US Army Corps of Engineers ®
Portland District
Walla Walla District

Annual Fish Passage Report 2002

Columbia and Snake River Projects

2002

ANNUAL FISH PASSAGE REPORT

COLUMBIA AND SNAKE RIVERS

for

SALMON, STEELHEAD, SHAD, AND LAMPREY

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

NORTH PACIFIC DIVISION
U.S. ARMY CORPS OF ENGINEERS

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

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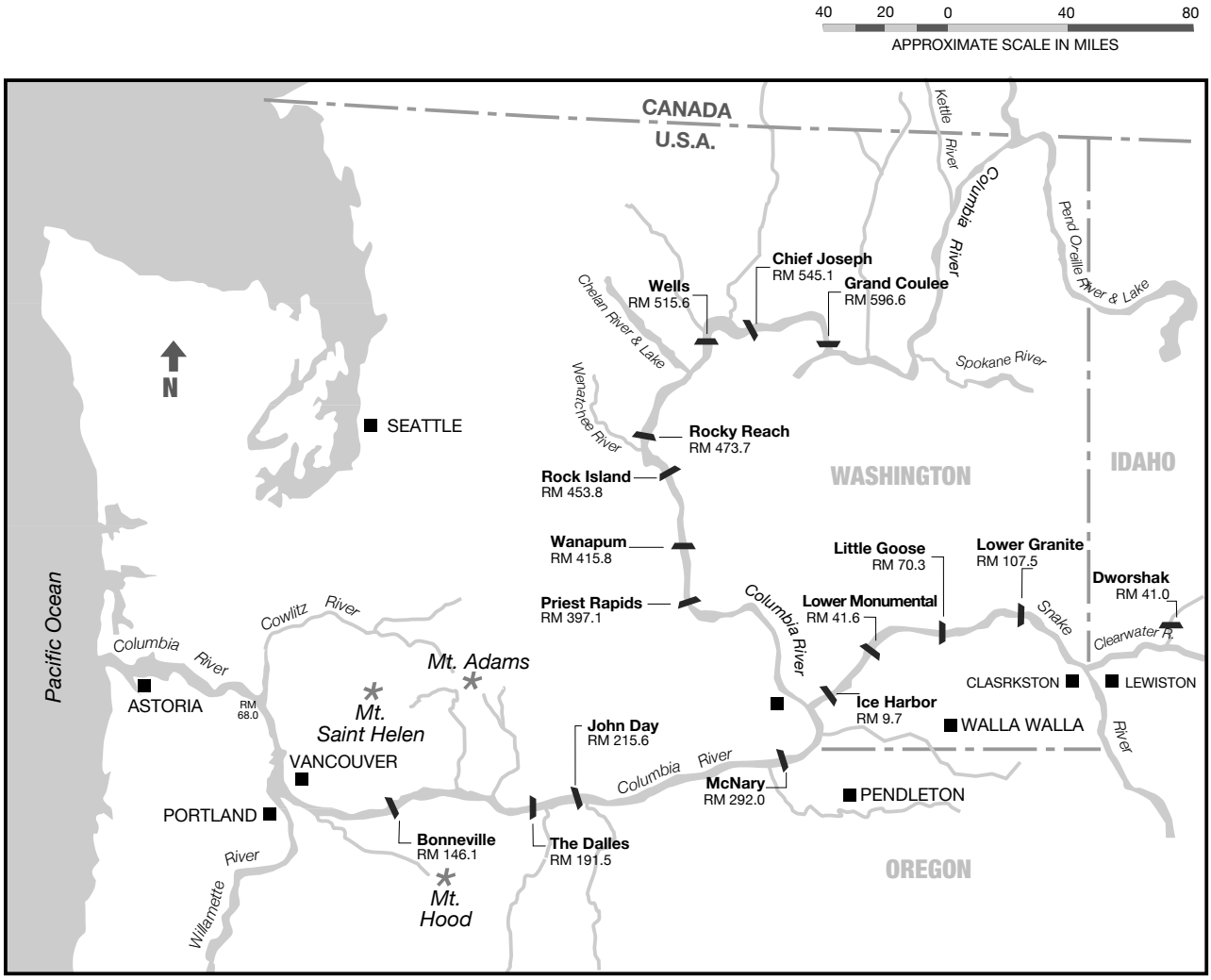


TABLE 1

FISH ESCAPEMENT AT MAIN STEM DAMS
COLUMBIA AND SNAKE RIVERS 1998-2002

SPECIES	BONNEVILLE	THE DALLES	JOHN DAY	MCNARY	ICE HARBOR	LOWER MONUMENