2	151	
Jacks	18,307	1,755	861	4,133	2	3		0	68	
SHAD	974,951	1,389,547	682,344	438,329	8,120	5,375		692	44,078	
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	23 Apr - 23 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	24 Jun - 1 Sep
FALL	1 Aug - 30 Nov	4 Aug - 30 Nov	6 Aug - 30 Nov	9 Aug - 31 Oct	12 Aug - 31 Oct	14 Aug - 31 Oct		18 Aug - 15 Dec	14 Aug - 30 Nov	2 Sep - 26 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 on an automatic system.

TABLE 2
YEARLY TOTALS OF SALMONID FISH COUNTED OVER BONNEVILLE DAM
1938-1985

YEAR	CHINOOK	STEELHEAD	SOCKEYE	COHO	CHUM	PINK	TOTAL SALMONID
1938	271,799	107,003	75,040	15,185	2,117		471,144
1939	286,189	122,032	73,382	14,383	1,168		497,154
1940	391,587	185,174	148,807	11,917	1,729		739,214
1941	461,443	118,089	65,741	17,911	5,269	4	668,457
1942	401,942	151,800	55,464	12,402	1,865	11	623,484
1943	313,123	92,133	39,845	2,547	788		448,436
1944	240,764	100,518	15,072	4,207	954	1	361,516
1945	297,478	120,133	9,501	790	728	1	428,631
1946	446,052	142,807	74,376	3,898	1,178	2	668,313
1947	480,377	135,444	171,139	11,174	199	3	798,336
1948	419,555	139,062	131,541	4,081	3,636	2	697,877
1949	277,697	119,285	51,444	1,004	2,028	6	451,464
1950	357,375	114,087	77,993	10,151	1,069	8	560,683
1951	331,788	140,689	169,428	5,201	1,044	7	648,157
1952	420,879	260,990	184,645	7,768	1,505	9	875,796
1953	332,479	223,914	235,215	13,018	1,728	10	806,364
1954	320,947	176,260	130,107	4,062	1,569	4	632,949
1955	359,853	198,411	237,748	3,725	318	9	800,064
1956	300,917	131,116	156,418	6,127	693	4	595,275
1957	403,286	139,183	82,915	4,675	569	12	630,640
1958	426,419	131,437	122,389	3,673	455	6	684,379
1959	345,028	129,026	86,560	2,695	906	22	564,237
1960	256,049	113,676	59,713	3,268	1,026		433,732
1961	281,980	139,719	17,111	3,456	896	12	443,174
1962	286,625	164,025	28,179	14,788	1,013	27	494,657
1963	278,560	129,418	60,319	12,658	739	34	481,728
1964	344,422	117,252	99,856	53,602	632	45	615,809
1965	317,957	166,453	55,125	76,032	496	64	616,127
1966	340,111	143,661	156,661	71,891	872	58	713,254
1967	366,237	121,872	144,158	96,488	352	50	729,157
1968	341,154	106,974	108,207	63,488	79	21	619,923
1969	507,543	140,782	59,636	49,378	143	86	757,568
1970	384,780	113,510	70,762	80,116	209	150	649,527
1971	405,702	193,966	87,447	75,989	29	176	763,309
1972	394,456	185,886	56,323	65,932	1	51	702,649
1973	398,635	157,823	58,979	54,609	43	12	670,101
1974	366,759	137,054	43,837	60,955	23	2	608,630
1975	425,566	85,540	58,212	58,307	11	309	627,945
1976	507,773	124,177	43,611	53,150	11	2	728,724
1977	366,657	193,437	99,829	19,408	17		679,348
1978	394,600	104,431	18,436	52,590	28		570,085
1979	276,306	113,979	52,628	45,328	1	23	488,265
1980	245,518	129,254	58,882	22,052	44		455,750
1981	285,650	159,270	56,037	30,510	4	20	531,491
1982	322,809	157,640	50,219	73,832	12		604,512
1983	244,346	218,439	100,545	15,173	50	52	578,605
1984	324.425	315,560	152,541	29,487	64	8	822,085
1985	463,873	343,987	166,340	56,857	97	147	1,031,301
TOTAL	17,015,470	7,256,378	4,358,363	1,399,938	38,407	1,470	30,070,026
48-YEAR AVERAGE	354,489	151,174	90,799	29,165	800	31	626,459

* Totals include Jacks

TABLE 3

MONTHLY TOTALS OF SALMONID AND SHAD COUNTED OVER BONNEVILLE DAM
1985

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*	-	-	2,036	52,145	36,780	16,763	13,107	64,899	255,020	22,099	1,024	-	463,873
STEELHEAD	-	-	977	2,956	3,997	13,036	102,256	152,455	63,575	4,088	647	-	343,987
SOCKEYE	-	-	-	3	13	112,054	53,842	422	4	2	-	-	166,340
COHO*	-	-	1	-	-	7	92	3,977	46,749	5,670	361	-	56,857
CHUM	-	-	-	-	-	-	2	-	1	6	88	-	97
PINK	-	-	-	-	-	-	-	-	112	35	-	-	147
TOTAL SALMONID	-	-	3,014	55,104	40,790	141,860	169,299	221,753	365,461	31,900	2,120	-	1,031,301
SHAD	-	-	-	-	101,770	816,288	55,233	1,410	206	39	5	-	974,951

* Totals include Jacks

TABLE 4

DISCHARGE AND WATER QUALITY DATA
BONNEVILLE DAM - 1985

DATE	JANUARY			FEBRUARY		
	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.
1	161.2	3.0	39.0	245.7	5.8	37.0
2	211.9	3.0	39.0	192.5	5.8	37.0
3	197.9	2.8	38.0	201.9	7.5	36.0
4	190.0	2.8	38.0	247.4	6.0	36.0
5	191.0	2.8	37.0	251.7	6.0	36.0
6	170.9	2.8	37.0	216.1	5.0	35.0
7	198.5	2.8	37.0	198.0	7.0	35.0
8	210.2	2.5	37.0	217.9	5.0	35.0
9	209.6	2.5	37.0	208.6	7.0	34.0
10	208.9	2.5	37.0	204.9	6.0	34.0
11	218.2	2.8	36.0	197.4	6.0	34.0
12	209.4	2.8	36.0	187.1	7.5	34.0
13	202.8	3.2	36.0	206.7	7.3	35.0
14	210.3	4.0	36.0	227.1	2.2	35.0
15	209.7	4.0	36.0	236.5	2.1	35.0
16	208.6	4.0	36.0	210.6	2.4	35.0
17	213.0	5.1	36.0	193.6	2.4	35.0
18	213.0	5.1	36.0	190.6	2.4	35.0
19	218.9	5.1	36.0	209.4	1.2	36.0
20	205.0	6.0	36.0	220.9	1.0	36.0
21	210.8	6.0	37.0	209.9	1.0	36.0
22	239.7	5.8	37.0	209.3	1.0	36.0
23	235.9	5.8	37.0	198.0	.8	38.0
24	230.3	5.7	37.0	166.8	1.0	38.0
25	242.7	5.5	38.0	200.7	1.0	39.0
26	198.6	5.5	37.0	199.4	.5	39.0
27	195.2	6.0	37.0	206.7	.8	39.0
28	212.7	6.0	37.0	217.1	.5	39.0
29	199.5	6.5	37.0			
30	191.7	6.8	37.0			
31	200.3	6.0	37.0			
AVERAGE	207.0			209.7		

TABLE 5

MONTHLY FISH PASSAGE SUMMARY REPORT — BONNEVILLE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — MAR 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1										201.5	26.0	.5	40.0
2										206.4	25.9	1.0	39.0
3										190.5	25.9	1.0	40.0
4										189.9	26.0	1.0	40.0
5										187.4	19.0	1.0	41.0
6										166.6	12.1	1.0	40.0
7										167.6	3.5	1.5	40.0
8										194.2	.0	1.6	41.0
9										170.8	.0	1.8	41.0
10										164.9	.0	2.0	41.0
11										216.6	.0	2.0	42.0
12										172.5	.0	2.0	42.0
13										143.5	.0	2.2	42.0
14										151.0	.0	2.2	42.0
15	21							57		176.8	.0	2.3	43.0
16	22							64		164.7	.0	2.3	43.0
17	29							79		152.1	.0	2.3	43.0
18	14							69		152.0	.0	2.3	43.0
19	34							50		176.3	.0	2.0	43.0
20	22							72		197.1	.0	2.0	43.0
21	39							69		196.2	.0	2.0	43.0
22	10			1				39		210.4	.0	2.0	43.0
23	63			2				56		211.8	.0	2.1	43.0
24	43			1				60		191.4	.0	2.1	43.0
25	142				1			55		214.5	.0	2.1	43.0
26	120							32		233.7	.0	2.0	44.0
27	143			1				36		178.9	.0	2.0	44.0
28	160			1				50		189.8	.0	2.0	44.0
29	240							24		177.4	.0	2.0	44.0
30	294							71		167.9	.0	2.0	44.0
31	633			1				94		157.4	.0	2.4	44.0
TOTALS	2029			7	1			977					
AVERAGES	119			1	1			57		183.0	4.5		

TABLE 5

TABLE 6

TABLE 6

MONTHLY FISH PASSAGE SUMMARY REPORT — BONNEVILLE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — APR 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1	1403			1				119		175.3	.0	2.4	46.0
2	909			2				97		210.2	.0	2.4	46.0
3	1202			3				99		168.9	.0	3.2	46.0
4	878			2				82		203.2	15.7	3.2	46.0
5	691			1				78		189.0	30.2	3.2	46.0
6	728			1				89		193.5	24.9	3.1	46.0
7	1433							102		176.6	29.4	3.1	47.0
8	1229			1				97		163.5	37.6	3.1	48.0
9	1139			9				125		178.5	15.7	3.0	48.0
10	2023			14				119		196.5	.0	3.0	48.0
11	2513			10				120		234.5	.0	2.8	49.0
12	1579			9				114		247.8	.0	2.0	49.0
13	2091			14				100		209.6	.0	2.2	50.0
14	2437			14			1	105		206.4	.0	2.0	50.0
15	2645			15				71		211.8	.0	2.0	51.0
16	2007			23				125		239.0	.0	2.0	51.0
17	1786			22				150		243.9	.0	2.2	52.0
18	1593			22				90		274.4	.0	2.0	52.0
19	1884			26				115		277.2	.8	1.8	51.0
20	1482			49			1	120		262.7	87.4	1.5	51.0
21	1125			20				105		277.0	103.2	1.5	51.0
22	1676			32				81		255.1	92.2	1.5	51.0
23	2246			48				86		196.8	55.3	1.5	52.0
24	2121			57				67		201.8	53.8	1.5	51.0
25	1828			71				73		257.7	99.3	1.5	52.0
26	1701			51			1	85		248.6	82.9	1.5	51.0
27	2247			112				88		208.8	39.9	2.0	50.0
28	2993			109				78		186.4	43.3	2.0	52.0
29	1637			151				82		239.2	82.1	2.1	51.0
30	1882			148				94		228.9	87.3	2.2	52.0
TOTALS	51108			1037			3	2956					
AVERAGES	1704			36			1	99		218.8	32.7		

TABLE 7

MONTHLY FISH PASSAGE SUMMARY REPORT — BONNEVILLE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — MAY 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1	2511			198				85		246.0	87.9	2.4	52.0
2	2333			176				133		240.7	97.3	2.4	53.0
3	2171			209				92		246.2	93.1	2.4	52.0
4	2030			227				106		233.3	82.4	2.5	53.0
5	1544			235				117		215.7	80.7	2.5	52.0
6	1270			281				99		282.8	104.8	3.0	53.0
7	1482			346				119		281.2	103.8	3.0	52.0
8	1680			390				90		266.5	91.6	3.0	53.0
9	1573			353				91		230.0	76.3	3.0	53.0
10	1061			322				87	3	244.9	88.2	3.0	53.0
11	876			241				56		262.6	96.4	2.5	53.0
12	723			296				102	1	255.5	98.4	2.8	53.0
13	848			337				83	1	252.6	88.0	3.0	54.0
14	759			382			1	107		260.9	88.5	3.0	54.0
15	770			345				90		244.0	88.9	3.0	55.0
16	878			357				118	6	218.4	79.9	3.3	55.0
17	708			339				128	10	232.2	82.1	3.3	55.0
18	737			283				148	15	221.1	77.8	3.0	57.0
19	686			253				154	51	231.9	82.7	2.6	57.0
20	672			220				162	196	251.7	84.3	2.4	58.0
21	640			148				157	140	235.0	82.0	2.4	58.0
22	439			133				129	291	255.2	88.0	2.4	58.0
23	499			106			6	129	644	240.0	82.2	2.8	56.0
24	500			71				154	12551	255.1	87.5	2.9	58.0
25	461			84				169	4380	242.3	88.3	2.9	59.0
26	468			84			1	175	4620	251.8	94.8	2.5	60.0
27	334			54				178	13512	233.8	87.6	2.5	60.0
28	428			92			1	223	20345	246.4	90.1	2.5	60.0
29	351			57			3	164	13246	257.7	97.3	2.8	60.0
30	398			71			1	193	13514	254.2	94.3	2.5	60.0
31	415			45				159	18244	239.2	81.1	2.8	61.0
TOTALS	30045			6735			13	3997	101770				
AVERAGES	969			217			2	129	5356	246.1	88.6		

TABLE 7

TABLE 8

TABLE 8

MONTHLY FISH PASSAGE SUMMARY REPORT — BONNEVILLE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — JUN 1985

	FISH COUNTS								RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO							
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1		417		42			8	186	28980	238.8	78.8	2.6	60.0
2		420		49			3	229	26895	247.5	80.1	2.8	60.0
3		419		31			13	254	52324	258.0	90.9	2.8	60.0
4		413		69			33	221	57200	244.7	90.6	2.8	61.0
5		356		45			31	234	47393	197.0	62.5	2.8	61.0
6		319		57			53	211	22913	202.3	58.3	2.2	61.0
7		259		62			84	202	19147	234.1	77.5	2.2	60.0
8		324		70			119	228	7243	225.4	82.1	2.9	60.0
9		223		39			45	182	2221	227.5	84.0	1.0	61.0
10		396		67			222	235	61380	240.1	80.3	1.5	61.0
11		371		38			291	238	63261	249.1	89.7	3.0	62.0
12		340		56			466	273	61033	219.9	69.5	3.3	62.0
13		391		77			1275	306	35599	203.1	74.4	3.8	63.0
14		458		79			1628	362	41815	195.0	64.8	3.8	64.0
15		554		172			3230	381	29345	192.4	60.0	4.0	64.0
16		770		158			4510	387	30236	194.2	56.2	4.5	64.0
17		743		126			4256	404	21256	192.0	67.9	4.5	65.0
18		514		86			5254	443	23826	190.6	58.1	5.0	65.0
19		619		66			8231	874	29657	220.0	58.3	5.0	65.0
20		800		126			9582	640	25514	185.3	46.3	5.0	65.0
21		848		154			11439	617	15194	206.4	58.0	0.5	65.0
22		574		100			13324	777	22222	182.0	44.6	3.3	65.0
23		548		85			11136	797	22318	161.7	27.3	3.3	65.0
24		498		86			6447	542	16861	173.5	21.9	4.5	65.0
25		459		69			5685	521	13221	154.6	25.1	5.2	65.0
26		518		153	2		5042	697	11775	160.9	30.7	5.0	66.0
27		345		58			2962	545	9697	153.4	21.9	5.0	66.0
28		369		83			3522	672	6429	139.7	11.4	5.0	66.0
29		308		68	5		6425	885	8807	135.4	3.1	5.0	66.0
30		299		98			6903	889	5556	134.5	0.0	4.6	66.0
TOTALS		14254		2509	7		112054	13036	816288				
AVERAGES		475		84	3		3735	435	27210				

TABLE 9

MONTHLY FISH PASSAGE SUMMARY REPORT — BONNEVILLE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — JUL 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO							
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1		258		66			6610	912	5184	132.9	.0	4.6	66.0
2		465		101			7437	1084	8470	164.0	31.6	5.0	67.0
3		499		78			5358	1139	8158	179.7	41.7	5.0	67.0
4		509		94			4458	1543	8278	141.8	8.8	5.0	67.0
5		464		96			4611	1771	4148	130.5	.0	5.0	67.0
6		435		111			3252	1865	3907	129.3	.0	5.0	67.0
7		338		75			2716	2116	3010	128.5	.0	5.0	68.0
8		335		100		1	3159	2232	2652	117.9	.0	5.0	68.0
9		312		101			2664	2796	2072	120.7	.0	5.0	69.0
10		270		110			2084	1987	1037	124.6	.0	5.0	69.0
11		312		89	5	2	1709	2342	1030	120.8	.0	5.0	69.0
12		341		109			1502	2787	861	128.8	.0	4.7	68.0
13		256		69			1280	3038	782	114.5	.3	4.7	70.0
14		249		63			1220	2628	665	100.8	.0	4.7	70.0
15		285		77			969	3158	599	97.7	.0	5.0	70.0
16		389		131			792	3371	546	94.9	.0	5.0	70.0
17		243		151	2		717	2972	497	108.9	.0	5.0	70.0
18		282		141		1	453	3344	478	127.0	.0	4.9	70.0
19		244		122	6	1	255	3703	453	127.5	.0	4.9	72.0
20		233		104	2	1	457	3063	361	127.4	.0	5.3	72.0
21		338		161	3	1	407	4135	437	103.2	.0	5.5	73.0
22		272		118	3		285	4107	255	104.4	.0	5.0	72.0
23		377		133	3	1	299	5827	193	101.1	.0	5.0	72.0
24		331		110	2		237	5486	188	98.2	.0	5.2	72.0
25		327		103	4	1	209	5157	264	111.9	.0	5.2	72.0
26		204		69	2	2	88	3427	157	88.7	.0	5.2	72.0
27		288		99	7	2	148	4523	130	84.0	.0	6.0	72.0
28		327		84	9	4	98	4932	91	79.4	.0	5.2	72.0
29		297		121	11	6	74	6525	151	93.4	.0	5.8	72.0
30		274		74	7	1	60	5776	95	80.4	.0	5.8	72.0
31		162		65	1	1	34	4410	86	82.3	.0	6.0	72.0
TOTALS		9962		3125	67	25	53842	102256	55233				
AVERAGES		322		101	4	2	1737	3299	1782	114.4	2.7		

TABLE 9

TABLE 10

TABLE 10

MONTHLY FISH PASSAGE SUMMARY REPORT — BONNEVILLE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — AUG 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1			116	47	6	2	27	3087	140	102.6	.0	5.6	72.0
2			124	53	3	1	47	2509	66	112.0	.0	5.6	72.0
3			253	99	2	5	62	3459	85	113.4	.0	5.6	72.0
4			476	171	18	8	46	6929	57	105.9	.0	5.6	72.0
5			421	129	10	6	25	5999	32	104.3	.0	5.6	72.0
6			633	200	27	12	46	8499	53	106.1	.0	5.6	72.0
7			284	102	10	2	32	6351	66	112.0	.0	5.6	72.0
8			495	173	2	2	36	7723	50	98.9	.0	5.6	72.0
9			239	74	3	2	9	5779	46	92.4	.0	5.6	72.0
10			287	97	2	1	15	4407	31	95.8	.0	5.6	71.0
11			329	98	2	3	14	4186	24	96.6	.0	5.6	71.0
12			417	127	6	2	8	4258	57	94.6	.0	5.5	71.0
13			451	120	1		5	5956	104	99.1	.0	5.5	71.0
14			475	175	2		9	4299	122	110.6	.0	5.5	71.0
15			425	159			5	3620	72	111.5	.0	5.5	72.0
16			520	145			3	4029	45	104.0	.0	5.5	72.0
17			581	328	3	5	4	3829	48	95.3	.0	5.5	72.0
18			794	441	10	6	3	4670	31	85.0	.0	5.7	72.0
19			450	410	16	12	10	4139	24	101.1	.0	5.7	72.0
20			411	383	17	7	5	4098	35	102.4	.0	5.7	71.0
21			492	538	14	5	1	4381	31	94.6	.0	5.7	70.0
22			705	651	40	14	1	4827	35	100.4	.0	5.7	66.0
23			2007	1203	129	28		6691	34	97.4	.0	5.7	69.0
24			3443	1502	217	34	1	7492	28	86.7	.0	5.0	69.0
25			3623	1681	310	42		7284	11	80.8	.0	5.8	69.0
26			4516	2071	383	102	1	6387	12	93.5	.0	5.5	69.0
27			3921	2264	334	156	4	5461	20	100.4	.0	5.5	70.0
28			3141	2050	249	185	2	3913	20	106.3	.0	5.5	50.0
29			2930	1598	217	166		2958	17	95.7	.0	5.8	70.0
30			3594	1836	226	171	1	2639	7	85.9	.0	5.5	69.0
31			6414	3007	540	199		2596	7	91.2	.0	5.8	65.0
TOTALS			42967	21932	2799	1178	422	152455	1410				
AVERAGES			1386	707	97	44	16	4918	45	99.2	.0		

TABLE 11

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

SEP 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1			6676	3580	996	305		3361	5	90.2	.0	5.8	69.0
2			6007	3355	1172	345	1	4330	10	90.2	.0	5.8	69.0
3			4823	4329	1363	524		4206	11	93.5	.0	5.8	68.0
4			9723	6348	2123	545	2	4931	6	92.7	.0	5.8	68.0
5			9967	6796	2449	690		4887	10	99.1	.0	6.5	67.0
6			8903	6441	2253	1048		3722	18	126.0	.0	4.8	66.0
7			5327	4180	1729	841		2581	26	104.5	.0	6.3	66.0
8			6662	3703	1361	589		2522	14	90.5	.0	6.5	66.0
9			7143	4445	1259	682		2392	9	111.1	.0	6.5	66.0
10			7815	5920	1149	740		2945	7	115.8	.0	6.5	66.0
11			7070	5898	1713	801		2934	7	102.2	.0	6.5	66.0
12			5974	5931	1461	670		2939	2	115.0	.0	6.5	66.0
13			6753	6401	1109	586		2902	9	112.5	.0	6.5	66.0
14			5833	6348	1001	462		2973	7	97.9	.0	6.5	66.0
15			6593	6236	1335	480		2839	9	99.8	.0	6.0	66.0
16			5166	6130	1696	471		2392	4	98.0	.0	6.0	66.0
17			5110	5439	1896	832		2197	2	113.7	.0	6.0	66.0
18			2391	3474	1191	586		1348	3	122.5	.0	6.0	66.0
19			1398	2383	857	366		962	2	120.0	.0	6.0	65.0
20			1051	1942	654	326		622	7	116.7	.0	6.0	65.0
21			895	2395	607	328	1	537	4	102.4	.0	6.0	65.0
22			872	2545	404	333		475	5	99.4	.0	6.0	64.0
23			1078	2485	302	193		582	3	119.6	.0	6.0	64.0
24			1160	2546	364	245		513	7	126.5	.0	6.0	64.0
25			1325	2634	331	260		693	5	134.3	.0	6.0	64.0
26			1636	2292	284	233		652	5	131.5	.0	6.0	64.0
27			2140	2597	436	339		753	1	134.6	.0	6.0	64.0
28			1947	1861	309	272		586	5	104.6	.0	5.5	64.0
29			1204	1659	251	200		526	2	100.3	.0	5.5	63.0
30			726	1159	220	172		369	1	115.1	.0	5.5	62.0
TOTALS			133568	121452	32265	14484	4	63575	206				
AVERAGES			4452	4048	1075	483	1	2119	7	109.3	.0		

TABLE 11

TABLE 12

MONTHLY FISH PASSAGE SUMMARY REPORT — BONNEVILLE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — OCT 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1			747	1292	193	156		282	3	130.2	.0	6.5	62.0
2			1013	1010	169	135		368	4	141.8	.0	6.0	62.0
3			1044	1103	199	170		373	3	127.2	.0	6.5	62.0
4			1070	753	136	76		323	8	143.1	.0	5.0	62.0
5			646	687	132	86		254	1	122.7	.0	5.0	62.0
6			700	546	154	97		249	2	107.3	.0	5.4	62.0
7			570	462	123	74		194	1	143.9	.0	5.4	62.0
8			450	350	91	48		162		141.5	.0	5.4	61.0
9			576	376	97	39		155		138.2	.0	5.4	60.0
10			505	309	98	67		131		145.9	.0	5.4	60.0
11			432	291	134	63		123	1	136.9	.0	5.4	60.0
12			380	271	145	62	1	91	1	132.7	.0	5.0	60.0
13			320	254	110	72		80	1	106.2	.0	5.5	60.0
14			281	230	172	64		111	2	114.2	.0	5.5	59.0
15			430	252	116	54		55		123.1	.0	5.5	59.0
16			448	242	80	58		86	1	127.2	.0	5.2	60.0
17			267	148	52	48		62		131.2	.0	5.2	59.0
18			218	163	84	33		55		141.8	.0	5.2	59.0
19			227	181	104	39		81	1	130.7	.0	5.2	59.0
20			168	110	93	61		75	1	114.9	.0	6.2	58.0
21			174	106	67	55		88	2	122.8	.0	6.2	58.0
22			115	104	64	48		64		124.8	.0	6.2	57.0
23			132	120	95	51		62		134.1	.0	6.2	57.0
24			147	103	113	142		72	1	135.4	.0	5.0	57.0
25			219	166	88	132		100		139.5	.0	5.0	57.0
26			163	113	74	116		80		139.3	.0	5.0	57.0
27			107	130	85	118		75	1	126.4	.0	5.0	56.0
28			169	130	86	104	1	74	1	121.4	.0	5.0	56.0
29			64	79	64	66		63	2	132.9	.0	5.8	56.0
30			93	46	29	42		55	2	126.7	.0	5.9	56.0
31			33	67	26	21		45		159.0	.0	6.0	55.0
TOTALS			11908	10191	3273	2397	2	4086	39				
AVERAGES			384	329	106	77	1	132	2	131.1	.0		

TABLE 13

MONTHLY FISH PASSAGE SUMMARY REPORT — BONNEVILLE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — NOV 1985

	FISH COUNTS								RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO						
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1			50	60	24	17		54	1	161.0	.0	5.6	55.0
2			36	38	14	14		37		129.2	.0	5.0	55.0
3			42	41	11	23		37	1	122.8	.0	5.2	55.0
4			21	29	8	5		19		119.4	.0	5.5	55.0
5			26	40	1	17		30		143.0	.0	5.5	55.0
6			42	23	13	17		35	2	151.3	.0	5.0	55.0
7			32	34	10	19		21		165.8	.0	5.0	54.0
8			31	28	7	25		14		168.4	.0	4.6	54.0
9			43	29	5	15		22	1	160.6	.0	4.6	53.0
10			17	33	14	8		29		175.7	.0	4.6	53.0
11			11	17	1	8		21		185.6	.0	4.6	52.0
12			11	1	6	3		18		192.5	.0	4.0	52.0
13			23	11	2	4		9		180.5	.0	5.0	50.0
14			17	6	6	9		22		180.0	.0	5.0	50.0
15			25	10	4	5		12		191.9	.0	5.0	49.0
16			26	10	5	12		42		101.9	.0	4.2	49.0
17			2	11	2	10		22		100.8	.0	4.2	49.0
18			25			8		32		142.7	.0	4.5	49.0
19			25	13		1		19		142.0	.0	4.0	48.0
20*			12	3	2	4		14		198.8	.0	4.0	48.0
21*			8		2			23		207.4	.0	5.0	46.0
22**										174.3	.0	5.0	46.0
23			6	7	1			17		192.9	.0	4.2	45.0
24			3	1		-2		14		204.9	.0	4.2	44.0
25			6	2		-2		20		209.5	.0	4.2	42.0
26			11	1		1		19		163.2	.0	4.2	42.0
27			8	7				28		165.8	.0	4.2	42.0
28			7	1				10		148.9	.0	4.2	42.0
29			2			2		8		184.3	.0	4.2	41.0
30*								-1		164.0	.0	5.6	39.0
TOTALS			568	456	138	223		647	5				
AVERAGES			20	18	7	9		22	1	164.3	.0		

* Reduced hours of counting because of inclement weather.
** No counting because of inclement weather.

TABLE 14

WATER TEMPERATURE AND STREAM FLOW DATA
BONNEVILLE - 1985

DECEMBER			
DATE	DISCHARGE	TURBIDITY	WATER TEMP.
1	184.4	5.1	39.0
2	208.1	5.0	38.0
3	191.2	5.9	37.0
4	170.6	5.9	37.0
5	186.1	5.9	38.0
6	169.2	6.5	38.0
7	168.6	6.8	38.0
8	179.5	7.0	38.0
9	202.4	7.0	38.0
10	207.7	7.0	38.0
11	212.9	7.0	38.0
12	205.7	7.0	37.0
13	224.7	7.0	37.0
14	193.0	7.0	37.0
15	149.6	7.6	38.0
16	203.9	7.6	38.0
17	204.7	6.5	38.0
18	189.8	6.0	37.0
19	165.5	6.0	37.0
20	170.8	6.5	37.0
21	180.4	6.5	37.0
22	165.1	6.0	37.0
23	142.6	6.0	36.0
24	127.9	6.0	36.0
25	149.4	6.0	36.0
26	138.0	6.5	36.0
27	139.8	6.5	36.0
28	144.7	7.0	35.0
29	129.7	6.5	36.0
30	138.3	6.5	36.0
31	134.2	6.5	36.0
AVERAGE	173.6		

TABLE 15

MONTHLY COUNT OF CHINOOK SALMON
BONNEVILLE DAM - 1938-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	SPRING *MAR 15-MAY 31	SUMMER JUN 1-JUL 31	FALL AUG 1-NOV 30*
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 15 (Continued)

MONTHLY COUNT OF CHINOOK SALMON
BONNEVILLE DAM - 1938-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	SPRING *MAR 15 MAY 31	SUMMER JUN 1- JUL 31	FALL AUG 1- NOV 30*
1968			1,342	69,420	28,425	46,793	36,126	27,779	126,994	4,010	265		341,154	99,187	82,919	159,048
1969			1,910	65,371	106,281	59,177	42,976	38,456	187,502	5,511	359		507,543	173,562	102,153	231,828
1970			2,020	78,605	30,351	35,091	29,811	44,559	159,710	4,364	269		384,780	110,976	64,902	208,902
1971			683	60,849	63,985	37,757	40,154	26,749	166,346	8,820	359		405,702	125,517	77,911	202,274
1972			426	154,443	31,271	36,758	34,072	23,577	109,820	3,939	150		394,456	186,140	70,830	137,486
1973			1,585	128,495	12,068	24,164	21,196	31,513	170,895	8,457	262		398,635	142,148	45,360	211,127
1974			434	57,516	76,585	13,424	32,472	15,554	156,543	13,923	308		366,759	134,535	45,896	186,328
1975			162	48,295	55,647	16,989	27,362	37,907	234,145	4,847	212		425,566	104,104	44,351	277,111
1976			587	58,978	53,883	39,130	29,883	48,776	262,615	13,395	526		507,773	113,448	69,013	325,312
1977			3,569	98,710	17,229	21,790	19,233	21,992	171,303	11,805	1,026		366,657	119,508	41,023	206,126
1978			4,291	100,712	44,860	27,125	17,198	23,513	165,411	11,104	386		394,600	149,863	44,323	200,414
1979			790	29,751	20,921	15,924	18,293	41,273	142,241	6,865	248		276,306	51,462	34,217	190,627
1980			535	30,732	29,720	15,384	15,681	26,106	118,669	8,404	287		245,518	60,987	31,065	153,466
1981			1,853	41,917	21,239	13,262	13,667	32,519	154,696	6,288	209		285,650	65,009	26,929	193,712
1982			312	30,282	45,450	15,439	11,175	34,058	174,348	11,487	258		322,809	76,044	26,614	220,151
1983			144	25,423	31,154	12,793	10,665	26,147	116,879	20,458	683		244,346	56,721	23,458	164,167
1984			351	27,185	23,509	13,060	15,447	41,909	180,867	21,673	424		324,425	51,045	28,507	244,873
1985			2,036	52,145	36,780	16,763	13,107	64,899	255,020	22,099	1,024		463,873	90,961	29,870	343,042
TOTAL	40	45	42,593	2,447,982	1,940,985	1,533,914	1,192,124	1,628,995	7,920,982	291,210	16,055	545	17,015,470	4,431,645	2,726,038	9,857,787
48-YEAR AVERAGE			887	51,000	40,437	31,957	24,834	33,937	165,020	6,065	334		354,489	92,326	56,792	205,370

TABLE 15 (continued)

TABLE 16

MONTHLY COUNT OF SOCKEYE SALMON
BONNEVILLE DAM - 1938-1985

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

TABLE 16 (Continued)

MONTHLY COUNT OF SOCKEYE SALMON
BONNEVILLE DAM - 1938 - 1985

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
1983						52,134	48,004	400	5	2			100,545
1984					6	106,892	45,141	494	7	1			152,541
1985				3	13	112,054	53,842	422	4	2			166,340
TOTAL			76	541	7,878	1,622,583	2,684,214	40,374	2,529	135	32		4,358,363
48-Year Average					164	33,804	55,921	841	53	3			90,799

TABLE 16 (Continued)

TABLE 17

MONTHLY COUNT OF COHO SALMON
BONNEVILLE DAM - 1938-1985

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 17 (Continued)

MONTHLY COUNT OF COHO SALMON
BONNEVILLE DAM - 1938-1985

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	28,760
1974							539	8,805	40,761	8,631	2,219		60,955	29,350
1975							56	5,373	39,167	11,892	1,819		58,307	25,535
1976							143	5,970	40,505	5,417	1,115		53,150	16,484
1977							55	1,134	15,163	2,582	474		19,408	10,083
1978				1			2	2,643	38,308	10,531	1,105		52,590	22,312
1979							68	7,324	28,732	7,583	1,621		45,328	15,716
1980							10	781	13,601	3,327	4,333		22,052	9,078
1981							4	3,162	23,962	3,108	274		30,510	8,575
1982							79	3,687	55,743	13,182	1,141		73,832	18,016
1983							44	319	7,237	5,020	2,553		15,173	10,256
1984							41	1,394	20,174	6,229	1,649		29,487	12,728
1985			1			7	92	3,977	46,749	5,670	361		56,857	18,307
TOTAL	21	12	6	1		176	4,295	144,653	1,088,402	140,266	22,040	66	1,399,938	432,799
48-YEAR AVERAGE							90	3,013	22,675	2,922	463		29,164	9,017

TABLE 17 (continued)

TABLE 18

MONTHLY COUNT OF STEELHEAD TROUT
BONNEVILLE DAM - 1938-1985

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- NOV 30
1938					6,622	2,382	19,455	29,231	46,618	2,264	339	92	107,003	6,622	42,684	57,697
1939	23	19	570	8,110	1,587	1,490	36,681	38,062	33,891	1,264	216	119	122,032	10,309	69,787	41,936
1940	5	96	1,688	4,125	998	4,489	61,188	46,071	64,377	1,786	292	59	185,174	6,912	99,812	78,450
1941	37	76	1,641	6,392	1,518	996	21,940	29,600	50,542	3,980	1,063	304	118,089	9,664	48,445	59,980
1942	4	37	256	3,642	4,159	1,588	19,905	41,973	77,076	2,412	566	182	151,800	8,098	57,121	86,581
1943	14	18	654	3,374	4,698	1,564	7,755	29,894	41,051	2,444	573	94	92,133	8,758	32,461	50,914
1944	50	157	1,019	6,142	2,224	1,169	21,868	24,508	35,907	6,129	1,119	226	100,518	9,592	41,993	48,933
1945	1,003	1,078	3,008	4,685	1,557	1,109	24,537	40,593	40,194	1,925	302	142	120,133	11,331	61,354	47,448
1946	64	551	3,040	9,839	5,482	3,265	20,600	58,466	38,399	2,070	262	769	142,807	18,976	74,446	49,385
1947	197	321	1,968	6,889	2,025	1,595	28,134	40,819	50,025	2,905	443	123	135,444	11,400	63,635	60,409
1948	154	119	1,631	4,473	1,170	1,895	33,191	53,621	40,609	1,742	381	76	139,062	7,547	79,906	51,609
1949	1		1,689	3,293	1,712	1,264	34,314	54,281	20,786	1,161	686	98	119,285	6,695	84,067	28,523
1950	13	8	1,156	4,537	1,667	691	25,142	53,904	24,226	1,932	811		114,087	7,381	72,810	33,896
1951			375	2,338	1,568	5,187	74,980	39,712	15,357	947	225		140,689	4,281	116,819	19,589
1952			278	1,248	1,751	8,202	118,110	79,735	48,293	2,735	638		260,990	3,277	186,735	70,978
1953			1,310	5,308	1,456	5,313	106,712	64,006	36,107	2,797	905		223,914	8,074	165,061	50,779
1954		6	679	5,511	1,571	6,115	59,443	65,234	34,941	2,209	551		176,260	7,767	118,318	50,175
1955			1,006	2,100	1,149	2,418	79,124	84,746	24,239	3,361	268		198,411	4,255	157,359	36,797
1956			1,409	2,718	1,582	3,122	48,306	47,148	23,343	2,846	635	7	131,116	5,709	93,983	31,424
1957			926	2,081	760	8,434	66,738	34,915	24,029	1,069	231		139,183	3,767	101,412	34,004
1958			495	651	1,457	5,645	53,734	22,827	44,478	1,859	291		131,437	2,603	76,930	51,904
1959			219	746	1,236	2,562	60,549	38,417	23,579	1,540	178		129,026	2,201	95,997	30,828
1960			412	904	1,090	4,314	44,026	33,571	28,058	1,090	211		113,676	2,406	74,735	36,535
1961			374	1,161	692	2,246	44,379	41,237	47,409	1,561	660		139,719	2,227	77,042	60,450
1962			381	1,957	1,491	3,737	49,789	40,177	64,084	1,798	611		164,025	3,829	83,161	77,035
1963			503	1,035	1,385	4,192	51,951	31,441	35,446	2,920	545		129,418	2,923	80,935	45,560
1964			490	1,609	769	1,940	50,640	26,892	32,406	1,954	552		117,252	2,868	73,267	41,117
1965			211	1,516	1,419	4,265	89,405	29,506	37,529	1,971	631		166,453	3,146	117,414	45,893
1966			658	2,682	2,389	13,051	57,975	25,779	37,733	2,657	737		143,661	5,729	91,816	46,116
1967			416	1,182	899	3,062	40,881	36,787	35,472	2,701	472		121,872	2,497	76,297	43,078

TABLE 18 (Continued)

MONTHLY COUNT OF STEELHEAD TROUT
BONNEVILLE DAM - 1938-1985

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		140,782	5,972	98,079	36,731
1970			244	1,267	1,331	4,208	30,866	46,307	27,073	1,909	305		113,510	2,842	75,264	35,404
1971			463	1,377	1,810	4,469	84,877	58,249	38,619	3,739	363		193,966	3,650	137,404	52,912
1972			492	2,562	2,137	3,444	59,933	48,223	65,523	3,432	140		185,886	5,191	102,036	78,659
1973			830	2,534	1,367	5,360	53,820	46,399	43,275	3,918	320		157,823	4,731	95,280	57,812
1974			1,292	4,127	5,547	6,349	57,212	44,266	14,654	3,080	527		137,054	10,966	73,436	52,652
1975			1,080	4,284	4,324	6,058	30,823	28,623	9,106	904	338		85,540	9,688	61,898	13,954
1976			1,285	3,459	3,677	9,130	38,907	44,204	21,084	1,953	478		124,177	8,421	83,949	31,807
1977			1,159	4,121	4,115	11,395	67,554	35,161	66,084	3,298	550		193,437	9,395	104,287	79,755
1978			1,750	3,327	4,587	10,883	25,284	25,637	30,461	2,168	334		104,431	9,664	54,524	40,243
1979			1,333	1,905	1,785	7,585	33,379	39,399	23,592	4,710	291		113,979	5,023	74,449	34,507
1980			1,139	3,378	1,409	7,790	28,448	51,073	32,277	3,233	507		129,254	5,926	79,084	44,244
1981			1,031	3,812	3,887	12,628	56,787	52,435	25,737	2,650	303		159,270	8,730	113,055	37,485
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
1983			458	1,253	1,638	6,017	69,036	86,066	48,920	4,636	415		218,439	3,349	145,504	69,586
1984			579	2,106	4,216	14,454	92,546	93,866	102,877	4,463	453		315,560	6,901	182,464	126,195
1985			977	2,956	3,997	13,036	102,256	152,455	63,575	4,088	647		343,987	7,930	243,793	92,264
TOTAL	1,565	2,486	45,064	149,929	113,457	249,297	2,415,334	2,263,928	1,867,947	122,485	22,595	2,291	7,256,378	312,501	4,498,612	2,445,265
48-YEAR AVERAGE			939	3,124	2,364	5,194	50,319	47,165	38,916	2,552	471		151,174	6,510	93,721	50,943

TABLE 18 (continued)

TABLE 19

MONTHLY COUNT OF SHAD AND PERCENT COUNTED OVER FISH LADDERS
BONNEVILLE DAM - 1938-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	PERCENT BY FISH LADDERS	
														BRAD ISLAND	WASHINGTON 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 19 (CONTINUED)

MONTHLY COUNT OF SHAD AND PERCENT COUNTED OVER FISH LADDERS
BONNEVILLE DAM - 1938-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	PERCENT BY FISH LADDERS BRAD ISLAND	PERCENT BY FISH LADDERS WASHINGTON 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	67.7	32.3
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
1983					78,105	1,224,342	118,975	1,103	112	37			1,422,674	68.2	31.8
1984					553	950,406	320,526	4,097	153	55	1		1,275,791	82.8	17.2
1985					101,770	816,288	55,233	1,410	206	39	5		974,951	70.7	29.3
TOTAL			3	11	379,911	8,960,460	4,944,003	89,947	3,938	541	31		14,378,845		
48-YEAR AVERAGE					7,915	186,676	103,000	1,874	82	11			299,559		

TABLE 19 (continued)

TABLE 20
YEARLY TOTALS OF SALMONID FISH COUNTED OVER THE DALLES DAM
1957-1985

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
1983	156,190	171,055	84,204	3,459	1	-	414,909
1984	203,920	219,123	101,177	3,142	-	1	527,363
1985	370,982	276,025	117,254	4,625	-	5	768,891
TOTAL	6,505,315	3,679,408	1,888,522	369,446	192	69	12,442,952
29-YEAR AVERAGE	224,321	126,876	65,121	12,740			429,067

* Jacks Included

TABLE 21

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER THE DALLES DAM

1985

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	-	36,035	39,173	15,785	10,332	37,806	203,470	27,058	1,323	-	370,982
STEELHEAD	-	-	-	2,405	1,511	5,679	41,534	102,866	107,574	13,337	1,119	-	276,025
SOCKEYE	-	-	-	1	17	75,603	41,107	521	4	-	1	-	117,254
COHO	-	-	-	-	-	-	4	208	3,537	828	48	-	4,625
CHUM	-	-	-	-	-	-	-	-	-	-	-	-	-
PINK	-	-	-	-	-	-	-	-	5	-	-	-	5
TOTAL SALMONID	-	-	-	38,441	40,701	97,067	92,977	141,401	314,590	41,223	2,491	-	768,891
SHAD	-	-	-	3	96,294	1,170,708	121,212	1,609	-74	-190	-15	-	1,389,547

TABLE 21

TABLE 22

TABLE 22
WATER TEMPERATURE AND STREAM FLOW DATA
THE DALLES DAM - 1985

DATE	JANUARY			FEBRUARY			MARCH		
	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.
1	162.4	3.1	38.0	230.1	6.0	36.0	204.0	.7	38.0
2	198.4	2.8	38.0	184.3	5.8	36.0	201.8	1.0	38.0
3	189.4	3.5	38.0	194.7	6.0	36.0	178.6	.8	38.0
4	187.0	3.5	38.0	238.4	6.0	36.0	186.6	.8	39.0
5	176.9	2.8	38.0	252.3	6.0	35.0	169.4	.8	39.0
6	164.3	2.5	38.0	207.3	6.5	35.0	161.1	.8	39.0
7	199.2	2.5	37.0	194.8	6.5	35.0	168.8	.8	39.0
8	199.8	2.5	37.0	207.0	5.5	34.0	185.0	.8	39.0
9	204.6	3.0	36.0	205.9	5.5	34.0	156.2	1.0	40.0
10	204.6	3.0	35.0	184.2	5.5	34.0	168.3	1.5	40.0
11	200.0	4.0	36.0	189.7	5.5	34.0	205.7	1.5	40.0
12	204.7	4.0	36.0	172.5	6.5	34.0	153.3	1.5	40.0
13	202.2	5.0	35.0	207.4	4.5	34.0	138.3	1.5	40.0
14	206.1	4.5	36.0	222.8	3.5	34.0	146.3	1.7	41.0
15	200.4	4.5	36.0	219.9	2.0	34.0	159.9	1.5	41.0
16	199.0	4.5	36.0	205.9	1.1	34.0	153.7	1.3	41.0
17	206.6	4.5	36.0	174.5	1.0	35.0	139.6	1.5	41.0
18	195.8	6.5	36.0	186.5	1.0	35.0	146.4	1.7	41.0
19	222.5	6.5	36.0	209.9	1.0	35.0	161.5	2.0	41.0
20	194.8	5.6	36.0	205.1	.8	36.0	185.4	2.0	41.0
21	197.0	5.6	36.0	210.1	.5	35.0	184.0	2.5	41.0
22	231.7	5.6	36.0	195.1	1.0	34.0	195.8	2.7	42.0
23	210.2	5.5	36.0	188.1	1.0	36.0	198.8	2.1	42.0
24	240.3	5.5	36.0	152.4	1.0	37.0	178.8	2.1	42.0
25	228.5	6.0	37.0	195.8	.8	37.0	193.7	2.2	43.0
26	189.3	5.5	37.0	179.4	1.2	37.0	219.0	2.5	43.0
27	192.4	5.0	36.0	202.7	1.0	38.0	176.2	2.7	43.0
28	204.2	5.0	36.0	208.1	1.0	38.0	171.5	3.0	43.0
29	194.9	6.4	36.0				179.1	2.8	43.0
30	180.7	6.4	36.0				158.4	2.8	43.0
31	197.7	6.2	36.0				133.3	2.8	43.0
AVERAGE	199.5			200.9			172.9		

TABLE 23

MONTHLY FISH PASSAGE SUMMARY REPORT — THE DALLES PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — APR 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1	121			12				25		175.2	.0	3.0	44.0
2	177			1				70		191.8	.0	2.9	43.0
3	260			1				110		158.8	.0	3.2	44.0
4	224			1				97		178.6	.0	2.0	44.0
5	370							171		180.0	.0	2.0	44.0
6	345			1				118		180.6	.0	1.5	45.0
7	715			8				94		156.3	.0	1.5	45.0
8	860			7				100		156.9	.0	1.5	46.0
9	1107			9				106		165.1	.0	1.5	47.0
10	1099			23				122		183.2	.0	2.0	47.0
11	997			4				102		222.7	.0	2.0	47.0
12	595			1				108		215.0	.0	1.5	48.0
13	1553			3				109		200.1	.0	2.0	49.0
14	1213			16				71		193.8	.0	1.5	49.0
15	1537			9				89		198.9	.0	2.0	50.0
16	2166			11				88		223.1	.0	1.5	50.0
17	1603			15				95		228.8	.0	1.5	51.0
18	1340			16				81		274.5	.0	2.0	51.0
19	858			13				82		270.8	.0	1.8	51.0
20	1575			12				69	2	256.0	.0	2.0	51.0
21	1484			33				60		269.7	.0	2.0	51.0
22	1877			23				48		239.6	.0	1.9	51.0
23	1357			29				91		167.8	.0	1.8	51.0
24	1858			18				50		194.8	.0	1.5	51.0
25	598			13				40		254.4	.0	1.5	50.0
26	961			25				44		234.8	.0	2.0	50.0
27	2245			58				37		182.3	16.7	1.6	50.0
28	2889			78				49	1	172.0	17.4	2.0	50.0
29	1917			68			1	42		237.1	16.6	1.9	51.0
30	1582			44				37		221.7	16.7	2.0	50.0
TOTALS	35483			552			1	2405	3				
AVERAGES	1183			19			1	80	1	206.1	2.2		

TABLE 23

TABLE 24

MONTHLY FISH PASSAGE SUMMARY REPORT — THE DALLES PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — MAY 1995

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1	2269			95				36	1	214.0	16.6	1.5	51.0
2	2290			107			1	47	5	235.6	16.7	2.1	51.0
3	1391			103				43	1	238.8	16.9	1.6	52.0
4	2263			147			1	34	7	209.6	16.7	2.0	52.0
5	2493			176				39	4	205.7	16.7	2.1	52.0
6	1201			152				32	1	279.3	16.8	2.2	52.0
7	2293			198				45	6	255.9	16.7	2.6	53.0
8	887			113				42	4	237.6	25.1	2.5	53.0
9	1963			297				33	14	219.7	25.4	2.2	53.0
10	1382			257				40	18	245.1	25.4	2.3	53.0
11	929			277			1	42	6	251.8	24.8	2.2	53.0
12	1502			332				56	4	216.3	25.0	2.5	53.0
13	746			253			1	30	6	261.3	25.1	1.8	53.0
14	751			240				32	31	245.5	25.1	2.0	53.0
15	918			315				47	73	219.9	25.7	2.3	53.0
16	988			406				39	118	213.7	25.4	3.0	54.0
17	947			335				40	143	213.9	25.0	2.5	54.0
18	1175			428				60	205	215.3	25.0	2.5	55.0
19	819			274				45	449	216.3	24.7	2.5	56.0
20	626			236				71	521	225.1	24.9	2.5	56.0
21	558			221			1	62	687	228.9	25.1	2.0	57.0
22	498			238				61	1873	245.0	25.7	4.4	57.0
23	511			178			6	65	1787	219.3	24.9	3.1	58.0
24	479			134				57	3970	258.7	25.7	2.0	57.0
25	527			160			1	45	3726	226.6	25.1	2.5	57.0
26	460			82			1	56	11176	246.7	25.3	1.8	57.0
27	608			132			2	62	11746	219.3	25.3	2.0	57.0
28	339			83			1	51	9141	244.7	25.6	2.4	59.0
29	314			67			1	61	12732	259.3	25.1	2.5	59.0
30	343			82				58	13550	238.2	25.4	2.3	59.0
31	389			96				80	24288	227.1	25.2	2.5	60.0
TOTALS	32959			6214			17	1511	96294				
AVERAGES	1063			200			2	49	3106	232.9	23.3		

TABLE 25

MONTHLY FISH PASSAGE SUMMARY REPORT — THE DALLES PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — JUN 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS												
DATE	SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1	404			68			1	87	21949	235.0	25.6	2.4	60.0
2	413			57			1	66	19000	223.0	25.1	2.5	59.0
3	306			58			5	57	35000	259.5	25.4	2.6	60.0
4		444		71			14	67	46740	228.9	18.0	2.5	60.0
5		477		49			18	93	58106	180.5	.0	2.5	60.0
6		332		66			18	107	55950	190.3	.0	3.0	60.0
7		239		41			19	56	47023	208.0	20.0	3.5	59.0
8		343		53			53	67	25179	194.8	19.0	3.0	60.0
9		271		49			54	54	27724	220.8	20.7	3.5	60.0
10		259		85			71	97	20567	220.0	19.3	3.0	60.0
11		233		61			129	74	43045	224.8	21.1	3.0	61.0
12		435		92			180	115	74149	210.6	21.0	3.0	61.0
13		334		52			279	114	65528	184.6	20.6	3.5	61.0
14		430		70			544	118	61930	170.3	21.1	3.0	61.0
15		302		70			773	112	63802	180.6	20.4	3.0	62.0
16		503		108			1722	205	63783	172.2	21.0	3.0	62.0
17		478		77			2636	199	61121	177.2	18.6	3.0	65.0
18		594		110			3133	178	41619	176.5	16.8	4.0	63.0
19		681		84			4969	226	40375	202.6	18.7	3.2	64.0
20		670		68			6729	257	36909	165.7	18.7	3.0	64.0
21		579		126			7373	226	44414	193.7	19.0	3.4	64.0
22		836		137			9803	357	36536	167.7	16.6	3.0	64.0
23		792		100			7951	290	26728	155.1	14.6	3.3	65.0
24		551		101			6946	276	25113	156.5	14.6	3.4	65.0
25		512		80			5443	287	25392	146.8	14.8	3.0	64.0
26		467		48			3842	336	21138	144.8	14.9	4.0	65.0
27		461		69			3891	335	19118	145.7	15.0	3.2	65.0
28		534		39			2746	389	16107	126.8	15.3	3.0	65.0
29		316		40			2279	369	12303	115.6	13.2	3.2	65.0
30		421		39			3984	465	14421	126.1	12.9	3.2	65.0
TOTALS	1123	12494		2168			75603	5679	1170708				
AVERAGES	374	463		72			2520	189	39024	184.2	17.4		

TABLE 26

MONTHLY FISH PASSAGE SUMMARY REPORT — THE DALLES PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — JUL 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1		370		59			4408	529	16439	138.3	12.6	3.8	65.0
2		299		44			2941	580	11612	152.9	16.9	4.0	66.0
3		291		78			3762	575	12658	171.0	16.6	3.0	66.0
4		457		55			3858	660	11565	131.9	12.2	3.0	67.0
5		331		62			2860	489	13294	127.9	12.2	3.5	67.0
6		419		70			2833	901	9292	123.2	12.2	4.0	66.0
7		736		28			2101	817	10029	122.8	8.6	3.0	66.0
8		331		48			1898	1142	6415	114.1	12.4	3.0	68.0
9		353		50			1874	1241	4525	106.5	10.7	3.0	68.0
10		264		54			1637	1145	2938	120.3	11.4	3.0	68.0
11		342		63			2453	2065	4600	116.5	.0	3.0	67.0
12		327		75			2161	1717	3671	111.0	.0	3.0	68.0
13		299		85			1191	1643	2274	119.5	.0	3.2	69.0
14		272		62			1170	1918	1913	88.3	.0	3.0	69.0
15		270		63			1095	2185	2152	82.4	.0	3.2	70.0
16		247		48			939	2275	1891	71.7	.0	3.2	70.0
17		333		56	2		756	1732	1394	116.1	.0	3.2	70.0
18		225		64			486	1550	1035	131.0	.0	3.3	70.0
19		272		70	1		378	2112	729	124.9	.0	4.0	71.0
20		185		65			328	1417	623	116.3	.0	4.0	72.0
21		222		53			372	1923	647	93.0	.0	4.0	72.0
22		249		80			470	1540	228	87.0	.0	4.0	72.0
23		241		61	1		226	1234	172	97.4	.0	4.0	72.0
24		212		67			182	1631	198	107.5	.0	4.0	72.0
25		269		59			150	2048	101	99.2	.0	3.8	72.0
26		256		62			177	2168	376	86.5	.0	4.0	73.0
27		231		62			115	1714	118	75.6	.0	4.0	73.0
28		136		51			76	757	88	67.6	.0	4.0	73.0
29		99		54			78	539	171	88.3	.0	3.5	73.0
30		141		55			79	477	121	74.0	.0	3.5	73.0
31		183		67			53	810	43	81.8	.0	3.6	73.0
TOTALS		8462		1870	4		41107	41534	121212				
AVERAGES		273		60	1		1326	1340	3910	107.9	4.1		

TABLE 27

MONTHLY FISH PASSAGE SUMMARY REPORT — THE DALLES PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — AUG 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1		141		56			58	934	93	97.9	.0	3.6	72.0
2		120		39			27	763	52	106.7	.0	3.3	73.0
3		176		40	1	1	31	889	140	103.1	.0	3.3	73.0
4			232	51			48	1098	47	84.6	.0	3.3	73.0
5			204	55			51	839	128	112.3	.0	3.5	73.0
6			310	58	1		39	1171	53	105.5	.0	3.0	74.0
7			378	82			39	1110	107	97.7	.0	3.5	73.0
8			272	76			14	820	66	112.2	.0	3.0	74.0
9			369	34			25	1439	105	87.2	.0	3.0	73.0
10			390	142			34	2071	28	84.5	.0	2.8	72.0
11			440	96			22	2300	107	71.8	.0	3.0	71.0
12			326	98	1		24	2340	118	100.6	.0	4.5	70.0
13			422	101	2	1	16	4073	124	85.9	.0	3.0	70.0
14			435	91	2		7	3184	84	104.9	.0	4.5	71.0
15			598	133	4	1	7	3207	91	111.7	.0	2.5	71.0
16			393	132	2	1	7	2388	70	105.7	.0	2.7	71.0
17			374	140	4	1	6	1712	31	91.2	.0	2.5	70.0
18			471	159			9	1892	19	76.0	.0	2.5	71.0
19			395	240			11	2054	12	104.3	.0	2.5	70.0
20			698	381			8	5231	3[illegible]	82.5	.0	2.5	69.0
21			650	373		1	8	6451	-6	100.0	.0	3.5	68.0
22			681	416	1	1	3	12222	20	100.0	.0	3.6	68.0
23			550	438		2	2	9622	31	89.2	.0	3.5	69.0
24			540	469	6	8	2	3434	19	70.3	.0	3.0	69.0
25			1068	837	2	1	1	3183	40	85.2	.0	3.5	70.0
26			2175	1418	1			4145	7	89.5	.0	3.0	70.0
27			1640	1298	3	3	1	2893	4	94.9	.0	4.0	70.0
28			2414	1609	6	15	4	3113	-31	107.1	.0	3.6	69.0
29			2759	2185	18	30	1	8448	1	84.2	.0	3.0	68.0
30			1963	1828	16	28	1	4906	3	80.2	.0	3.6	68.0
31			1576	1514	19	25		4944	13	84.5	.0	3.5	68.0
TOTALS		439	22718	14649	89	119	521	102866	1609				
AVERAGES		146	811	473	5	8	18	3318	52	93.8	.0		

TABLE 27

TABLE 28

MONTHLY FISH PASSAGE SUMMARY REPORT — THE DALLES PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — SEP 198[illegible]

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1			2529	1475	17	24	1	4168	3	93.3	.0	3.2	68.0
2			4382	2769	23	22	2	4283	12	84.2	.0	3.2	68.0
3			4476	3388	58	64	1	5682	-13	88.5	.0	3.0	68.0
4			5421	4185	73	40		10730	16	94.9	.0	3.0	68.0
5			3948	3139	164	78		10861	-9	95.4	.0	3.5	67.0
6			5635	4046	93	47		9079	1	119.1	.0	3.0	67.0
7			4518	4333	230	153		6215	-5	88.6	.0	3.5	67.0
8			4685	4569	110	67		5977	-6	85.9	.0	3.5	67.0
9			2799	3410	83	49		2886	4	95.0	.0	3.5	67.0
10			4228	3764	51	23		2542	18	112.1	.0	3.0	66.0
11			4228	3940	65	29		3122	-2	112.0	.0	4.5	67.0
12			6705	5208	78	30		4316	3	110.6	.0	3.6	67.0
13			5412	5229	94	56		4322	-10	107.4	.0	3.0	66.0
14			5405	4576	83	46		3577	3	84.5	.0	3.5	66.0
15			4397	4412	70	38		2723	-8	87.4	.0	3.2	67.0
16			3927	6114	97	62		2660	3	95.5	.0	3.5	66.0
17			4109	5122	82	53		3182	5	105.6	.0	3.6	66.0
18			4126	5168	120	66		3634	0	101.7	.0	3.0	65.0
19			3032	4889	113	57		3294	-9	168.0	.0	3.0	65.0
20			2167	3428	55	25		2042	-2	127.2	.0	4.5	65.0
21			1334	2679	48	22		1602	-12	96.7	.0	3.0	65.0
22			1130	2017	63	32		1786	-10	90.2	.0	4.5	65.0
23			824	2301	46	19		1542	-3	111.0	.0	4.0	65.0
24			842	2612	56	28		1027	-18	127.2	.0	3.5	64.0
25			512	2048	38	19		950	-3	132.8	.0	3.5	63.0
26			875	1957	47	28		859	-1	124.2	.0	3.5	64.0
27			992	2062	20	9		1057	-7	133.7	.0	4.0	63.0
28			1376	2545	68	38		981	-6	93.8	.0	4.0	63.0
29			1694	2315	56	38		1301	-13	89.1	.0	4.0	63.0
30			1334	1788	53	21		1174	-5	114.4	.0	3.0	63.0
TOTALS			97342	106128	2254	1283	4	137574	-74				
AVERAGES			3245	3538	75	43	1	3586	-2	103.7	.0		

TABLE 29

MONTHLY FISH PASSAGE SUMMARY REPORT — THE DALLES PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — OCT 1985

	FISH COUNTS								RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO						
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1			918	1411	31	7		944	-13	129.6	.0	3.0	63.0
2			1256	1504	26	14		1250	-4	134.1	.0	4.0	65.0
3			1052	1257	40	12		1160	-13	122.7	.0	4.0	62.0
4			1086	1041	26	10		1096	-2	132.4	.0	4.1	64.0
5			1048	1011	91	11		724	-8	108.7	.0	3.5	64.0
6			1074	835	33	6		619		78.2	.0	4.0	63.0
7			505	495	30	8		398	1	146.7	.0	3.5	62.0
8			616	520	23	8		532	-14	145.8	.0	3.8	61.0
9			657	526	30	10		439	-6	133.3	.0	3.0	60.0
10			494	401	16	6		329	-7	147.0	.0	3.0	60.0
11			568	361	22	4		308	-20	128.6	.0	2.5	60.0
12			374	367	21	5		409	-13	129.9	.0	3.0	60.0
13			603	390	39	2		682	-14	90.5	.0	2.5	59.0
14			486	415	38	5		491	-6	103.4	.0	3.0	59.0
15			389	265	26	2		325		123.5	.0	3.0	59.0
16			369	271	24	7		368		123.3	.0	2.7	59.0
17			341	224	24	6		374	-5	127.4	.0	3.6	58.0
18			274	174	16	3		214	-8	133.9	.0	3.7	58.0
19			216	226	18	3		195	-5	110.7	.0	3.2	58.0
20			218	141	11			143		103.3	.0	3.0	58.0
21			143	162	5	1		179	1	116.9	.0	3.8	58.0
22			148	104	13	1		209	-4	125.1	.0	3.0	56.0
23			219	154	19	3		306	-4	124.3	.0	3.0	56.0
24			116	108	40	2		431	-2	128.0	.0	3.8	56.0
25			223	122	16	3		306	2	130.3	0	3.5	56.0
26			279	124	18	4		257	-4	129.7	.0	4.2	56.0
27			207	151	12	4		291	0	114.0	.0	4.0	56.0
28			59	60	5			79	-1	119.2	.0	3.6	57.0
29			49	52	2	1		92	-6	121.3	.0	3.6	56.0
30			49	58	2	2		95	-25	132.6	.0	3.5	53.0
31			49	63	11			92	-13	154.2	.0	4.0	55.0
TOTALS			14085	12973	678	150		13337	-190				
AVERAGES			454	418	22	5		430	-7	124.1	.0		

TABLE 29

TABLE 30

MONTHLY FISH PASSAGE SUMMARY REPORT — THE DALLES PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — NOV 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS												
DATE	SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			108	75	13			203		148.9	.0	2.5	55.0
2			140	65	4	1		97		126.3	.0	3.5	56.0
3			123	39	1			60		101.5	.0	2.6	55.0
4			27	23				78	1	116.7	.0	3.0	55.0
5			56	37	7	1		61	-2	130.2	.0	2.0	54.0
*6			40	26	4			46	1	139.2	.0	3.0	53.0
7			36	19	4	1		32	1	157.2	.0	3.0	54.0
8			30	28	1			52		146.1	.0	3.2	53.0
9			44	30	4			47	-2	155.7	.0	3.0	52.0
10			34	16	2			53	-2	153.6	.0	3.0	52.0
11			28	14				40		177.0	.0	2.7	51.0
12			28	13	2			44	-2	177.2	.0	2.3	51.0
13			32	19				37		191.7	.0	3.5	50.0
14			18	5	1			37	-6	169.7	.0	3.5	50.0
15			23	12				36		182.8	.0	**	49.0
16			28	8				34		90.1	.0	**	48.0
17			14	4	2			24	1	89.4	.0	**	48.0
18			6	2				41		131.2	.0	**	47.0
19			17	12				29		139.8	.0	**	47.0
20			8	1				6	-5	189.4	.0	3.6	47.0
21			1					10		200.3	.0	3.5	47.0
22			1	1				8		150.8	.0	4.0	45.0
23			4					5		193.4	.0	3.0	46.0
24			1	1				4		201.5	.0	3.1	45.0
25			7					14		201.6	.0	4.0	45.0
26			1				1	7		143.9	.0	3.5	42.0
27			10	2				6		159.2	.0	2.0	42.0
28			1	1						144.3	.0	5.2	41.0
29								6		182.0	.0	4.0	41.0
30			4					2		159.4	.0	4.0	40.0
TOTALS			870	453	45	3	1	1119	-15				
AVERAGES			29	19	4	1	1	39	-1	155.0	.0		

* Fish counted in one ladder only, for the rest of the month.
** Turbidity not taken. North ladder out of service.

TABLE 31
WATER TEMPERATURE AND STREAM FLOW DATA
THE DALLES DAM - 1985

DECEMBER		
DISCHARGE	TURBIDITY	WATER TEMP.
161.0	4.0	39.0
204.7	4.0	38.0
184.5	4.8	37.0
164.2	3.5	37.0
183.3	3.5	37.0
163.7	3.5	37.0
158.2	3.5	37.0
169.8	3.5	37.0
191.2	4.5	37.0
190.5	4.8	37.0
197.2	4.5	37.0
214.5	4.0	38.0
218.1	4.0	38.0
159.1	3.5	38.0
148.3	3.5	38.0
211.2	3.5	38.0
177.1	4.0	38.0
181.9	4.0	38.0
156.2	4.0	38.0
167.2	4.5	38.0
169.7	5.0	37.0
153.1	3.2	37.0
129.8	3.6	37.0
133.7	4.0	37.0
140.4	4.5	37.0
119.4	4.5	36.0
149.6	3.0	36.0
133.2	3.0	36.0
115.7	4.8	35.0
132.0	4.8	35.0
128.0	4.8	35.0
AVERAGE 164.7		

TABLE 32

MONTHLY COUNT OF CHINOOK SALMON*
THE DALLES DAM - 1957-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	SPRING JAN 1- JUN 3	SUMMER JUN 4- AUG 3	FALL 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
1983				13,270	22,893	8,766	8,430	12,501	73,942	16,388			156,190	36,856	17,051	102,283	41,335
1984				9,326	23,784	9,992	12,332	23,495	105,786	19,205			203,920	33,848	22,472	147,600	70,798
1985				35,035	39,173	15,785	10,332	37,806	203,470	27,058	1,323		370,982	76,514	25,385	269,083	145,007
TOTAL			1,907	967,982	947,381	697,515	691,942	587,171	2,380,112	228,787	3,518		6,505,315	1,954,953	1,400,136	3,150,226	1,675,242
29-YEAR AVERAGE				33,379	32,668	24,052	23,860	20,247	82,073	7,889			224,321	67,412	48,286	108,628	57,767

* Jacks Included

TABLE 33

MONTHLY COUNT OF SOCKEYE SALMON
THE DALLES - 1957-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1957					125	33,476	54,294	2,081	221	4			90,201
1958					29	28,854	80,324	1,583	248	1			111,039
1959					413	7,176	76,347	2,245	77	1			86,259
1960					2	36,907	22,228	297	7				59,441
1961					66	5,863	10,629	116	15				16,689
1962					55	8,333	18,545	180	14				27,127
1963					199	17,914	38,633	185					56,931
1964					23	9,984	68,205	758	72				79,042
1965					184	11,023	31,622	1,438	12				44,279
1966					65	36,539	109,167	2,106	9				147,886
1967					114	15,713	103,862	892	8				120,589
1968					5	77,878	38,542	462	10				116,897
1969					22	15,165	21,933	102	3	1			37,226
1970					1	18,309	56,903	2,387	75	3			77,678
1971						8,887	66,841	369	6				76,103
1972						9,276	34,924	466	5				44,671
1973					8	19,510	32,674	105	6				52,303
1974					4	3,935	24,790	98					28,827
1975						7,679	35,291	225	2	1			43,198
1976					1	10,988	16,637	121					27,747
1977					5	60,049	26,146	52					86,252
1978					24	7,158	4,559	104					11,845
1979						14,750	17,734	307					32,791
1980						11,096	30,046	927	19				42,088
1981						17,692	17,686	68	1				35,447
1982						11,430	21,742	144	15				33,331
1983					1	34,684	49,302	197	19	1			84,204
1984						62,500	37,926	745	6				101,177
1985				1	17	75,603	41,107	521	4		1		117,254
TOTAL				1	1,363	678,371	1,188,639	19,281	854	12	1		1,888,522
29-YEAR AVERAGE					47	23,392	40,988	665	29				65,121

TABLE 34

MONTHLY COUNT OF COHO SALMON
THE DALLES - 1957 - 1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	JACKS
1957							220	605	5,615	342	11		6,793	
1958								96	2,132	161	6		2,395	
1959								46	2,428	234	1		2.709	
1960								475	2,288	227	10		3,000	
1961							4	5	1,898	232			2,139	
1962							5	258	3,194	239			3,696	
1963							2	361	2,931	422			3,716	
1964								506	4,723	749			5,978	
1965							7	200	13,064	4,197			17,468	
1966							225	3,850	25,476	2,728			32,279	
1967							192	494	27,860	3,469			32,015	20,456
1968							372	3,319	36,568	2,346	82		42,687	13,035
1969							412	970	13,179	2,493			17,054	11,218
1970							96	2,064	19,983	1,076			23,219	11,327
1971							1	1,589	26,066	1,405			29,061	11,174
1972							3	1,090	14,564	905			16,562	10,272
1973								793	9,443	916			11,152	5,256
1974								522	10,715	3,418			14,655	9,054
1975								465	10,356	3,155			13,976	8,534
1976								608	14,609	4,175			19,392	13,083
1977							1	91	8,131	1,798			10,021	6,096
1978								355	13,069	5,453			18,877	13,533
1979								211	7,109	1,367	39		8,726	4,836
1980								287	5,064	975			6,326	2,970
1981								295	6,061	585			6,941	4,405
1982								336	5,792	1,255			7,383	3,047
1983								65	2,343	1,051			3,459	2,256
1984								24	2,521	597			3,142	1,282
1985							4	208	3,537	828	48		4,625	1,555
TOTAL							1,544	20,188	300,719	46,798	197		369,446	153,389
29-YEAR AVERAGE							53	696	10,370	1,614	7		12,740	8,073**

* Total Including Jacks
** 19-Year Average Coho "Jacks"

TABLE 35

MONTHLY COUNT OF STEELHEAD TROUT
THE DALLES DAM - 1957-1985

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
1983				438	324	1,492	37,029	47,521	112,422	75,210	9,041			171,055
1984				846	894	3,715	52,825	36,859	95,139	107,377	16,607			219,123
1985				2,405	1,511	5,679	41,534	102,866	153,995	107,574	13,337	1,119		276,025
TOTAL		25	2,677	22,663	21,680	67,651	931,284	922,602	1,968,582	1,493,656	213,498	3,672		3,679,408
29-YEAR AVERAGE				781	748	2,333	32,113	31,814	67,852	51,505	7,362	127		126,876

* Subtotal through 31 August

TABLE 36

YEARLY TOTALS OF SALMONID FISH COUNTED OVER JOHN DAY DAM
1968 - 1985

YEAR	CHINOOK	STEELHEAD	SOCKEYE	COHO	TOTAL* SALMONID
1968	233,654	121,256	87,847	38,233	480,990
1969	276,051	86,348	39,847	13,589	415,835
1970	222,506	82,440	78,133	19,543	402,622
1971	193,881	115,977	72,232	40,830	422,920
1972	225,631	141,628	51,793	17,533	436,585
1973	249,492	101,440	64,744	13,359	429,035
1974	167,888	43,756	33,121	14,651	259,416
1975	159,079	32,651	50,774	6,305	248,809
1976	175,911	59,808	30,446	5,806	271,971
1977	194,931	102,558	85,701	1,123	384,313
1978	174,852	44,188	13,778	8,355	241,173
1979	118,154	55,877	43,630	5,061	222,722
1980	100,664	78,199	50,675	1,924	231,462
1981	114,359	95,172	46,146	2,562	258,239
1982	144,082	108,603	37,970	4,063	294,718
1983	139,866	154,425	91,917	1,640	387,848
1984	188,373	201,154	107,951	2,080	499,558
1985	337,624	247,093	124,941	1,652	711,310
TOTAL	3,416,998	1,872,573	1,111,646	198,309	6,599,526
18 YEAR AVERAGE	189,833	104,032	61,745	11,017	366,640

*Jacks Included

TABLE 37

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER JOHN DAY DAM
1985

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*	-	-	-	27,539	42,487	15,585	9,663	27,387	178,322	34,192	2,449	-	337,624
STEELHEAD	-	-	-	6,821	1,723	3,583	19,631	64,456	109,488	37,227	4,164	-	247,093
SOCKEYE	-	-	-	-	-	78,326	46,184	421	10	-	-	-	124,941
COHO	-	-	-	-	-	-	-	95	1,140	395	22	-	1,652
CHUM	-	-	-	-	-	-	-	-	-	-	-	-	-
PINK	-	-	-	-	-	-	-	-	-	3	-	-	4
TOTAL SALMONID	-	-	-	34,360	44,210	97,494	75,478	92,359	288,961	71,817	6,635	-	711,314
SHAD	-	-	-	1	27,852	543,304	110,340	681	150	16	-	-	682,344

*Jacks Included

TABLE 38

WATER TEMPERATURE AND STREAM FLOW DATA
JOHN DAY - 1985

DATE	JANUARY			FEBRUARY			MARCH		
	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.
1	162.4	3.0	32.0	235.4	6.5	36.0	208.8	1.2	38.4
2	198.1	3.0	32.0	189.6	3.5	35.0	202.8	.9	37.0
3	189.0	3.0	32.0	196.7	4.0	36.0	175.9	1.4	38.0
4	190.1	3.0	38.0	248.1	4.0	35.0	187.8	1.4	38.0
5	176.1	2.7	38.0	261.4	3.5	35.0	169.7	1.6	39.0
6	163.2	3.0	37.5	212.7	3.5	35.5	156.5	1.5	39.0
7	199.7	2.5	38.0	202.2	2.5	35.5	169.4	3.0	39.0
8	185.7	2.7	38.0	212.2	2.5	34.0	188.2	3.0	37.8
9	204.5	2.7	36.0	208.3	1.5	33.5	148.2	1.7	39.8
10	207.8	2.7	36.0	187.8	2.5	33.3	179.4	2.0	40.0
11	194.3	3.5	35.0	190.4	2.0	32.0	205.2	1.5	40.0
12	197.7	3.5	35.0	172.5	2.6	33.0	154.7	2.0	40.0
13	208.7	3.5	35.0	213.2	2.0	33.0	134.4	1.5	40.0
14	201.0	3.5	35.0	223.7	2.0	33.0	143.4	2.0	40.0
15	198.1	3.5	35.0	227.5	1.5	33.5	158.3	2.0	40.0
16	199.5	3.5	35.0	207.6	1.5	33.5	153.2	1.5	40.0
17	209.7	3.5	35.0	177.6	1.5	34.5	136.6	1.5	40.0
18	197.8	3.5	35.0	186.9	1.0	34.0	143.8	1.5	40.0
19	224.8	6.0	35.0	217.1	1.0	36.0	161.8	3.0	40.0
20	195.6	2.5	35.0	206.2	1.0	35.0	185.0	1.5	40.0
21	198.5	4.0	36.0	213.8	1.0	35.0	184.9	2.5	40.0
22	239.6	6.0	36.0	196.7	1.1	36.0	195.1	2.5	42.0
23	217.5	6.5	36.0	187.5	1.0	36.0	199.8	2.5	42.0
24	250.1	6.5	36.0	151.6	1.5	38.5	174.9	2.0	42.0
25	219.8	4.0	36.0	197.5	1.4	38.6	197.9	1.5	43.0
26	208.6	6.5	36.0	179.0	1.5	38.8	215.5	1.5	42.0
27	197.0	5.0	36.0	205.3	1.0	37.3	177.5	2.0	42.0
28	213.6	6.5	36.0	207.7	1.2	39.0	168.0	1.5	43.0
29	196.3	6.0	36.0				174.9	2.0	39.9
30	184.5	6.0	36.0				160.0	2.6	42.5
31	202.4	6.5	36.0				127.5	2.7	41.0
AVERAGES	194.8			204.1			172.2		

TABLE 39

MONTHLY FISH PASSAGE SUMMARY REPORT — JOHN DAY PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — APR 1985

FISH COUNTS — RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1	17							114		175.9	.0	2.0	42.5
2	43							176		193.1	.0	2.6	42.0
3	135			7				235		159.6	.0	2.5	42.0
4	112			4				453		173.7	.0	1.8	44.0
5	113			1				274		181.4	.0	1.0	43.0
6	42							364		177.0	.0	1.0	44.0
7	118							465		156.5	.0	1.5	43.0
8	266			6				307		152.6	.0	1.5	46.0
9	247			17				341		167.3	.0	1.5	44.0
10	696			5				406		182.6	.0	1.3	46.0
11	501			6				402		220.6	.0	2.2	49.0
12	847			1				506		214.0	.0	1.0	46.0
13	501			2				273	1	199.2	.0	1.5	49.0
14	518			1				352		188.1	.0	1.5	49.0
15	641			2				274		198.3	.0	1.3	51.0
16	1668			2				357		225.3	.0	1.5	51.0
17	810			10				154		233.7	.0	2.3	51.0
18	1188							176		280.6	.0	1.5	51.0
19	1081			4				173		276.7	1.8	1.5	52.0
20	917			3				161		261.6	3.2	1.3	52.0
21	1046			6				129		279.3	3.2	2.1	51.0
22	1965			20				49		238.3	3.2	1.8	50.0
23	1694			28				93		172.5	3.2	1.5	50.0
24	1436			3				127		199.4	3.2	2.0	50.0
25	1816			12				72		258.0	3.2	1.5	50.0
26	594			23				66		240.9	19.1	2.5	50.0
27	1212			16				76		181.6	25.8	2.0	50.0
28	1850			40				59		169.8	23.2	2.5	50.0
29	1794			49				89		245.8	24.5	1.4	50.5
30	3339			54				98		228.8	44.1	3.0	51.0
TOTALS	27207			332				6821	1				
AVERAGES	907			13				227	0	207.7	5.3		

TABLE 39

TABLE 40

MONTHLY FISH PASSAGE SUMMARY REPORT — JOHN DAY PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — MAY 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS												
DATE	SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1	2533			61				88		220.5	44.1	2.5	51.0
2	1457			63				85		250.6	51.5	3.0	51.5
3	1789			58				43		247.7	33.0	2.5	51.0
4	2825			90				39		217.5	51.9	2.3	53.0
5	3095			143				52		208.8	35.8	2.5	52.0
6	3116			180				108		291.8	52.4	2.6	52.0
7	1493			168				44		262.1	55.7	2.5	52.5
8	1384			206				25		243.1	41.9	2.6	52.7
9	1326			162				31		224.1	21.9	3.0	52.0
10	1178			191				46		260.4	20.0	2.0	55.0
11	1987			264				36	1	262.7	25.2	2.4	52.5
12	1310			280				50		223.8	20.1	2.2	54.0
13	1361			276				26		270.5	31.2	2.2	54.0
14	1433			352				59		250.8	33.3	2.2	53.0
15	1181			304				63	1	224.6	21.3	2.8	54.0
16	981			323				46	2	223.5	10.8	2.8	53.0
17	1208			320				32	1	218.8	17.3	2.7	54.0
18	999			321				126	2	226.2	14.6	2.7	54.0
19	1051			370				72	10	221.5	17.4	2.5	54.0
20	798			384				44	21	234.3	15.3	3.0	55.0
21	614			265				76	29	234.3	13.5	3.5	55.0
22	456			219				25	71	245.1	9.0	3.5	55.0
23	460			210				52	263	236.7	6.5	3.0	55.0
24	575			233				54	338	261.0	8.6	1.5	55.0
25	346			154				85	276	235.2	11.4	2.5	55.0
26	261			134				31	1060	254.6	13.9	1.7	55.0
27	712			146				64	2792	224.4	11.8	1.8	55.0
28	452			128				97	3788	254.4	10.5	2.3	55.0
29	323			95				32	2257	261.3	9.3	1.7	55.0
30	511			100				69	4432	242.5	5.6	3.5	58.5
31	129			43				3	12488	235.3	13.7	2.1	58.5
TOTALS	36244			6243				1723	27852				
AVERAGES	1169			201				56	1547	241.2	23.5		

TABLE 41

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

JUN 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS												
DATE	SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1	309			94			1	48	11105	246.0	10.9	3.5	59.0
2	325			63				43	7777	228.3	13.3	2.6	59.8
3	243			56			2	13	17965	263.3	12.7	4.0	59.0
4	453			330			4	58	15098	236.5	12.7	3.7	59.0
5	416			72			5	53	12118	186.1	3.6	4.5	59.0
6		127		28			19	24	22410	193.8	3.2	3.0	59.0
7		327		65			14	55	33411	208.2	3.3	3.0	60.0
8		233		51			20	77	18332	202.0	4.4	4.8	60.0
9		194		40			26	22	18248	215.8	4.2	4.8	60.0
10		181		60			58	44	14817	229.3	3.2	4.0	60.0
11		124		50			62	43	14546	229.6	3.2	4.0	61.0
12		317		89			122	105	27591	209.8	3.2	3.5	60.0
13		391		86			195	155	30586	185.4	3.2	4.0	60.0
14		264		58			259	90	19924	179.7	2.1	4.0	61.5
15		353		99			518	114	16394	177.6	.0	4.5	62.0
16		242		65			705	81	17044	173.1	.0	3.5	62.0
17		431		101			1358	74	18576	178.6	.0	4.0	62.0
18		437		129			2149	122	17479	176.5	.0	4.0	63.5
19		568		153			3466	146	18422	209.0	.0	4.5	64.0
20		653		155			5273	228	17097	185.4	.0	4.0	64.5
21		543		159			6435	167	19732	197.1	.0	4.5	65.0
22		731		151			8782	167	23822	175.6	.0	5.5	65.0
23		636		135			8622	152	22062	152.7	.0	4.0	65.0
24		599		121			9375	168	25702	153.0	.0	4.0	65.0
25		578		127			8677	156	20568	150.8	.0	4.0	65.0
26		452		184			6618	161	18956	144.6	.0	5.0	65.0
27		551		121			5062	238	11236	145.6	.0	4.5	65.0
28		752		131			3917	185	8403	137.0	.0	4.5	65.0
29		602		151			3618	329	14209	112.5	.0	2.5	65.0
30		383		74			2964	243	9572	124.9	.0	4.5	65.0
TOTALS	1748	10639		3198			78326	3583	543304				
AVERAGES	350	426		107			2701	119	18110	186.9	2.8		

TABLE 42

MONTHLY FISH PASSAGE SUMMARY REPORT — JOHN DAY PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — JUL 1985

	FISH COUNTS									RIVER CONDITIONS			
DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1		277		99			3674	247	12495	132.9	.0	3.5	65.0
2		332		100			3854	228	15251	156.8	.0	5.0	65.0
3		238		103			3467	281	12414	172.7	.0	4.5	65.0
4		331		97			4608	477	13797	135.5	.0	5.5	67.0
5		389		140			3978	412	7231	135.3	.0	3.0	67.0
6		355		154			3466	425	11466	124.6	.0	3.3	67.0
7		251		102			2888	448	7194	121.5	.0	3.5	67.0
8		479		166			2254	590	6680	114.3	.0	3.5	67.5
9		370		90			2024	715	5472	108.1	.0	3.5	67.5
10		297		59			1474	653	2227	123.3	.0	4.5	67.5
11		383		71			2022	528	2982	113.0	.0	5.0	68.0
12		284		104			2355	1005	2787	108.7	.0	5.0	67.5
13		158		91			2215	1053	2074	119.0	.0	3.7	69.0
14		394		132			1571	1121	2541	76.7	.0	6.0	69.0
15		238		78			1067	1007	1681	83.2	.0	3.1	70.0
16		269		157			1194	1188	594	71.3	.0	5.5	70.0
17		150		93			684	1008	516	113.2	.0	3.0	70.0
18		192		84			487	594	484	131.3	.0	5.0	72.0
19		96		31			246	362	278	115.3	.0	4.0	72.0
20		73		77			304	739	350	123.0	.0	5.0	74.0
21		483		114			641	1391	416	91.5	.0	5.0	72.0
22		151		41			408	895	197	90.8	.0	3.5	74.0
23		143		47			362	845	102	96.3	.0	3.5	74.5
24		122		76			219	724	110	97.2	.0	3.5	74.5
25		146		58			149	669	178	102.2	.0	3.0	74.5
26		94		41			88	487	48	87.4	.0	3.5	74.5
27		207		35			249	489	166	73.3	.0	4.5	72.8
28		151		34			88	420	66	64.0	.0	4.5	73.0
29		42		11			57	227	83	85.3	.0	4.4	73.0
30		73		46			69	214	109	71.2	.0	4.0	73.0
31		36		27			40	191	51	80.2	.0	2.5	73.0
TOTALS		7105		2558			46184	19631	110340				
AVERAGES		229		83			1490	633	3559	107.1	.0		

TABLE 43

MONTHLY FISH PASSAGE SUMMARY REPORT — JOHN DAY PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — AUG 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1		64		20			40	256	28	94.1	.0	4.0	73.0
2		107		41			24	525	16	106.4	.0	3.2	73.0
3		48		21			19	323	23	101.7	.0	2.5	72.5
4		149		61			26	400	43	84.7	.0	2.4	72.5
5		63		30			42	435	22	106.2	.0	3.0	72.5
6			95	50			22	409	16	97.6	.0	2.5	73.0
7			147	31			11	445	14	94.2	.0	2.4	72.5
8			204	59			9	536	16	109.1	.0	2.1	71.5
9			214	76			23	509	5	94.9	.0	2.5	71.5
10			212	96			34	760	29	79.6	.0	3.5	70.5
11			224	88			33	1005	34	71.7	.0	4.0	70.0
12			126	51			7	915	15	99.0	.0	4.0	70.0
13			769	94			33	1656	45	86.3	.0	4.5	70.0
14			335	126			15	1694	37	79.0	.0	4.5	70.0
15			324	94			12	1656	29	08.0	.0	3.5	70.0
16			757	127			12	1757	17	08.4	.0	4.2	70.0
17			265	90			7	1750	14	86.0	.0	4.5	70.2
18			535	157			[illegible]	1745	22	73.5	.0	4.5	70.2
19			272	142				1488	32	02.3	.0	4.6	70.2
20			484	193			[illegible]	2641	19	83.4	.0	3.0	69.5
21			573	287			11	3806	22	93.0	.0	4.0	69.2
22			488	317			1	3294	24	97.3	.0	3.0	69.2
23			403	263		1	4	4852	24	90.7	.0	4.5	69.0
24			424	255			2	4380	33	68.7	.0	4.5	69.2
25			271	306			7	2644	16	79.7	.0	4.5	69.0
26			872	511			1	4279	25	91.1	.0	4.0	69.2
27			1613	1035	1	8	5	4210	13	92.0	.0	3.0	70.0
28			1776	833	2	4	1	3537	18	110.1	.0	3.5	70.0
29			1895	1196	17	12	2	3224	17	78.7	.0	3.5	69.0
30			2480	1845	11	17	6	4953	11	79.6	.0	3.0	69.0
31			1236	1627	9	13		4373	1	81.5	.0	3.5	68.0
TOTALS		431	16794	10162	40	55	421	64456	681				
AVERAGES		86	646	328	8	9	15	2079	22	91.9	.0		

TABLE 43

TABLE 44

TABLE 44

MONTHLY FISH PASSAGE SUMMARY REPORT — JOHN DAY PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — SEP 1985

	FISH COUNTS								RIVER CONDITIONS			
DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1			1441	1212	11	18	3	4020	29	91.4	.0	3.5	68.0
2			2091	1723	6	13	2	3627	8	83.9	.0	3.3	68.0
3			3045	1999	12	14	1	3737	9	84.0	.0	3.0	68.0
4			2699	2694	15	17	3	4343	8	95.9	.0	3.0	66.0
5			4135	3701	16	18		6581	11	90.2	.0	4.5	68.0
6			3104	2865	19	16	1	6585	10	116.0	.0	4.5	68.0
7			3382	3526	54	47		7444	5	87.6	.0	3.0	67.5
8			3032	4691	24	31		6406	4	82.3	.0	4.5	67.3
9			3421	3190 3090	34	56		4995	12	95.6	.0	5.5	67.3
10			2537	4801	40	58		3592	4	108.2	.0	4.0	67.0
11			2795	3072	19	19		3913	0	113.5	.0	4.5	67.0
12			3292	3896	9	43		3816	3	106.5	.0	4.5	67.0
13			4316	5253	7	12		4148	2	106.3	.0	4.5	67.0
14			7212	6275	13	21		5404	7	80.1	.0	4.2	66.5
15			3310	4527	26	8		4084	4	83.7	.0	4.0	66.0
16			1956	3381	11	10		2386	7	91.4	.0	3.7	66.0
17			3425	7184	22	34		3268	6	104.0	.0	3.7	66.0
18			2608	4833	13	18		3416	1	101.0	.0	4.6	64.8
19			2309	5135 5035	19	14		3477	1	106.7	.0	4.2	65.0
20			2728	5273	29	22		3552		127.8	.0	4.9	64.4
21			2120	3864	26	27		2616	1	96.6	.0	4.0	64.0
22			1097	2788	24	21		2954		86.1	.0	4.5	63.9
23			811	3082	5	8		2898		113.9	.0	4.0	64.0
24			704	1305	7	12		2011		125.4	.0	5.3	63.5
25			690	2131	1	7		1865	0	133.6	.0	5.5	64.0
26			705	1704	1	7		1686	4	127.3	.0	4.5	63.0
27			998	2870	10	7		1698	2	135.3	.0	3.5	63.0
28			866	2685	8	15		1705	8	91.3	.0	5.5	63.0
29			761	2218	11	11		1457		90.1	.0	4.2	63.0
30			1117	1987	20	24		1604	4	112.8	.0	5.5	63.0
TOTALS			72727	105595	512	628	10	109489	156				
AVERAGES			2424	3520	17	21	2	3650	6	102.3	.0		

TABLE 45

MONTHLY FISH PASSAGE SUMMARY REPORT — JOHN DAY PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — OCT 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1			1588	2201	21	27		1276		131.3	.0	4.0	62.3
2			1296	1982	23	24		1708	-1	137.1	.0	4.0	62.0
3			850	1425	15	13		1966		125.1	.0	5.5	62.0
4			906	1555	7	8		2278	4	131.2	.0	4.1	62.0
5			747	1783	3	5		1841	10	105.6	.0	4.0	62.0
6			745	1114	9	5		1735	1	82.3	.0	5.0	62.0
7			687	901	7	7		1525	-2	145.0	.0	3.0	62.0
8			528	1061	6	3		1532	2	148.1	.0	3.0	61.0
9			441	730	4	2		1247	1	134.1	.1	3.0	60.0
10			578	710	8	6		1147		147.1	.0	4.0	60.5
11			390	424	4	2		691	1	130.5	.0	3.0	60.0
12			454	487	8	4		893		131.9	.0	2.8	60.0
13			338	425	13	9		1208		87.3	.0	3.0	59.0
14			249	356	12	10		936		107.8	.0	2.5	59.0
15			497	670	14	10		1409	-1	122.2	.0	3.0	58.0
16			659	512	11	1		1405		122.5	.0	3.0	58.0
17			335	525	16	4		1249		126.5	.0	4.5	58.0
18			236	323	1	3		918		136.5	.0	3.0	58.0
19			257	303	2	5		807		110.7	.0	5.0	58.0
20			289	343	6	4		731		101.5	.0	3.5	57.0
21			234	402	1	3		642		116.3	.0	3.5	57.0
22			352	223	11	4		385		123.8	.0	3.5	57.0
23			178	248	4			855		123.8	.0	3.2	56.0
24			177	204	2	1		797	2	125.7	.0	4.5	56.2
25			269	325	3	2		1765	0	128.3	.0	4.6	56.3
26			187	335	5			1886		126.0	.0	4.7	56.2
27			200	215	7	1		1497	-1	107.6	.0	4.5	53.0
28			281	361	5	2		962		115.9	.0	4.5	55.9
29			114	162		1		693		117.6	.0	4.5	56.0
30			102	219		1		728		133.7	.0	4.8	56.0
31			89	115				547		151.0	.0	5.0	55.0
TOTALS			14253	19939	228	167		37227	16				
AVERAGES			460	643	8	6		1201	1	123.7	.0		

TABLE 46

MONTHLY FISH PASSAGE SUMMARY REPORT — JOHN DAY PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — NOV 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SEECHI)	(DEG F)
1			100	113	2			550		154.1	.0	3.5	54.8
2			116	156	5	3		208		124.0	.0	5.0	55.0
3			174	156	1	2		306		101.0	.0	5.0	55.0
4			92	89		2		30		116.1	.0	3.5	54.3
5			104	100		1		321		131.4	.0	4.5	54.0
6			102	70	1			165		139.5	.0	3.5	53.5
7			71	89	1	2		289		156.4	.0	4.8	54.0
8			53	92				271		146.0	.0	3.7	46.0
9			47	29				495		153.8	.0	4.5	53.0
10			33	12	1			251		157.2	.0	3.1	55.0
11			27	40				320		181.4	.0	4.2	52.0
12			24	39				115		172.9	.0	4.2	51.0
13			37	26				127		196.6	.0	3.3	51.0
14			43	55				117		171.3	.0	4.4	50.0
15			25	30				103		181.0	.0	3.3	50.0
16			18	34		1		65		94.3	.0	3.0	48.0
17			33	26				-11		82.8	.0	3.0	48.0
18			13	37				57		141.0	.0	3.0	47.0
19			16	16				72		144.3	.0	3.0	47.0
20			16	13				124		192.1	.0	3.0	47.0
21			12	5				121		201.8	.0	3.0	46.0
*22			10	6				38		155.6	.0	3.5	47.0
23			7	15				45		198.8	.0	3.0	53.0
24			3	4				-11		208.7	.0	3.0	46.0
25			2	-2				24		203.4	.0	3.0	46.0
26			10	4				24		148.8	.0	3.8	40.0
27			2					-4		160.6	.0	3.8	40.0
28			1	1				-56		149.4	.0	5.5	42.0
29			-1	-2				-2		181.5	.0	5.2	41.0
30			5	2				10		161.1	.0	5.0	41.0
TOTALS			1195	1254	11	11		4164					
AVERAGES			40	42	2	2		139	0	156.9	.0		

* Only four hours of counting because of inclement weather

TABLE 47
WATER TEMPERATURE AND STREAM FLOW DATA
JOHN DAY 1985

DECEMBER			
DATE	DISCHARGE	TURBIDITY	WATER TEMP.
1	165.6	6.5	38.0
2	206.1	6.5	38.0
3	193.0	6.5	38.0
4	168.8	4.5	39.2
5	186.9	6.5	38.3
6	162.9	6.0	37.4
7	164.3	4.5	37.0
8	172.2	5.0	37.0
9	193.4	4.5	37.0
10	192.7	3.5	34.2
11	205.8	4.5	37.0
12	221.2	5.0	36.0
13	230.4	4.5	39.2
14	157.4	5.0	39.0
15	154.8	4.7	39.0
16	204.4	5.0	39.0
17	191.8	5.8	39.2
18	185.4	6.0	38.0
19	161.8	6.0	38.0
20	166.9	7.0	38.0
21	177.2	6.0	38.0
22	154.8	8.0	38.0
23	131.6	6.5	37.4
24	137.0	4.3	37.4
25	142.6	5.0	37.0
26	120.1	3.6	36.0
27	153.9	4.0	36.0
28	132.0	4.0	35.0
29	121.1	4.0	35.0
30	133.4	6.5	35.0
31	130.6	4.5	37.2
AVERAGE	168.4		

TABLE 48

TABLE 48

MONTHLY COUNT OF CHINOOK SALMON OVER JOHN DAY DAM
1968-1985

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
1983				7,123	25,391	7,990	7,064	8,195	66,078	18,025			139,866	33,480	14,834	91,552	43,440
1984				4,329	26,561	9,706	12,892	15,422	96,399	22,255	809**		188,373	32,035	22,795	133,543	69,874
1985				27,539	42,487	15,585	9,663	27,387	178,322	34,192	2,449**		337,624	72,389	23,489	241,746	149,281
TOTAL			6	369,895	591,826	282,262	324,518	247,717	1,380,810	215,923	4,041		3,416,998	995,790	602,270	1,818,938	1,157,904
18-YEAR AVERAGE				20,550	32,879	15,681	18,029	13,762	76,712	11,996	224		189,833	55,322	33,459	101,052	64,328

*1968, 1969, 1979 and 1984 counting seasons varied slightly from these dates.

** Extended Counting Period.

TABLE 49

MONTHLY COUNT OF SOCKEYE SALMON
JOHN DAY DAM - 1968-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1968						42,175	44,942	690	32	7	1		87,847
1969						13,383	26,174	245	37	8			39,847
1970						18,029	58,176	1,909	19				78,133
1971						5,219	66,183	787	38	5			72,232
1972						6,762	43,704	1,257	68	2			51,793
1973					2	21,283	42,588	864	6	1			64,744
1974						2,024	30,687	403	6	1			33,121
1975						6,154	44,454	163	2	1			50,774
1976						8,907	21,278	258	1	2			30,446
1977					6	52,852	32,269	537	34	3			85,701
1978						5,633	8,006	119	20				13,778
1979						13,466	29,603	560	1				43,630
1980						9,596	40,536	530	13				50,675
1981						17,064	28,975	94	13				46,146
1982						8,708	28,974	286	2				37,970
1983						27,372	63,995	506	37	7			91,917
1984						54,975	51,728	1,230	16	2			107,951
1985						78,326	46,184	421	10				124,941
TOTAL					8	391,928	708,456	10,859	355	39	1		1,111,646
18-YEAR AVERAGE						21,774	39,359	603	20	2			61,758

TABLE 50

MONTHLY COUNT OF COHO SALMON
JOHN DAY DAM - 1968-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1968							4	1,311	32,882	3,848	188		38,233
1969							25	308	9,879	3,377			13,589
1970							14	1,026	17,272	1,231			19,543
1971								944	36,401	3,485			40,830
1972								1,253	14,965	1,315			17,533
1973								788	11,350	1,221			13,359
1974								730	11,253	2,668			14,651
1975								85	4,266	1,954			6,305
1976								57	3,739	2,010			5,806
1977								8	534	581			1,123
1978								6	2,676	5,673			8,355
1979							1	132	2,853	1,753	322		5,061
1980								27	1,431	466			1,924
1981								90	2,030	442			2,562
1982								145	3,032	886			4,063
1983								99	1,353	188			1,640
1984								4	1,736	331	9		2,080
1985								95	1,140	395	22		1,652
TOTAL							44	7,108	158,792	31,824	541		198,309
18-YEAR AVERAGE								395	8,823	1,768	30		11,017

TABLE 51

MONTHLY COUNT OF STEELHEAD TROUT
JOHN DAY DAM - 1968-1985

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	16,698	1,167	10,168	19,693	50,725	21,759			108,603
1983				1,492	434	560	15,088	31,453	83,215	22,183			154,425
1984				3,316	1,787	2,101	21,442	19,743	100,437	46,506	5,822		201,154
1985				6,821	1,723	3,583	19,631	64,456	109,488	37,227	4,164		247,093
TOTAL			314	48,204	26,693	21,097	218,067	346,730	896,586	301,620	13,262		1,872,573
18-YEAR AVERAGE				2,678	1,483	1,172	12,115	19,263	49,810	16,757	413		104,032

TABLE 52

YEARLY TOTALS OF SALMONID FISH COUNTED OVER MCNARY DAM
1954 - 1985

YEAR	CHINOOK	STEELHEAD	SOCKEYE	COHO	TOTAL SALMONID
1954	126,555	75,059	108,181	950	310,745
1955	108,915	85,575	173,758	643	368,891
1956	114,342	42,554	102,145	683	259,724
1957	292,696	105,728	85,460	2,855	486,739
1958	226,092	87,890	102,397	1,350	417,729
1959	171,490	110,475	83,977	1,970	367,912
1960	176,767	96,895	55,372	1,580	330,614
1961	154,996	103,743	16,388	2,045	277,172
1962	152,756	163,181	29,372	3,195	348,504
1963	154,459	113,646	59,744	3,113	330,962
1964	167,934	100,742	83,931	3,317	355,924
1965	150,907	118,960	42,052	2,700	314,619
1966	223,141	145,130	173,028	8,525	549,824
1967	195,653	77,700	105,635	27,226	406,214
1968	200,488	112,522	101,007	39,518	453,535
1969	213,407	76,681	29,787	53,716	373,591
1970	168,892	69,759	59,636	36,399	334,686
1971	171,448	109,630	52,867	39,358	373,303
1972	168,821	93,820	26,422	45,635	334,698
1973	184,112	64,620	42,731	17,682	309,145
1974	127,858	26,932	26,505	13,746	195,041
1975	133,150	23,663	43,143	3,975	203,931
1976	163,314	54,000	24,632	7,539	249,485
1977	183,581	87,712	80,781	4,622	356,696
1978	144,148	34,740	18,511	20,356	217,755
1979	95,275	50,304	37,792	12,800	196,171
1980	80,773	66,524	44,301	571	192,169
1981	80,619	61,985	26,644	3,736	172,984
1982	102,225	75,099	15,077	3,119	195,520
1983	121,636	125,254	40,903	2,470	290,263
1984	159,071	135,515	56,906	2,841	354,333
1985	288,483	188,204	98,457	6,917	582,061
TOTAL	5,204,004	2,884,242	2,047,542	375,152	10,510,940
32-YEAR AVERAGE	162,625	90,133	63,986	11,724	328,467

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

TABLE 53

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER MCNARY DAM
1985

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*	-	-	18	18,267	41,962	14,117	9,912	17,222	140,034	46,951	-	-	288,483
STEELHEAD	-	-	1,583	6,483	1,383	2,949	13,818	46,632	87,026	28,330	-	-	188,204
SOCKEYE	-	-	-	1	-	60,067	36,567	522	593	707	-	-	98,457
COHO*	-	-	-	-	14	37	44	2,040	4,493	289	-	-	6,917
CHUM	-	-	-	-	-	-	-	-	-	-	-	-	-
PINK	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL SALMONID	-	-	1,601	24,751	43,359	77,170	60,341	66,416	232,146	76,277	-	-	582,061
SHAD	-	-	-	-	1,943	301,263	134,092	921	110	-	-	-	438,329

*Jacks Included

TABLE 54
WATER TEMPERATURE AND STREAM FLOW DATA
McNARY PROJECT - 1985

DATE	JANUARY			FEBRUARY		
	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.
1	155.1	2.0	38.0	216.4	5.0	36.0
2	175.8	2.0	38.0	203.6	5.0	35.0
3	177.1	2.8	37.0	203.4	5.0	35.0
4	178.5	2.8	36.0	203.8	5.0	35.0
5	169.6	3.2	36.0	219.2	5.0	34.0
6	169.6	3.2	36.0	200.8	5.0	33.0
7	169.7	3.3	36.0	195.8	5.0	34.0
8	192.1	3.2	36.0	199.7	5.0	33.0
9	209.3	3.2	36.0	199.7	5.0	33.0
10	206.1	4.2	36.0	201.8	6.0	33.0
11	205.7	4.3	36.0	204.1	6.0	33.0
12	205.2	4.3	36.0	183.1	6.0	33.0
13	198.1	6.0	36.0	186.4	6.0	33.0
14	186.7	4.8	36.0	206.8	.8	34.0
15	181.9	4.8	36.0	188.6	.4	35.0
16	201.3	5.2	36.0	196.4	.7	35.0
17	203.8	5.2	39.0	194.9	.8	35.0
18	204.8	5.0	39.0	201.9	.7	35.0
19	199.9	5.0	37.0	190.5	.8	35.0
20	200.3	5.0	37.0	206.6	.8	35.0
21	204.5	5.0	37.0	196.3	.9	36.0
22	206.7	4.9	37.0	183.7	.9	36.0
23	202.9	5.0	37.0	181.3	.9	37.0
24	199.0	5.0	37.0	146.1	.9	37.0
25	201.5	4.9	36.0	198.2	.9	37.0
26	196.3	5.0	36.0	174.4	.9	37.0
27	196.0	5.0	36.0	191.9	.9	38.0
28	197.0	5.0	36.0	188.8	.9	39.0
29	195.0	5.0	36.0			
30	196.6	5.0	36.0			
31	209.8	5.0	36.0			
AVERAGES	193.4			195.1		

TABLE 55

MONTHLY FISH PASSAGE SUMMARY REPORT — MCNARY PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — MAR 1985

FISH COUNTS — RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1								13		191.3	.0	1.2	38.0
2								41		174.5	.0	1.7	38.0
3								78		155.6	.0	1.8	39.0
4								56		193.1	.0	1.6	39.0
5								36		165.4	.0	1.2	39.0
6								50		158.9	.0	1.0	39.0
7								44		171.9	.0	1.0	39.0
8								22		167.9	.0	1.0	39.0
9								44		145.7	.0	1.2	39.0
10								44		160.8	.0	1.2	40.0
11								64		187.5	.0	1.3	40.0
12								37		118.3	.0	1.5	40.0
13								68		151.0	.0	1.9	40.0
14								26		158.1	.0	1.9	40.0
15								37		147.0	.0	2.3	40.0
16								44		139.5	.0	2.3	40.0
17								43		130.6	.0	2.4	40.0
18								52		126.1	.0	2.6	40.0
19								73		165.1	.0	2.2	40.0
20								126		168.1	.0	2.6	41.0
21								87		177.3	.0	2.8	41.0
22								55		176.6	.0	3.2	41.0
23								52		171.4	.0	3.4	41.0
24								69		168.9	.0	3.6	41.0
25								47		191.1	.0	3.3	41.0
26								24		167.9	.0	2.5	41.0
27										179.2	.0	2.5	41.0
28								34		155.3	.0	2.5	42.0
29	11			6				42		162.7	.0	2.5	42.0
30								98		153.9	.0	2.5	42.0
31	1							77		137.8	.0	2.5	42.0
TOTALS	12			6				1,583					
AVERAGES	6			6				53		161.9	.0		

TABLE 56

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

APR 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	2							78		146.7	.0	2.5	42.0
2	2			3				59		161.9	.0	2.5	43.0
3	14			3				96		141.9	.0	2.5	43.0
4	1			10				170		184.8	.0	2.5	44.0
5	9			7				191		163.4	.0	1.7	44.0
6	54							328		142.0	.0	1.8	44.0
7	74			2			1	213		139.9	.0	1.8	44.0
8	114			1				263		132.8	.0	1.9	44.0
9	77							216		152.1	.0	1.7	44.0
10	66							301		168.6	.0	2.0	44.0
11	100							321		177.9	.0	2.0	46.0
12	239			4				483		180.5	.0	2.0	49.0
13	432			2				347		175.2	.0	2.0	50.0
14	428			6				318		176.6	.0	2.1	50.0
15	468			7				348		192.5	.0	1.5	50.0
16	482			50				326		192.5	.0	1.6	51.0
17	271			15				259		249.3	27.3	1.7	51.0
18	1,268			71				501		244.0	15.1	1.7	51.0
19	1,651			127				371		249.1	21.6	1.7	51.0
20	1,366			113				253		248.2	23.0	1.9	51.0
21	883			52				158		226.2	4.2	1.6	51.0
22	663			26				144		201.8	.0	1.6	51.0
23	1,160			22				143		182.3	.0	1.1	51.0
24	1,067			21				105		223.7	.0	1.8	51.0
25	1,597			22				72		225.1	.0	1.9	51.0
26	1,425			46				140		197.5	.0	1.5	51.0
27	1,039			20				44		187.0	.0	1.4	51.0
28	1,251			66				125		198.7	.0	2.3	51.0
29	598			30				76		205.9	.0	2.2	50.0
30	650			90				34		211.0	.0	2.2	50.0
TOTALS	17,451			816			1	6,483					
AVERAGES	582			33			1	216		189.3	3.0		

TABLE 57

MONTHLY FISH PASSAGE SUMMARY REPORT — MCNARY PROJECT

U.S. ARMY ENGINEER DISTPICT, PORTLAND — MAY 1985

FISH COUNTS — RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	1,492			203				213		188.4	.0	2.2	50.0
2	1,470			117				84		203.5	.0	2.2	50.0
3	2,121			71				47		215.4	.0	2.2	51.0
4	2,481			84				49	1	216.8	.0	2.2	51.0
5	1,094			35				31		232.2	13.8	2.2	51.0
6	1,259			67				28		251.4	33.2	2.1	51.0
7	986			53				21		265.5	45.8	2.3	51.0
8	2,371			131				25	4	221.5	13.2	2.2	51.0
9	1,112			111				22		255.3	53.7	2.4	52.0
10	1,830			168				21		247.6	44.3	2.8	52.0
11	2,207			171				39		250.8	46.4	3.0	52.0
12	1,082			164				27		251.0	29.8	2.9	52.0
13	1,100			213				24		223.3	.0	2.2	52.0
14	2,567			319				30		229.0	9.6	2.4	52.0
15	822			180		14		17		224.3	5.3	2.5	52.0
16	1,189			263				30		219.3	39.9	3.2	53.0
17	926			230				36		219.1	.0	3.0	53.0
18	1,098			254				51		210.9	.0	2.8	53.0
19	1,191			349				35	1	216.3	.0	2.9	55.0
20	1,065			355				41	1	215.8	.0	2.7	56.0
21	839			362				38		229.1	.0	2.5	55.0
22	607			210				40		227.7	.0	2.6	56.0
23	1,027			286				28	11	226.9	.0	3.0	56.0
24	442			222				32	4	245.5	24.2	3.0	57.0
25	721			258				27	45	251.0	29.1	2.9	57.0
26	595			245				23	91	230.2	8.2	2.8	58.0
27	696			190				49	201	208.4	.0	2.8	58.0
28	365			157				86	279	221.5	.0	2.8	58.0
29	433			177				72	301	246.5	25.4	2.7	59.0
30	394			125				53	230	268.1	45.7	2.4	59.0
31	484			126				64	774	237.8	16.3	2.3	57.0
TOTALS	36,066			5,896		14		1,383	1,943				
AVERAGES	1,163			190		14		45	149	230.6	15.6		

TABLE 58

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

FISH COUNTS

MCNARY PROJECT

JUN 1985

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1	243			97				21	633	222.5	.0	3.3	57.0
2	332			101				50	1,269	223.5	.0	2.8	58.0
3	205			66				45	1,786	220.3	.0	3.6	58.0
4	293			71				43	851	220.4	.0	3.5	58.0
5	411			60				42	5,819	172.3	.0	2.5	58.0
6	310			74				38	5,131	210.3	.0	2.5	59.0
7	350			75			37	86	5,422	204.3	.0	2.5	59.0
8	284			46		2	4	31	4,957	191.8	.0	2.4	59.0
9		213		42			10	26	10,514	214.5	.0	2.4	59.0
10		177		64			32		4,045	210.6	.0	2.6	60.0
11		203		66			24	51	7,796	218.3	.0	2.0	60.0
12		239		89			49	56	15,522	196.7	.0	2.3	60.0
13		199		57			67	74	18,266	198.9	.0	2.3	60.0
14		201		98			98	71	18,622	189.0	.0	2.3	60.0
15		314		84			124	72	16,487	176.7	.0	3.0	60.0
16		266		78	1		258	111	16,167	172.0	.0	2.8	61.0
17		334		89			503	111	12,070	181.9	.0	2.6	61.0
18		292		71			625	94	15,383	187.2	.0	2.9	61.0
19		329		103			951	111	11,724	204.4	.0	2.5	62.0
20		319		75			1,399	108	13,944	202.0	.0	3.0	62.0
21		506		140			2,586	123	11,744	188.0	.0	3.0	61.0
22		620		131			4,959	224	13,640	152.8	.0	2.5	64.0
23		719		142			6,397	202	9,178	149.9	.0	2.7	64.0
24		745		93			6,139	166	11,538	147.5	.0	2.8	64.0
25		568		107			6,989	125	9,982	161.5	.0	3.4	64.0
26		522		85			7,396	127	11,397	148.7	.0	3.0	64.0
27		639		92			6,786	129	12,613	154.8	.0	3.2	66.0
28		628		77	6		5,643	175	12,702	146.0	.0	2.8	65.0
29		636		59	18	2	4,588	247	11,594	130.1	.0	2.7	65.0
30		528		60	4	4	4,403	190	10,467	139.6	.0	3.6	65.0
TOTALS	2,428	9,197		2,492	29	8	60,067	2,949	301,263				
AVERAGES	303	418		83	7	3	2,503	102	10,042	184.5	.0		

TABLE 59

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

JUL 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		536		63	8	2	3,105	248	12,772	129.0	.0	3.1	65.0
2		435		56	1		2,126	165	13,560	163.7	.0	2.9	65.0
3		438		44		2	2,539	206	12,844	155.6	.0	2.7	66.0
4		328		44			2,361	169	15,705	131.8	.0	2.6	66.0
5		265		55	4	4	2,849	241	8,570	131.5	.0	3.3	66.0
6		387		57	4	5	3,383	320	12,621	97.1	.0	3.5	67.0
7		340		40	3	1	2,945	215	12,151	130.8	.0	3.6	67.0
8		401		51			2,470	237	9,144	119.8	.0	3.5	69.0
9		252		57		1	1,784	241	6,821	109.2	.0	3.5	69.0
10		342		56	2		1,901	272	5,179	114.4	.0	3.5	69.0
11		560		109			1,495	588	4,854	100.0	.0	3.5	69.0
12		316		44			1,137	553	4,260	110.2	.0	3.5	69.0
13		189		64			882	337	2,455	110.4	.0	3.5	69.0
14		467		99		2	1,283	626	2,828	77.5	.0	3.5	69.0
15		360		107			1,288	348	4,629	90.6	.0	3.5	69.0
16		219		62	1		1,556	627	1,463	91.4	.0	3.8	69.0
17		330		65			1,066	948	923	117.2	.0	4.0	70.0
18		264		43		1	687	994	623	121.4	.0	4.8	70.0
19		133		49			312	416	355	118.3	.0	3.5	71.0
20		164		40			410	482	364	103.4	.0	3.5	73.0
21		67		13			126	350	473	84.9	.0	3.5	74.0
22		79		39			164	300	425	86.1	.0	3.5	74.0
23		200		51	1		195	655	253	96.6	.0	3.7	72.0
24		284		105			204	1,304	203	103.6	.0	4.8	73.0
25		162		61			115	933	179	100.6	.0	4.6	74.0
26		100		31			46	481	87	92.6	.0	4.6	74.0
27		133		39		1	30	390	118	70.1	.0	4.4	74.0
28		124		24			36	293	83	83.6	.0	5.0	74.0
29		121		47			21	184	55	89.2	.0	5.0	74.0
30		137		35			30	280	29	85.1	.0	5.4	74.0
31		115		14	1		21	415	66	82.8	.0	4.3	72.0
TOTAL		9,248		1,664	25	19	36,567	13,818	134,092				
AVERAGE		266		54	3	2	1,180	446	4,326	106.4	.0		

TABLE 60

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

AUG-1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		105		25			32	659	60	86.8	.0	4.4	71.0
2		65		34			30	547	35	91.5	.0	4.4	72.0
3		105		31			36	489	53	81.6	.0	3.0	72.0
4		98		37			24	317	50	91.0	0	4.0	72.0
5		91		9			12	408	45	76.5	.0	5.0	72.0
6		85		32			29	366	45	93.5	.0	5.0	72.0
7		134		22	1		31	608	35	99.3	.0	5.0	72.0
8		121		24			25	596	19	98.8	.0	3.6	71.0
9			142	35			33	515	24	96.5	.0	3.8	72.0
10			198	27			17	492	18	94.5	.0	3.6	72.0
11			214	28			20	296	19	71.8	.0	3.6	71.0
12			176	50			36	426	38	90.8	.0	5.0	71.0
13			171	22	2		25	557	23	94.7	.0	4.7	71.0
14			104	22	1		20	613	24	116.4	.0	5.0	71.0
15			676	78	2		31	787	4	112.9	.0	4.4	71.0
16			566	96	4		26	1,442	12	98.4	.0	4.0	70.0
17			271	56	2	7	17	1,535	29	92.0	.0	4.0	70.0
18			623	38	4	3	7	1,421	23	80.9	.0	4.0	70.0
19			436	108	1	16	13	2,077	24	100.3	.0	4.0	70.0
20			427	210	53	24	9	3,183	10	90.2	.0	4.0	70.0
21			708	210	32	24	1	2,607	11	80.6	.0	4.0	69.0
22			467	172	39	41	4	1,427	21	90.8	.0	3.8	69.0
23			1,154	257	110	108	6	2,191	27	87.8	.0	3.5	69.0
24			690	168	55	125	10	2,423	15	73.6	.0	3.1	69.0
25			160	63	16	37		1,088	22	82.5	.0	3.0	69.0
26			343	137	50	87	4	1,821	22	85.9	.0	4.6	69.0
27			140	145	1	6		2,398	45	114.8	.0	4.6	69.0
28			501	206	32	48	2	3,127	51	99.5	.0	5.0	69.0
29			1,179	517	38	120	22	3,893	105	75.9	.0	5.0	69.0
30			1,551	647	261	302		5,285	7	86.0	.0	4.0	69.0
31			1,348	667	132	256		3,038	5	78.7	.0	5.0	69.0
TOTALS		804	12,245	4,173	836	1,204	522	46,6-2	921				
AVERAGES		100	532	135	42	80	19	1,504	30	90.8	.0		

TABLE 61

MONTHLY FISH PASSAGE SUMMARY REPORT — MCNARY PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — SEP 1985

FISH COUNTS — RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			1,307	665	123	180		1,975	5	81.4	.0	4.8	69.0
2			1,135	582	80	115		1,665	6	89.7	.0	3.8	68.0
3			997	1,122	119	276		2,348		84.7	.0	2.0	69.0
4			1,254	1,364	106	192	1	2,786	1	105.3	.0	3.8	69.0
5			3,106	1,957	355	507	1	5,226		92.6	.0	2.9	69.0
6			3,072	1,924	244	326		4,335	28	89.6	.0	2.3	68.0
7			3,595	2,166	187	329	1	4,922	13	88.4	.0	4.0	68.0
8			1,571	1,205	85	149		3,012	22	82.7	.0	4.0	68.0
9			1,516	1,427	64	121		2,097	27	78.7	.0	4.0	68.0
10			947	1,061	16	13	3	2,433		99.4	.0	3.6	67.0
11			2,838	3,513	85	168	2	3,613	8	96.6	.0	3.3	67.0
12			3,365	4,136	29	81	11	5,704		95.1	.0	3.3	67.0
13			2,893	3,699	15	68	14	5,918		107.0	.0	3.4	66.0
14			2,920	2,605	7	32	5	4,648		94.6	.0	3.2	66.0
15			2,879	3,464	15	31	16	4,002		82.6	.0	3.1	66.0
16			3,610	4,958	29	61	33	3,844		71.8	.0	2.8	66.0
17			2,829	4,692	9	29	10	3,117		113.9	.0	2.2	66.0
18			2,210	3,765	6	4	10	2,567		101.9	.0	2.2	65.0
19			1,501	2,920		2	1	1,963		114.7	.0	2.0	65.0
20			2,532	4,706	9	11	16	2,014		91.4	.0	2.0	65.0
21			2,368	3,558	16	20	14	1,332		93.7	.0	2.0	65.0
22			2,495	4,898	8	9	3	2,613		86.7	.0	2.0	65.0
23			2,159	4,527	11	18	136	2,242		103.2	.0	3.0	64.0
24			1,886	2,840	12	25	119	1,925		125.4	.0	3.0	64.0
25			1,246	2,209	9	23	62	1,803		121.7	.0	3.0	64.0
26			1,347	2,099	9	19	117	2,151		119.2	.0	2.8	64.0
27			703	1,537	7	3	5	1,601		126.2	.0	3.5	63.0
28			819	1,672	11	2	5	1,358		121.6	.0	3.5	63.0
29			924	1,879	7	1	2	1,727		106.2	.0	3.6	63.0
30			676	2,184	4	1	6	1,085		115.9	.0	3.9	62.0
TOTALS			60,700	79,334	1,677	2,816	593	87,026	110				
AVERAGES			2,023	2,644	58	94	25	2,901	14	99.1	.0		

TABLE 62

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

OCT 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECHI)	WATER TEMP (DEG F)
1			955	2,357	7	7	13	1,189		135.3	.0	3.5	62.0
2			1,278	2,810	10		36	1,382		121.5	.0	3.7	61.0
3			1,826	2,867	9	4	331	2,593		109.1	.0	3.6	61.0
4			1,971	3,320	28	3	90	2,397		139.1	.0	3.5	61.0
5			1,138	1,726	17	2	31	1,367		111.9	.0	3.5	61.0
6			1,354	1,549	26	3	28	1,569		90.3	.0	3.2	60.0
7			638	829	14		11	1,301		127.3	.0	3.0	60.0
8			909	1,093	4	4	13	1,221		135.7	.0	3.0	60.0
9			549	709	5	1	2	1,045		127.4	.0	3.3	60.0
10			1,167	1,048	4	2	10	938		136.3	.0	3.4	60.0
11			681	869	2	1	1	909		129.6	.0	3.6	60.0
12			937	1,058	5	5	40	979		130.7	.0	3.4	59.0
13			619	625	10	9	29	810		77.5	.0	3.4	57.0
14			528	551	1	4	4	739		100.1	.0	3.9	57.0
15			476	596	3		7	737		106.7	.0	3.8	57.0
16			305	354	2			520		119.6	.0	2.7	57.0
17			619	592	2			710		109.7	.0	3.0	57.0
18			644	563	7			676		120.8	.0	4.0	57.0
19			447	335	3			480		102.7	.0	4.1	57.0
20			492	281	2	1		501		98.0	.0	4.2	57.0
21			350	292	1			497		107.2	.0	3.6	57.0
22			372	266	9	5	12	363		136.5	.0	3.5	57.0
23			267	240	1		4	364		115.1	.0	3.5	57.0
24			335	246	7	2	8	514		127.5	.0	3.5	57.0
25			200	194	2	3	13	506		127.9	.0	3.5	57.0
26			236	207	8	3	9	452		124.3	.0	3.5	57.0
27			310	294	3	2	11	570		97.8	.0	3.5	56.0
28			315	251	3	2	3	720		110.4	.0	3.5	56.0
29			182	197	9	3		740		121.1	.0	3.5	56.0
30			135	105	9	4	1	705		133.1	.0	4.0	56.0
31			128	164	4	2		836		148.6	.0	3.0	56.0
TOTALS			20,363	26,588	217	72	707	28,330					
AVERAGES			657	858	7	3	31	914		118.7	.0		

TABLE 62

TABLE 63
DISCHARGE AND WATER QUALITY DATA
McNARY DAM - 1985

DATE	NOVEMBER			DECEMBER		
	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.
1	143.5	3.2	56.0	167.1	5.0	39.0
2	119.0	2.9	56.0	180.6	5.0	39.0
3	91.5	2.8	56.0	175.3	5.0	39.0
4	108.8	2.4	55.0	180.2	5.2	39.0
5	133.7	2.8	55.0	165.6	4.0	39.0
6	149.5	2.7	55.0	174.3	5.0	39.0
7	144.4	2.6	55.0	160.8	4.2	39.0
8	147.5	2.8	53.0	181.7	4.8	39.0
9	146.2	2.8	52.0	173.6	5.1	38.0
10	146.0	2.8	51.0	188.6	5.1	38.0
11	164.6	2.8	51.0	181.2	5.4	39.0
12	144.7	3.5	50.0	200.6	5.0	40.0
13	165.5	3.6	49.0	184.8	5.0	37.0
14	152.5	3.7	48.0	170.5	5.4	37.0
15	155.5	4.2	48.0	171.8	5.0	36.0
16	127.9	3.5	47.0	184.6	5.0	36 0
17	119.3	4.2	46.0	173.5	5.0	36.0
18	159.1	4.2	46.0	182.9	5.0	35.0
19	143.7	4.0	46.0	185.5	5.0	35.0
20	151.7	4.0	45.0	185.7	4.6	35.0
21	164.1	4.0	45.0	171.0	6.0	35.0
22	176.9	4.1	45.0	144.7	6.0	35.0
23	187.4	4.1	45.0	122.3	6.0	35.0
24	197.3	3.9	42.0	147.2	6.0	35.0
25	183.2	4.0	41.0	132.4	6.0	35.0
26	154.0	4.2	41.0	105.8	6.0	35.0
27	176.2	4.4	41.0	151.5	6.0	35.0
28	171.0	4.9	40.0	134.1	6.0	35.0
29	161.7	5.0	40.0	119.8	6.0	35.0
30	164.0	5.0	40.0	124.8	6.0	35.0
31				124.6	5.5	35.0
AVERAGES	151.7			162.8		

TABLE 64

TABLE 64
MONTHLY COUNT OF CHINOOK SALMON
McNARY DAM - 1954-1985

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- NOV 10*
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	16,577	57,299
1983				4,481	25,074	9,202	7,882	5,217	54,339	15,441			121,636	31,636	16,199	73,801
1984				1,772	23,806	9,235	12,256	8,840	79,004	23,391	767		159,071	27,474	21,196	110,401
1985			18	18,267	41,962	14,117	9,912	17,222	140,034	46,951			288,483	63,265	22,029	203,189
TOTAL			60	424,524	1,059,092	712,329	830,003	360,664	1,525,392	287,153	4,787		5,204,004	1,609,399	1,536,500	2,058,105
32 YEAR AVERAGE			2	13,266	33,097	22,260	25,938	11,271	47,668	8,974	150		162,625	50,294	48,016	64,316

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

TABLE 65

MONTHLY COUNT OF SOCKEYE SALMON
MCNARY DAM - 1954-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1954					1	1,107	93,452	11,382	2,214	25			108,181
1955					43	287	163,902	9,402	121	3			173,758
1956					1	639	94,352	6,882	262	7	2		102,145
1957					13	6,318	74,874	4,233	22				85,460
1958						12,542	82,547	5,474	1,819	15			102,397
1959					21	2,031	73,735	7,981	209				83,977
1960						9,374	43,749	2,241	8				55,372
1961						1,088	14,149	1,138	11	2			16,388
1962						1,721	27,134	511	6				29,372
1963					78	8,712	50,415	535	4				59,744
1964						770	81,536	1,617	8				83,931
1965						328	40,790	923	10	1			42,052
1966						6,202	162,267	4,548	11				173,028
1967						1,935	101,044	2,647	9				105,635
1968						28,928	70,413	1,666					101,007
1969						5,787	23,353	647					29,787
1970						7,152	47,339	5,134	11				59,636
1971						317	50,568	1,982					52,867
1972						366	24,452	1,604					26,422
1973						9,011	32,301	999	420				42,731
1974						188	25,816	486	15				26,505
1975						1,517	41,011	615					43,143
1976						4,461	19,319	415	437				24,632
1977					8	36,708	43,077	739	207	42			80,781
1978						3,211	10,376	714	1,583	2,627			18,511
1979						6,317	29,571	1,547	321	36			37,792
1980						3,400	40,469	432					44,301
1981						4,419	22,042	180	1	2			26,644
1982						812	13,489	281	292	203			15,077
1983						5,897	33,851	997	142	16			40,903
1984						18,762	37,409	637	85	11	2		56,906
1985				1		60,067	36,567	522	593	707			98,457
TOTAL				1	165	250,374	1,705,369	79,111	8,821	3,697	4		2,047,542
32-YEAR AVERAGE						7,824	53,293	2,472	276	116			63,986

TABLE 66

MONTHLY COUNT OF COHO SALMON*
MCNARY DAM - 1954-1985

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
1983								229	1,536	705			2,470
1984						6		147	2,506	154	28		2,841
1985					14	37	44	2,040	4,493	289			6,917
TOTAL				1	14	50	510	19,408	304,678	47,368	3,122	1	375,152
32-YEAR AVERAGE							16	606	9,521	1,480	98		11,724

* Includes Jacks

TABLE 67

MONTHLY COUNT OF STEELHEAD TROUT
MCNARY DAM - 1954-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1954			376	5,569	2,307	128	2,628	20,939	26,944	11,627	2,937	1,604	75,059
1955	931	35	70	3,279	1,791	162	5,257	36,035	17,463	16,941	2,874	737	85,575
1956	66	753	563	2,365	1,218	276	5,440	14,492	8,245	6,787	2,349		42,554
1957			840	2,084	147	334	18,100	28,926	34,478	20,775	8	36	105,728
1958	62	137	1,069	877	334	1,265	9,967	6,535	50,229	17,415			87,890
1959				1,317	685	748	10,508	32,872	49,542	14,803			110,475
1960				1,579	1,236	908	8,475	22,443	51,749	10,505			96,895
1961				896	580	1,281	7,469	11,428	64,521	17,568			103,743
1962				1,650	762	1,108	11,321	28,288	98,042	22,010			163,181
1963				813	1,751	2,639	8,252	26,282	47,982	25,927			113,646
1964				1,789	805	486	7,602	25,918	53,180	10,962			100,742
1965				1,361	363	231	11,749	31,155	54,450	19,651			118,960
1966				2,279	954	1,476	18,241	26,062	71,180	24,938			145,130
1967				1,434	1,130	152	5,771	14,894	32,310	22,009			77,700
1968				5,451	3,361	247	4,058	22,268	61,167	15,970			112,522
1969				2,304	1,792	711	7,668	13,641	35,836	14,729			76,681
1970				1,347	1,001	340	5,183	15,236	39,150	7,502			69,759
1971				813	374	271	8,931	21,324	62,083	15,834			109,630
1972				1,614	393	130	8,155	20,548	46,393	16,587			93,820
1973				3,178	846	270	6,898	11,121	32,701	9,606			64,620
1974				847	715	681	4,093	5,242	8,648	6,706			26,932
1975				612	209	254	3,623	6,708	9,329	2,928			22,663
1976				936	1,372	1,949	5,772	16,145	22,423	5,403			54,000
1977				1,730	987	2,916	13,132	7,833	43,792	17,322			87,712
1978				1,266	701	1,832	3,444	4,863	15,627	5,708	1,299		34,740
1979			970	681	156	93	4,955	9,970	14,648	15,580	3,251		50,304
1980			1,753	3,355	608	381	2,740	14,431	27,706	12,776	2,774		66,524
1981			861	1,479	809	878	7,212	12,839	19,961	15,652	2,294		61,985
1982			1,530	1,764	825	321	4,279	12,621	36,282	17,477			75,099
1983				1,051	215	137	7,746	25,821	70,369	19,915			125,254
1984				1,858	860	653	13,165	14,962	68,837	33,608	1,590		135,515
1985			1,583	6,483	1,383	2,949	13,818	46,632	87,026	28,330			188,204
TOTAL	1,059	925	9,615	64,061	30,670	26,207	255,652	608,456	1,362,293	503,551	19,376	2,377	2,884,242
32-YEAR AVERAGE			300	2,002	958	819	7,989	19,014	42,572	15,736	606		90,133

TABLE 68

YEARLY TOTALS OF SALMONID COUNTED OVER ICE HARBOR DAM
1962-1985

YEAR	CHINOOK	STEELHEAD	SOCKEYE	COHO	CHUM	TOTAL SALMONID
1962	94,301	115,796	38	3,207		213,342
1963	61,190	74,539	1,118	1,933		138,780
1964	60,097	58,860	1,276	2,071		122,304
1965	39,233	62,873	317	320		102,743
1966	75,882	65,798	278	878		142,836
1967	84,930	44,205	717	3,770		133,622
1968	98,681	82,383	1,165	6,227		188,456
1969	100,514	63,889	745	5,316		170,464
1970	77,698	53,870	797	3,636		136,001
1971	70,248	67,029	532	2,969		140,778
1972	82,632	63,593	363	2,522	6	149,116
1973	81,821	38,311	233	2,443	4	122,812
1974	32,444	12,528	204	1,334	2	46,512
1975	31,686	16,218	243	1,559		49,706
1976	36,556	23,885	771	1,991		63,203
1977	56,514	54,820	582	1,561		113,477
1978	61,352	27,142	86	652		89,232
1979	13,929	23,117	30	398		37,474
1980	14,717	50,221	36	58		65,032
1981	22,092	41,290	142	82		63,606
1982	22,646	73,405	174	348		96,573
1983	20,259	88,475	216	465		109,415
1984	17,757	94,030	105	22		111,914
1985	47,981	128,481	24	10		176,496
TOTAL	1,305,160	1,424,758	10,192	43,772	12	2,783,894
24-YEAR AVERAGE	54,382	59,365	425	1,824		115,996

TABLE 69

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER ICE HARBOR DAM
1985

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK	-	-	-	12,245	18,334	6,885	1,294	546	5,414	3,263	-	-	47,981
STEELHEAD	-	-	1,892	7,353	439	306	3,070	14,468	75,378	25,575	-	-	128,481
SOCKEYE	-	-	-	-	-	6	16	-	-	2	-	-	24
COHO	-	-	-	-	-	-	-	3	7	-	-	-	10
TOTAL SALMONID	-	-	1,892	19,598	18,773	7,197	4,380	15,017	80,799	28,840	-	-	176,496
SHAD	-	-	-	-	2	2,889	5,065	164	-	-	-	-	8,120

TABLE 69

TABLE 70
WATER TEMPERATURE AND STREAM FLOW DATA
ICE HARBOR PROJECT - 1985

DATE	JANUARY			FEBRUARY		
	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.
1	42.0	1.9	38.0	50.1	6.8	35.0
2	51.3	1.9	38.0	43.1	6.8	35.0
3	24.7	1.9	38.0	41.6	6.8	35.0
4	49.6	3.6	37.0	62.4	6.8	35.0
5	44.0	3.6	37.0	40.9	6.8	34.0
6	23.9	4.1	37.0	23.0	6.8	34.0
7	42.7	4.1	36.0	30.2	6.8	34.0
8	45.9	4.1	36.0	37.4	5.0	34.0
9	54.4	5.0	36.0	40.2	5.0	34.0
10	55.3	5.0	36.0	40.6	6.8	34.0
11	48.5	5.0	35.0	58.0	6.8	34.0
12	37.6	5.0	35.0	35.1	6.8	34.0
13	42.0	5.0	35.0	49.7	1.0	35.0
14	46.9	5.5	35.0	57.4	6.8	35.0
15	43.4	5.5	35.0	42.3	1.3	35.0
16	47.9	6.8	35.0	43.2	1.0	35.0
17	47.5	5.5	35.0	36.6	1.0	35.0
18	65.3	6.8	35.0	42.0	1.8	35.0
19	35.8	6.8	35.0	51.1	1.0	35.0
20	28.9	6.8	35.0	44.2	1.1	35.0
21	49.9	6.8	35.0	49.2	1.7	36.0
22	45.6	6.8	35.0	57.0	1.7	36.0
23	44.4	6.8	35.0	35.0	1.4	36.0
24	39.2	6.8	35.0	22.7	1.4	36.0
25	31.8	6.8	35.0	44.1	1.5	37.0
26	32.7	6.8	35.0	62.3	1.7	37.0
27	43.9	6.8	35.0	47.0	1.5	37.0
28	49.1	6.8	35.0	55.3	1.5	37.0
29	39.3	6.8	35.0			
30	49.2	6.8	35.0			
31	39.6	6.8	35.0			
AVERAGES	43.3			44.3		

TABLE 71

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

MAR 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SEECHI)	(DEG F)
1								14		42.2	.0	1.0	37.0
2								18		34.8	.0	.8	37.0
3								10		31.5	.0	.8	37.0
4								8		59.0	.0	.8	37.0
5								23		33.4	.0	.5	38.0
6								52		46.3	.0	.5	38.0
7								78		35.9	.0	.5	38.0
8								72		41.7	.0	1.0	38.0
9								80		28.0	.0	1.0	38.0
10								77		36.6	.0	1.0	38.0
11								41		49.0	.0	1.0	38.0
12								72		39.1	.0	1.7	38.0
13								65		44.5	.0	2.2	38.0
14								48		42.8	.0	2.8	38.0
15								89		32.5	.0	2.9	39.0
16								81		28.9	.0	3.0	40.0
17								75		42.3	.0	3.0	40.0
18								75		47.4	.0	3.2	40.0
19								78		46.8	.0	3.3	40.0
20								91		60.3	.0	3.1	41.0
21								95		63.2	.0	3.0	41.0
22								49		51.4	.0	2.8	41.0
23								66		56.6	.0	2.0	41.0
24								80		46.0	.0	2.0	42.0
25								55		63.9	.0	1.9	42.0
26								66		62.3	.0	1.9	42.0
27										46.2	.0	1.8	42.0
28								60		34.1	.0	1.8	42.0
29								82		48.7	.0	1.8	42.0
30								80		46.1	.0	1.8	42.0
31								112		50.8	.0	1.8	42.0
TOTALS								1,892					
AVERAGES								63		44.9	.0		

TABLE 72

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

APR 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1	5							222		60.8	.0	1.8	43.0
2	1							160		75.3	.0	2.0	44.0
3	1							155		73.3	.0	1.8	44.0
4	3							206		84.4	.0	1.8	44.0
5	4							230		81.4	.0	2.5	44.0
6	4							207		72.9	.0	2.5	45.0
7	15							220		64.3	.0	2.5	45.0
8	22							260		68.3	.0	1.8	45.0
9	25							259		85.6	.0	2.0	46.0
10	43							329		87.1	.0	2.0	46.0
11	72							397		102.4	.0	2.3	46.0
12	58			1				389		103.6	.0	2.3	46.0
13	50							407		104.6	.0	2.3	50.0
14	79							397		100.9	.0	2.3	50.0
15	156			1				304		101.6	.0	2.3	50.0
16	335			3				443		102.2	.0	2.3	50.0
17	579			6				390		115.5	15.7	2.3	50.0
18	477			3				364		116.2	16.5	1.8	50.0
19	320			6				427		117.7	17.6	1.8	52.0
20	924			7				377		107.6	15.6	1.8	52.0
21	1,055			4				312		101.8	11.4	1.9	52.0
22	983			4				168		80.8	8.6	1.9	52.0
23	562			1				147		74.3	9.3	2.0	52.0
24	718			5				140		74.4	7.5	1.8	52.0
25	476			5				96		84.5	9.1	1.8	51.0
26	1,139			12				96		72.0	7.0	2.0	51.0
27	1,228			21				88		58.9	6.4	2.0	51.0
28	962			10				75		53.0	5.6	2.0	51.0
29	1,058			10				45		81.1	8.2	2.0	51.0
30	778			14				43		80.5	9.7	2.1	51.0
TOTALS	12,132			113				7,353					
AVERAGES	404			7				245		86.2	4.9		

TABLE 73

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

MAY 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1	671			17				35		73.6	8.1	2.1	51.0
2	596			15				30		75.2	9.2	2.1	51.0
3	672			17				37		92.1	11.4	2.2	52.0
4	844			22				38		76.0	12.0	2.2	51.0
5	1,013			19				24		98.8	13.6	2.2	52.0
6	969			38				19		107.9	14.8	2.2	52.0
7	727			38				34		78.0	10.5	2.0	52.0
8	1,031			46				30		69.0	8.5	2.2	52.0
9	803			52				16		80.9	9.2	2.0	52.0
10	835			47				10		89.0	10.8	2.0	52.0
11	615			50				25		84.0	10.6	2.6	52.0
12	783			65				21		73.5	8.7	2.6	54.0
13	595			62				18		91.1	10.3	2.6	54.0
14	195			42				6		62.2	8.4	2.5	54.0
15	617			41				10		69.2	7.9	2.5	54.0
16	668			62				14		59.1	9.9	2.8	54.0
17	212			33				6		70.7	8.0	2.8	54.0
18	294			63				4		84.0	11.4	2.8	54.0
19	291			74				10		90.9	10.6	3.0	54.0
20	441			111				8		92.4	9.4	3.0	54.0
21	489			128				6		94.2	11.1	3.0	55.0
22	404			119				7		106.0	11.9	3.1	53.0
23	376			137				6		112.6	11.8	3.0	55.0
24	274			62				3		114.4	13.3	2.7	56.0
25	343			75				2		118.0	14.3	2.7	56.0
26	240			70				3		112.0	15.0	3.0	57.0
27	336			59				3		107.3	13.6	3.0	58.0
28	361			87				1		104.8	13.8	2.4	59.0
29	288			54				4		104.0	13.3	2.8	58.0
30	316			47				3		100.2	12.8	2.8	58.0
31	237			46				6	2	99.3	12.7	3.1	58.0
TOTALS	16,536			1,798				439	2				
AVERAGES	533			58				14	2	90.0	11.2		

TABLE 74

MONTHLY FISH PASSAGE SUMMARY REPORT — ICE HARBOR PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — JUN 1985

FISH COUNTS — RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	358			43				5		99.6	12.6	3.1	58.0
2	245			29				6		89.5	10.7	3.1	58.0
3	301			26				2	1	86.7	9.5	3.1	58.0
4	188			16				3	4	99.7	11.5	3.4	58.0
5	205			30				2	1	90.4	10.0	3.4	59.0
6	201			20				1	1	94.3	10.3	3.4	59.0
7	197			28				1	3	103.2	12.2	3.4	58.0
8	292			45						120.0	22.8	3.4	58.0
9	248			13					5	132.2	50.7	3.4	58.0
10	175			31				4	2	111.4	16.9	3.4	58.0
11	216			41				2	17	97.1	12.1	3.4	58.0
12		185		38				4	34	92.3	4.6	3.0	59.0
13		167		48				4	108	87.3	.0	3.0	59.0
14		143		24				6	100	82.0	.0	3.3	59.0
15		128		46				6	54	70.7	.0	3.3	61.0
16		162		52				3	61	62.3	.0	3.3	61.0
17		151		58				4	87	65.7	.0	3.3	61.0
18		144		39				7	53	63.2	.0	3.4	61.0
19		196		49				9	99	64.0	.0	3.4	61.0
20		179		35				8	104	56.5	.0	3.4	61.0
21		201		69				11	110	58.2	.0	3.4	61.0
22		208		44				11	188	52.7	.0	3.4	61.0
23		228		55				19	232	47.8	.0	3.4	61.0
24		197		65			1	17	177	54.6	.0	3.1	62.0
25		210		46				30	241	52.4	.0	4.4	62.0
26		112		30			2	24	132	44.1	.0	4.4	62.0
27		106		29			1	28	123	38.8	.0	4.2	62.0
28		120		33				17	60	35.1	.0	5.0	63.0
29		130		51			2	16	368	24.9	.0	5.7	64.0
30		124		35				56	524	32.4	.0	5.3	65.0
TOTALS	2,626	3,091		1,168			6	306	2,889				
AVERAGES	239	163		39			1	11	107	73.6	6.1		

TABLE 75

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

FISH COUNTS

ICE HARBOR PROJECT

JUL 1985

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		107		28			2	43	1,037	34.2	.0	5.3	65.0
2		92		28				37	696	38.3	.0	5.8	65.0
3		68		24			2	30	691	43.0	.0	6.8	66.0
4		77		20				45	487	36.3	.0	6.8	66.0
5		48		25				43	261	37.7	.0	6.8	66.0
6		35		15				65	96	25.6	.0	6.8	66.0
7		42		16				73	241	33.1	.0	6.8	66.0
8		26		9				105	247	39.9	.0	6.8	68.0
9		39		18			3	84	102	25.4	.0	6.8	68.0
10		31		9				86	100	25.0	.0	7.0	68.0
11		38		32				91	125	35.4	.0	6.8	68.0
12		23		11				112	119	35.5	.0	6.0	68.0
13		24		17			2	115	125	26.3	.0	6.0	68.0
14		26		9			1	122	107	14.8	.0	6.0	68.0
15		24		13				81	84	18.4	.0	7.0	68.0
16		26		21				116	49	14.1	.0	7.0	68.0
17		30		6				115	61	15.3	.0	7.0	71.0
18		17		5				104	68	26.8	.0	6.5	69.0
19		13		8			3	167	109	30.1	.0	6.7	69.0
20		24		1			1	179	73	30.4	.0	6.8	69.0
21		19		12			1	204	40	14.7	.0	6.8	69.0
22		21		14			1	203	22	25.7	.0	6.8	69.0
23		16		5				213	17	11.8	.0	6.8	70.0
24		13		5				136	14	16.1	.0	6.8	71.0
25		14		5				74	16	16.2	.0	6.0	72.0
26		8		4				94	14	20.6	.0	6.0	74.0
27		6						64	17	14.2	.0	6.0	74.0
28		2		3				29	15	19.5	.0	6.8	75.0
29		3		2				55	6	24.4	.0	6.8	75.0
30		11		2				69	14	22.2	.0	6.8	75.0
31		4						116	12	21.3	.0	6.5	75.0
TOTALS		927		367			16	3,070	5,065				
AVERAGES		30		13			2	99	163	25.6	.0		

TABLE 76

MONTHLY FISH PASSAGE SUMMARY REPORT — ICE HARBOR PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — AUG 1985

FISH COUNTS — RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		8		2				72	9	25.8	.0	6.5	75.0
2		7						44	11	32.0	.0	6.0	73.0
3		2		1				69	14	24.9	.0	6.0	73.0
4		8		2				46	6	34.0	.0	6.0	73.0
5		7						144	11	36.5	.0	5.3	73.0
6		3		1				120	10	27.7	.0	6.1	73.0
7		4		1				118	10	19.5	.0	6.1	73.0
8		5		1				84	2	23.5	.0	6.1	73.0
9		1		1				78	9	23.0	.0	6.1	73.0
10		1						74	7	13.4	.0	6.1	72.0
11		3		1				52	8	14.1	.0	4.0	72.0
12			5	1				53	12	19.7	.0	4.0	72.0
13			2					48	5	22.2	.0	4.0	72.0
14			3	1				101	8	26.3	.0	4.0	72.0
15			8	2				215	2	23.9	.0	5.0	72.0
16			5					191	5	22.1	.0	6.7	72.0
17			16	1				183		22.1	.0	6.5	72.0
18			10	1				262	1	15.0	.0	6.5	71.0
19			28	3				428	1	29.2	.0	6.5	71.0
20			26	3				778	13	19.4	.0	4.8	71.0
21			19	1				567	4	25.4	.0	4.8	71.0
22			19	4				608	1	21.4	.0	4.5	71.0
23			15					440		28.7	.0	5.0	70.0
24			30	8				751	5	18.7	.0	5.0	70.0
25			27	6				819	3	19.4	.0	5.0	70.0
26			28	7				1,409	6	29.2	.0	5.0	70.0
27			15	3				1,071		22.1	.0	6.4	70.0
28			19	10				923		24.2	.0	6.0	70.0
29			20	10	1	2		1,467	1	19.1	.0	6.8	70.0
30			22	8				1,182		18.6	.0	6.8	70.0
31			81	20				2,071		20.5	.0	6.8	70.0
TOTALS		49	398	99	1	2		14,468	164				
AVERAGES		4	20	4	1	2		467	7	23.3	.0		

TABLE 77

MONTHLY FISH PASSAGE SUMMARY REPORT — ICE HARBOR PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — SEP 1985

FISH COUNTS — RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1			30	18				1,419		24.3	.0	5.0	70.0
2			43	9				1,628		24.2	.0	5.8	70.0
3			18	15				1,734		23.3	.0	5.8	70.0
4			74	57				1,994		29.2	.0	5.5	70.0
5			27	42				2,068		25.2	.0	6.0	69.0
6			74	41				2,383		23.6	.0	6.0	68.0
7			101	47				2,644		23.0	.0	4.8	68.0
8			81	27				1,938		33.5	.0	4.8	68.0
9			117	60				1,996		32.0	.0	5.0	67.0
10			75	53	2			2,734		40.6	.0	5.2	67.0
11			60	55	1			3,551		39.6	.0	5.2	67.0
12			29	53				3,962		37.0	.0	5.2	66.0
13			83	87				2,711		41.4	.0	4.6	67.0
14			85	108				3,940		32.1	.0	4.8	67.0
15			79	159				3,289		36.7	.0	5.2	66.0
16			47	129				4,623		32.0	.0	5.2	66.0
17			99	139				4,562		35.7	.0	5.2	65.0
18			58	153				2,116		31.2	.0	5.0	65.0
19			19	178				1,753		45.3	.0	4.3	65.0
20			45	155	1			2,907		41.2	.0	4.6	65.0
21			46	210				2,564		32.5	.0	4.8	65.0
22			24	241	1			2,356		30.3	.0	4.8	65.0
23			33	222	2			1,924		35.1	.0	4.8	65.0
24			38	302				2,402		28.1	.0	4.8	65.0
25			27	286				2,146		30.9	.0	6.1	64.0
26			25	349				2,923		32.0	.0	6.2	64.0
27			19	246				2,268		29.1	.0	4.2	64.0
28			10	152				1,228		30.2	.0	5.2	64.0
29			10	159				2,141		27.2	.0	5.2	63.0
30			7	229				1,474		29.0	.0	5.2	63.0
TOTALS			1,483	3,931	7			75,378					
AVERAGES			49	131	1			2,513		31.8	.0		

TABLE 78

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

FISH COUNTS

ICE HARBOR PROJECT

OCT 1985

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			6	261				1,444		31.1	.0	5.2	63.0
2			6	262				1,595		27.1	.0	5.2	63.0
3			6	216				1,693		25.9	.0	5.4	63.0
4			7	260				945		27.1	.0	5.4	63.0
5			12	311				1,735		23.9	.0	5.7	63.0
6			13	192			2	1,415		14.3	.0	5.4	63.0
7			17	167				1,216		34.4	.0	5.4	63.0
8			10	143				692		27.5	.0	4.5	63.0
9			12	106				1,117		28.7	.0	4.1	63.0
10			7	87				833		22.8	.0	4.9	62.0
11			4	134				1,231		28.0	.0	5.0	60.0
12			5	121				954		24.3	.0	5.2	59.0
13			5	81				750		16.5	.0	5.2	58.0
14			1	79				940		22.1	.0	5.2	58.0
15			2	117				698		30.8	.0	5.2	58.0
16			8	85				832		28.4	.0	5.2	58.0
17			5	76				801		31.5	.0	6.4	58.0
18			4	48				647		32.3	.0	6.2	58.0
19			4	42				422		26.1	.0	6.8	57.0
20			1	38				613		26.2	.0	6.8	57.0
21			3	34				432		38.4	.0	6.8	57.0
22			3	31				539		33.5	.0	6.8	57.0
23			1	49				511		24.8	.0	6.8	57.0
24			6	17				468		25.6	.0	6.8	57.0
25			4	25				546		30.2	.0	6.8	56.0
26			1	27				278		33.3	.0	5.8	56.0
27			3	23				383		29.7	.0	5.8	55.0
28			2	21				303		37.5	.0	5.8	55.0
29			3	18				387		33.0	.0	6.0	55.0
30			2	17				610		32.8	.0	6.1	55.0
31			2	10				545		31.0	.0	6.1	54.0
TOTALS			165	3,098			2	25,575					
AVERAGES			5	100			2	825		28.3	.0		

TABLE 79
WATER TEMPERATURE AND STREAM FLOW DATA
ICE HARBOR PROJECT - 1985

DATE	NOVEMBER			DECEMBER		
	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.
1	36.0	6.1	54.0	32.3	6.8	39.0
2	30.7	6.1	54.0	48.4	6.8	39.0
3	23.7	6.1	54.0	38.4	6.8	38.0
4	36.1	6.1	53.0	42.0	6.8	37.0
5	33.7	6.1	53.0	35.6	6.8	37.0
6	34.6	6.1	53.0	43.0	6.8	37.0
7	33.8	5.9	53.0	26.5	7.0	37.0
8	33.6	5.8	53.0	18.8	7.0	37.0
9	26.7	5.8	53.0	43.4	7.0	37.0
10	31.0	5.8	53.0	34.8	6.8	37.0
11	42.6	5.8	53.0	43.7	6.8	37.0
12	38.4	5.8	53.0	40.3	6.8	37.0
13	41.6	5.8	52.0	39.2	6.8	37.0
14	29.6	6.1	50.0	21.8	7.0	36.0
15	38.4	6.6	48.0	8.8	6.8	36.0
16	20.5	6.2	48.0	42.0	6.8	36.0
17	32.6	6.2	47.0	24.1	6.8	35.0
18	41.8	6.2	47.0	37.7	6.8	35.0
19	40.3	6.3	47.0	33.2	6.8	35.0
20	33.1	6.3	46.0	35.9	6.8	35.0
21	35.4	6.3	46.0	37.8	6.8	35.0
22	27.7	6.3	45.0	29.2	6.8	35.0
23	41.2	6.1	45.0	30.6	6.8	35.0
24	41.4	6.5	44.0	36.5	6.8	35.0
25	17.6	6.5	43.0	21.5	6.8	35.0
26	30.0	6.8	42.0	22.1	6.8	35.0
27	32.8	6.6	41.0	34.2	6.8	35.0
28	28.7	6.6	40.0	34.6	6.8	35.0
29	31.2	7.0	39.0	26.8	6.8	35.0
30	40.2	6.8	39.0	28.1	6.8	35.0
31				32.7	6.8	35.0
AVERAGES	33.5			33.0		

TABLE 80

TABLE 80
MONTHLY COUNT OF CHINOOK SALMON*
ICE HARBOR DAM - 1962-1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	SPRING APR 1- JUN 11	SUMMER JUN 12- AUG 11	FALL AUG 12- OCT 31
1962				2,579	28,951	23,250	8,315	3,547	20,578	7,081			94,301	33,613	30,639	30,049
1963				3,434	21,790	14,001	7,591	1,415	9,342	2,918	677	22	61,190	26,778	20,875	13,537
1964		1	2	4,048	19,611	5,409	18,832	2,161	8,159	1,701	156	17	60,097	24,304	24,696	11,097
1965			4	1,677	9,649	5,072	10,209	803	9,318	2,152	349		39,233	12,178	14,701	12,354
1966				23,382	19,294	10,611	7,166	1,933	10,756	2,740			75,882	43,881	16,983	15,018
1967				15,973	18,137	9,020	22,218	820	11,947	6,815			84,930	35,593	30,315	19,022
1968			-	1,595	41,398	12,119	17,751	3,433	16,588	5,275	493	29	98,681	44,773	29,531	24,377
1969			195	697	43,181	24,918	12,861	2,369	12,027	3,555	708	3	100,514	52,090	30,917	17,507
1970				12,167	33,881	12,338	8,185	1,747	7,702	1,456	219	3	77,698	47,931	19,382	10,385
1971				1,104	25,089	19,265	13,364	873	8,960	1,593			70,248	32,638	26,606	11,004
1972				14,535	34,734	7,544	15,177	1,869	6,089	2,684			82,632	50,350	22,846	9,436
1973				34,277	23,627	10,925	4,254	840	6,657	1,241			81,821	60,639	12,829	8,353
1974				842	16,670	5,315	6,494	483	2,066	574			32,444	19,361	10,269	2,814
1975				1,314	17,796	5,817	3,972	506	1,875	406			31,686	21,401	7,727	2,558
1976				3,146	19,269	8,544	3,921	349	1,123	204			36,556	25,056	10,026	1,474
1977				24,003	17,626	9,328	3,606	297	1,370	284			56,514	44,421	10,337	1,756
1978				14,891	29,333	9,999	4,888	892	1,064	269	16		61,352	49,303	10,440	1,609
1979				1,731	6,528	2,234	1,216	379	1,489	333	19		13,929	9,247	2,608	2,074
1980				1,678	7,321	2,285	1,569	301	1,034	504	25		14,717	9,668	3,305	1,744
1981			1	6,744	8,542	2,884	1,751	161	1,530	470	9		22,092	16,167	3,814	2,111
1982			3	656	11,543	4,522	2,347	283	2,601	691			22,646	14,600	4,527	3,519
1983				1,925	9,418	4,132	1,921	316	1,945	602			20,259	12,602	4,922	2,735
1984				823	7,292	5,353	1,943	223	1,762	361			17,757	9,183	6,307	2,267
1985				12,245	18,334	6,885	1,294	546	5,414	3,263			47,981	33,527	5,290	9,164
TOTAL		1	205	185,466	489,014	221,770	180,845	26,546	151,396	47,172	2,671	74	1,305,160	729,304	359,892	215,964
24-YEAR AVERAGE			9	7,728	20,376	9,240	7,535	1,106	6,308	1,966			54,382	30,388	14,996	8,999

* Includes Jacks

TABLE 81

MONTHLY COUNT OF STEELHEAD TROUT
ICE HARBOR DAM - 1962 - 1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1962				8,758	716	261	2,384	7,450	75,924	20,303			115,796
1963				969	895	163	2,157	6,514	35,382	24,070	4,042	347	74,539
1964	105	136	796	2,269	807	153	1,596	9,462	34,435	7,357	1,347	397	58,860
1965	31	110	673	1,976	488	439	3,739	4,497	33,595	13,522	3,803		62,873
1966				2,161	810	413	1,383	2,517	40,185	18,329			65,798
1967				1,266	894	345	972	953	18,914	20,861			44,205
1968				2,558	2,933	357	952	8,107	45,552	17,270	3,692	962	82,383
1969	132	41	807	4,971	2,430	321	3,348	5,715	27,219	14,953	3,874	78	63,889
1970				1,597	1,067	389	2,620	7,611	30,101	8,290	1,891	304	53,870
1971			458	1,938	843	215	3,064	2,996	42,481	15,034			67,029
1972				1,853	553	152	3,062	6,503	34,134	17,336			63,593
1973				1,570	827	254	1,785	2,699	22,021	9,155			38,311
1974				972	359	104	1,482	2,202	3,661	3,748			12,528
1975				564	409	76	1,223	3,878	6,816	3,252			16,218
1976				508	142	165	1,714	5,138	11,141	5,077			23,885
1977				685	220	308	3,654	3,017	30,610	16,326			54,820
1978				908	88	43	1,308	2,907	15,094	6,092	702		27,142
1979			454	538	114	60	1,995	1,778	6,136	9,717	2,325		23,117
1980			1,420	2,796	563	39	1,303	4,333	22,064	15,424	2,279		50,221
1981			797	1,106	433	137	2,305	1,431	16,563	16,669	1,849		41,290
1982			1,471	1,931	918	45	2,564	8,895	30,574	27,007			73,405
1983				1,001	150	36	3,773	9,875	48,519	25,121			88,475
1984				2,218	488	49	4,103	4,554	50,638	31,980			94,030
1985			1,892	7,353	439	306	3,070	14,468	75,378	25,575			128,481
TOTAL	268	287	8,768	52,466	17,586	4,830	55,556	127,500	757,137	372,468	25,804	2,088	1,424,758
24-YEAR AVERAGE			365	2,186	733	201	2,315	5,312	31,547	15,520			59,365

TABLE 82

YEARLY TOTALS OF SALMONID FISH COUNTED OVER LOWER MONUMENTAL DAM
1969-1985

YEAR	CHINOOK	STEELHEAD	SOCKEYE	COHO	TOTAL SALMONID
1969	86,700	71,434	1,127	6,466	165,727
1970	75,310	62,167	240	2,972	140,689
1971	68,885	70,114	808	2,171	141,978
1972	72,220	66,857	415	733	140,225
1973	80,557	39,530	206	1,333	121,626
1974	31,728	15,139	114	812	47,793
1975	33,013	17,363	146	572	51,094
1976	34,395	21,822	364	361	56,942
1977	49,301	47,749	293	122	97,465
1978	56,835	20,540	96	218	77,689
1979	11,288	17,794	31	194	29,307
1980	10,885	34,322	48	73	45,328
1981	19,991	35,923	136	63	56,113
1982	21,965	62,772	154	89	84,980
1983	19,082	80,562	118	110	99,872
1984	17,866	88,655	63	26	106,610
1985	42,437	109,718	68	24	152,247
TOTAL	732,458	862,463	4,427	16,339	1,615,687
17-YEAR AVERAGE	43,086	50,733	268	961	95,040

TABLE 83

MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER LOWER MONUMENTAL DAM
1985

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*	-	-	-	7,360	20,572	7,303	1,279	402	2,451	3,070	-	-	42,437
STEELHEAD	-	-	-	6,889	548	189	1,888	10,086	63,734	26,384	-	-	109,718
SOCKEYE	-	-	-	-	-	13	19	-	30	6	-	-	68
COHO	-	-	-	-	-	-	-	3	19	2	-	-	24
TOTAL SALMONID	-	-	-	14,249	21,120	7,505	3,186	10,491	66,234	29,462	-	-	152,247
SHAD	-	-	-	-	1	2,549	2,807	18	-	-	-	-	5,375

* Jacks Included

TABLE 84
WATER TEMPERATURE AND STREAM FLOW DATA
LOWER MONUMENTAL - 1985

DATE	JANUARY			FEBRUARY			MARCH		
	DISCHARGE	TURBIDITY*	WATER TEMP.*	DISCHARGE	TURBIDITY*	WATER TEMP.*	DISCHARGE	TURBIDITY*	WATER TEMP.*
1	40.4			49.9			46.1		
2	49.1			46.4			35.2		
3	29.6			42.5			33.4		
4	52.8			62.3			56.3		
5	42.6			39.0			37.2		
6	28.5			27.3			44.8		
7	43.3			34.2			39.1		
8	48.3			39.6			40.4		
9	56.0			40.3			28.8		
10	56.3			39.5			37.7		
11	49.3			54.0			49.3		
12	37.6			39.1			39.2		
13	46.0			49.6			47.0		
14	48.3			57.3			43.8		
15	44.5			41.6			32.2		
16	48.4			45.3			32.8		
17	49.7			37.6			41.5		
18	62.7			43.6			47.9		
19	45.0			53.1			48.5		
20	28.9			46.9			63.8		
21	51.0			49.1			61.4		
22	50.5			58.5			53.8		
23	43.7			37.5			56.6		
24	43.2			22.6			49.3		
25	32.8			42.7			63.5		
26	34.6			63.9			61.8		
27	45.6			47.9			48.3		
28	49.4			53.9			36.8		
29	41.9						51.4		
30	49.4						50.0		
31	44.0						51.8		
AVERAGES	45.0			45.2			46.1		

*Water quality data were not collected 1 January thru 1 April 1985

TABLE 85

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJECT

APR 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1								131		65.0	.0	2.0	42.0
2								116		77.8	.0	2.0	42.0
3	1							176		73.4	.0	2.0	42.0
4								120		87.0	.0	2.0	43.0
5	1							155		85.5	.0	2.0	43.0
6	1							122		74.0	.0	2.0	44.0
7								126		71.0	.0	1.5	44.0
8	1							162		71.6	.0	1.5	45.0
9	3							185		85.9	.0	1.5	45.0
10								236		92.8	6.2	1.5	46.0
11	8							419		105.6	17.5	1.5	46.0
12	1			1				384		109.2	21.0	1.5	46.0
13	13							408		106.5	18.0	1.5	46.0
14	11							395		100.4	10.5	1.5	46.0
15	7			1				361		106.4	17.0	1.5	47.0
16	37			1				378		104.8	17.8	1.5	48.0
17	79			3				481		118.4	29.0	1.5	48.0
18	106							344		118.9	29.4	1.5	49.0
19	125			1				444		114.4	26.5	1.0	50.0
20	426			12				408		114.8	24.7	1.0	50.0
21	190			6				326		96.5	20.3	1.0	50.0
22	348			9				184		84.9	15.9	1.0	50.0
23	718			1				242		78.2	16.5	1.0	50.0
24	878			4				191		73.8	13.7	1.5	50.0
25	546			4				95		86.5	16.3	1.5	51.0
26	383			3				106		73.4	13.4	1.5	51.0
27	379			4				56		65.3	13.9	1.5	51.0
28	1,051			14				52		52.0	9.4	1.5	51.0
29	1,094			9				35		80.5	15.1	2.0	51.0
30	865			15				51		82.5	15.1	2.0	51.0
TOTALS	7,272			88				6,889					
AVERAGES	291			5				230		88.6	12.2		

TABLE 86

TABLE 86

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJECT

MAY 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1	829			18				47		74.4	12.6	2.0	51.0
2	388			3				33		79.8	14.8	2.0	51.0
3	422			13				35		98.1	18.9	2.0	51.0
4	641			13				30		79.3	18.3	2.0	51.0
5	1,072			18				37		99.1	22.1	2.0	51.0
6	1,910			35				64		107.8	23.3	2.0	51.0
7	435			18				40		76.6	14.6	2.0	51.0
8	1,064			45				27		75.1	13.0	2.0	54.0
9	1,330			57				23		80.9	17.7	2.0	54.0
10	625			43				26		87.4	18.5	2.0	54.0
11	801			59				12		88.1	18.5	2.0	54.0
12	1,019			65				18		74.7	16.3	2.0	54.0
13	932			95				12		92.9	20.1	2.0	53.0
14	624			57				11		62.6	11.7	2.0	52.0
15	571			62				11		69.7	13.4	2.0	52.0
116	766			77				9		61.7	14.4	2.0	53.0
17	1,109			124				15		73.8	15.5	2.0	53.0
18	204			71				9		89.0	18.1	2.0	53.0
19	503			97				6		89.5	18.8	2.0	54.0
20	163			33				6		94.3	18.8	2.0	54.0
21	283			89				8		97.0	20.6	2.0	54.0
22	462			112				10		109.9	24.2	2.0	54.0
23	192			89				9		113.3	25.0	2.0	56.0
24	185			55				10		119.3	26.5	2.0	56.0
25	224			71				5		121.1	27.7	2.0	57.0
26	214			87				6		114.3	26.7	2.0	58.0
27	354			101				4		108.9	23.2	2.0	58.0
28	391			105				10		104.1	23.3	2.0	58.0
29	311			81				4		105.7	22.5	2.0	58.0
30	192			49						106.4	23.0	2.0	58.0
31	438			76				11	1	98.1	20.3	2.0	58.0
TOTALS	18,654			1,918				548	1				
AVERAGES	602			62				18	1	92.0	19.4		

TABLE 87

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJECT

JUN 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	187			65				6		104.8	21.1	2.0	57.0
2	122			52				2		87.2	18.0	2.0	57.0
3	301			60				1		95.7	18.3	2.0	56.0
4	87			19				2		99.3	19.0	2.0	57.0
5	130			27				1		88.8	16.0	2.0	57.0
6	102			18				6		100.0	18.1	2.0	57.0
7	217			38				2		106.8	21.3	2.0	57.0
8	265			48				4	2	120.2	30.9	2.0	57.0
9	1,123			107				3	4	125.8	59.2	2.0	57.0
10	315			37				3	5	111.5	28.7	2.0	57.0
11	136			29				4	38	96.2	20.9	2.0	59.0
12	168			36				7	26	90.2	5.4	3.5	60.0
13	112			32				8	26	92.9	.0	3.5	60.0
14		98		23			2	3	5	82.1	.0	3.5	59.0
15		217		47			1	5	2	72.2	.0	3.5	59.0
16		91		23				2	13	65.3	.0	3.5	59.0
17		69		20				2	27	68.2	.0	3.5	59.0
18		209		52				6	126	66.3	.0	3.5	59.0
19		169		38			1	5	101	66.1	.0	3.5	59.0
20		137		29			1	3	144	56.7	.0	3.5	60.0
21		257		59				6	194	60.7	.0	3.5	60.0
22		201		62				5	185	56.1	.0	3.5	61.0
23		149		80				8	123	48.7	.0	3.5	61.0
24		176		64				9	168	57.3	.0	3.5	61.0
25		142		56			1	14	288	54.1	.0	3.5	61.0
26		179		51				18	162	50.2	.0	3.5	61.0
27		156		46			5	34	175	40.9	.0	2.5	61.0
28		166		40			2	6	238	35.1	.0	2.5	62.0
29		172		45				7	335	30.3	.0	2.5	63.0
30		114		33				7	162	35.5	.0	3.0	64.0
TOTALS	3,265	2,702		1,336			13	189	2,549				
AVERAGES	251	159		45			2	6	111	75.5	9.2		

TABLE 88

MONTHLY FISH PASSAGE SUMMARY REPORT — LOWER MONUMENTAL PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — JUL 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS												
DATE	SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		83		18			1	5	264	37.4	.0	3.1	66.0
2		82		26				17	255	41.4	.0	3.2	67.0
3		55		12			1	30	202	44.6	.0	3.8	67.0
4		43		29				30	187	38.8	.0	3.2	67.0
5		51		20			3	24	199	36.5	.0	3.2	67.0
6		49		24			2	22	158	31.0	.0	3.2	67.0
7		38		15			1	34	207	35.5	.0	3.3	68.0
8		45		20				40	150	41.4	.0	3.0	68.0
9		25		9				18	62	28.8	.0	3.2	68.0
10		24		13			1	54	43	24.0	.0	3.2	70.0
11		65		23			2	79	275	37.2	.0	3.2	71.0
12		22		26			1	96	178	36.6	.0	3.2	71.0
13		20		25			1	71	84	27.5	.0	3.2	71.0
14		25		12				67	33	14.4	.0	3.2	71.0
15		14		21				74	62	22.3	.0	3.3	71.0
16		31		31				94	72	14.4	.0	3.3	71.0
17		27		25			2	59	54	21.6	.0	3.3	71.0
18		24		11				85	60	25.1	.0	3.3	71.0
19		7		7				72	26	33.2	.0	3.3	71.0
20		12		10			2	117	34	28.3	.0	3.3	71.0
21		7		7			1	99	34	18.4	.0	3.3	71.0
22		6		6				62	39	26.3	.0	3.3	72.0
23		19		13			1	122	22	12.3	.0	3.3	72.0
24		30		6				90	14	18.6	.0	3.3	72.0
25		4		10				81	16	21.7	.0	3.3	72.0
26		4		3				84	24	20.9	.0	3.3	72.0
27		7		2				83	15	19.7	.0	4.5	72.0
28		2		1				39	17	19.2	.0	4.5	72.0
29		2						28	12	26.4	.0	4.5	72.0
30		6		1				28	2	24.4	.0	4.5	72.0
31		12		12				84	7	20.4	.0	4.5	72.0
TOTALS		841		438			19	1,888	2,807				
AVERAGES		27		15			1	61	91	27.4	.0		

TABLE 89

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJECT

AUG 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		15		2				62	5	26.7	.0	4.5	72.0
2		7		2				92		34.5	.0	4.5	72.0
3		13		7				78	2	26.8	.0	4.5	72.0
4		1						63		35.6	.0	4.5	72.0
5		1		2				63	1	34.6	.0	4.5	72.0
6		6						68		32.0	.0	4.5	72.0
7		11						108		21.3	.0	3.5	73.0
8		3		2				131		23.3	.0	3.0	72.0
9		1		1				103		23.7	.0	3.5	72.0
10		7						62		14.0	.0	3.0	72.0
11		1						50		16.0	.0	3.0	72.0
12		5		1				40		24.4	.0	3.0	72.0
13		8						42		22.4	.0	3.0	72.0
14			1	2				24		28.8	.0	3.0	72.0
15			8	1				38		23.5	.0	3.0	71.0
16			8	3				131		23.4	.0	3.0	71.0
17			2	1	1			123		28.0	.0	3.0	71.0
18			9					93		16.8	.0	3.0	71.0
19			7	1				171	1	30.4	.0	3.0	71.0
20			26	1				358		20.9	.0	3.0	71.0
21			21	3				485		25.3	.0	3.0	70.0
22			10	1				364		20.9	.0	3.0	70.0
23			16	6				341		27.6	.0	3.0	70.0
24			5	7				606	4	21.1	.0	3.0	70.0
25			7	9				344	5	20.1	.0	3.0	70.0
26			12	8				429		28.3	.0	3.0	70.0
27			16	2				855		23.8	.0	3.0	70.0
28			12	2	2			1,133		24.2	.0	3.0	70.0
29			15	4				1,109		19.2	.0	3.0	70.0
30			29	14				1,071		19.9	.0	3.0	70.0
31			23	14				1,449		19.3	.0	3.0	70.0
TOTALS		79	227	96	3			10,086	18				
AVERAGES		6	13	4	1			325	3	24.4	.0		

TABLE 90

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJECT

SEP 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			8	10	1			935		24.5	.0	3.0	69.0
2			22	13				1,232		24.4	.0	3.0	68.0
3			21	21	1			1,335		24.4	.0	3.0	68.0
4			15	12				2,280		30.7	.0	3.0	68.0
5			20	25	1		2	1,816		23.3	.0	3.0	68.0
6			22	32			2	2,601		24.8	.0	3.0	68.0
7			17	36	8			1,551		24.7	.0	3.0	68.0
8			22	11			1	1,494		32.6	.0	3.0	68.0
9			23	43				1,913		31.3	.0	3.0	68.0
10			27	32			10	2,710		41.5	.0	3.0	68.0
11			27	37			1	1,853		39.9	.0	3.0	68.0
12			29	40			5	2,634		41.2	.0	3.0	67.0
13			22	32	1	1	6	2,593		42.1	.0	3.0	67.0
14			18	34			1	3,121		32.7	.0	3.0	67.0
15			19	56	1	1		3,445		37.7	.0	3.0	66.0
16			24	61				3,272		34.1	.0	3.0	66.0
17			22	83	2			3,316		34.9	.0	3.0	66.0
18			39	49				2,882		30.9	.0	3.0	65.0
19			12	63			2	1,931		48.9	.0	3.0	65.0
20			29	79				2,362		42.6	.0	3.0	65.0
21			9	60				1,562		32.7	.0	3.0	65.0
22			31	77	2			2,344		30.1	.0	2.5	63.0
23			16	94				1,750		37.3	.0	2.5	63.0
24			16	40				1,799		28.7	.0	2.5	63.0
25			12	31				1,150		33.7	.0	2.5	63.0
26			6	42				1,158		30.7	.0	2.5	63.0
27			16	156				2,595		28.4	.0	2.5	63.0
28			13	220				2,187		32.5	.0	2.5	62.0
29			11	242				2,322		25.6	.0	2.5	62.0
30			16	136				1,591		30.1	.0	2.5	62.0
TOTALS			584	1,867	17	2	30	63,734					
AVERAGES			19	62	2	1	3	2,124		32.6	.0		

TABLE 91

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER MONUMENTAL PROJECT

OCT 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO							
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			19	173				1,635		30.9	.0	2.5	62.0
2			5	184				1,523		27.8	.0	2.5	61.0
3			8	316			3	2,601		27.7	.0	2.5	61.0
4			10	227	1			1,161		26.3	.0	2.5	61.0
5			6	214			1	1,592		24.9	.0	2.5	60.0
6			17	225				1,276		14.5	.0	2.5	60.0
7			12	132				1,026		34.8	.0	2.5	60.0
8			10	184				1,508		27.3	.0	2.5	59.0
9			2	156				1,148		30.7	.0	2.5	59.0
10			3	117				898		23.6	.0	2.5	59.0
11			3	102				839		29.2	.0	2.1	59.0
12			15	79				872		25.8	.0	2.5	59.0
13			14	108				1,094		18.7	.0	2.5	58.0
14			4	65				1,050		21.2	.0	3.0	57.0
15			3	97		1		661		31.2	.0	3.2	57.0
16			2	52				755		29.2	.0	3.2	57.0
17			4	86				457		32.8	.0	3.2	57.0
18				45				710		31.9	.0	3.2	57.0
19			2	47			1	606		27.1	.0	3.2	56.0
20				40				542		26.7	.0	3.2	56.0
21			5	23				550		39.1	.0	3.0	56.0
22			1	35				491		35.2	.0	3.0	56.0
23			7	46				679		25.1	.0	3.0	56.0
24			2	27				409		26.4	.0	3.0	56.0
25			4	26				368		30.8	.0	3.0	56.0
26			2	14				193		33.0	.0	3.0	55.0
27				23				252		30.5	.0	3.0	55.0
28			3	14			1	578		38.3	.0	3.0	55.0
29			2	16				185		32.9	.0	3.0	55.0
30			4	12				315		34.1	.0	3.0	54.0
31			2	14				410		30.0	.0	3.0	53.0
TOTALS			171	2,899	1	1	6	26,384					
AVERAGES			6	94	1	1	1	851		29.0	.0		

TABLE 91

TABLE 92
WATER TEMPERATURE AND STREAM FLOW DATA
LOWER MONUMENTAL PROJECT - 1985

DATE	NOVEMBER			DECEMBER		
	DISCHARGE	TURBIDITY*	WATER TEMP.*	DISCHARGE	TURBIDITY*	WATER TEMP.*
1	35.5			33.3		
2	31.1			48.1		
3	26.3			38.4		
4	34.0			43.2		
5	33.6			37.6		
6	35.4			39.9		
7	33.1			29.9		
8	33.3			19.5		
9	29.0			43.3		
10	32.3			36.7		
11	40.4			44.5		
12	41.3			35.9		
13	40.2			41.3		
14	31.6			21.5		
15	38.7			9.7		
16	23.4			39.5		
17	31.9			27.4		
18	43.1			38.6		
19	40.4			34.3		
20	34.7			37.2		
21	36.4			39.5		
22	28.0			26.9		
23	41.2			30.9		
24	41.9			36.6		
25	20.4			21.8		
26	28.9			23.5		
27	33.2			34.1		
28	30.9			34.6		
29	32.0			27.7		
30	41.3			28.5		
31				32.9		
AVERAGES	34.1			33.4		

*Water quality data were not collected 1 November thru 31 December 1985

TABLE 93

MONTHLY TOTALS OF CHINOOK COUNTED OVER LOWER MONUMENTAL DAM
1969 - 1985

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
1983				1,250	10,262	3,841	2,103	220	1,008	398			19,082
1984				513	7,186	6,297	2,549	205	789	327			17,866
1985				7,360	20,572	7,303	1,279	402	2,451	3,070			42,437
TOTAL	1		2	93,974	327,941	149,477	92,644	11,040	43,022	13,887	462	8	732,458
17-YEAR AVERAGE				5,528	19,291	8,793	5,450	649	2,531	817			43,086

* Jacks Included

TABLE 94

MONTHLY COUNT OF STEELHEAD TROUT
LOWER MONUMENTAL DAM - 1969-1985

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
1983				1,021	131	14	3,027	10,101	40,004	26,264			80,562
1984				2,663	482	52	3,150	4,820	42,788	34,700			88,655
1985				6,889	548	189	1,888	10,086	63,734	26,384			109,718
TOTAL	252	1,030	3,466	40,675	15,093	1,572	31,439	84,886	409,453	268,011	5,804	782	862,463
17-YEAR AVERAGE				2,393	888	92	1,849	4,993	24,085	15,765			50,733

TABLE 95

YEARLY TOTALS OF SALMONIDS COUNTED OVER LOWER GRANITE DAM
1975 - 1985

YEAR	CHINOOK	STEELHEAD	SOCKEYE	COHO	TOTAL SALMONID
1975	28,460	17,311	209	921	46,901
1976	31,667	23,017	531	900	56,115
1977	49,123	53,037	458	268	102,886
1978	54,246	30,068	123	152	84,589
1979	12,548	25,046	25	158	37,777
1980	10,986	40,454	96	43	51,579
1981	19,198	40,234	218	17	59,667
1982	19,476	72,840	211	59	92,586
1983	16,200	86,234	122	51	102,607
1984	16,517	98,923	49	0	115,489
1985	36,567	118,463	35	2	155,067
TOTAL	294,988	605,627	2,077	2,571	905,293
11-YEAR AVERAGE	26,817	55,057	189	234	82,297

TABLE 96
MONTHLY TOTALS OF SALMONIDS AND SHAD COUNTED OVER LOWER GRANITE DAM
1969 - 1985

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*	-	-	-	1,429	20,384	10,466	1,971	281	1,285	697	53	1	36,567
STEELHEAD	-	-	2,474	9,686	856	146	706	5,027	63,074	33,137	3,230	127	118,463
SOCKEYE	-	-	-	-	-	6	27	2	-	-	-	-	35
COHO	-	-	-	-	-	-	-	-	2	-	-	-	2
TOTAL SALMONID	-	-	2,474	11,115	21,240	10,618	2,704	5,310	64,361	33,834	3,283	128	155,067
SHAD	-	-	-	-	-	10	526	149	6	1	-	-	692

* Jacks Included

TABLE 97
WATER TEMPERATURE AND STREAM FLOW DATA
LOWER GRANITE PROJECT - 1985

DATE	JANUARY			FEBRUARY		
	DISCHARGE	TURBIDITY	WATER TEMP.	DISCHARGE	TURBIDITY	WATER TEMP.
1	42.1	5.0	37.0	44.5	5.0	35.0
2	40.1	5.0	37.0	43.6	5.0	35.0
3	40.3	5.0	36.0	42.6	5.0	35.0
4	41.6	5.0	36.0	45.8	5.0	34.0
5	46.0	5.0	36.0	31.6	5.0	33.0
6	42.6	5.0	36.0	38.9	5.0	33.0
7	45.2	5.0	35.0	46.2	4.0	33.0
8	46.2	5.0	34.0	38.6	4.0	33.0
9	49.5	5.0	34.0	38.3	5.0	33.0
10	48.7	5.0	34.0	38.4	5.0	33.0
11	43.2	5.0	34.0	44.1	5.0	33.0
12	50.4	5.0	34.0	41.6	5.0	34.0
13	44.8	5.0	34.0	45.2	5.0	34.0
14	43.1	5.0	34.0	46.5	5.0	35.0
15	46.6	5.0	34.0	46.1	5.0	35.0
16	46.3	5.0	34.0	43.1	5.0	36.0
17	47.7	5.0	34.0	37.5	5.0	36.0
18	45.2	5.0	34.0	39.2	5.0	36.0
19	46.3	5.0	34.0	47.7	5.0	36.0
20	44.1	5.0	34.0	48.4	5.0	36.0
21	42.0	5.0	35.0	42.4	4.5	36.0
22	47.3	5.0	35.0	44.2	4.5	36.0
23	43.5	5.0	35.0	37.7	4.5	36.0
24	45.4	5.0	35.0	33.0	4.0	35.0
25	41.6	5.0	35.0	39.7	3.0	35.0
26	37.6	5.0	35.0	47.5	2.0	36.0
27	43.7	5.0	35.0	52.7	2.0	36.0
28	48.4	5.0	35.0	45.4	2.1	36.0
29	40.7	5.0	35.0			
30	45.2	5.0	35.0			
31	45.4	5.0	35.0			
AVERAGES	44.5			42.5		

TABLE 98

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

MAR 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO							
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1								8		41.8	.0	1.7	37.0
2								38		34.9	.0	1.0	37.0
3								25		41.3	.0	1.0	37.0
4								17		40.5	.0	1.7	37.0
5								16		42.6	.0	1.8	37.0
6								17		36.3	.0	3.0	37.0
7								10		40.0	.0	1.5	37.0
8								14		33.0	.0	1.5	37.0
9								8		37.2	.0	2.0	37.0
10								14		37.7	.0	3.7	37.0
11								5		33.1	.0	2.2	37.0
12								5		46.9	.0	2.5	38.0
13								5		36.7	.0	2.5	38.0
14								10		39.0	.0	5.0	38.0
15								13		38.1	.0	5.0	39.0
16								66		40.9	.0	3.6	39.0
17								48		37.6	.0	3.4	39.0
18								24		44.8	.0	3.0	39.0
19								60		42.7	.0	3.0	39.0
20								49		56.6	.0	2.0	40.0
21								193		45.2	.0	1.4	41.0
22								160		56.0	.0	1.2	42.0
23								275		52.0	.0	1.3	42.0
24								312		48.5	.0	1.3	42.0
25								234		54.8	.0	1.3	42.0
26								203		46.8	.0	1.3	42.0
27										50.2	.0	1.3	41.0
28								122		43.3	.0	3.0	41.0
29								104		48.8	.0	3.0	42.0
30								197		46.1	.0	2.6	42.0
31								222		45.8	.0	3.0	37.0
TOTAL								2,474					
AVERAGE								82		43.2	.0		

TABLE 98

TABLE 99

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

APR 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1								267		54.0	.0	3.2	42.0
2								322		60.8	.0	3.2	42.0
3								434		71.7	.0	2.6	45.0
4								443		80.4	.0	1.4	45.0
5								566		77.3	.0	1.1	47.0
6								461		72.6	.0	1.1	47.0
7								360		67.9	.0	1.2	47.0
8								312		78.3	.0	1.2	47.0
9								303		84.3	.0	1.8	47.0
10								368		93.0	.0	2.0	48.0
11								390		103.7	.0	2.2	48.0
12								465		110.1	2.3	1.4	50.0
13								434		97.2	1.1	1.4	50.0
14								395		95.7	.0	1.4	50.0
15								459		104.7	.0	1.5	50.0
16								417		106.5	.8	1.4	52.0
17	6							413		112.5	4.4	1.5	51.0
18	1							476		108.8	.1	1.4	51.0
19	5							340		108.4	.0	1.5	51.0
20	10							298		99.6	.0	2.0	50.0
21	23			1				372		89.1	.0	1.8	50.0
22	11							267		81.1	.0	1.8	50.0
23	31							218		77.4	.0	1.8	50.0
24	54							206		80.1	.0	1.8	49.0
25	24							124		80.8	.0	1.8	49.0
26	58							124		74.6	.0	1.8	49.0
27	118							132		65.2	.0	2.5	49.0
28	147							109		53.0	.0	2.6	50.0
29	355			2				102		73.7	.0	2.8	49.0
30	578			5				109		75.1	.0	2.6	52.0
TOTALS	1,421			8				9,686					
AVERAGES	101			3				323		84.6	.3		

TABLE 100

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

MAY 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	1,188			4				109		74.8	.0	2.7	53.0
2	614			7				66		82.5	.0	2.8	53.0
3	433			7				76		94.0	.0	2.8	53.0
4	199			7				36		91.8	.0	3.0	53.0
5	543			9				52		91.8	9.0	3.5	52.0
6	271			4				51		89.6	35.6	2.9	53.0
7	529			11				52		81.4	17.6	2.9	52.0
8	302			10				23		80.8	.0	2.8	50.0
9	1,710			31				32		89.7	.0	2.8	50.0
10	1,119			30				41		88.5	.0	2.8	51.0
11	1,141			50				38		83.8	.0	2.5	51.0
12	1,269			33				26		74.9	.0	3.0	51.0
13	260			26				30		68.5	.0	3.0	51.0
14	658			54				25		72.4	.0	2.8	51.0
15	846			60				17		72.6	.0	3.5	50.0
16	820			61				22		68.2	.0	3.5	51.0
17	782			77				20		73.5	.0	3.0	52.0
18	1,405			101				11		86.0	.0	3.0	53.0
19	975			102				15		83.5	.0	3.4	54.0
20	362			62				8		89.2	.0	3.4	56.0
21	292			60				12		95.6	.0	3.0	56.0
22	406			83				11		104.7	.0	3.0	56.0
23	257			63				9		112.1	.0	3.0	56.0
24	214			74				16		122.2	.0	3.0	56.0
25	699			140				19		119.9	.0	3.0	56.0
26	494			98				10		119.1	.0	3.0	56.0
27	179			50				8		107.5	.0	2.3	56.0
28	129			56				9		98.4	.0	2.3	56.0
29	170			99				3		102.8	.0	2.4	55.0
30	166			94				7		105.0	.0	2.2	55.0
31	276			113				2		102.6	5.6	2.6	54.0
TOTALS	18,708			1,676				856					
AVERAGES	603			54				28		91.2	2.2		

TABLE 101

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

JUN 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1	720			97				4		100.5	20.0	2.6	54.0
2	547			93				4		92.1	19.2	2.6	55.0
3	120			36				1		98.5	.3	2.8	55.0
4	174			70				1		89.9	.0	3.0	56.0
5	132			25				6		91.2	.0	3.0	56.0
6	56			32				2	1	99.2	.0	2.8	56.0
7	137			21				4		109.8	.0	2.8	58.0
8	204			40				3		122.9	.0	3.0	58.0
9	179			26				2		124.0	.0	2.4	56.0
10	106			21				2		105.5	.0	2.4	56.0
11	170			30				3		93.6	.0	3.0	56.0
12	417			81				1		88.4	.0	2.6	57.0
13	346			46	846			3		85.1	.0	2.8	57.0
14	281			39				1		79.0	.0	2.5	58.0
15	583			80				3		73.5	.0	2.9	58.0
16	518			53				5		65.5	.0	3.1	58.0
17	388			56				2		66.5	.0	3.1	60.0
18		634		78				2		62.1	.0	3.3	62.0
19		264		42	903			5		63.9	.0	3.4	62.0
20		207		41			1	3		57.3	.0	3.6	63.0
21		365		78				3		57.4	.0	3.8	63.0
22		307		70				3		56.4	.0	3.8	65.0
23		330		63				7		54.3	.0	3.6	65.0
24		174		50				8		46.8	.0	3.8	65.0
25		318		118			1	9	2	46.6	.0	3.4	65.0
26		185		87				5		49.9	.0	3.6	65.0
27		164		80			1	8	1	43.3	.0	3.6	65.0
28		194		72				9	2	41.3	.0	4.0	65.0
29		177		57				14	1	38.0	.0	4.0	65.0
30		320		67			3	23	3	38.4	.0	4.2	65.0
TOTALS	5,078	3,639		1,749			6	146	10				
AVERAGES	299	280		58			1	5	2	74.7	1.3		

TABLE 101

TABLE 102

MONTHLY FISH PASSAGE SUMMARY REPORT — LOWER GRANITE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — JUL 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS												
DATE	SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		119		34			6	7	22	36.6	.0	4.6	65.0
2		135		66				14	33	40.1	.0	5.0	65.0
3		103		44			3	9	12	46.1	.0	5.0	67.0
4		139		59			1	11	23	36.1	.0	5.0	67.0
5		36		16			2	18	34	23.8	.0	5.4	67.0
6		120		40			1	27	36	27.4	.0	5.2	67.0
7		70		24			3	9	18	37.3	.0	5.0	71.0
8		55		18			1	17	12	35.0	.0	5.0	70.0
9		15		1				10		29.2	.0	5.0	71.0
10		27		25			1	21	8	31.2	.0	5.0	73.0
11		35		20			3	14	28	30.4	.0	5.0	72.0
12		42		21				12	31	33.9	.0	5.0	73.0
13		55		46			1	26	39	26.8	.0	5.0	72.0
14		41		36				35	11	16.3	.0	5.0	73.0
15		23		17				20	9	20.7	.0	5.0	72.0
16		14		15			1	26	6	18.8	.0	5.0	72.0
17		42		40			2	48	6	25.6	.0	5.0	72.0
18		27		26			1	40	22	26.9	.0	5.0	73.0
19		18		15				35	20	29.8	.0	5.0	73.0
20		36		10				38	9	22.9	.0	5.0	73.0
21		18		11				21	13	14.3	.0	5.0	73.0
22		21		16				18	27	19.1	.0	5.0	73.0
23		16		19				55	14	16.0	.0	5.0	73.0
24		28		13				57	24	22.8	.0	5.0	73.0
25		15		9					22	24.4	.0	5.0	73.0
26		19					1	19	11	20.9	.0	5.0	73.0
27		9		5				27	16	21.9	.0	5.0	73.0
28		13		2				23	8	18.7	.0	5.0	73.0
29		2						10	5	21.5	.0	5.0	73.0
30		2		1				16	4	26.6	.0	5.0	73.0
31		6		1				23	3	21.2	.0	5.0	71.0
TOTALS		1,321		650			27	706	526				
AVERAGES		43		22			2	23	18	26.5	.0		

TABLE 103

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

AUG 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		3						3	7	24.0	.0	5.0	73.0
2		8		2				35	8	33.0	.0	5.0	73.0
3		15		1				48	5	24.0	.0	5.0	73.0
4		3		1				49	7	29.2	.0	4.8	73.0
5		1		3				56	8	32.6	.0	5.0	74.0
6		6		4				58	5	30.7	.0	5.0	72.0
7		2		5				28	6	24.5	.0	5.0	72.0
8		6		1				58	2	22.1	.0	5.0	72.0
9		6		2				67	5	23.8	.0	5.0	70.0
10		11		1				70	8	19.4	.0	5.0	70.0
11		10		2				54	10	20.2	.0	5.0	70.0
12		6						32	14	23.7	.0	5.0	70.0
13		11						19	13	19.6	.0	5.0	71.0
14		1						20	9	23.0	.0	5.0	69.0
15		2		1				14	4	23.3	.0	4.6	68.0
16		9						67	5	29.8	.0	5.0	68.0
17		2		1				34	2	25.3	.0	5.0	68.0
18			2					16	6	17.2	.0	5.0	67.0
19			3					47		30.5	.0	5.0	69.0
20			4	1				75		22.1	.0	5.0	69.0
21			7	1				72	4	26.0	.0	4.6	69.0
22			11	1				78	2	20.7	.0	4.9	69.0
23			12	4				212	1	23.5	.0	5.0	70.0
24			17	1				337	5	21.3	.0	5.0	70.0
25			3					301	1	19.3	.0	5.0	70.0
26			15					203	1	24.3	.0	5.0	70.0
27			3	1				243	2	25.0	.0	5.0	70.0
28			11	2				256	1	21.9	.0	5.0	69.0
29			18					407	5	23.6	.0	5.0	68.0
30			14	2				697	2	22.8	.0	5.0	68.0
31			20	2			2	1,371	1	20.1	.0	5.0	67.0
TOTALS		102	140	39			2	5,027	149				
AVERAGES		6	10	2			2	162	5	24.1	.0		

TABLE 104

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

SEP 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			12	4				747	3	23.2	.0	5.0	68.0
2			22	10				1,177		21.6	.0	5.0	68.0
3			16	3				878	1	24.2	.0	5.0	68.0
4			10	7				976		30.2	.0	5.0	68.0
5			27	7				2,357		21.8	.0	5.0	68.0
6			12	17				1,604		26.3	.0	5.0	68.0
7			7	13				1,294		28.6	.0	5.0	68.0
8			8	20				1,310		28.8	.0	5.0	67.0
9			11	20				1,798		28.2	.0	5.0	66.0
10			14	14				1,572		40.8	.0	5.0	66.0
11			15	21				1,831		36.2	.0	4.8	66.0
12			7	19				1,572		38.3	.0	5.0	65.0
13			20	21				2,269		41.5	.0	5.0	65.0
14			10	34				2,251		36.5	.0	5.0	64.0
15			4	21				2,650		34.3	.0	5.0	64.0
16			10	29				2,469		31.1	.0	4.6	64.0
17			21	62				4,031	2	33.0	.0	5.0	64.0
18			9	31				2,041		37.8	.0	5.0	64.0
19			11	40				2,438		40.0	.0	5.0	63.0
20			14	45				4,147		37.9	.0	4.8	63.0
21			13	54				2,777		34.6	.0	5.0	63.0
22			17	76				3,197		31.3	.0	4.8	62.0
23			9	34				2,180		31.6	.0	4.6	62.0
24			4	29				2,258		30.2	.0	4.6	62.0
25			21	66				2,324		33.5	.0	4.4	62.0
26			16	45				2,503		30.8	.0	4.8	62.0
27			17	57	1			3,032		29.1	.0	4.8	62.0
28			8	42				2,163		32.2	.0	4.6	62.0
29			1	27	1			1,531		25.1	.0	5.0	61.0
30			7	44				1,697		28.8	.0	4.8	61.0
TOTALS			373	912	2			63,074	6				
AVERAGES			12	30	1			2,102	1	31.6	.0		

TABLE 105

MONTHLY FISH PASSAGE SUMMARY REPORT — LOWER GRANITE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — OCT 1985

FISH COUNTS — RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			2	46				1,892		30.0	.0	4.6	61.0
2			9	52				1,541		26.6	.0	4.2	61.0
3			6	34				2,686		26.5	.0	4.4	61.0
4			6	21				1,910		26.9	.0	5.0	61.0
5			13	31				1,816		29.1	.0	5.0	59.0
6			6	26				1,522		15.2	.0	5.0	59.0
7			3	21				1,527		28.9	.0	5.0	58.0
8			3	30				1,266	1	26.7	.0	5.0	58.0
9			6	46				959		31.8	.0	5.0	57.0
10			8	23				1,547		25.3	.0	4.7	57.0
11			14	24				1,555		26.2	.0	4.4	57.0
12			4	14				950		25.5	.0	4.5	57.0
13			7	6				1,194		18.2	.0	5.0	57.0
14			6	15				1,071		20.9	.0	5.0	56.0
15				17				1,200		30.4	.0	5.0	55.0
16			1	7				761		27.0	.0	5.0	55.0
17				3				454		32.2	.0	5.0	55.0
18			4	14				1,281		30.7	.0	5.0	54.0
19			3	8				576		30.3	.0	5.0	54.0
20			3	14				1,048		28.0	.0	4.8	54.0
21			1	16				412		32.4	.0	4.7	54.0
22			5	10				384		30.1	.0	4.7	54.0
23			4	6				377		28.9	.0	5.0	55.0
24			3	6				580		28.7	.0	4.5	55.0
25			2	7				1,205		30.6	.0	5.0	55.0
26			6	13				873		31.8	.0	5.0	55.0
27			11	13				859		30.3	.0	5.0	55.0
28			4	1				450		33.2	.0	5.0	55.0
29			3	7				492		32.0	.0	5.0	54.0
30				15				321		33.5	.0	5.0	54.0
31			3	5				428		30.7	.0	5.0	54.0
TOTALS			146	551				33,137	1				
AVERAGES			5	18				1,069	1	28.3	.0		

TABLE 105

TABLE 106

MONTHLY FISH PASSAGE SUMMARY REPORT — LOWER GRANITE PROJECT

U.S. ARMY ENGINEER DISTRICT, PORTLAND — NOV 1985

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULTS			CHINOOK	COHO	COHO				DISCHARGE	SPILL	TURBIDITY	WATER TEMP
DATE	SPRING	SUMMER	FALL	JACKS	ADULTS	JACKS	SOCKEYE	STEELHEAD	SHAD	(KCFS)	(KCFS)	(SECCHI)	(DEG F)
1			2	5				373		33.4	.0	5.0	52.0
2			4					161		29.4	.0	4.9	52.0
3			2	1				167		28.4	.0	4.5	52.0
4				1				156		30.4	.0	4.5	52.0
5			5	1				77		33.1	.0	4.5	52.0
6			2					176		32.9	.0	4.4	52.0
7								143		33.0	.0	5.0	51.0
8			1	2				451		34.7	.0	4.0	51.0
9			2	1				292		33.0	.0	4.5	50.0
10			5	6				246		33.0	.0	4.0	50.0
11			1					245		34.4	.0	4.8	49.0
12				5				114		36.8	.0	4.8	47.0
13								115		36.7	.0	4.5	47.0
14			1					146		29.6	.0	4.6	47.0
15								64		33.9	.0	4.8	43.0
16								35		31.3	.0	4.6	43.0
17								37		31.3	.0	4.5	45.0
18								41		39.2	.0	4.7	43.0
19			1					4		37.2	.0	4.7	43.0
20								25		35.9	.0	4.5	43.0
21			1					30		33.8	.0	5.0	43.0
22								17		28.9	.0	5.0	43.0
23			2					40		39.6	.0	5.0	41.0
24			2					28		32.4	.0	5.0	41.0
25								8		26.8	.0	5.0	39.0
26								17		34.1	.0	5.0	39.0
27								4		34.6	.0	5.0	39.0
28								12		31.2	.0	5.0	38.0
29								4		30.1	.0	5.0	38.0
30								2		39.2	.0	4.9	37.0
TOTALS			31	22				3,230					
AVERAGES			2	3				108		33.3	.0		

TABLE 107

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

DEC 1985

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1								8		33.4	.0	4.9	37.0
2								5		41.0	.0	4.8	37.0
3								6		38.8	.0	4.9	37.0
4								9		36.2	.0	4.9	37.0
5								14		38.7	.0	4.9	37.0
6								5		37.1	.0	4.9	36.0
7								17		34.4	.0	5.0	36.0
8								18		27.7	.0	5.0	37.0
9								8		35.7	.0	5.0	38.0
10								5		36.1	.0	5.0	38.0
11								10		38.4	.0	5.0	39.0
12								5		35.8	.0	5.0	39.0
13								8		35.6	.0	5.0	38.0
14			1					7		25.2	.0	5.0	38.0
15								2		19.1	.0	5.0	37.0
16										24.6	.0	5.0	37.0
17										33.0	.0	5.0	37.0
18										36.4	.0	5.0	37.0
19										37.7	.0	5.0	37.0
20										41.3	.0	5.0	36.0
21										38.8	.0	5.0	36.0
22										25.6	.0	5.0	36.0
23										29.8	.0	5.0	35.0
24										30.5	.0	5.0	35.0
25										21.6	.0	5.0	35.0
26										22.9	.0	5.0	35.0
27										32.6	.0	5.0	35.0
28										33.9	.0	5.0	35.0
29										26.5	.0	5.0	35.0
30										27.5	.0	5.0	35.0
31										31.9	.0	5.0	34.0
TOTALS			1					127					
AVERAGES			1					8		32.5	.0		

TABLE 107

TABLE 108

MONTHLY TOTALS OF CHINOOK COUNTED OVER LOWER GRANITE DAM
1975 - 1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1975				1	11,693	8,722	4,854	1,183	1,462	474	71		28,460
1976				149	14,358	10,438	5,074	428	605	535	80		31,667
1977				12,824	22,892	6,718	4,622	203	961	776	125	2	49,123
1978				3,329	29,983	11,464	6,976	1,234	698	519	42	1	54,246
1979				234	4,461	4,455	1,794	256	1,003	302	43		12,548
1980				328	5,227	2,558	1,916	241	345	343	28		10,986
1981				1,380	10,730	2,713	2,561	92	1,008	677	37		19,198
1982				42	9,121	4,650	3,217	329	1,399	650	62	6	19,476
1983				113	7,676	3,551	3,167	234	828	552	79		16,200
1984				134	4,915	5,602	4,274	303	719	522	48		16,517
1985				1,429	20,384	10,466	1,971	281	1,285	697	53	1	36,567
TOTAL				19,963	141,440	71,337	40,426	4,784	10,313	6,047	668	10	294,988
11-YEAR AVERAGE				1,815	12,858	6,485	3,675	435	938	550	61	1	26,817

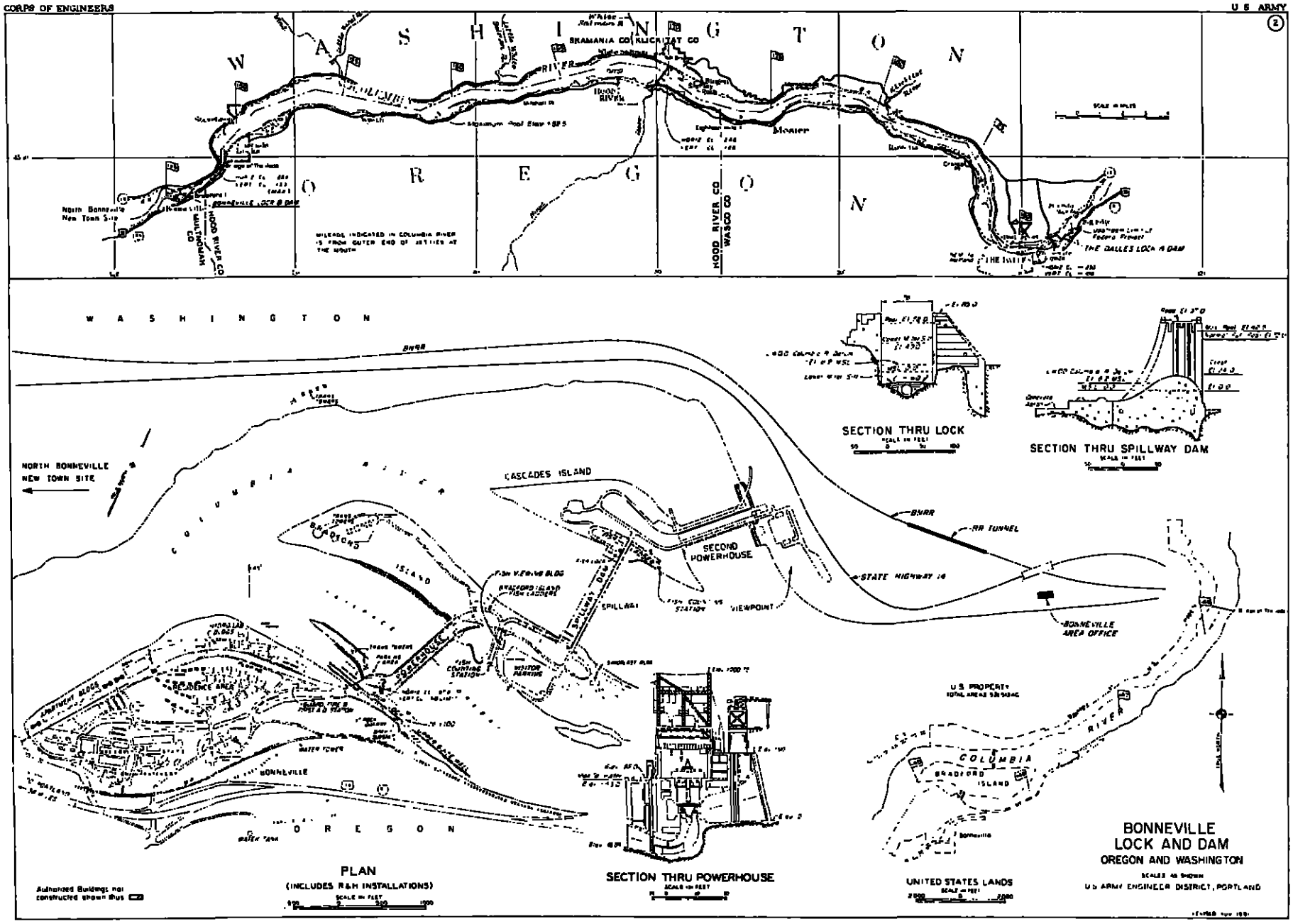
TABLE 109

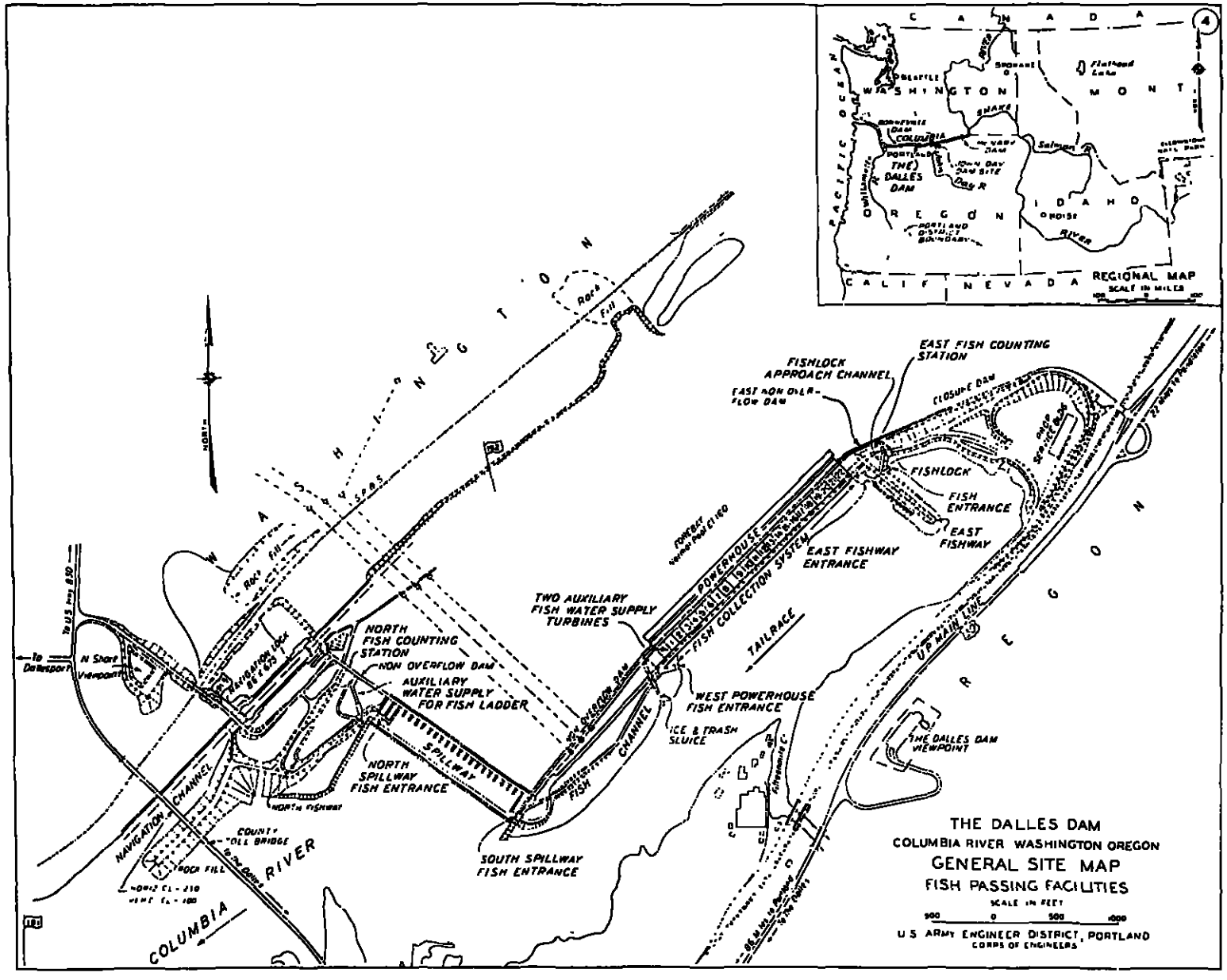
MONTHLY COUNT OF STEELHEAD TROUT OVER LOWER GRANITE DAM
1975 - 1985

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1975				1,724	1,065	104	102	3,337	6,396	3,584	703	296	17,311
1976	173	21	181	1,120	575	120	527	3,816	8,720	6,837	860	67	23,017
1977		9	142	1,235	229	59	1,538	2,652	16,296	27,492	2,950	435	53,037
1978	354	716	2,276	2,009	252	9	478	2,721	10,829	9,528	788	108	30,068
1979	12	44	802	962	192	16	1,197	2,602	5,143	11,323	2,487	266	25,046
1980			1,149	3,403	1,172	36	517	3,378	13,291	15,455	2,053		40,454
1981			1,052	1,610	604	98	1,422	1,609	9,391	20,714	3,096	638	40,234
1982			1,778	2,202	1,472	66	817	9,118	20,219	32,850	3,945	373	72,840
1983			3,336	1,416	244	7	1,676	8,899	32,063	34,028	4,425	140	86,234
1984			2,647	3,914	961	40	1,886	3,458	34,709	46,445	4,841	22	98,923
1985			2,474	9,686	856	146	706	5,027	63,074	33,137	3,230	127	118,463
TOTAL	539	790	15,837	29,281	7,622	701	10,866	46,617	220,131	241,393	29,378	2,472	605,627
11-YEAR AVERAGE			1,440	2,662	693	64	988	4,238	20,012	21,945	2,671	225	55,057

CORPS OF ENGINEERS

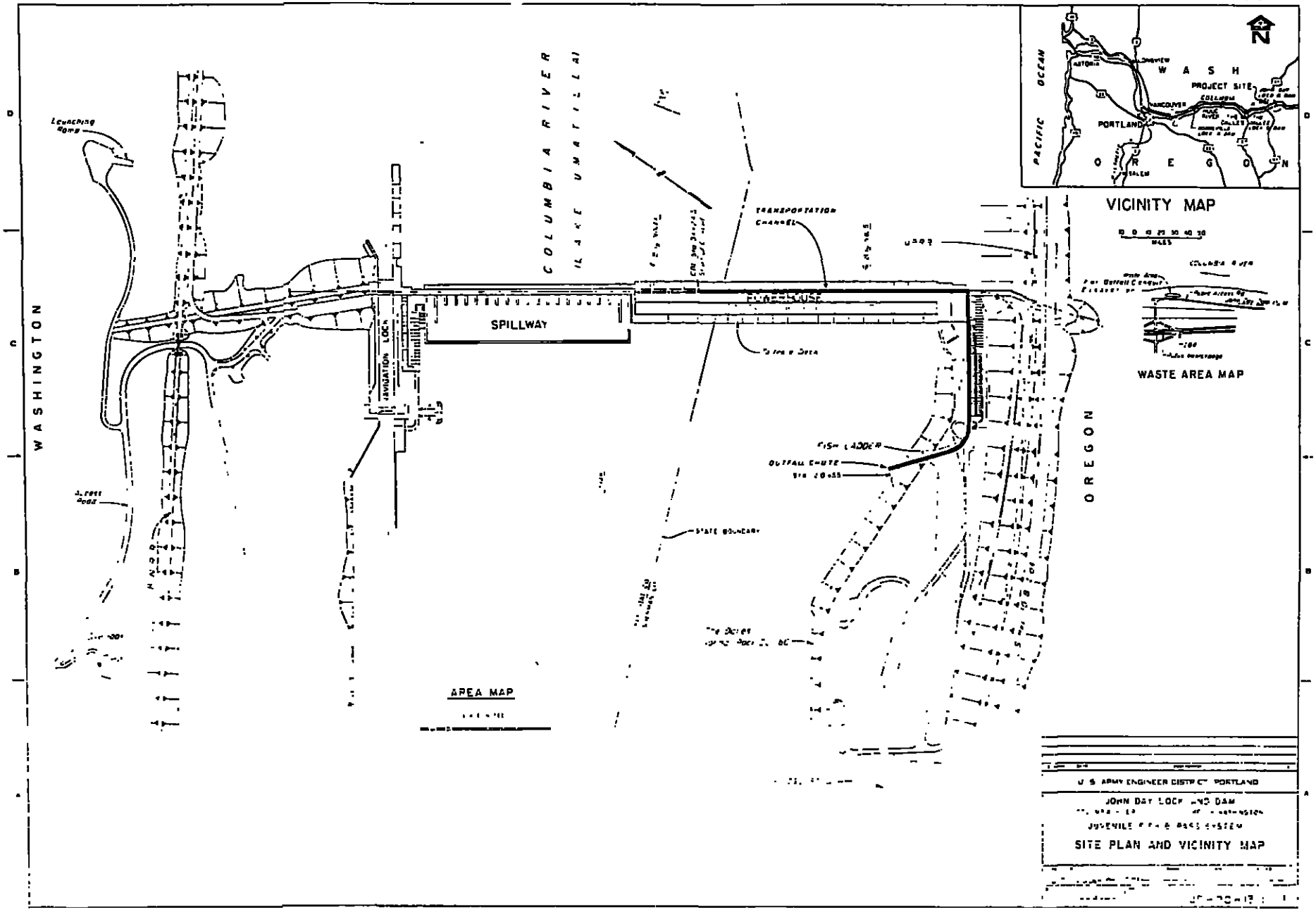
U S ARMY




THE DALLES DAM
COLUMBIA RIVER WASHINGTON OREGON
GENERAL SITE MAP
FISH PASSING FACILITIES
SCALE IN FEET
900 0 500 1000
U S ARMY ENGINEER DISTRICT, PORTLAND
CORPS OF ENGINEERS
REGIONAL MAP
SCALE IN MILES
CANADA
WASHINGTON
MONT
OREGON
IDAHO
NEVADA
CALIF
PACIFIC OCEAN
SEATTLE
SPOKANE
PORTLAND
THE DALLES DAM
JOHN DAY DAM SITE
Flathead Lake
Salmon
Snake
Columbia
Deschutes R
Boise
River
PORTLAND DISTRICT BOUNDARY
NORTH
EAST FISH COUNTING STATION
FISHLOCK APPROACH CHANNEL
EAST NON OVER-FLOW DAM
CLOSURE DAM
DROP SPILLWAY
FISHLOCK
FISH ENTRANCE
EAST FISHWAY
EAST FISHWAY ENTRANCE
POWERHOUSE
FISH COLLECTION SYSTEM
TWO AUXILIARY FISH WATER SUPPLY TURBINES
TAILRACE
WEST POWERHOUSE FISH ENTRANCE
ICE & TRASH SLUICE
THE DALLES DAM VIEWPOINT
UP MAIN LINE
NORTH FISH COUNTING STATION
NON OVERFLOW DAM
AUXILIARY WATER SUPPLY FOR FISH LADDER
NORTH SPILLWAY FISH ENTRANCE
SPILLWAY
FISH CHANNEL
SOUTH SPILLWAY FISH ENTRANCE
NAVIGATION LOCK
NAVIGATION CHANNEL
NORTH FISHWAY
COUNTY TOLL BRIDGE
ROCK FILL
COLUMBIA RIVER
To Dallesport
N Shore Viewpoint
To U.S. Hwy 830
WASHINGTON

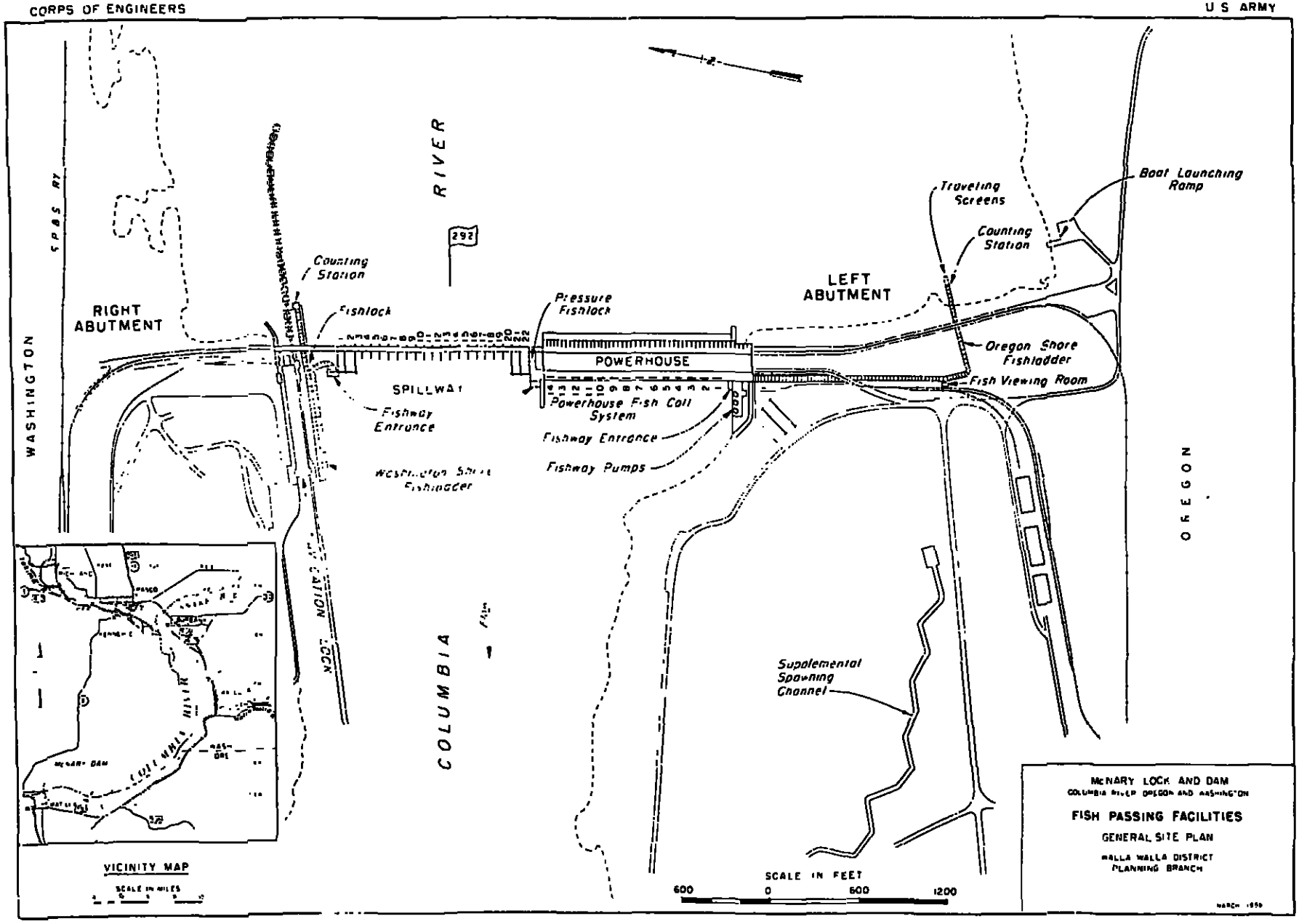
CORPS OF ENGINEERS

U S ARMY



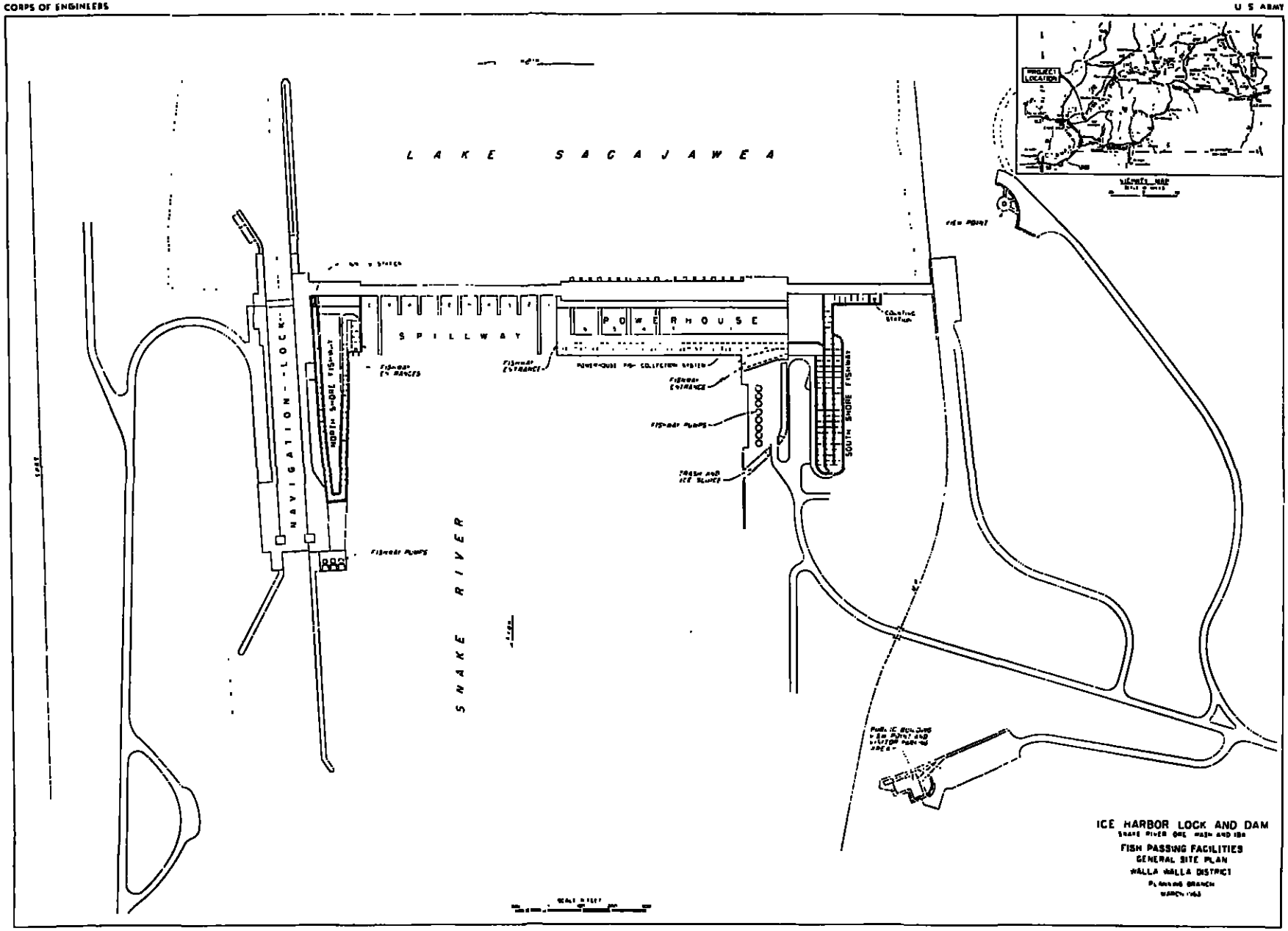
CORPS OF ENGINEERS

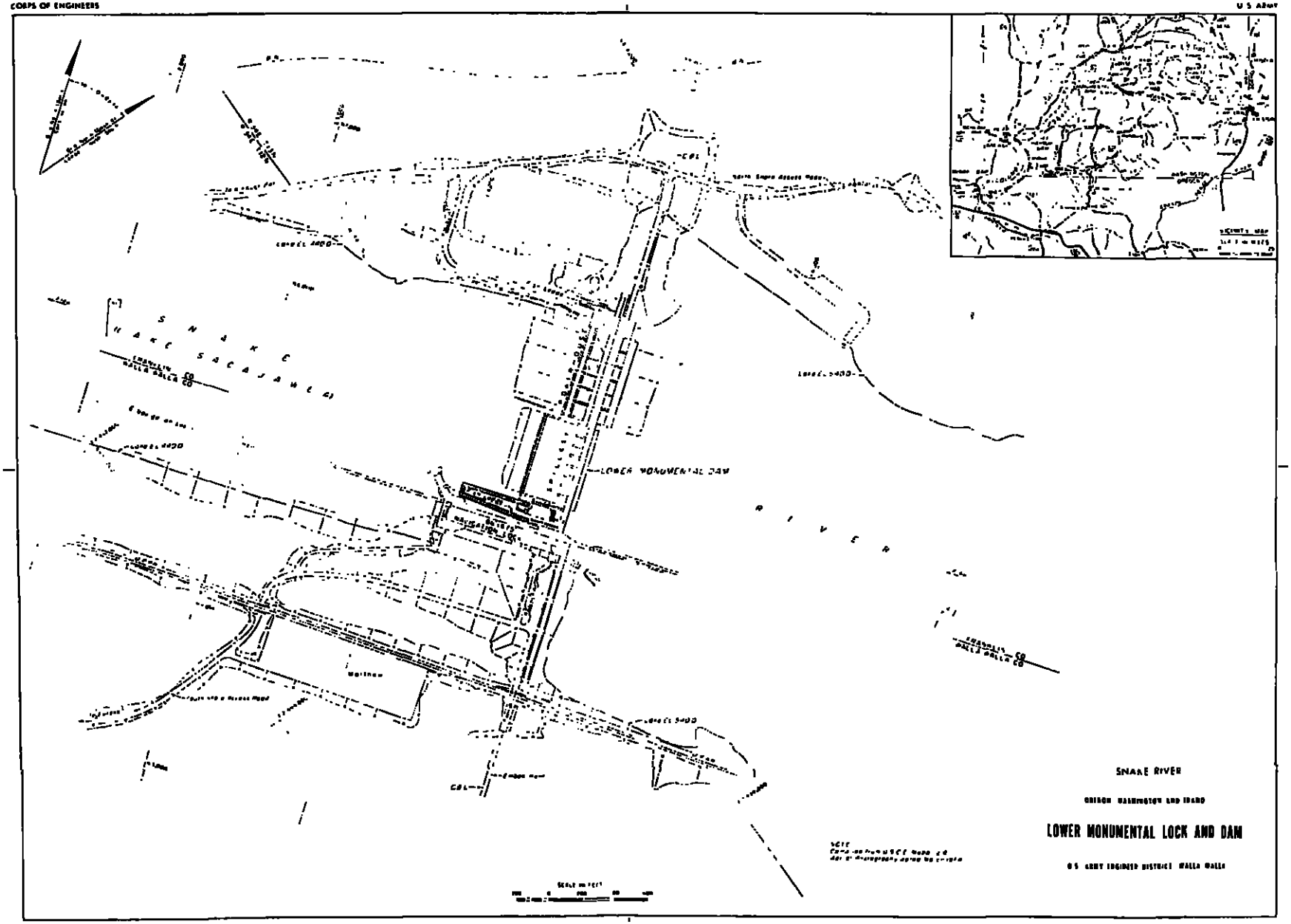
U S ARMY



CORPS OF ENGINEERS

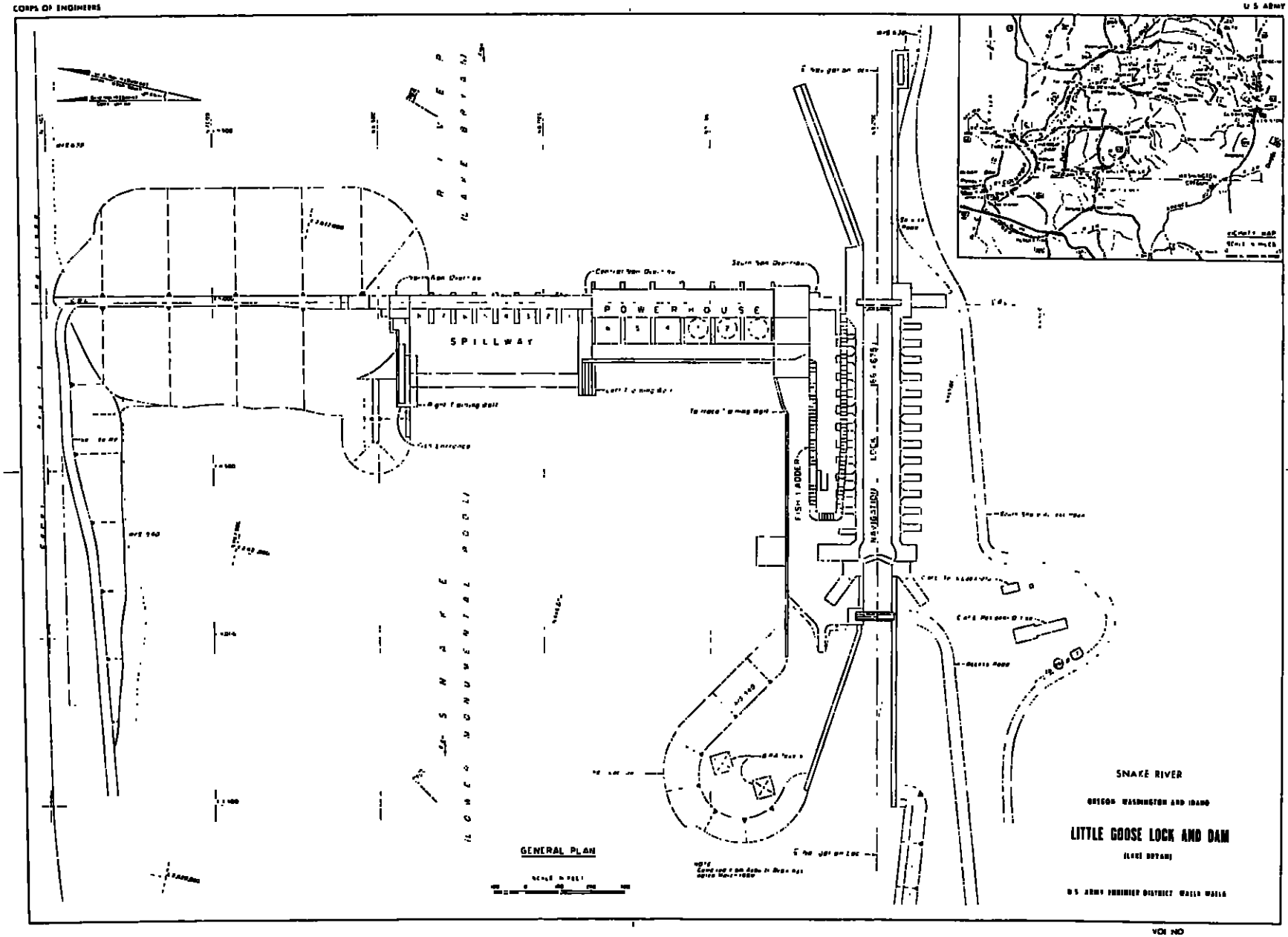
U S ARMY



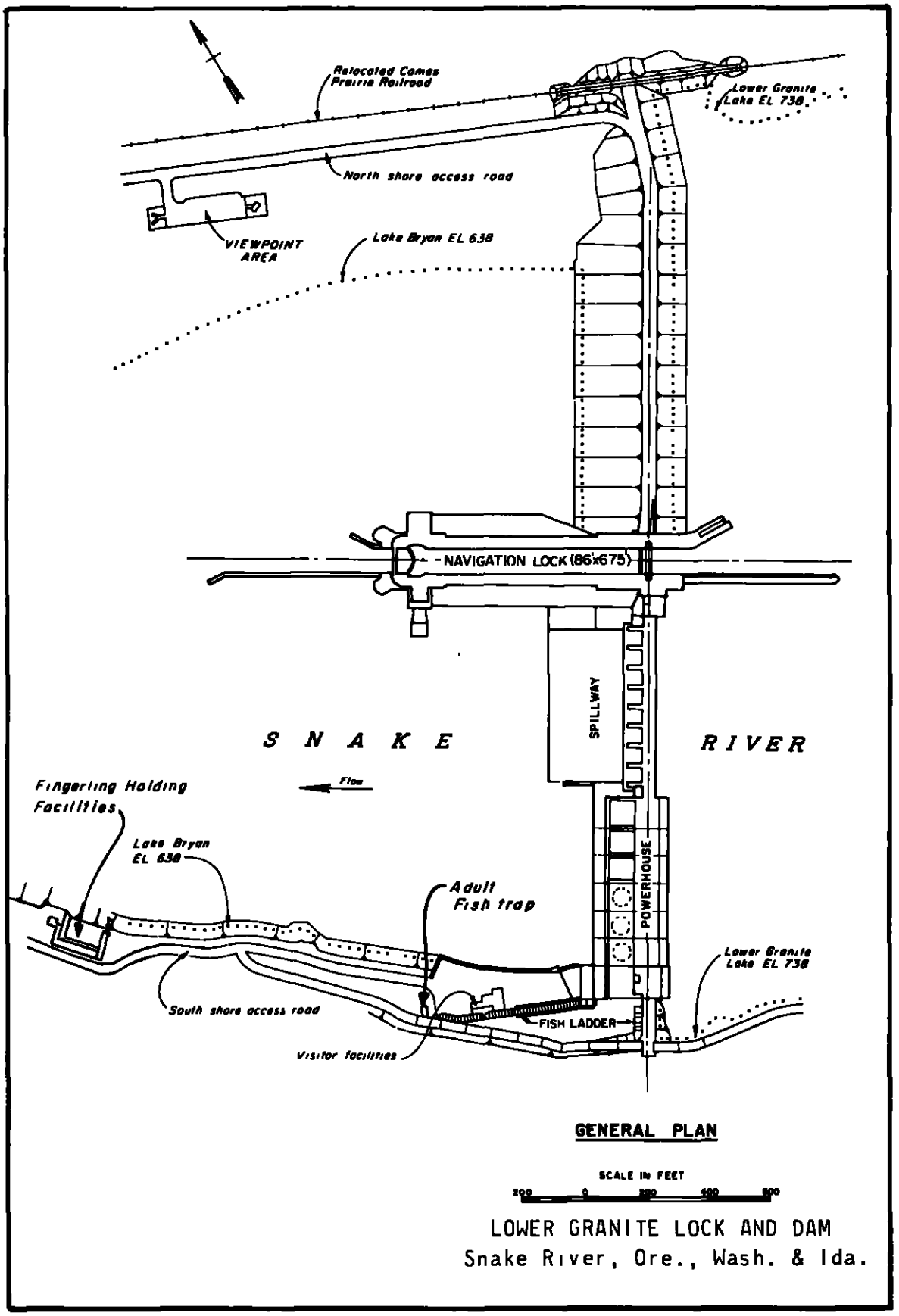

SNAKE RIVER
OREGON WASHINGTON AND IDAHO
LOWER MONUMENTAL LOCK AND DAM
U S ARMY ENGINEER DISTRICT WALLA WALLA
LOWER MONUMENTAL DAM
S N A K E
R I V E R
LOWEL 3400
COL
SCALE IN FEET

CORPS OF ENGINEERS

U S ARMY



VOL NO



LOWER GRANITE LOCK AND DAM
Snake River, Ore., Wash. & Ida.

GDG-1-0-1/14

PLATE 8

APPENDIX A

TABLE A-1

MONTHLY FISH PASSAGE SUMMARY REPORT - BONNEVILLE DAM PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - MARCH 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1										196.6	.0	3.2	41.0
2										205.4	.0	2.0	41.0
3										225.5	.0	2.0	41.0
4										239.3	.0	2.2	41.0
5										213.1	.0	2.0	41.0
6										208.2	.0	2.0	42.0
7										208.8	.0	2.0	42.0
8										220.7	.0	2.0	42.0
9										209.7	.0	2.0	42.0
10										190.0	.0	2.5	42.0
11										214.0	.0	2.5	42.0
12										234.7	.0	2.8	42.0
13										247.0	.0	2.7	42.0
14										230.6	.0	2.6	42.0
15	7			2				48		254.7	.0	2.6	43.0
16	7							62		261.7	.0	2.6	43.0
17	4							22		262.7	.0	2.2	43.0
18	15			1				42		254.6	.0	2.2	43.0
19	24							51		237.3	.0	2.0	44.0
20	24							42		225.8	.0	2.0	44.0
21	13							29		217.8	.0	2.0	45.0
22	15							13		259.5	.0	2.0	46.0
23	39							30		274.1	.0	2.0	45.0
24	24							43		276.4	.0	1.8	46.0
25	16							29		264.3	.0	1.6	46.0
26	24							32		236.5	.0	1.8	46.0
27	16			1				33		257.8	.0	1.8	46.0
28	28							35		266.8	.0	1.5	47.0
29	27							25		254.3	.8	1.4	47.0
30	29							13		253.5	1.1	1.0	47.0
31	35							30		272.4	.0	1.0	47.0
TOTALS	347			4				579					
AVERAGES	20			1				34		350.1			

TABLE A-2

MONTHLY FISH PASSAGE SUMMARY REPORT - BONNEVILLE DAM PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - APRIL 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	59			2				44		244.3	.0	1.0	47.0
2	157			1				52		224.4	.0	1.0	48.0
3	226							56		253.5	1.8	1.0	48.0
4	408							122		244.4	.0	1.0	48.0
5	353							53		223.9	6.2	1.0	48.0
6	621			2				86		253.4	62.4	1.0	48.0
7	577			1				92		275.0	84.6	1.0	48.0
8	778			4				74		247.2	71.1	1.0	48.0
9	683			2				55		249.7	64.3	2.0	48.0
10	805			3				65		275.9	84.1	1.4	49.0
11	783			8				51		289.9	86.6	2.0	48.0
12	770			2				78		264.2	64.9	1.8	49.0
13	782			7				76		294.8	101.2	1.5	49.0
14	744			24				61		263.5	114.6	1.5	49.0
15	1078			16				91		251.3	89.4	1.2	50.0
16	1449			22				81		295.0	119.6	1.5	50.0
17	1249			23				79		293.4	114.0	1.8	50.0
18	1186			25				74		317.7	137.0	1.8	50.0
19	1232			19				46		335.0	151.0	1.8	50.0
20	1255			12				86		317.3	137.9	1.8	50.0
21	846			20				52		357.0	179.6	1.8	50.0
22	802			16				48		344.1	163.4	1.3	51.0
23	1117			42				57		339.4	162.5	1.3	51.0
24	802			25				54		339.1	163.9	1.3	51.0
25	760			53				55		338.5	165.9	1.3	50.0
26	1095			59				78		339.2	153.8	1.5	50.0
27	1245			83				78		341.6	138.8	1.6	50.0
28	1413			90				82		291.8	107.2	1.6	50.0
29	1652			82				96		279.7	94.1	1.6	51.0
30	1522			93				84		293.7	95.4	2.0	51.0
TOTAL	26,449			736				2,106					
AVERAGES	882			27				70		289.2	97.2		

TABLE A-3

MONTHLY FISH PASSAGE SUMMARY REPORT - BONNEVILLE DAM PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - MAY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	1,312			98				79	1	316.2	118.9	2.0	51.0
2	1,667			118				154		288.9	89.3	2.0	52.0
3	1,101			123				99		315.8	114.1	2.0	51.0
4	1,068			144				119		289.2	76.3	2.0	52.0
5	1,599			162				124		255.4	57.3	2.0	52.0
6	1,515			195				125		264.5	67.2	2.0	52.0
7	1,068			163				117		281.2	83.5	2.2	52.0
8	921			123				76		284.3	92.1	2.2	53.0
9	1081			180				101		272.3	71.0	2.2	53.0
10	868			134				77		332.1	128.4	2.2	53.0
11	554			97				112		329.6	122.3	2.2	53.0
12	628			155				137		307.7	108.4	2.2	53.0
13	511			137				130		287.8	98.8	2.2	53.0
14	653			145				108		312.2	97.3	2.2	54.0
15	418			84				115		366.4	143.0	2.2	53.0
16	376			122				78		375.6	157.6	2.2	53.0
17	441			153				143		365.5	150.3	2.2	54.0
18	373			153				137		352.9	142.6	1.8	54.0
19	364			126				122		350.5	157.1	1.8	55.0
20	321			109				119		325.5	134.5	1.6	55.0
21	255			123				119		335.6	137.3	1.8	55.0
22	367			85				131	3	356.8	155.8	1.8	55.0
23	351			97				160		368.1	162.0	1.8	55.0
24	289			70				196	7	372.4	160.7	1.8	56.0
25	253			62				184	20	372.2	159.2	1.8	56.0
26	222			65				168	18	350.5	143.0	1.7	55.0
27	220			67				196	7	299.7	93.8	1.7	56.6
28	315			77			1	166	40	316.7	110.3	1.8	56.0
29	304			54				209	93	340.0	124.5	1.8	56.0
30	288			45			2	198	175	356.4	139.7	1.8	57.0
31	277			63			3	217	189	376.5	160.1	2.0	57.0
TOTAL	19,980			3,529			6	4,216	553				
AVERAGES	645			114			2	136	55	326.4	121.2		

TABLE A-4

MONTHLY FISH PASSAGE SUMMARY REPORT - BONNEVILLE DAM PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JUNE 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		249		50			13	276	819	374.9	163.3	2.0	57.0
2		318		54			19	246	2663	374.8	167.1	2.0	58.0
3		231		48			35	256	2204	359.2	151.6	1.8	58.0
4		224		46			32	236	1578	358.5	150.9	2.0	58.0
5		188		51			43	259	766	360.2	152.4	2.0	58.0
6		272		56			121	284	3505	337.3	136.2	2.0	58.0
7		269		55			125	255	1998	336.9	136.0	2.0	57.0
8		292		49			255	290	2572	338.6	128.9	2.0	57.0
9		261		58			397	301	4893	313.8	96.3	1.8	58 0
10		253		20			574	282	6301	317.0	110.4	2.0	58.0
11		227		52			644	285	9008	312.8	93.8	2.0	57.0
12		265		50			851	381	15,201	324.0	103.5	2.5	58.0
13		180		40			897	377	14,020	329.9	110.4	1.8	58.0
14		215		58			1228	403	23,811	352.8	140.3	1.6	58.0
15		234		47			1851	409	37,628	330.4	118.0	1.6	59.0
16		300		57			2735	523	46,714	363.1	157.1	2.8	59.0
17		237		62			3454	512	21,281	373.3	168.4	2.6	60.0
18		388		97			5797	590	39,992	375.6	175.9	2.8	60.0
19		360		95			5090	554	63,263	375.3	183.6	2.8	61.0
20		295		72			4749	498	59,907	375.6	171.0	2.8	60.0
21		477		115			7158	661	78,326	376.3	157.1	2.8	60.0
22		527		98			8109	662	50,283	370.6	169.3	2.8	61.0
23		574		126			9756	768	75,994	358.5	150.6	2.8	62.0
24		774		139			12,858	949	68,740	349.8	143.3	2.8	62.0
25		748		130			11,646	926	66,523	352.2	159.8	3.1	62.0
26		668		74			9950	825	86,463	363.7	169.5	3.1	62.0
27		584		93			6537	717	49,397	375.4	174.0	3.1	63.0
28		430		90			4447	606	51,428	374.8	163.7	3.1	63.0
29		433		82			3965	580	41,709	365.3	160.9	3.1	63.0
30		436		87			3578	543	23,419	354.4	147.2	2.2	63.0
TOTALS		10,909		2,151			106,892	14,454	950,406				
AVERAGES		364		72			3563	482	31,680	354.2	147.0		

TABLE A-5

MONTHLY FISH PASSAGE SUMMARY REPORT - BONNEVILLE DAM PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JULY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1		450		131			3489	693	23,381	360.0	152.4	3.1	63.0
2		340		109			2431	743	24,551	328.9	136.0	2.2	63.0
3		575		95			4251	1076	26,640	277.2	96.2	2.5	64.0
4		485		104			3826	1293	24,889	261.1	75.6	2.5	64.0
5		498		170	2		4023	1338	22,416	291.8	112.3	2.5	64.0
6		718		111			4076	2017	22,918	280.3	76.7	2.8	65.0
7		683		173			3888	2026	26,600	265.1	67.4	2.8	65.0
8		664		141			3628	1663	25,754	278.8	72.2	2.8	65.0
9		515		104			2340	2178	20,436	234.4	33.7	2.8	66.0
10		513		143			1719	3478	13,805	207.4	18.3	3.4	66.0
11		501		155			1822	3221	15,180	196.6	1.1	3.8	67.0
12		333		110			1304	2817	7,861	197.7	.0	3.8	66.0
13		396		125			1144	2926	8,715	193.6	.0	3.8	66.0
14		358		118			968	3005	8,952	193.7	.0	4.0	66.0
15		301		96			965	3179	9,271	194.2	.0	4.0	67.0
16		278		95			685	3301	5,575	200.1	.0	4 0	67.0
17		276		124			671	3941	5,147	204.2	.0	4.0	67.0
18		310		110			566	3613	4,120	201.3	.0	4.0	68.0
19		228		146			518	3235	2,484	200.4	.0	4.1	68.0
20		231		157			459	3772	2,871	160.9	.0	4.1	68.0
21		234		116			349	3359	2,194	177.7	.0	4.0	68.0
22		273		104			407	3662	2,196	160.7	.0	4.0	68.0
23		206		103			255	3198	2,646	142.8	.0	4.0	68.0
24		235		141	1		312	3996	2,389	144.3	.0	4.0	69.0
25		261		128	1		240	4477	1,920	145.5	.0	4.0	69.0
26		333		159	3		186	4900	1,281	150.8	.0	4.0	69.0
27		255		143	3	1	134	3776	1,274	175.4	.0	4.0	69.0
28		248		126	5	3	125	4625	1,621	190.7	.0	4.0	69.0
29		311		133	4	3	148	3520	1,459	150.3	.0	4.0	69.0
30		203		147	4	3	129	2948	978	147.5	.0	4.0	69.0
31		200		118	6	2	83	4570	1,002	165.0	.0	4.5	70.0
TOTALS		11,512		3,935	29	12	45,141	95,546	320,526				
AVERAGES		368		127	3	2	1,456	2,984	10,340	209.0	27.2		

TABLE A-6

MONTHLY FISH PASSAGE SUMMARY REPORT - BONNEVILLE DAM PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - AUGUST 1984

DATE	CHINOOK ADULTS SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			409	124	3		70	5,091	-734	149.6	.0	4.0	70.0
2			248	147	8	3	65	4,667	508	150.3	.0	4.0	70.0
3			344	113	3	2	48	6,278	431	151.1	.0	4.0	70.0
4			248	120	1	1	48	3,125	269	124.7	.0	4.8	70.0
5			371	93	2	2	25	4,358	281	105.3	.0	4.8	70.0
6			453	114	1	2	9	2,550	107	118.3	.0	5.4	70.0
7			508	134	1		38	3,432	284	160.3	.0	5.4	70.0
8			502	130		1	23	3,111	123	193.3	.0	5.4	70.0
9			482	153	2	1	22	3,279	213	166.5	.0	5.4	70.0
10			504	167		2	9	3,346	203	130.6	.0	5.0	70.0
11			600	160	3	6	19	3,517	164	141.8	.0	5.0	71.0
12			559	131	2	1	14	3,593	178	136.2	.0	5.0	71.0
13			338	156	2	1	15	2,277	64	139.9	.0	5.0	71.0
14			426	175		1	3	2,225	61	152.6	.0	5.0	71.0
15			572	140			7	2,124	39	146.3	.0	5.0	71.0
16			664	164	2	2	11	2,224	75	150.2	.0	5.0	71.0
17			855	319	21	8	5	2,706	49	159.9	.0	5.3	71.0
18			992	341	6	19	20	3,313	33	124.4	.0	5.3	71.0
19			1103	385	4	11	5	3,429	43	148.4	.0	5.3	71.0
20			700	280	10	6	1	2,022	50	135.0	.0	5.3	71.0
21			880	290	15	22	1	2,393	34	127.2	.0	5.3	71.0
22			721	325	17	10	2	1,987	9	149.7	.0	5.4	71.0
23			935	269	13	13	5	1,893	13	154.4	.0	5.4	71.0
24			685	285	14	16	2	1,155	32	153.5	.0	5.4	70.0
25			1081	275	10	10	10	1,369	26	156.7	.0	5.8	71.0
26			1266	306	17	14	4	811	14	130.1	.0	5.3	71.0
27			2587	523	27	24	3	1,165	4	140.0	.0	5.8	70.0
28			3156	1032	82	59	3	2,439	5	130.7	.0	5.3	70.0
29			3079	1334	188	115		3,326	23	145.3	.0	5.8	70.0
30			2892	1480	227	86	7	5,090	6	157.7	.0	5.3	70.0
31			2724	1360	156	119		5,571	22	121.6	.0	5.2	70.0
TOTALS			30,884	11,025	837	557	494	93,866	4,097				
AVERAGES			996	356	31	20	17	3028	132	143.6	.0		

TABLE A-7

MONTHLY FISH PASSAGE SUMMARY REPORT - BONNEVILLE DAM PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - SEPTEMBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			3,885	1408	244	119		5,553	9	123.4	.0	5.0	70.0
2			5,003	1744	345	123		5,456	10	128.3	.0	5.0	70.0
3			8,047	2179	660	203		6,422	14	110.0	.0	5.0	70.0
4			8,715	2292	745	199	3	7,606	4	110.0	.0	5.0	70.0
5			8,303	2016	738	252		7,888	8	110.3	.0	5.0	70.0
6			7,381	2057	566	266		6,209	11	122.6	.0	6.0	69.0
7			5,192	2025	353	228		3,709	12	130.2	.0	6.0	68.0
8			3,315	1526	260	171		2,430	6	130.3	.0	4.8	68.0
9			4,844	1336	322	152		2,331	8	113.3	.0	5.5	68.0
10			9,596	1935	627	222	1	5,193	4	110.8	.0	6.0	68.0
11			6,851	2738	715	267	1	6,247	9	132.1	.0	6.0	67.0
12			5,412	3488	866	356		8,331	8	154.4	.0	5.5	67.0
13			5,255	3981	1066	362		6,841	3	137.5	.0	5.5	67.0
14			3,045	2892	767	450		4,061	7	106.1	.0	5.0	67.0
15			1,473	2850	445	372		2,408	8	125.0	.0	5.2	66.0
16			1,649	2826	450	398		2,191	3	130.1	.0	5.7	68.0
17			1,897	2706	414	340	1	2,797	3	130.4	.0	5.5	68.0
18			2,693	3025	452	477		3,190	1	134.3	.0	5.5	68.0
19			3,411	3295	404	349		3,161	1	130.3	.0	5.5	67.0
20			2,621	3021	345	380		1,888	3	130.8	.0	5.0	67.0
21			2,305	3052	276	253		1,985	4	130.3	.0	5.5	67.0
22			1,414	2521	159	188		1,104	2	115.2	.0	5.5	66.0
23			905	2208	96	195		745	2	102.0	.0	5.5	65.0
24			653	2238	57	180		587		117.8	.0	6.0	65.0
25			1,019	2718	172	265	1	997	2	123.7	.0	6.2	64.0
26			1,142	2207	157	285		955	4	130.7	.0	6.0	64.0
27			848	1770	134	272		677		127.3	.0	6.0	64.0
28			1,056	1917	131	220		788	5	119.7	.0	6.0	64.0
29			935	1525	114	214		627	2	120.3	.0	6.0	64.0
30			804	1702	111	225		510		107.5	.0	6.0	64.0
TOTALS			109,669	71,198	12,191	7,983	7	102,887	153				
AVERAGES			3,656	2,373	406	266	1	3,430	6	123.2	.0		

TABLE A-8

MONTHLY FISH PASSAGE SUMMARY REPORT - BONNEVILLE DAM PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - OCTOBER 1984

DATE	CHINOOK ADULTS SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			779	1810	73	166		517	5	97.9	.0	6.0	64.0
2			397	1424	73	171		395	2	157.2	.0	6.0	64.0
3			803	1188	126	238		473	2	149.8	.0	5.0	64.0
4			339	936	57	146		263		165.3	.0	5.0	63.0
5			548	1004	92	174		308	3	141.9	.0	4.1	63.0
6			450	942	68	134		266	9	102.4	.0	4.1	63.0
7			307	1023	43	142		251	3	100.3	.0	4.2	63.0
8			313	676	39	131		184	2	107.5	.0	4.2	63.0
9			317	643	43	122		173	2	116.7	.0	5.9	63.0
10			258	547	51	146		156	5	122.2	.0	5.8	63.0
11			200	469	74	147		110	2	133.1	.0	5.0	62.0
12			106	273	38	85		63		142.4	.0	5.0	62.0
13			83	285	80	144		70		116.2	.0	5.5	61.0
14			101	425	84	208		102	1	129.9	.0	5.5	61.0
15			77	377	59	248		132	1	140.2	.0	5.5	60.0
16			68	240	53	137		78	3	139.7	.0	5.5	59.0
17			151	345	54	126		129	2	115.2	.0	5.5	59.0
18			83	284	61	51		74		115.5	.0	5.5	59.0
19			142	338	58	73		78	2	157.8	.0	5.5	58.0
20			123	336	86	155		82	4	120.5	.0	4.5	58.0
21			140	329	75	149	1	62	1	122.4	.0	5.0	58.0
22			66	276	41	95		32	2	154.9	.0	4.8	57.0
23			101	238	62	82		56		145.3	.0	4.8	56.0
24			82	177	60	72		61	1	138.6	.0	4.8	56.0
25			110	130	96	96		46	1	114.3	.0	4.8	56.0
26			79	115	103	71		56	1	168.0	.0	4.8	56.0
27			99	94	155	105		72		156.9	.0	4.5	56.0
28			69	89	156	134		58		123.2	.0	5.0	56.0
29			37	57	89	60		50	1	121.5	.0	4.5	55.0
30			30	61	84	59		30		126.4	.0	4.4	55.0
31			27	57	107	52		36		148.0	.0	4.6	55.0
TOTALS			6,485	15,188	2,340	3,889	1	4,463	55				
AVERAGES			209	490	75	125	1	144	2	132.0	.0		

TABLE A-9

MONTHLY FISH PASSAGE SUMMARY REPORT - BONNEVILLE DAM PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - NOVEMBER 1984

DATE	CHINOOK ADULTS SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			22	23	41	21		31		136.9	.0	4.6	54.0
2			39	37	79	33		34		156.1	.0	4.6	52.0
3			14	40	172	46		31		142.9	.0	4.5	51.0
4			10	22	150	40		35		120.6	.0	4.5	51.0
5			10	26	122	40		36		125.5	.0	4.5	52.0
6			7	19	18	31		27		130.2	.0	4.0	51.0
7			11	7	94	36		66		137.3	.0	4.0	51.0
8			8	2	63	15		28		130.6	.0	4.0	51.0
9			9	15	90	12		39		153.1	.0	4.0	51.0
10			13	11	109	12		25		160.7	.0	4.0	51.0
11			15	8	52	7		24		140.3	.0	4.0	51.0
12			9	9	88	25		23		134.2	.0	4.0	50.0
13			11	9	41	9		18		140.0	.0	4.0	50.0
14			11	2	72	12		21		140.3	.0	2.6	50.0
15			3	2	107	12		15		170.5	.0	2.6	50.0
16										190.8	.0	2.6	50.0
17										167.5	.0	4.0	50.0
18										152.0	.0	4.0	50.0
19										151.2	.0	4.0	49.0
20										147.6	.0	3.5	49.0
21										168.6	.0	4.0	49.0
22										128.7	.0	4.0	48.0
23										139.1	.0	4.0	48.0
24										142.8	.0	5.0	48.0
25										152.9	.0	5.0	48.0
26										151.0	.0	5.0	48.0
27										142.8	.0	5.0	47.0
28										156.5	.0	5.0	47.0
29										144.4	.0	4.6	47.0
30										190.3	.0	4.6	47.0
TOTALS			192	232	1,298	1 351		453					
AVERAGES			13	15	87	23		30		148.2	.0		

TABLE A-10

MONTHLY FISH PASSAGE SUMMARY REPORT - THE DALLES PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - APRIL 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	31							19		232.6	.0	1.0	46.0
2	27							17		213.4	.0	1.0	46.0
3	32							23		236.3	.0	1.3	46.0
4	47			1				24		235.6	.0	1.5	47.0
5	46			1				23		217.6	.0	1.5	47.0
6	68			1				30		230.6	8.5	1.8	48.0
7	90			3				36		255.6	16.7	1.5	48.0
8	187			5				36		236.3	16.7	1.7	48.0
9	162			6				38		231.7	16.5	1.5	48.0
10	168			4				14		255.4	17.0	1.6	48.0
11	104			1				28		261.4	16.7	1.3	48.0
12	101			1				25		243.1	16.9	1.4	48.0
13	126			2				17		288.9	17.2	1.5	48.0
14	138			5				24		239.9	56.7	1.5	47.0
15	244			6				48		237.2	119.1	1.5	48.0
16	241			16				39		284.1	44.6	1.5	48.0
17	171			16				26		275.8	36.8	1.5	48.0
18	331			11				32		315.8	61.4	1.5	49.0
19	297			10				61		321.2	70.1	2.0	49.0
20	422			10				51		311.6	108.3	1.5	50.0
21	384			15				34		358.9	163.3	1.8	50.0
22	294			5				23		333.3	129.1	1.3	50.0
23	386			11				34		330.8	49.6	1.3	50.0
24	263			7				33		326.6	43.6	1.2	48.2
25	483			16				16		331.5	71.8	1.5	48.2
26	578			24				21		327.6	38.6	1.7	50.6
27	876			31				23		328.6	50.5	2.0	49.6
28	850			40				19		280.6	25.8	1.5	48.6
29	1155			30				18		268.2	74.8	2.0	48.6
30	719			27				14		286.5	20.9	2.0	50.0
TOTAL	9021			305				846					
AVERAGE	301			11				28		276.6	43.0		

TABLE A-11

MONTHLY FISH PASSAGE SUMMARY REPORT - THE DALLES PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - MAY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	779			38				17		307.4	17.6	2.0	50.0
2	1205			64				31		267.8	17.4	2.0	50.0
3	1201			56				33		286.7	33.3	1.6	50.0
4	1312			79				36		272.1	53.8	1.8	49.0
5	1718			119				37		234.5	46.8	2.0	49.0
6	1333			110				31		258.6	62.9	3.0	50.0
7	1396			134				29		257.3	51.9	1.8	51.0
8	1146			103				20	1	282.3	46.4	3.0	50.0
9	1348			126				33		254.9	42.5	1.7	50.0
10	588			62				25		313.9	58.6	2.5	51.0
11	722			87				26		325.9	63.8	1.6	51.0
12	971			106				28		278.1	56.5	2.0	51.0
13	857			129				29		258.4	52.5	2.0	52.0
14	804			129				35		300.8	61.1	2.1	52.0
15	451			99				31	1	359.4	71.5	1.7	52.0
16	443			99				31		360.7	66.5	1.8	53.0
17	480			121				41		348.9	67.3	1.7	53.0
18	424			69				17		338.6	65.4	1.7	54.0
19	322			81				10	1	337.4	64.2	1.5	54.0
20	387			67				20		305.5	60.3	1.8	54.0
21	351			88				31		320.8	59.4	1.7	54.0
22	313			111				23	2	337.7	60.1	1.5	54.0
23	280			85				35	4	348.9	59.6	2.1	54.0
24	408			102				29	10	360.4	45.3	1.5	54.0
25	349			73				22	2	358.9	47.6	2.0	55.0
26	265			56				19	10	323.6	44.8	1.7	57.0
27	307			90				44	2	284.7	56.2	2.0	54.0
28	232			74				29	24	302.0	58.6	1.7	55.0
29	183			68				28	54	325.3	66.2	2.0	55.0
30	208			71				41	133	340.3	62.1	1.9	55.0
31	250			55				33	101	370.5	59.5	2.0	56.0
TOTAL	21,033			2,751				894	345				
AVERAGE	678			89				29	27	310.4	54.2		

TABLE A-12

MONTHLY FISH PASSAGE SUMMARY REPORT - THE DALLES PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JUNE 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	174			42				38	325	360.9	63.3	1.5	56.0
2	228			45			1	43	348	363.4	63.7	1.5	55.8
3	202			47			1	50	564	340.1	70.5	1.5	55.9
4		191		47				80	1608	351.3	66.4	1.5	57.0
5		151		57			4	65	1610	341.5	72.6	2.5	57.0
6		135		35			8	63	2234	322.4	31.3	1.5	57.0
7		176		37			13	76	2355	322.6	38.7	2.0	57.0
8		179		31			36	78	2063	317.0	45.9	2.0	57.0
9		251		31			46	85	2309	294.0	45.9	2.0	57.0
10		256		46			76	59	2827	297.0	45.9	1.5	57.0
11		224		42			183	70	3113	290.6	46.0	1.5	57.0
12		217		53			304	76	5329	305.8	46.1	1.5	57.0
13		232		51			627	105	10,457	335.4	48.4	1.5	57.0
14		225		46			547	111	14,568	326.4	61.0	2.2	57.0
15		199		40			662	104	17,735	329.7	61.1	1.5	58.0
16		294		35			1091	148	15,605	356.7	172.2	2.2	58.0
17		228		47			1356	135	20,764	373.3	68.5	1.5	58.0
18		170		29			1739	107	34,976	371.5	68.5	2.0	58.0
19		185		58			2843	187	30,338	373.7	67.6	2.0	58.0
20		225		42			4542	143	48,222	369.9	65.1	1.7	58.0
21		267		54			3694	172	53,159	369.4	63.8	2.0	58.0
22		242		39			3265	156	39,220	353.9	64.5	1.5	60.0
23		352		92			4332	192	39,454	358.4	64.9	2.3	59.0
24		461		95			7088	216	53,422	345.6	69.2	1.9	59.0
25		515		111			7734	266	48,717	336.4	65.9	1.8	59.0
26		548		64			7037	176	56,120	345.3	65.4	2.0	59.0
27		550		86			5423	211	43,817	375.7	71.2	2.0	60.0
28		411		75			4265	167	43,885	363.8	73.1	2.0	68.0
29		504		87			3012	184	32,678	364.7	123.3	2.1	61.0
30		372		64			2571	152	30,407	353.5	84.5	2.5	61.0
TOTAL	604	7,760		1,628			62,500	3715	658,229				
AVERAGE	201	287		54			2,232	124	21,941	343.7	69.9		

TABLE A-13

MONTHLY FISH PASSAGE SUMMARY REPORT - THE DALLES PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JULY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		424		58			2,348	193	32,376	350.8	80.1	2.5	61.0
2		471		84			2,042	207	24,317	310.3	80.1	2.5	61.0
3		408		90			2,416	276	32,647	257.0	73.4	2.5	62.0
4		300		36			1,791	235	41,915	239.0	74.7	3.0	63.0
5		535		134			2,203	429	39,376	281.0	70.0	3.0	63.0
6		508		59			3,611	488	38,695	252.8	52.3	3.0	64.0
7		588		106			3,783	917	41,638	248.3	40.9	3.0	64.0
8		503		59			3,344	921	40,821	254.5	41.3	4.0	64.0
9		452		78			3,347	1141	43,084	200.5	30.1	4.0	65.0
10		475		51			2,297	1145	25,483	193.5	13.6	3.3	65.0
11		445		57			1,454	1200	22,836	196.9	13.5	3.5	65.0
12		416		82			1,535	1590	15,678	195.9	7.6	3.5	65.0
13		375		57			1,068	1942	23,322	203.6	.0	3.5	65.0
14		353		80			1,019	2008	14,087	197.5	.0	3.5	66.0
15		317		83			725	2054	16,165	184.9	.0	3.5	66.0
16		307		89			792	2339	12,056	202.8	.0	3.5	66.0
17		205		51			490	2588	12,736	205.3	.0	3.5	66.0
18		287		57			621	1734	8,639	184.4	.0	3.5	67.0
19		187		45			418	1974	6,159	190.8	.0	3.5	67.0
20		292		60			396	3158	3,941	174.1	.0	4.3	67.0
21		179		51			382	2429	4,017	163.2	.0	4.0	68.0
22		288		65			289	2714	4,218	155.8	.0	4.7	67.0
23		231		40			281	2258	3,467	136.8	.0	4.1	68.0
24		238		69			273	1761	2,697	135.7	.0	5.0	68.0
25		106		14			107	1373	3,029	140.9	.0	4.0	68.2
26		299		100			198	2645	2,117	139.6	.0	4.5	69.0
27		182		68			167	2546	1,785	168.9	.0	4.6	68.0
28		292		60			172	3105	1,748	179.4	.0	4.0	68.0
29		209		49			118	1583	1,763	143.6	.0	4.2	68.0
30		227		70			134	3202	2,071	138.3	.0	4.5	68.0
31		200		31			105	2674	1,371	158.9	.0	4.5	69.0
TOTALS		10,299		2,033			37,926	52,825	524,254				
AVERAGES		332		66			1,223	1,704	16,911	199.5	18.6		

TABLE A-14

MONTHLY FISH PASSAGE SUMMARY REPORT - THE DALLES PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - AUGUST 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		264		48			150	3077	1207	144.6	.0	5.0	69.0
2		189		34			112	2810	806	139.2	.0	5.0	70.0
3		290		61			72	2749	684	140.2	.0	5.8	70.0
4			309	98	1		44	2702	538	111.2	.0	6.0	70.0
5			332	83	1		39	3111	432	101.5	.0	6.0	70.0
6			252	51	3		32	1976	433	107.2	.0	5.0	70.0
7			234	61			30	1544	324	160.2	.0	5.0	70.0
8			266	46	1		28	1297	653	179.8	.0	4.5	70.0
9			320	67			33	942	319	149.9	.0	4.5	70.0
10			396	58			21	895	194	138.7	.0	5.5	71.0
11			351	44	1		38	879	246	137.2	.0	5.5	71.0
12			529	92			11	1133	199	122.2	.0	5.0	71.0
13			422	87			58	962	163	136.5	.0	5.0	71.0
14			374	71			10	659	123	148.8	.0	5.0	71.0
15			204	31			22	534	140	139.3	.0	5.0	71.0
16			305	66			4	349	84	141.2	.0	4.8	71.0
17			330	86			9	381	61	153.4	.0	4.9	71.0
18			591	136			2	441	28	120.6	.0	5.0	71.0
19			656	168	3		9	663	39	139.2	.0	4.8	71.0
20			760	198			5	481	137	120.5	.0	4.8	70.0
21			402	150			7	294	111	125.9	.0	5.1	71.0
22			592	185			5	359	29	148.8	.0	5.0	71.0
23			479	105			1	396	18	144.9	.0	4.5	71.0
24			552	131	1		2	641	56	147.1	.0	5.0	71.0
25			743	133	1		1	937	43	146.1	.0	4.6	71.0
26			595	173	2			814	46	126.5	.0	4.5	71.0
27			929	147	1			663	30	131.6	.0	4.9	71.0
28			971	213				809	13	129.3	.0	4.5	71.0
29			2363	398	3			967	12	133.2	.0	4.7	70.0
30			1676	531	3			1128	5	154.5	.0	4.7	70.0
31			2281	786	3			2266	7	115.5	.0	4.0	70.0
TOTAL		743	18,214	4,538	24		745	36,859	7,180				
AVERAGE		248	589	146	2		30	1189	232	136.6	.0		

TABLE A-15

MONTHLY FISH PASSAGE SUMMARY REPORT - THE DALLES PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - SEPTEMBER 1984

DATE	CHINOOK ADULTS SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			2410	980	8	1		3287	6	114.8	.0	5.0	69.0
2			2322	812	18	6		4288	1	120.8	.0	4.8	68.0
3			1766	1033	19	5	5	2822	4	98.0	.0	5.0	68.0
4			2760	1204	40	43		3095	22	110.3	.0	5.0	69.0
5			3682	1253	46	36		2804		100.7	.0	5.0	69.0
6			3276	1482	72	48		2133		119.1	.0	5.0	69.0
7			3637	982	155	55		5190	1	117.9	.0	4.5	68.0
8			4887	1663	138	54		6452	13	123.5	.0	4.5	68.0
9			4894	960	75	29		5851	5	99.1	.0	5.0	68.0
10			2462	1133	128	47		5385	7	107.5	.0	4.5	68.0
11			1483	558	36	14		2543	4	126.1	.0	5.0	68.0
12			3891	1336	62	36		4335	3	147.8	.0	5.0	67.0
13			3248	1557	44	25		4957	9	123.0	.0	5.0	67.0
14			2357	1629	45	39		4831		111.5	.0	5.0	67.0
15			2400	2732	187	88		9467	8	120.8	.0	5.0	67.0
16			2223	2323	76	51		10,253		118.1	.0	4.0	67.0
17			702	1583	57	36		4240		125.8	.0	4.5	66.0
18			541	1105	21	17		1443	1	131.1	.0	4.5	66.0
19			817	1346	43	26		1429	1	120.6	.0	4.5	66.0
20			1064	1796	39	24		1781	2	122.8	.0	4.0	66.0
21			1776	2432	33	16		2219	5	115.1	.0	4.3	66.0
22			1480	2579	33	23		4630	3	113.7	.0	4.5	65.0
23			1661	2266	37	22		3257	1	89.2	.0	4.2	65.0
24			601	1494	28	11		2222	4	111.4	.0	5.7	64.0
25			993	2349	61	42		2413		115.1	.0	5.5	64.0
26			597	1472	47	24		2187		130.6	.0	5.2	65.0
27			459	1504	20	22		900		113.5	.0	5.6	66.0
28			618	1574	18	13	1	1117		120.9	.0	5.6	65.0
29			553	1486	29	19		771		118.2	.0	5.8	65.0
30			445	1158	20	14		1075		87.9	.0	5.6	64.0
TOTAL			60,005	45,781	1,635	886	6	107,377	104				
AVERAGE			2,000	1,526	53	30	3	3,579	5	115.8	.0		

TABLE A-16

MONTHLY FISH PASSAGE SUMMARY REPORT - THE DALLES PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - OCTOBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			651	1804	46	32		1494		105.5	.0	6.0	64.0
2			318	854	4	9		1329		146.2	.0	5.6	64.0
3			551	1384	2	15		2068		147.3	.0	5.6	64.0
4			298	880	3	12		1132		160.7	.0	5.0	64.0
5			356	841	5	7		1120		133.3	.0	5.0	64.0
6			402	777	8	18		731		96.5	.0	5.0	64.0
7			350	771	10	12		627		87.9	.0	5.5	63.0
8			261	555	6	20		507		101.2	.0	5.0	62.0
9			227	809	6	17		590		112.2	.0	5.0	62.0
10			223	602	4	18		491	4	116.0	.0	5.0	62.0
11			213	520	6	25		403		133.4	.0	5.0	62.0
12			217	429	6	19		344		130.8	.0	5.0	61.0
13			123	420	5	10		318		114.1	.0	5.0	62.0
14			108	279	13	15		638		118.8	.0	5.0	60.0
15			93	248	8	11		738	1	136.1	.0	5.0	60.0
16			161	331	9	18		756		135.3	.0	5.0	60.0
17			36	139	5	10		347		102.7	.0	5.0	60.0
18			87	227	8	17		371		114.0	.0	4.0	59.0
19			32	144	5	10		140	1	158.4	.0	4.0	58.0
20			96	214	8	14		248		106.2	.0	3.5	58.0
21			44	165	6	15		180		126.0	.0	4.0	57.0
22			95	219	6	16		265		146.4	.0	4.0	57.0
23			21	102	6	5		164		139.2	.0	4.2	56.0
24			61	236	1	6		190		124.0	.0	4.2	56.0
25			73	176		6		147		119.1	.0	4.0	56.0
26			39	116	1	4		187		160.1	.0	4.0	56.0
27			74	129	3	8		275		143.1	.0	4.3	54.0
28			74	115	3	6		367		114.3	.0	4.0	56.0
29			71	112	5	13		225		106.5	.0	4.5	56.0
30			50	113	2	8		146		125.8	.0	4.0	56.0
31			38	51	1			69		138.9	.0	4.0	56.0
TOTAL			5443	13,762	201	396		16,607	6				
AVERAGE			176	444	7	13		536	2	125.8	.0		

TABLE A-17

MONTHLY FISH PASSAGE SUMMARY REPORT - JOHN DAY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - APRIL 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	1							126		237.0	2.0	.8	44.3
2	16							149		216.2	34.4	.9	45.2
3	1							126		231.3	93.5	1.4	45.6
4	4							102		240.9	19.0	1.2	45.9
5	6			1				129		219.3	18.9	1.2	46.1
6	17							119		230.3	18.4	1.0	46.3
7	9							237		259.8	35.7	1.0	46.6
8	16							126		238.4	36.5	1.5	46.7
9	32							121		232.2	34.5	1.3	46.7
10	66			1				119		260.7	33.7	1.3	46.0
11	73			1				71		266.6	33.1	1.0	46.0
12	46							76		248.4	32.8	1.1	45.8
13	50			1				68		291.4	84.1	1.3	45.9
14	27							128		240.6	127.9	1.5	46.1
15	37			3				96		249.5	125.1	1.5	46.4
16	59			1				185		284.3	86.5	1.0	47.3
17	168			8				232		276.6	69.6	1.0	47.6
18	75			3				139		330.6	138.7	1.0	47.5
19	64							102		327.6	142.6	1.2	48.1
20	113			5				111		317.6	120.3	1.0	48.5
21	85			2				49		360.0	146.3	1.1	48.7
22	100			1				96		338.0	113.6	1.5	48.6
23	128			3				40		347.7	92.1	1.1	48.1
24	273			6				110		340.6	74.7	1.5	48.2
25	224			3				24		338.6	104.4	1.2	51.4
26	297			7				137		349.8	93.2	1.2	
27	326			7				28		341.2	95.5	1.5	48.2
28	619			13				110		290.7	36.4	2.0	48.0
29	528			11				75		278.4	68.9	2.1	48.0
30	776			16				85		303.5	34.5	2.0	47.9
TOTALS	4236			93				3316					
AVERAGES	141			5				111		282.9.	71.6.		

TABLE A-18

MONTHLY FISH PASSAGE SUMMARY REPORT - JOHN DAY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - MAY 1984

DATE	CHINOOK ADULTS SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	348			15				42		315.7	33.6	2.0	47.9
2	856			44				74		281.7	33.6	2.0	48.0
3	1145			41				80		301.9	45.5	2.0	48.5
4	1837			63				103		272.0	44.3	1.7	48.9
5	1995			67				78		250.7	46.9	2.1	49.1
6	864			53				67		264.4	56.4	1.5	49.3
7	2230			69				123		268.0	51.5	1.1	49.2
8	1090			68				72		290.9	51.6	1.5	49.3
9	1234			101				48		267.9	49.4	2.2	49.5
10	1460			97				63		328.3	61.7	1.6	49.5
11	757			76				36		351.3	66.4	2.1	49.7
12	737			81				54		293.4	53.6	2.0	49.7
13	950			94				44		276.7	57.0	1.9	50.1
14	892			120				72		326.3	55.0	2.0	50.9
15	1019			123				64		376.0	88.0	1.5	51.2
16	794			78				24		384.0	89.4	1.0	51.7
17	489			60				57		364.2	85.7	1.0	52.1
18	450			66				38		363.2	79.2	1.5	52.4
19	326			72				50		354.1	70.3	1.5	51.7
20	413			84				55		318.8	64.1	1.3	51.7
21	559			105				56		338.6	69.0	1.5	52.7
22	633			90				64	1	362.2	69.5	1.6	53.1
23	613			136				37		374.7	67.9	1.5	53.9
24	363			71				49		378.8	69.2	1.5	55.1
25	323			57				47	1	385.3	83.8	1.7	52.7
26	282			68				30		341.7	75.7	1.8	52.7
27	242			71				42		296.9	89.5	1.5	53.1
28	307			74				47		320.0	91.1	1.4	53.2
29	381			80				45	6	347.2	98.6	1.3	53.9
30	310			77				73	15	358.3	99.0	1.3	55.1
31	299			62				53	16	387.3	108.6	2.5	55.4
TOTALS	24198			2363				1787	39				
AVERAGES	781			76				14	9	327.1	67.9		

TABLE A-19

MONTHLY FISH PASSAGE SUMMARY REPORT - JOHN DAY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JUNE 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	280			61				39	43	371.5	123.0	2.5	58.8
2	146			43				37	9	385.7	143.2	2.5	58.3
3	70			27				33	38	358.9	131.7	2.2	58.1
4	146			38				38	159	367.9	128.1	1.5	58.3
5	259			75			5	46	147	361.9	129.1	2.0	58.6
6		278		64			4	50	451	339.1	111.2	2.0	59.0
7		290		49			5	60	492	342.4	103.7	2.0	55.6
8		146		28			15	44	298	332.3	102.0	1.5	55.7
9		237		68			42	54	341	314.1	90.1	1.5	55.7
10		164		24			51	50	638	311.7	100.9	1.5	56.1
11		185		46			89	54	441	302.2	99.6	1.5	56.3
12		352		72			195	41	1766	314.4	94.8	2.2	56.7
13		295		62			326	68	3471	362.3	109.1	1.6	57.0
14		313		66			539	78	4226	343.6	134.3	2.1	52.0
15		222		65			583	64	3810	358.7	134.8	2.2	54.0
16		256		44			428	95	1444	373.7	171.5	1.4	61.0
17		180		40			462	59	531	384.7	180.5	1.4	58.0
18		268		56			1293	85	1396	386.7	152.0	1.5	53.0
19		249		56			1817	101	14414	377.3	135.4	2.2	53.7
20		189		73			2728	133	16587	395.2	144.0	1.5	51.0
21		200		107			3897	128	15406	397.2	140.0	2.0	59.0
22		228		90			3505	95	3276	375.8	134.8	1.5	59.0
23		230		122			3362	73	8704	375.6	136.0	1.5	59.0
24		248		118			4031	101	25069	363.9	180.4	1.6	60.0
25		402		172			6814	92	12613	354.8	135.1	1.5	61.7
26		401		98			6044	81	34053	367.4	134.9	1.7	61.5
27		428		76			6998	88	22315	393.6	142.1	2.6	61.8
28		418		129			5009	84	25336	385.2	146.2	2.0	61.9
29		268		50			3755	73	11987	383.4	168.6	2.0	62.1
30		273		66			2978	57	5242	374.9	180.2	2.0	
TOTALS	901	6720		2085			54975	2101	214703				
AVERAGE	180	224		70			1833	70	7157	361.9	133.9		

TABLE A-20

MONTHLY FISH PASSAGE SUMMARY REPORT - JOHN DAY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JULY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		329		48			2986	85	5927	366.3	180.4	2.0	61.3
2		308		89			2247	63	3704	324.3	180.2	2.0	61.3
3		358		37			2043	63	4566	269.8	164.4	2.0	61.3
4		613		204			2884	101	18601	246.9	143.8	2.7	61.9
5		520		84			2165	105	20406	268.2	143.9	2.0	63.8
6		601		136			3892	157	17370	263.9	119.3	2.8	63.9
7		617		117			4684	225	16426	257.9	102.3	2.8	58.0
8		695		145			4858	368	17200	258.3	103.4	2.0	67.0
9		543		76			2986	408	36299	211.0	50.0	3.0	66.2
10		404		93			3939	561	33140	190.3	16.1	2.9	66.9
11		649		84			3245	616	28926	204.0	15.1	3.5	66.7
12		464		133			2073	670	19553	199.5	10.3	3.5	67.1
13		335		153			1716	485	17150	210.6	15.2	3.5	66.9
14		469		118			1616	645	18604	193.1	15.0	3.5	66.9
15		304		58			1225	655	19686	185.5	16.6	3.5	69.6
16		258		58			1132	777	16149	204.5	33.2	3.7	59.0
17		280		90			1160	808	14980	204.0	34.7	3.5	68.5
18		356		105			1313	1099	9519	185.9	36.0	3.8	67.4
19		234		86			944	1150	5591	192.4	27.1	3.8	67.4
20		248		41			652	930	5546	172.4	26.5	4.0	67.0
21		198		32			620	1244	5309	159.4	26.1	4.1	67.0
22		172		25			441	1305	4919	155.3	22.4	4.0	67.4
23		146		25			365	901	4509	135.5	22.4	4.0	68.0
24		95		27			331	792	3748	134.0	21.7	6.0	70.0
25		121		29			384	523	2058	139.3	22.6	6.0	68.0
26		290		55			346	1091	1679	145.2	22.5	3.5	68.0
27		413		106			495	1563	777	166.6	21.6	5.0	69.0
28		145		43			273	1121	1153	182.0	28.1	3.0	68.4
29		111		37			287	1048	2063	148.0	22.1	5.5	69.0
30		136		49			297	988	966	145.8	21.1	4.0	70.0
31		74		23			129	895	593	157.2	20.3	7.0	71.0
TOTALS		10486		2406			51728	21442	357117				
AVERAGES		338		78			1669	692	11520	202.5	54.3		

TABLE A-21

MONTHLY FISH PASSAGE SUMMARY REPORT - JOHN DAY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - AUGUST 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		170		63			250	1053	1036	142.2	22.3	4.5	69.5
2		191		37			126	1346	513	147.6	22.1	5.0	69.5
3		170		33			156	1202	315	149.9	22.1	3.5	69.5
4		228		60			158	1350	485	110.8	22.6	3.5	69.0
5		312		78			180	1657	403	102.8	22.7	3.5	69.0
6			196	97			57	1526	220	109.0	22.8	3.0	69.0
7			115	24			44	578	129	163.0	26.7	3.8	69.4
8			96	41			47	485	247	180.7	31.7	3.8	69.8
9			75	11			31	564	183	155.6	29.7	6.0	69.8
10			177	63			41	511	149	137.6	24.9	3.0	70.0
11			261	42			25	644	73	136.0	21.8	6.8	70.0
12			435	45			26	660	52	123.8	22.6	2.5	70.0
13			279	68			20	656	56	135.3	23.1	6.0	66.0
14			290	71			19	412	84	148.7	22.7	5.0	66.0
15			154	25			15	276	76	145.2	22.6	6.0	67.0
16			146	46			2	142	67	141.0	22.5	3.0	71.0
17			164	59			2	235	28	153.5	9.3	3.5	71.0
18			402	71			2	235	17	125.5	9.1	3.5	71.0
19			254	94			4	387	18	134.6	9.3	3.0	70.0
20			364	151			5	319	3	124.8	11.2	3.0	70.0
21			355	120			1	221	21	122.4	20.7	4.9	70.0
22			421	106			1	141	26	150.6	22.7	3.3	70.0
23			189	108			2	110	13	145.7	22.8	4.5	71.0
24			740	166				244	19	148.6	21.9	4.0	71.0
25			407	84			1	254	10	144.0	21.8	3.5	71 0
26			348	69			2	335	45	129.0	19.3	5.5	70.0
27			681	114			4	716	15	135.2	19.4	3.5	69.0
28			726	207	1		5	772	1	130.8	21.2	3.5	70.0
29			1064	282			1	754	7	133.0	17.3	3.5	70.0
30			1132	298			1	465	4	157.2	6.5	4.5	69.0
31			1667	500	1	2	2	1493	5	118.3	.0	4.0	69.0
TOTALS		1071	11138	3213	2	2	1230	19743	4629				
AVERAGES		214	359	104	1	2	41	637	149	138.1	19.9		

TABLE A-22

MONTHLY FISH PASSAGE SUMMARY REPORT - JOHN DAY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - SEPTEMBER 1984

DATE	CHINOOK ADULTS SPRING	SUMMER	FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			2467	640	12	9	8	2167	14	114.3	.0	4.0	69.0
2			1747	696	17	2		1739	2	123.5	.0	3.0	69.0
3			2617	908	18	8	1	2312	4	95.7	.0	5.5	69.0
4			867	543	11	8		1424	-1	112.2	.0	2.5	69.0
5			1924	651	11	6		992		102.9	.0	4.0	69.0
6			2412	889	40	21		1857	1	115.7	.0	2.5	68.5
7			2081	994	40	12		2395	2	115.8	.0	2.5	68.0
8			3906	2036	78	32	2	4182	2	121.9	.0	2.5	68.0
9			4594	2216	125	95		7442	2	99.2	.0	3.0	67.0
10			2277	1360	113	38	2	6880		106.1	.0	2.5	69.0
11			2348	1131	39	26		5139	1	127.4	.0	2.8	67.0
12			1151	907	27	7		2690		149.7	.0	2.5	69.0
13			2739	805	56	26		2849		120.8	.0	3.5	69.0
14			2968	1897	28	5		3135		110.6	.0	3.0	67.0
15			2933	1603	68	27		3910		124.1	.0	3.5	67.0
16			2151	1716	37	24		5758		117.9	.0	3.0	67.0
17			1879	2130	79	26		8788		126.2	.0	3.5	67.0
18			756	1427	36	8		7635		129.9	.0	3.5	67.0
19			980	1294	31	8		5307		117.4	.0	3.5	60.0
20			668	1626	26	24		3066		124.6	.0	3.5	60.0
21			1574	1324	32	19		2200		110.1	.0	3.5	66.0
22			1493	2078	55	30		1925		109.5	.0	3.0	67.0
23			1517	2139	38	27		2575		85.2	.0	3.5	67.0
24			765	1377	40	30	2	2293		115.7	.0	4.3	65.0
25			1688	2456	29	22		2446		113.0	.0	4.0	65.0
26			1111	1596	36	21	1	1760		131.6	.0	4.0	65.0
27			503	1043	11	10		1712		111.5	.0	5.0	65.0
28			584	1653	3	3		2152		123.8	.0	5.0	64.0
29			531	1682	11	4		1912		117.7	.0	5.5	64.0
30			565	1786	10	3		1795		86.1	.0	5.0	64.1
TOTALS			53796	42603	1155	581	16	100437	27				
AVERAGES			1973	1419	38	19	3	3348	3	115.3	.0		

TABLE A-23

MONTHLY FISH PASSAGE SUMMARY REPORT - JOHN DAY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - OCTOBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			425	1729	12	7		2288		101.9	.0	5.0	63.0
2			310	1112	7	5		3039		143.6	.0	3.4	63.0
3			515	1309	15	26		2717		151.6	.0	6.0	62.0
4			459	1061	11	5		2147		153.7	.0	4.0	62.0
5			421	920	7	10		2027		137.6	.0	3.2	62.0
6			320	1149	19	12		3112		101.1	.0	3.5	62.0
7			435	1009	21	17		2285		82.4	.0	3.5	62.0
8			166	308	3	4		1174		101.5	.0	4.0	61.0
9			136	497	2	2		1564		113.2	.0	4.0	61.0
10			249	712	4	14		2477		110.5	.0	4.0	61.0
11			351	950	15	12		1775		133.0	.0	3.5	61.0
12			143	579	3	16		1359		130.7	.0	4.0	61.0
13			175	430	1	3		1077		115.8	.0	4.5	61.0
14			122	468	1	5		1361		118.4	.0	4.0	60.0
15			31	248	1	4		630		134.3	.0	4.0	60.0
16			130	278		4		1082		134.1	.0	4.0	60.5
17			183	386	1	1		1462		101.1	.0	4.0	63.0
18			73	203		1		783		111.3	.0	3.5	60.5
19			55	270		6	1	1449		149.4	.0	4.0	58.0
20			106	275	2			846		119.6	.0	4.0	58.0
21			74	357	1	7		1116		127.7	.0	4.0	58.0
22			117	290	1	2		797		146.6	.0	3.0	56.0
23			23	230		9		847		129.1	.0	4.0	58.0
24			53	276	1	2		697		124.9	.0	3.5	56.0
25			173	287	4	5		955		126.0	.0	4.0	56.0
26			69	268	1	4		898		160.0	.0	3.0	56.0
27			20	157	2	3		1585		141.0	.0	3.5	56.2
28			74	250	1	3		2390		113.8	.0	2.5	55.6
29			165	267	1	4	1	856		104.5	.0	3.0	55.7
30			70	171		1		1035		123.6	.0	3.0	55.7
31			35	131				676		135.6	.0	5.0	53.0
TOTALS			5678	16577	137	194	2	46506					
AVERAGES			183	535	5	7	1	1500		125.0	.0		

TABLE A-24

MONTHLY FISH PASSAGE SUMMARY REPORT - JOHN DAY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - NOVEMBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			21	90				487		131.1	.0	2.5	53.0
2			28	83		4		681		139.7	.0	3.5	52.0
3			60	70	1			47		127.2	.0	2.5	51.5
4			41	88		1		381		93.6	.0	4.0	51.0
5			24	36	1			350	1	107.9	.0	2.5	51.0
6			24	28	1	1		610		120.3	.0	4.0	51.0
7			19	33				582		115.3	.0	3.0	50.7
8			16	24				1,139		125.2	.0	3.5	50.2
9			11	44				739		152.9	.0	3.1	50.0
10			31	38				806		145.4	.0	2.0	49.9
11										116.1	.0	3.0	49.8
12										102.4	.0	2.5	49.8
13										121.5	.0	3.0	49.4
14										131.4	.0	2.5	49.7
15										164.7	.0	3.0	49.0
16										164.8	.0	2.5	49.0
17										156.9	.0	4.0	49.0
18										139.2	.0	3.5	
19										136.0	.0	3.5	50.0
20										132.6	.0	3.0	
21										170.0	.0	3.0	48.0
22										103.2	.0	3.5	48.0
23										137.8	.0	4.0	48.0
24										132.8	.0	4.0	48.0
25										136.7	.0	4.0	48.0
26										123.8	.0	4.0	46.0
27										131.0	.0	4.0	
28										142.0	.0	4.0	48.0
29										136.5	.0	4.0	48.0
30										172.7	.0	4.0	48.0
TOTALS			275	534	3	6		5,822	1				
AVERAGES			28	53	1	2		582	1	133.7			

TABLE A-25

TABLE A-25

MONTHLY FISH PASSAGE SUMMARY REPORT - McNARY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - APRIL 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	4							98		206.7	8.5	1.0	47.0
2								79		203.4	.0	1.0	47.0
3								71		199.0	.0	1.7	47.0
4	4							59		204.0	8.5	1.0	47.0
5	25							59		206.0	15.2	1.6	47.0
6	6							54		250.7	58.5	1.3	47.0
7	20							63		223.3	28.8	1.1	47.0
8	13			5				80		215.5	22.9	1.2	47.0
9	31			16				106		231.7	54.4	.8	47.0
10	8							30		249.2	73.4	1.2	47.0
11	13							60		248.9	74.3	1.0	47.0
12	15							75		236.6	61.1	1.0	47.0
13	20							44		253.5	74.7	1.2	47.0
14	43			1				74		228.8	52.4	1.2	47.0
15	46			8				54		244.2	78.7	1.4	48.0
16	45			8				51		242.6	65.3	1.2	48.0
17	34							44		270.0	106.4	1.4	49.0
18	33			6				50		298.1	121.4	1.5	49.0
19	45			2				38		293.4	120.6	1.5	49.0
20	67			1				107		303.9	127.7	1.4	49.0
21	49			3				84		316.4	143.7	1.5	49.0
22	57							69		315.6	140.5	1.5	49.0
23	69			6				46		315.6	150.8	2.0	49.0
24	56			4				60		297.3	129.8	1.7	49.0
25	117							77		310.3	127.2	1.5	49.0
26	165			1				71		320.4	137.2	1.6	49.0
27	159			31				74		304.2	122.2	1.6	48.0
28	67			4				13		272.6	90.5	1.5	48.0
29	259			33				38		268.8	88.6	1.9	48.0
30	158			15				30		273.7	91.1	1.6	48.0
TOTAL	1628			144				1858					
AVERAGE	58			9				62		260.6	79.1		

TABLE A-26

MONTHLY FISH PASSAGE SUMMARY REPORT - McNARY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - MAY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	545			18				30		275.8	94.8	2.4	49.0
2	641			29				36		275.7	93.8	2.4	49.0
3	413			10				7		281.3	94.2	2.6	48.0
4	378			27				34		259.1	68.5	2.4	49.0
5	975			71				81		261.5	60.9	2.4	49.0
6	1300			71				60		262.5	61.3	1.8	49.0
7	960			69				40		257.7	69.1	1.8	49.0
8	866			128				58		255.2	75.8	2.2	49.0
9	893			108				63		254.4	76.6	1.7	49.0
10	1231			113				37		303.2	121.3	2.0	49.0
11	862			72				27		291.3	111.7	1.9	49.0
12	1222			150				34		269.3	89.8	1.5	50.0
13	1813			145				36		269.0	89.2	2.0	50.0
14	748			82				11		284.8	102.7	1.8	51.0
15	596			55				18		353.1	168.5	1.2	51.0
16	271			83				45		367.7	181.9	1.2	52.0
17	405			160				47		354.3	173.3	1.2	52.0
18	753			245				21		311.1	137.7	1.2	52.0
19	1354			354				55		320.7	138.7	1.2	52.0
20	670			173				13		299.6	120.1	1.2	52.0
21	250			91				4		303.5	126.8	1.2	52.0
22	295			68				13		355.3	172.6	2.0	52.0
23	278			50				8		339.9	156.0	1.7	52.0
24	441			89				19		329.2	149.8	1.3	52.0
25	429			73				12		345.1	161.0	1.2	54.0
26	482			124				5		321.2	145.9	1.8	54.0
27	446			244				17		283.6	88.2	1.4	54.0
28	434			125				20		277.1	98.8	1.4	54.0
29	192			76				6		308.4	148.1	1.4	55.0
30	112			46				1		358.3	166.3	1.1	55.0
31	314			88				2		417.0	230.7	1.3	54.0
TOTAL	20569			3237				860					
AVERAGE	664			104				28		304.8	122.0		

TABLE A-27

MONTHLY FISH PASSAGE SUMMARY REPORT - McNARY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JUNE 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	171			52				6		373.2	179 1	1.3	54.0
2	280			61				8		327.5	118.6	1.3	54.0
3	281			55				10		331.6	133.8	1.3	54.0
4	234			88				16		323.7	149.2	1.5	54.0
5	140			35				13		322.8	144.3	1.4	54.0
6	148			25				9		326.4	152.7	1.6	54.0
7	81			11				9		328.5	153.5	1.2	55.0
8	186			48				2		329.4	150.7	1.0	55.0
9		235		51				25		317.3	133.8	1.0	56.0
10		222		37				1		317.3	135.2	1.1	55.0
11		265		32				15	48	289.6	85.2	1.5	56.0
12		390		63			10	17	178	298.7	124.3	1.6	56.0
13		302		29			7	8	73	328.3	149.2	1.6	56.0
14		311		38			13	9	291	300.3	120.7	1.7	57.0
15		316		46			57	20	119	249.9	170.5	1.8	57.0
16		324		50			105	31	195	357.5	175.4	1.5	57.0
17		322		72			123	26	378	370.1	191.7	1.6	58.0
18		160		44			90	5	419	381.3	210.3	1.5	58.0
19		256		39			175	15	497	373.1	191.5	1.6	58.0
20		291		56			235	24	597	353.8	172.3	1.4	58.0
21		314		65		6	887	22	346	382.6	206.9	1.4	58.0
22		205		48			586	24	632	375.6	196.0	2.0	59.0
23		249		42			1006	25	390	356.1	172.2	2.0	59.0
24		253		93			2035	36	4470	339.3	155.8	2.0	59.0
25		222		30			777	13	1164	338.6	156.5	2.0	59.0
26		345		82			2834	68	5109	357.1	176.3	2.0	59.0
27		231		71			1541	39	880	363.3	171.5	1.8	59.0
28		305		103			3146	55	2149	371.5	177.5	1.8	60.0
29		338		54			1949	46	750	369.6	189.1	1.8	60.0
30		276		62			3186	56	2067	369.9	158.1	2.3	60.0
TOTAL	1521	6132		1582		6	18762	653	20752				
AVERAGE	190	279		53		6	987	22	1038	343.0	160.1		

TABLE A-28

MONTHLY FISH PASSAGE SUMMARY REPORT - McNARY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JULY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		253		47			1390	66	1994	330.9	138.8	2.3	60.0
2		294		52			3335	81	14907	278.0	99.6	2.5	60.0
3		246		143			2405	56	5901	315.0	143.4	2.8	60.0
4		360		37			2347	76	11788	261.4	79.9	1.8	60.0
5		341		24			1648	43	6500	293.6	112.8	2.0	60.0
6		471		81			1960	94	8785	272.5	92.0	2.4	63.0
7		420		39			1524	108	11706	254.7	73.5	1.9	63.0
8		412		73			1544	126	11970	235.3	55.6	2.0	63.0
9		428		84			1400	113	11420	202.5	39.7	2.0	63.0
10		503		57			2244	140	10329	216.4	57.8	2.0	63.0
11		564		63			2090	241	14143	210.6	49.5	2.0	63.0
12		528		47			2458	257	17026	206.6	47.0	2.5	64.0
13		637		97			2878	480	17296	211.7	48.1	3.0	65.0
14		682		92			1862	586	17679	189.3	24.1	4.4	65.0
15		398		70			1321	461	16260	164.4	.3	3.8	65.0
16		338		69			1470	332	10992	202.5	43.4	4.0	65.0
17		297		101			739	409	10499	236.4	76.6	5.0	65.0
18		519		210			1028	531	17389	187.0	21.2	3.5	65.0
19		351		71			648	394	11227	184.7	21.6	4.2	66.0
20		106		16			297	272	2101	172.2	9.5	3.8	66.0
21		253		25			441	740	3343	161.8	.0	2.8	66.0
22		307		55			434	610	2914	135.5	.0	3.0	66.0
23		188		30			458	745	3941	136.3	.0	4.2	67.0
24		178		31			261	666	4390	142.7	.0	3.0	67.0
25		143		15			271	589	2389	146.6	.0	3.0	67.0
26		119		23			160	835	1278	162.7	.0	3.0	67.0
27		149		23			245	811	1465	163.1	.0	3.0	67.0
28		361		33			223	1120	1071	167.9	.0	3.0	67.0
29		328		26			165	979	2154	109.7	.0	3.0	67.0
30		248		42			104	960	1807	128.0	.0	3.0	67.0
31		41		17			59	244	1182	143.7	.0	4.8	67.0
TOTAL		10463		1793			37409	13165	255846				
AVERAGE		338		58			1207	425	8253	201.0	39.8		

TABLE A-29

MONTHLY FISH PASSAGE SUMMARY REPORT - McNARY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - AUGUST 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		65		26			93	590	1253	156.3	.0	4.3	67.0
2		45		12			49	522	588	143.2	.0	3.1	67.0
3		139		34			82	763	322	115.7	.0	3.8	67.0
4		127		42			48	937	341	116.9	0	3.9	67.0
5		130		16			53	829	190	112.5	.0	2.4	67.0
6		280		39	2		47	1144	119	119.4	.0	3.6	67.0
7		289		51			82	1333	103	132.9	.0	3.8	71.0
8				54			56	1172	91	163.8	.0	3.3	71.0
9			151	37			34	763	110	164.3	.0	2.9	71.0
10			25	10			12	202	46	160.0	.0	3.2	72.0
11			29	3				232	53	136.4	.0	3.3	72.0
12			72	10			28	368	29	122.2	.0	2.2	72.0
13			268	67			11	640	131	130.3	.0	2.2	72.0
14			407	43			13	613	152	144.1	.0	2.6	72.0
15			190	17			8	436	130	137.7	.0	2.6	72.0
16			158	22			5	304	68	149.3	.0	1.9	70.0
17			154	26			5	245	69	141.2	.0	2.3	71.0
18			189	30			4	249	63	141.0	.0	2.3	70.0
19			273	35			1	362	77	100.8	.0	2.4	70.0
20			247	30				162	66	117.4	.0	2.4	70.0
21			175	25			1	232	21	140.4	.0	2.5	70.0
22			129	31				143	18	141.2	.0	2.5	70.0
23			214	60	11	20	4	193	6	147.4	.0	3.0	70.0
24			315	59	3	1	1	183	21	151.0	.0	2.1	70.0
25			306	30				137	7	129.9	.0	2.1	70.0
26			563	45	3			171	11	106.5	.0	3.0	70.0
27			245	31	1			107	12	140.[illegible]	.0	3.2	70.0
28			621	106	9			447	3	128.8	.0	3.0	70.0
29			383	20	8			283	14	149.8	.0	3.0	70.0
30			564	132	34	18		533		147.5	.0	3.0	70.0
31			560	132	9	28		649		117.2	.0	3.0	69.0
TOTAL		1327	6238	1275	80	67	637	14944	4114				
AVERAGE		166	271	41	9	17	30	482	142	135.8	.0		

TABLE A-30

MONTHLY FISH PASSAGE SUMMARY REPORT - McNARY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - SEPTEMBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			884	237	23	17		832		119.2	.0	3.0	69.0
2			966	169	15	19		708		104.8	.0	3.0	69.0
3			2346	415	30	80		1450		82.2	.0	3.0	69.0
4			932	326	5	21		1055	1	111.5	.0	3.0	69.0
5			1316	464	7	32		1451	30	110.2	.0	1.8	68.0
6			1268	1009	3	27		1725	4	120.5	.0	2.0	68.0
7			987	700	15	40		1082	7	123.8	.0	2.0	69.0
8			2078	627	13	12		933		112.1	.0	2.5	68.0
9			2335	784	7	15		1854		94.5	.0	2.0	69.0
10			2500	1004	10	17		2390		107.2	.0	2.0	69.0
11			3853	1469	27	68		4162		114.0	.0	1.7	69.0
12			1865	665	75	136		3355		150.0	.0	2.0	69.0
13			880	613	47	118	8	3101		108.5	.0	2.0	67.0
14			1798	1033	27	93		2804		117.2	.0	2.0	67.0
15			911	476	7	26		1852		128.3	.0	2.2	66.0
16			1609	564	25	68		1390		99.3	.0	2.2	66.0
17			3582	1553	71	159	28	3561		114.7	.0	2.4	66.0
18			2340	1316	28	54	5	3660		127.3	.0	2.2	66.0
19			1871	2291	44	60		3373		111.8	.0	3.0	66.0
20			1594	1353	15	32		3007		116.9	.0	2.7	67.0
21			1625	1798	33	107		4095		110.8	.0	2.9	67.0
22			614	1202	19	88	31	2940		100.4	.0	2.8	67.0
23			1073	1348	23	56	11	3368		77.8	.0	2.7	66.0
24			608	856	17	27		1496		121.1	.0	2.5	66.0
25			1291	1097	19	47		1924		123.9	.0	2.5	66.0
26			1359	2060	29	93	2	1793		131.0	.0	2.6	64.0
27			1256	1448	19	39		2441		85.8	.0	2.5	64.0
28			1441	2108	71	103		2776		109.3	.0	2.6	64.0
29			1347	1601	35	35		2486		91.0	.0	2.8	63.0
30			599	1290	18	40		1773		84.5	.0	3.1	63.0
TOTAL			47128	31876	777	1729	85	68837	42				
AVERAGE			1571	1063	26	58	14	2295	10	110.3	.0		

TABLE A-31

MONTHLY FISH PASSAGE SUMMARY REPORT - McNARY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - OCTOBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			379	818	7	19		957		94.4	.0	2.6	
2			819	1209	2	16		1394		123.5	.0	2.6	62.0
3			403	1205		6		1143		127.5	.0	3.8	62.0
4			454	1294	4	17		1403		133.1	.0	3.8	62.0
5			727	1479	2	10		2821		127.8	.0	3.8	62.0
6			484	791	3	9		2599		104.6	.0	3.8	62.0
7			455	639				1935		100.6	.0	3.8	62.0
8			431	747	2	7		1654		108.6	.0	3.9	62.0
9			806	1951		16	7	2410		103.0	.0	3.9	62.0
10			551	1234	6	6	1	2813		106.8	.0	2.4	61.0
11			409	738		1		1634		94.5	.0	2.8	61.0
12			96	229				1001		115.2	.0	2.8	62.0
13			123	251				580		113.6	.0	2.9	61.0
14			207	719				1644		110.5	.0	2.9	61.0
15			83	246				590		129.4	.0	3.0	61.0
16			87	288	1	2	1	715		128.6	.0	2.9	59.0
17			83	264	2	4		434		124.9	.0	2.5	58.0
18			79	190		1		602		131.7	.0	3.0	58.0
19			126	140		1		692		100.0	.0	2.5	58.0
20			106	250	1	5		496		113.8	.0	2.5	57.0
21			22	74				452		127.8	.0	2.5	56.0
22			33	71				285		142.7	.0	2.5	55.0
23			6	73				224		115.1	.0	3.0	55.0
24			44	142				265		126.6	.0	3.0	55.0
25			36	124				517		135.8	.0	3.0	55.0
26			42	148				609		141.2	.0	3.0	55.0
27			68	145				836		125.7	.0	2.9	55.0
28			49	64				909		110.4	.0	2.8	54.0
29			68	134				770		123.8	.0	2.8	54.0
30			65	218		1		552		118.6	.0	2.8	54.0
31			49	126	2	1	2	672		123.4	.0	2.8	54.0
TOTAL			7390	16001	32	122	11	33608					
AVERAGE			238	516	3	7	3	1084		118.9	.0		

TABLE A-32

MONTHLY FISH PASSAGE SUMMARY REPORT - MCNARY PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - NOVEMBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			22	67				183		134.1	.0	2.8	53.0
2			49	72	6	18		362		129.5	.0	2.8	53.0
3			88	90		2		212		99.4	.0	4.4	52.0
4			54	70				138		90.9	.0	4.2	52.0
5			17	73			1	136		114.5	.0	4.2	51.0
6			10	29	2		1	78		106.8	.0	4.2	51.0
7			14	20				70		107.3	.0	4.2	51.0
8			1	23				64		124.4	.0	4.2	51.0
9			22	23				120		136.1	.0	4.2	51.0
10			8	15				227		125.0	.0	3.2	50.0
11										107.8	.0	3.6	50.0
12										110.0	.0	3.6	50.0
13										116.3	.0	3.5	50.0
14										132.2	.0	3.6	50.0
15										133.3	.0	3.5	49.0
16										117.5	.0	3.1	49.0
17										156.0	.0	3.1	49.0
18										154.7	.0	3.2	49.0
19										117.1	.0	3.2	49.0
20										157.3	.0	3.2	49.0
21										137.8	.0	2.8	49.0
22										140.6	.0	2.8	49.0
23										131.7	.0	3.6	49.0
24										134.8	.0	3.6	49.0
25										136.0	.0	3.5	49.0
26										130.4	.0	3.5	49.0
27										129.2	.0	3.8	49.0
28										141.1	.0	3.8	49.0
29										132.1	.0	3.7	47.0
30										138.2	.0	3.7	47.0
TOTALS			285	482	8	20	2	1,590					
AVERAGES			28	48	4	10	1	159		127.7			

TABLE 33

TABLE A-33

MONTHLY FISH PASSAGE SUMMARY REPORT - ICE HARBOR PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - APRIL 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1								107		83.2	.0	1.5	46.0
2				1				118		108.4	4.7	1.9	46.0
3								120		96.2	8.6	1.5	46.0
4								132		98.3	8.4	1.2	46.0
5								71		84.8	10.4	1.5	46.0
6								83		94.3	9.7	1.5	46.0
7	1							98		97.9	9.7	1.0	47.0
8	7							107		96.5	10.4	1.0	47.0
9	6							120		101.6	10.6	1.3	47.0
10	3							137		99.5	10.4	1.3	47.0
11	6							103		100.4	9.9	1.2	47.0
12	9							82		98.7	10.1	1.2	47.0
13	6							108		99.8	11.5	1.3	48.0
14	18							89		92.7	39.8	1.5	48.0
15	3							36		102.9	49.3	1.5	48.0
16	20							72		105.7	18.1	1.5	48.0
17	7							40		137.5	41.6	1.5	48.0
18	9							25		135.9	43.0	1.5	48.0
19	22							36		142.2	46.4	1.5	49.0
20	17							53		139.9	54.1	1.5	49.0
21	23							67		142.8	54.5	1.5	49.0
22	40			1				68		133.0	53.3	1.5	49.0
23	38							58		130.1	49.2	1.7	49.0
24	17							40		134.6	42.4	1.8	49.0
25	21							50		134.5	37.7	1.8	49.0
26	36							39		132.7	39.4	1.9	49.0
27	43							39		127.7	41.4	1.9	49.0
28	97							46		111.6	22.4	1.9	49.0
29	173			3				42		114.8	42.4	1.9	49.0
30	191			5				32		118.8	19.3	1.8	49.0
TOTALS	813			10				2218					
AVERAGES	39			2				74		113.1	27.0		

TABLE A-34

MONTHLY FISH PASSAGE SUMMARY REPORT - ICE HARBOR PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - MAY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	121			2				32		101.1	16.5	1.8	49.0
2	180			4				29		105.9	15.3	1.8	49.0
3	250			7				42		87.5	16.3	1.7	49.0
4	237			12				26		101.1	17.8	1.7	49.0
5	303			12				14		94.7	18.1	1.8	50.0
6	167			7				15		119.8	36.2	2.0	50.0
7	420			27				14		105.5	18.5	2.0	50.0
8	518			53				17		104.5	18.3	1.7	50.0
9	518			48				29		113.9	20.0	1.7	51.0
10	439			41				32		118.9	20.6	1.6	52.0
11	446			38				42		120.5	22.0	1.6	52.0
12	369			31				26		119.9	23.9	1.7	52.0
13	157			11				20		132.5	30.2	1.7	52.0
14	247			40				16		155.7	51.5	1.7	52.0
15	197			22				12		189.4	85.7	1.7	53.0
16	70			9				7		196.9	93.1	1.7	53.0
17	167			19				11		185.4	81.3	1.6	53.0
18	157			32				11		166.0	61.5	1.7	53.0
19	89			17				11		159.9	54.7	1.6	53.0
20	64			24				2		159.7	55.0	1.6	53.0
21	47			15				7		187.7	82.6	1.5	52.0
22	40			5				3		194.0	90.3	1.5	52.0
23	103			19				13		174.0	70.6	1.3	52.0
24	207			57				10		196.8	85.7	1.3	54.0
25	267			60				14		189.4	87.0	1.3	54.0
26	182			41				4		175.7	72.9	1.3	54.0
27	129			23				7		166.1	64.5	1.3	54.0
28	139			23				5		177.5	75.2	1.6	54.0
29	77			28				12		180.5	78.2	1.6	54.0
30	149			34				4		198.8	95.0	1.6	54.0
31	61			14				1		248.5	142.0	1.6	54.0
TOTALS	6517			775				488					
AVERAGES	210			25				16		152.5	55.1		

TABLE A-35

MONTHLY FISH PASSAGE SUMMARY REPORT - ICE HARBOR PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JUNE 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1	37			16				1		224.4	122.2	1.3	54.0
2	65			13				1		205.4	101.0	1.4	54.0
3	77			18				2		203.2	98.0	1.4	54.0
4	46			13				2		175.9	72.4	1.4	54.0
5	35			8						174.3	69.0	1.4	54.0
6	13			3						187.5	80.9	1.4	54.0
7	19			6				1		179.7	73.7	1.1	54.0
8	38			14						179.5	72.8	1.0	54.0
9	75			21						181.0	74.7	1.3	54.0
10	166			30				1		171.1	64.3	1.5	54.0
11	306			49						165.5	61.1	1.8	55.0
12		153		30				2		165.6	61.9	1.7	56.0
13		166		29						165.4	61.6	1.8	56.0
14		309		38				1		175.6	71.2	1.8	56.0
15		286		39						186.8	81.9	1.7	57.0
16		139		42						189.5	169.6	1.9	57.0
17		45		6				2		191.9	185.9	2.0	57.0
18		60		7						199.7	125.7	2.0	57.0
19		138		13						187.1	97.0	2.1	57.0
20		276		25						186.9	95.3	2.1	57.0
21		125		15				1		202.8	103.5	2.1	57.0
22		63		7			2	1		220.2	119.2	1.8	57.0
23		119		21				1		180.0	80.8	2.0	58.0
24		254		28				3		181.4	82.8	2.0	58.0
25		282		34			1	2		170.4	72.2	2.0	58.0
26		162		13				1		180.8	86.5	2.0	58.0
27		153		21			2	6		181.0	88.2	2.0	58.0
28		280		38			4	8	5	177.5	82.1	2.0	59.0
29		431		58			10	8	4	171.6	84.2	2.0	60.0
30		323		57			5	5	24	151.8	73.7	2.0	60.0
TOTALS	877	3764		712			24	49	33				
AVERAGES	80	198		24			4	3	11	183.8	90.4		

TABLE A-36

MONTHLY FISH PASSAGE SUMMARY REPORT - ICE HARBOR PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JULY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		233		29			6	7	63	135.7	65.5	2.0	60.0
2		196		28			9	14	166	107.1	58.1	2.0	60.0
3		179		29			13	23	275	115.6	31.3	2.3	62.0
4		111		23			8	14	361	106.6	45.6	2.1	62.0
5		107		28			5	23	404	108.0	45.7	2.1	62.0
6		72		12			2	18	406	106.2	22.6	2.1	61.0
7		64		15			2	25	336	99.3	14.0	2.3	61.0
8		41		18			3	30	253	91.5	14.3	2.3	61.0
9		63		28			5	31	253	90.7	7.9	3.1	61.0
10		68		15			5	56	754	78.5	.0	2.9	61.0
11		48		10			3	52	780	74.1	.1	2.9	64.0
12		62		10			1	96	579	68.5	.0	2.9	64.0
13		34		13			5	83	368	68.9	.0	3.1	66.0
14		38		14			3	114	353	69.4	.0	3.5	66.0
15		47		19			5	123	223	37.0	.0	3.8	66.0
16		14		10			1	140	798	66.7	.0	4.3	67.0
17		26		16				244	294	58.1	.0	4.4	67.0
18		24		11				159	190	31.3	.0	4.9	68.0
19		16		3				127	214	42.3	.0	4.8	68.0
20		16		3				124	216	47.9	.0	4.7	69.0
21		23		2				166	156	38.2	.0	4.8	69.0
22		17		3				216	111	37.3	.0	4.8	69.0
23		26		4				215	89	30.5	.0	4.8	69.0
24		11		2				284	65	36.4	.0	4.8	69.0
25		7		1				195	52	35.8	.0	4.8	69.0
26		11		5				325	80	34.4	.0	5.0	69.0
27		11		2				273	26	40.8	.0	5.0	69.0
28		6		1				244	51	51.7	.0	5.0	69.0
29		6						266	31	42.3	.0	5.0	70.0
30		4						170	22	31.8	.0	5.0	70.0
31		4		4				246	117	51.7	.0	5.0	70.0
TOTALS		1585		358			76	4103	8086				
AVERAGES		51		12			5	132	261	65.6	9.8		

TABLE A-37

MONTHLY FISH PASSAGE SUMMARY REPORT - ICE HARBOR PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - AUGUST 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1								368	96	49.8	.0	5.0	70.0
2		5						420	32	45.2	.0	5.0	70.0
3		4						275	30	32.7	.0	5.0	70.0
4		2					1	204	23	34.5	0	5.0	70.0
5		6		1				223	31	33.1	.0	5.0	70.0
6		2		3				256	18	33.7	.0	5.0	70.0
7		8		2				289	16	26.7	.0	5.0	70.0
8		6		2	1			241	16	28.3	.0	5.0	71.0
9		7		1				200	9	40.5	.0	5.0	71.0
10		15		1				277	8	37.4	.0	4.7	71.0
11		12		2				250	12	32.0	.0	4.7	71.0
12			5	3				170	5	25.1	.0	4.7	72.0
13			1					73	4	26.6	.0	4.7	72.0
14								87	7	25.2	.0	4.7	72.0
15			4	2				74	10	27.7	.0	4.7	72.0
16			3	3				80	7	25.9	.0	4.0	72.0
17			7					72	6	23.0	.0	4.0	72.0
18			3	1				67		17.5	.0	3.7	72.0
19			2					55	5	18.9	.0	3.7	72.0
20			10				1	56	3	26.4	.0	4.0	72.0
21			6					57		27.7	.0	4.7	72.0
22			7	2				86	2	23.5	.0	4.8	72.0
23			9					107		36.3	.0	4.6	72.0
24			4	1				93	2	36.6	.0	4.5	73.0
25			6	4				84	1	30.6	.0	4.2	72.0
26			5	1		1		46	2	17.4	.0	4.2	72.0
27			2	3				47		29.2	.0	4.2	72.0
28			15	2				55	7	15.2	.0	4.3	72.0
29			9					53		39.6	.0	3.4	71.0
30			11	2				93		26.9	.0	4.9	71.0
31			7	4				96	1	31.1	.0	5.0	71.0
TOTALS		67	116	40	1	1	2	4554	353				
AVERAGES		7	6	2	1	1	1	147	14	29.8	.0		

TABLE A-38

MONTHLY FISH PASSAGE SUMMARY REPORT - ICE HARBOR PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - SEPTEMBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			29	9				191	2	26.9	.0	4.9	71.0
2			18	1			1	184		26.7	.0	4.9	71.0
3			28	3				194		27.3	.0	4.7	71.0
4			45	13				309		32.9	.0	4.2	71.0
5			41	14				490	2	31.2	.0	5.0	71.0
6			41	6				865		38.4	.0	5.0	71.0
7			29	11				884		44.5	.0	5.0	70.0
8			31	8				701		40.8	.0	4.2	70.0
9			30	10	1			682		28.1	.0	4.2	70.0
10			37	20				811		42.3	.0	4.2	70.0
11			75	19	2	1		1378		38.7	.0	4.3	70.0
12			90	17				1980		38.8	.0	4.3	69.0
13			69	14				1671		39.8	.0	3.8	69.0
14			35	19		1		2346		37.3	.0	3.8	69.0
15			56	26	1			2674		31.1	.0	3.4	69.0
16			44	17				2200		29.2	.0	3.4	69.0
17			21	15	1			1791		41.4	.0	3.4	69.0
18			45	28				2071		37.3	.0	5.0	69.0
19			46	38				2375		34.0	.0	5.0	68.0
20			55	26				2245		37.4	.0	4.9	68.0
21			48	28				2365		38.0	.0	5.0	67.0
22			61	22				2620		33.1	.0	5.0	67.0
23			32	15	2		1	2240		27.7	.0	4.5	67.0
24			26	11				1347		42.1	.0	3.0	66.0
25			33	23	1		1	3230		40.3	.0	4.3	66.0
26			36	15	1			2824		37.4	.0	4.1	65.0
27			25	24				2149		41.9	.0	4.3	64.0
28			43	30	5	1		3011		42.3	.0	4.3	64.0
29			15	27				2350		41.4	.0	4.6	63.0
30			32	37	2	1		2460		26.2	.0	4.6	63.0
TOTALS			1216	546	16	4	3	50638	4				
AVERAGES			41	18	2	1	1	1688	2	35.8	.0		

TABLE 39

TABLE A-39

MONTHLY FISH PASSAGE SUMMARY REPORT - ICE HARBOR PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - OCTOBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			11	6				910		35.2	.0	4.6	62.0
2			12	13				1612		29.0	.0	4.6	62.0
3			16	7				1539		31.4	.0	4.6	62.0
4			11	7				1347		33.2	.0	4.6	62.0
5			11	12				1534		33.1	.0	4.6	62.0
6			13	9				1474		20.4	.0	4.8	62.0
7			11	5				1536		25.3	.0	4.6	62.0
8			15	6				1972		35.7	.0	4.8	62.0
9			9	9				1797		28.6	.0	4.8	62.0
10			8	7				1502		30.8	.0	4.8	62.0
11			8	8				1584		33.6	.0	4.8	62.0
12			8	10				2093		29.6	.0	5.0	62.0
13			10	7				1462		35.7	.0	4.8	62.0
14			14	6				1290		35.0	.0	4.8	62.0
15			3	4				763		39.8	.0	4.8	62.0
16			10	1				1027		29.5	.0	4.8	58.0
17			1	2				627		38.9	.0	4.9	58.0
18			2	8				687		27.9	.0	4.9	58.0
19			4	2				596		24.3	.0	4.9	58.0
20			3	3				494		43.2	.0	5.0	58.0
21			3	4				633		45.7	.0	5.0	58.0
22			2	2				524		41.3	.0	5.0	58.0
23			4					552		35.2	.0	5.0	58.0
24			3	6				558		37.1	.0	5.0	58.0
25			5					526		37.0	.0	5.0	58.0
26			4	1				629		42.4	.0	5.0	56.0
27			1	1				483		44.8	.0	5.0	56.0
28			2	5				433		51.8	.0	5.0	56.0
29			2	3				548		45.5	.0	5.0	55.0
30				1				684		40.5	.0	5.0	55.0
31								564		33.4	.0	5.0	54.0
TOTALS			206	155				31980					
AVERAGES			7	6				1032		35.3	.0		

TABLE A-40

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER MONUMENTAL PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - APRIL 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1								115		89.7	4.1	.4	45.0
2								109		103.5	5.0	.6	45.0
3								85		98.9	14.8	.7	45.0
4								128		98.1	8.8	.7	45.0
5								116		89.3	10.6	.7	46.0
6								119		94.4	10.4	1.0	46.0
7								134		100.8	10.5	1.0	46.0
8								159		94.3	10.4	1.0	46.0
9	2							102		106.4	10.9	.7	47.0
10	4							102		102.0	10.8	.7	47.0
11	1							104		101.0	10.5	7	47.0
12	5							80		103.0	10.6	.7	47.0
13	1							68		101.4	25.1	.7	47.0
14	2							51		90.3	64.3	.9	47.0
15								60		107.8	80.5	1.0	48.0
16	9							88		108.3	27.7	1.0	48.0
17	12							99		137.0	46.4	1.0	48.0
18	14							88		132.0	67.1	1.0	48.0
19	9							75		138.2	63.8	1.2	49.0
20	10							87		140.7	73.5	1.2	50.0
21	14							71		141.0	80.5	1.0	50.0
22	5							46		125.3	80.5	1.0	49.0
23	9							87		131.4	77.2	1.0	49.0
24	30			9				76		135.3	43.1	1.2	49.0
25	41			4				70		131.6	55.5	1.2	49.0
26	73			5				107		131.9	54.8	1.2	49.0
27	53							80		125.6	62.3	1.2	50.0
28	26			4				69		109.4	49.5	1.0	50.0
29	25							24		117.5	63.0	1.2	50.0
30	139			7				64		119.9	15.5	1.2	50.0
TOTALS	484			29				2663					
AVERAGE	23			6				89		113.5	38.3		

TABLE A-41

TABLE A-41

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER MONUMENTAL PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - MAY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	71			2				31		101.3	15.5	1.2	50.0
2	90			2				35		101.4	14.0	1.2	50.0
3	83			5				31		94.7	15.6	1.2	50.0
4	121			3				14		99.9	20.1	1.2	50.0
5	98			8				22		98.9	18.4	1.2	50.0
6	159			8				20		122.3	47.7	1.2	50.0
7	271			13				38		109.5	18.4	1.2	50.0
8	171			13				21		102.9	18.4	1.2	51.0
9	391			25				19		119.0	18.4	1.2	51.0
10	383			36				23		119.8	18.5	1.2	51.0
11	896			63				35		117.9	20.9	1.2	51.0
12	424			27				21		125.4	23.5	1.5	51.0
13	694			48				28		129.4	23.8	1.5	51.0
14	331			25				25		158.1	45.3	1.5	52.0
15	213			16				9		184.0	69.4	1.5	52.0
16	254			28				12		201.6	86.5	1.3	52.0
17	223			20				18		183.4	69.0	1.3	53.0
18	146			9				5		168.4	53.6	1.2	53.0
19	84			19				3		156.9	43.5	1.2	53.0
20	41			15				8		163.8	50.4	1.2	53.0
21	37			16				11		186.8	71.6	1.2	53.0
22	58			26				9		191.2	77.3	1.2	53.0
23	79			20				7		174.0	60.1	1.2	53.0
24	74			20				4		197.9	85.5	1.5	54.0
25	104			20				2		189.9	77.5	1.2	54.0
26	122			52				4		175.2	59.6	1.5	54.0
27	144			33				8		164.1	49.3	1.5	54.0
28	171			39				7		177.0	62.4	1.5	54.0
29	122			39				2		180.1	66.0	1.5	54.0
30	166			41				4		200.3	84.1	1.5	54.0
31	222			52				6		245.1	132.6	1.5	54.0
TOTALS	6443			743				482					
AVERAGE	208			24				16		152.9	48.9		

TABLE A-42

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER MONUMENTAL PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JUNE 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	46			19				2		229.6	114.9	1.5	55.0
2	41			28				1		214.7	93.4	1.5	55.0
3	5			10				2		203.5	83.9	1.5	55.0
4	21			22				7		179.8	58.8	1.5	55.0
5	45			20						179.2	57.5	.5	55.0
6	29			15						186.4	70.2	.8	54.0
7	48			11				2		175.0	58.9	1.0	54.0
8	116			31						180.3	66.1	1.0	54.0
9	156			35				2		186.0	77.0	1.0	54.0
10	256			31				1		169.7	60.5	1.0	54.0
11	151			50				1		166.6	55.7	1.0	55.0
12	317			55						163.9	51.1	1.0	55.0
13	323			61				3		164.7	52.3	1.2	55.0
14		165		49				2		176.1	62.3	1.4	55.0
15		312		48				1		182.6	71.7	2.0	56.0
16		219		36						185.9	169.1	2.0	56.0
17		172		23				1		194.4	190.4	2.0	56.0
18		208		25				1		198.2	107.7	2.0	57.0
19		166		23				1	2	182.8	92.5	2.0	57.0
20		133		24				1	11	188.7	93.7	2.0	58.0
21		150		33				1		197.7	89.0	2.5	58.0
22		117		22				1		219.8	121.1	2.5	58.0
23		101		17				4		178.7	65.3	2.5	58.0
24		103		17				3	5	179.7	71.5	2.5	58.0
25		166		22				1	1	166.2	51.3	2.5	58.0
26		359		35				4	2	184.6	73.5	2.5	58.0
27		417		38				1	1	176.7	66.3	[illegible]	58.0
28		213		39				1	22	174.7	68.4	2.5	59.0
29		362		77				6	41	166.3	75.0	2.5	60.0
30		365		99				2	43	151.6	60.3	2.5	61.0
TOTALS	1554	3728		1015				52	128				
AVERAGE	120	219		34				2	14	183.5	81.0		

TABLE A-43

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER MONUMENTAL PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JULY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		409		83			4	2	84	132.0	80.5	2.5	61.0
2		227		61			3	6	48	111.2	67.9	2.5	61.0
3		187		33			6	6	142	112.1	47.1	2.5	62.0
4		145		46			4	13	117	108.9	47.3	2.0	62.0
5		64		23			4	16	38	109.7	47.6	2.0	62.0
6		100		32			4	9	263	106.8	19.0	2.0	62.0
7		108		25			2	14	271	102.0	14.0	1.9	62.0
8		77		20				8	377	92.1	13.6	2.5	62.0
9		63		25			4	3	355	91.0	11.0	2.0	63.0
10		42		12			3	5	460	78.6	4.2	2.0	64.0
11		41		23			3	15	469	76.9	4.2	2.0	64.0
12		20		10			2	17	333	70.7	.9	2.0	65.0
13		73		37			6	37	666	70.4	.0	2.0	65.0
14		57		27			4	66	395	71.9	.0	2.0	65.0
15		43		22			7	83	262	36.7	.0	2.0	66.0
16		33		11			1	74	351	69.9	.0	2.5	66.0
17		34		11			2	90	296	60.8	.0	2.5	67.0
18		60		14				148	228	34.6	.0	2.5	67.0
19		41		15				145	502	46.6	.0	2.5	67.0
20		47		8				125	282	48.7	.0	3.0	68.0
21		11		7				166	214	39.8	.0	3.0	68.0
22		13		2				114	189	44.0	.0	3.0	68.0
23		17		10				184	150	31.0	.0	3.0	68.0
24		13		8				267	268	39.1	.0	3.0	68.0
25		4		1				196	42	37.3	.0	3.0	67.0
26		11		6				296	180	39.9	.0	3.0	69.0
27		16		10				185	90	43.9	.0	3.0	69.0
28		2						175	178	54.1	.0	3.0	69.0
29		3		2				271	145	43.9	.0	3.0	70.0
30		1						192	53	35.2	.0	3.0	71.0
31		1		2				222	88	52.9	.0	3.0	71.0
TOTAL		1963		586			59	3150	7536				
AVERAGE		63		20			4	102	243	67.5	11.5		

TABLE A-44

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER MONUMENTAL PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - AUGUST 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1		3		4				319	108	50.0	.0	3.0	71.0
2		6		4				334	90	45.9	.0	3.0	72.0
3		10		6			1	422	43	33.0	.0	3.0	72.0
4		7		1				354	51	40.5	.0	3.0	72.0
5		3						243	12	38.3	.0	3.0	72.0
6		5						166	19	36.8	.0	3.0	72.0
7		5		2				219	30	30.8	.0	3.0	72.0
8		8		2				300	45	29.7	.0	3.0	72.0
9		3						214	14	40.5	.0	3.0	72.0
10		5		5				262	8	37.5	.0	3.0	72.0
11		8		2				189	2	35.8	.0	3.0	72.0
12		8		2				208	11	28.5	.0	3.0	72.0
13		13						251	5	28.4	.0	3.0	72.0
14			7	1				157	4	25.2	.0	3.0	72.0
15			3					76	11	30.4	.0	3.0	72.0
16			4					88	4	24.8	.0	3.0	72.0
17			1	1				133	9	26.6	.0	3.0	72.0
18			2	3				59		22.7	.0	3.0	72.0
19			4					90	2	18.7	.0	3.0	72.0
20			4					93		26.2	.0	3.0	72.0
21			6	1				64		35.5	.0	3.0	72.0
22			1					20		28.0	.0	3.0	72.0
23			1	1				32		36.8	.0	3.0	73.0
24			15	1				175	1	35.0	.0	3.0	73.0
25			3	2	1			84		33.3	.0	3.0	73.0
26								55		17.9	.0	3.0	73.0
27			4					52		29.6	.0	3.0	73.0
28								43		17.0	.0	3.0	73.0
29			5	3				25	2	40.1	.0	3.0	73.0
30			9	1				48	1	27.6	.0	3.0	73.0
31			7	3				45		33.9	.0	3.0	73.0
TOTAL		84	76	45	1		1	4820	472				
AVERAGES		6	5	2	1		1	155	22	31.8	.0		

TABLE A-45

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER MONUMENTAL PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - SEPTEMBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			12	2	1	1		145		28.2	.0	3.0	72.0
2			11	1	2			86		28.5	.0	3.0	73.0
3			22	4	3			146		27.3	.0	3.0	72.0
4			10	2				151		33.8	.0	3.0	72.0
5			14	3				174	1	33.2	.0	3.0	72.0
6			22	13				550		39.0	.0	3.0	71.0
7			10	9				581		45.8	.0	3.0	70.0
8			15	11				892		40.8	.0	3.0	70.0
9			3	7				700		29.0	.0	3.0	69.0
10			10	12				476		42.9	.0	3.0	69.0
11			11	10				841		40.0	.0	3.0	69.0
12			13	10				943		41.1	.0	3.0	69.0
13			13	5				972		40.1	.0	3.0	68.0
14			21	24	1			1855		40.2	.0	3.0	68.0
15			14	19	2			1629		33.2	.0	3.0	68.0
16			12	22	3			1760		29.4	.0	3.0	67.0
17			9	5				1655		43.9	.0	3.0	67.0
18			8	18				2325		37.7	.0	3.0	67.0
19			26	11				1470		36.2	.0	3.0	67.0
20			10	22				1723		37.9	.0	3.0	67.0
21			21	40				2906		39.4	.0	3.0	66.0
22			18	26	5			3295		33.9	.0	3.0	66.0
23			7	14	2			1982		29.2	.0	3.0	66.0
24			5	16				1289		41.5	.0	3.0	66.0
25			15	9	1			1800	1	42.5	.0	3.0	65.0
26			4	9				1317		38.7	.0	3.0	64.0
27			22	13				3089	1	41.9	.0	4.0	64.0
28			17	13	2			2629	1	45.0	.0	4.0	63.0
29			14	22			1	3144		42.3	.0	4.0	63.0
30			8	20			1	2243	1	27.0	.0	4.0	63.0
TOTALS			397	392	22	1	2	42788	5				
AVERAGE			13	13	2	1	1	1426	1	37.0	.0		

TABLE A-46

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER MONUMENTAL PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - OCTOBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1			13	21				2689		37.3	.0	4.0	63.0
2			19	19				3346		30.2	.0	4.0	62.0
3			16	16				1022	2	31.1	.0	4.0	62.0
4			5	7				2087		34.5	.0	4.0	62.0
5			2	8				744		33.4	.0	4.0	62.0
6			4	5				1523		21.2	.0	4.0	61.0
7			7	4				1090		25.6	.0	4.0	61.0
8			9	8		2		1452		36.4	.0	4.0	61.0
9			8	13				1197		29.5	.0	4.0	61.0
10			9	16			1	2074		31.3	.0	4.0	60.0
11			9	13				2199		33.7	.0	4.0	60.0
12			4	7				1374		30.1	.0	4.0	60.0
13			4	9				1840		36.3	.0	4.0	60.0
14			4	9				1367		36.1	.0	4.0	59.0
15			4	12				1940		39.7	.0	4.0	59.0
16			2	4				1080		30.9	.0	4.0	58.0
17			-1	-1				1142		40.2	.0	4.0	58.0
18			3	2				620		28.4	.0	4.0	57.0
19				3				470		26.1	.0	4.0	57.0
20			1	5				850		45.3	.0	4.0	57.0
21								520		46.7	.0	4.0	56.0
22			1	2				388		41.8	.0	4.0	56.0
23				2				189	1	34.9	.0	4.0	56.0
24								366		40.7	.0	4.0	55.0
25			2	5				723		39.2	.0	4.0	55.0
26								424		42.9	.0	4.0	55.0
27				1				546		45.1	.0	4.0	55.0
28								377		52.0	.0	4.0	55.0
29			2	2				461		45.6	.0	4.0	55.0
30			2	3				334		42.3	.0	4.0	55.0
31			2	1				266		37.5	.0	4.0	55.0
TOTAL			131	196		2	1	34700	3				
AVERAGE			5	7		2	1	1119	1	36.3	.0		

TABLE A-47

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER GRANITE PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - MARCH 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1								7		41.5	.0	4.4	39
2								18		55.1	.0	4.4	39
3								32		51.2	.0	4.5	39
4								52		35.7	.0	4.4	39
5								38		45.4	.0	4.3	39
6								20		48.1	.0	2.2	40
7								55		53.0	.0	2.1	40
8								61		43.4	.0	2.3	41
9								40		48.3	.0	3.0	81
10								25		53.0	.0	3.0	42
11								30		56.4	.0	3.0	41
12								32		66.9	.0	2.7	41
13								73		67.3	.0	2.5	42
14								92		81.5	.0	1.8	42
15								118		93.1	.0	1.0	42
16								84		100.1	.0	2.1	41
17								43		97.9	.0	.7	41
18								103		99.7	.0	.8	41
19								181		96.1	.0	1.6	42
20								114		94.2	.0	2.2	43
21								146		95.0	.0	2.2	44
22								144		108.0	.0	.8	44
23								97		122.9	.0	.7	45
24								209		109.9	5.3	1.3	45
25								130		115.5	9.4	1.6	45
26								191		111.8	9.6	1.2	44
27								130		111.5	10.6	.7	45
28								130		105.6	11.4	.7	44
29								125		101.4	9.9	1.0	44
30	No Count Taken									97.2	10.0	1.0	44
31								127		97.2	10.0	1.3	44
TOTAL								2647					
AVERAGE								88		80.8	2.5		

TABLE A-48

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER GRANITE PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - APRIL 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1								217		90.8	10.0	1.4	44
2								191		96.3	10.8	1.3	46
3								185		90.4	14.9	1.3	46
4								237		95.0	8.2	1.4	46
5								156		89.6	9.9	1.5	47
6				1				216		91.5	9.9	1.7	47
7								183		101.6	9.9	1.8	47
8								168		99.5	9.9	2.0	47
9								141		104.4	9.8	1.7	47
10								103		99.8	9.9	1.8	47
11								101		102.8	9.7	1.8	46
12								94		101.7	9.9	1.6	46
13								89		101.3	9.8	1.6	46
14	5							75		101.3	35.9	1.8	47
15	2			1				165		102.4	49.1	2.2	48
16	4			1				288		109.4	16.0	2.4	48
17	1							156		134.6	42.1	2.2	48
18	2							149		140.5	42.7	2.2	49
19								95		143.7	38.4	1.9	49
20	1			1				114		141.0	40.7	1.6	48
21	1							69		141.9	49.7	1.4	47
22	8							48		134.4	49.9	1.5	48
23	4			1				59		132.6	51.3	1.5	48
24	5			1				108		138.4	70.8	1.6	49
25	8							114		134.4	58.7	1.7	49
26	13							108		130.2	40.8	1.7	49
27	7							44		126.4	44.0	1.9	50
28	24			2				81		111.1	25.2	1.8	49
29	24							72		119.0	29.9	1.8	50
30	17							88		117.6	13.4	1.8	49
TOTAL	126			8				3914					
AVERAGE	8			1				130		114.1	27.6		

TABLE A-49

TABLE A-49

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER GRANITE PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - MAY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	12							56		90.2	10.0	1.9	48
2	18			1				58		104.8	20.2	1.9	48
3	12			5				96		97.3	13.5	2.0	49
4	20			2				124		111.5	33.3	1.6	50
5	22			1				75		97.9	24.3	1.6	50
6	55			4				41		118.3	32.2	1.5	49
7	49			2				30		111.5	22.6	1.9	49
8	83			9				30		111.4	31.2	1.9	50
9	75			2				47		118.7	30.5	.8	50
10	60			5				38		123.2	33.3	1.6	51
11	87			10				54		120.7	.0	1.8	51
12	163			13				53		122.1	3.3	1.6	51
13	377			27				39		131.9	11.5	1.5	51
14	558			29				47		156.8	38.2	1.4	52
15	379			28				24		194.4	80.9	1.5	52
16	312			23				22		200.4	79.3	1.3	50
17	119			24				7		186.3	60.5	1.0	50
18	139			22				9		172.6	46.3	1.0	50
19	206			28				17		158.4	32.0	.8	50
20	277			32				12		166.5	40.9	1.0	52
21	122			33				8		188.6	69.4	1.6	53
22	142			29				8		189.0	64.5	1.8	53
23	116			38				10		182.8	59.9	1.6	52
24	99			30				2		197.0	74.8	1.6	52
25	30			10						186.7	66.5	1.8	52
26	100			38				7		176.3	55.5	1.5	52
27	97			40				6		180.2	55.9	1.5	51
28	130			30				6		180.0	56.3	1.6	52
29	107			40				14		182.4	60.4	1.6	53
30	144			58				10		205.4	80.1	1.6	54
31	131			61				11		247.9	122.0	1.7	55
TOTAL	4241			674				961					
AVERAGE	137			22				32		155.2	45.5		

TABLE A-50

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER GRANITE PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JUNE 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1	59			27				4		229.0	103.2	1.4	54
2	76			37				2		208.8	82.0	1.1	52
3	60			29				3		196.2	68.9	.9	53
4	78			46				2		182.8	56.2	.9	53
5	158			37				2		183.1	54.2	1.1	52
6	125			29				3		183.5	54.8	1.1	53
7	106			38				3		180.4	51.5	1.2	53
8	54			44				2		185.8	58.9	1.0	54
9	63			27				3		178.4	52.8	1.6	53
10	96			32				3		171.6	44.6	1.7	53
11	111			36				2		166.3	38.0	2.0	54
12	125			37				1		169.5	40.4	2.0	54
13	164			41						173.7	45.6	2.0	55
14	153			60				2		178.0	51.4	1.7	55
15	249			76						182.0	55.9	1.5	56
16	237			70				1		191.9	76.9	1.5	56
17	230			62						196.5	97.3	1.6	56
18		120		42						197.4	75.6	1.8	56
19		89		32						191.0	80.1	1.8	56
20		181		43						187.2	72.0	1.8	56
21		105		30						205.4	88.0	1.5	56
22		164		34				1		213.0	87.5	1.2	56
23		115		26				1		186.2	60.4	1.4	56
24		112		36						178.2	53.0	1.4	56
25		166		35						179.6	52.9	1.3	57
26		158		36						183.3	58.3	1.2	58
27		175		49				1		177.6	53.6	1.3	60
28		201		59				1		172.7	59.6	1.3	60
29		304		47				2		167.4	50.3	1.7	60
30		321		50				1		151.6	36.7	1.7	60
TOTAL	2144	2211		1247				40					
AVERAGE	126	170		42				2		184.9	62.0		

TABLE A-51

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER GRANITE PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - JULY 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		292		75				3		134.9	33.4	1.7	60
2		267		139				1		126.5	30.9	1.7	60
3		157		88				3		108.2	6.4	1.7	61
4		219		111				1		113.5	28.0	1.9	61
5		177		115				5		107.3	19.0	1.9	62
6		165		101				2		99.8	.0	2.0	64
7		201		90				8		100.8	.0	2.0	65
8		177		70			1	17	1	90.0	.0	2.0	65
9		126		49				13		84.7	.0	2.0	66
10		121		41			1	10	1	78.9	.0	2.2	66
11		119		39				20		77.3	.0	2.1	62
12		108		58			5	16		71.8	.0	2.8	65
13		72		42			9	21	1	69.2	.0	3.1	65
14		125		44			3	20		64.7	.0	3.0	65
15		68		20			4	22	5	47.2	.0	3.1	65
16		34		21			8	23	2	58.1	.0	3.1	67
17		56		26			2	30		56.3	.0	3.2	68
18		55		17			3	45	7	41.9	.0	3.2	68
19		39		26			4	84	1	53.0	.0	3.3	68
20		66		22			5	110		42.7	.0	4.1	68
21		77		12				123	18	39.3	.0	3.8	68
22		35		13				117	6	39.1	.0	3.8	68
23		84		22			2	134	2	28.8	.0	4.0	69
24		55		6				121	2	38.4	.0	4.2	70
25		9		6				109	2	42.9	.0	4.7	70
26		19		8				119	10	42.0	.0	4.4	71
27		14		6				111		42.9	.0	3.8	70
28		13		2				176	2	50.7	.0	4.0	71
29		18		1				137	24	41.1	.0	3.5	73
30		25		2				132	2	36.1	.0	2.0	72
31		8		1				153	10	51.1	.0	2.8	73
TOTAL		3001		1273			47	1886	96				
AVERAGE		97		41			4	61	6	67.1	3.8		

TABLE A-52

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER GRANITE PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - AUGUST 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1		1		2				104	7	39.8	.0	2.8	73
2		15		3				132	5	36.0	.0	3.6	73
3		10					1	129	22	32.4	.0	3.4	73
4		12						172	12	41.0	.0	3.2	72
5		4		2				133	10	34.8	.0	3.6	71
6		7					1	120	1	37.2	.0	5.0	72
7		15		2				324	24	40.9	.0	4.6	73
8		23		3				268	10	35.9	.0	4.8	73
9		12		2				261	6	37.1	.0	4.9	74
10		13						150	28	37.2	.0	4.4	74
11		14						124	16	33.4	.0	3.0	73
12		18		1				113	18	27.9	.0	4.4	73
13		15						192	15	23.0	.0	3.0	73
14		10						128	18	25.1	.0	4.6	73
15		11		1				78	4	24.3	.0	4.6	73
16		10						100	8	21.3	.0	4.8	73
17		8		1				100	5	25.6	.0	4.0	74
18			9	2				119	11	24.2	.0	4.0	72
19			2					67	4	21.8	.0	3.5	72
20								66	2	21.5	.0	4.0	73
21			9	1				42	6	30.8	.0	4.0	74
22			4					36	4	32.1	.0	4.2	74
23			1					41	12	37.0	.0	4.5	74
24			9	2				67	6	30.6	.0	4.5	73
25			2	1				41	6	35.8	.0	4.5	73
26			1	2				32	5	19.7	.0	4.4	73
27			9	2				82	6	24.7	.0	4.7	73
28			12	3				86	5	19.5	.0	4.6	72
29			2	2				45	6	40.7	.0	4.6	72
30			8					57		27.4	.0	4.7	72
31			2	3				49	3	33.7	.0	4.4	70
TOTAL		198	70	35			2	3458	285				
AVERAGE		12	5	2			1	112	10	30.7	.0		

TABLE A-53

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER GRANITE PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - SEPTEMBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			6	1				63	1	29.4	.0	4 5	70.0
2			6					43		28.0	.0	4.6	70.0
3			1	1				37	2	25.1	.0	5.0	70.0
4			1	1				68		31.6	.0	5.0	70.0
5			7	11				152		33.5	.0	5.0	70.0
6			13	5				374		41.3	.0	5.0	69.0
7			18	6				378		42.7	.0	3.0	68.0
8			24	17				698		37.8	.0	3.8	68.0
9			10	8				335		32.1	.0	4.0	68.0
10			8	7				594		36.5	.0	3.8	68.0
11			6	11				548		40.0	.0	3.8	66.0
12			5	15				830		39.6	.0	4.6	66.0
13			8	14				593		39.3	.0	4.9	66.0
14			10	12				616		41.0	.0	4.6	66.0
15			24	14				1183		35.5	.0	4.6	66.0
16			15	9				1217	1	31.1	.0	4.8	66.0
17			10	15				1311		39.5	.0	5.0	65.0
18			20	28				1868		36.6	.0	5.0	65.0
19			25	25				2057		35.7	.0	4.8	64.0
20			11	14				1152		35.5	.0	4.8	63.0
21			13	21				2375		34.1	.0	5.0	64.0
22			10	29				2395		35.8	.0	4.6	63.0
23			14	10				1645		37.0	.0	3.0	63.0
24			25	14				1595		37.7	.0	3.3	63.0
25			12	23				2693		39.9	.0	3.4	62.0
26			6	14				2201		39.6	.0	3.6	61.0
27			6	11				1799		40.5	.0	3.0	60.0
28			10	18				1897		45.8	.0	5.0	60.0
29			13	15				2030		39.7	.0	4.6	60.0
30			4	9				1962		26.8	.0	3.4	59.0
TOTAL			341	378				34709	4				
AVERAGE			11	13				1157	1	36.3	.0		

TABLE A-54

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER GRANITE PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - OCTOBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1			18	30				4043		29.5	.0	3.4	59.0
2			19	21				3956	1	33.5	.0	4.2	59.0
3			20	30				3011		29.3	.0	4.2	59.0
4			12	20				2676		32.6	.0	4.5	59.0
5			10	20				3733		31.0	.0	4.6	60.0
6			12	32				2097		26.9	.0	4.7	60.0
7			4	17				2196		28.5	.0	4.7	59.0
8			9	12				1364		34.3	.0	4.7	60.0
9			7	5				1534		27.5	.0	4.6	60.0
10			5	5				1899		29.3	.0	4.7	60.0
11			8	14				1660		30.4	.0	4.5	60.0
12			10	12				1583		29.0	.0	4.4	60.0
13			11	15				2322		37.6	.0	4.4	60.0
14			5	14				2130		35.8	.0	4.4	59.0
15			5	11				1399		35.9	.0	4.4	60.0
16			4	8				1516		30.0	.0	4.4	61.0
17			6	8				994		32.9	.0	4.4	60.0
18			1	6				883		32.1	.0	3.6	59.0
19			4	3				1037		34.0	.0	4.2	57.0
20			7	2				814		41.0	.0	4.0	57.0
21			6	6				688		43.0	.0	4.0	57.0
22			1	2				333		39.3	.0	4.0	55.0
23			4	1				469		40.8	.0	3.8	53.0
24			1					107		40.6	.0	3.8	53.0
25			1	1				524		39.1	.0	3.8	53.0
26			4	2				434		43.4	.0	4.0	53.0
27			2	1				518		44.1	.0	3.7	52.0
28			1	1				970		44.4	.0	3.7	52.0
29			2	4				361		43.5	.0	3.8	52.0
30			5	7				556		43.8	.0	3.7	52.0
31			2	6				638		42.4	.0	3.6	52.0
TOTAL			206	316				46445	1				
AVERAGE			7	11				1498	1	35.7	.0		

TABLE 55

TABLE A-55

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER GRANITE PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - NOVEMBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SECCHI)	WATER TEMP (DEG F)
1				5				317		40.0	.0	3.6	52.0
2				6				107		42.6	.0	3.8	53.0
3			2	1				379		41.0	.0	4.1	52.0
4			4					568		42.9	.0	4.1	52.0
5			1	1				284		48.0	.0	4.0	52.0
6			1	4				146		44.6	.0	4.2	50.0
7				2				172		44.9	.0	5.0	50.0
8				2				137		43.5	.0	5.0	50.0
9								175		47.0	.0	3.9	50.0
10								150		42.6	.0	3.8	49.0
11			2	2				212		42.9	.0	3.7	48.0
12			1	4				467		47.7	.0	3.7	48.0
13			1					199		41.7	.0	3.4	48.0
14								224		48.4	.0	3.6	48.0
15								198		39.7	.0	3.6	48.0
16								216		45.7	.0	5.0	48.0
17			2	1				215		42.9	.0	5.0	48.0
18								133		55.3	.0	4.6	48.0
19			2					62		37.4	.0	4.6	47.0
20								47		45.9	.0	4.6	47.0
21										36.1	.0	4.5	47.0
22										43.9	.0	4.7	47.0
23			1	1				61		47.9	.0	3.6	47.0
24								73		56.4	.0	3.6	46.0
25			1					72		46.0	.0	3.5	46.0
26								65		43.7	.0	3.5	46.0
27										50.0	.0	3.5	46.0
28								49		51.3	.0	3.5	45.0
29				1				49		45.3	.0	3.4	44.0
30								64		47.1	.0	4.0	44.0
TOTAL			18	30				4841					
AVERAGE			2	3				179		45.1	.0		

TABLE A-56

MONTHLY FISH PASSAGE SUMMARY REPORT - LOWER GRANITE PROJECT
US ARMY ENGINEER DISTRICT, PORTLAND - DECEMBER 1984

DATE	CHINOOK ADULTS SPRING	CHINOOK ADULTS SUMMER	CHINOOK ADULTS FALL	CHINOOK JACKS	COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	SHAD	DISCHARGE (KCFS)	SPILL (KCFS)	TURBIDITY (SEECHI)	WATER TEMP (DEG F)
1										55.3	.0	4.0	44.0
2										44.8	.0	4.0	44.0
3										43.2	.0	4.0	44.0
4								13		40.7	.0	3.5	44.0
5										50.0	.0	3.7	45.0
6								5		41.3	.0	3.5	43.0
7										49.2	.0	3.5	42.0
8								1		41.9	.0	3.5	42.0
9										37.7	.0	3.4	41.0
10										40.9	.0	3.4	41.0
11								1		54.5	.0	3.3	40.0
12										47.8	.0	3.4	40.0
13										45.6	.0	3.4	40.0
14								2	2	43.8	.0	5.0	40.0
15										39.7	.0	5.0	40.0
16										34.4	.0	5.0	39.0
17										42.2	.0	5.0	39.0
18										35.5	.0	5.0	39.0
19										40.7	.0	5.0	39.0
20										38.9	.0	5.0	39.0
21										33.7	.0	5.0	38.0
22										34.7	.0	5.0	37.0
23										23.5	.0	5.0	37.0
24										31.4	.0	5.0	37.0
25										31.5	.0	5.0	37.0
26										38.6	.0	5.0	37.0
27										43.1	.0	5.0	37.0
28										44.6	.0	5.0	37.0
29										44.0	.0	5.0	37.0
30										45.3	.0	4.2	37.0
31										51.2	.0	4.4	37.0
TOTALS								22	2				
AVERAGES								4	2	41.6	.0		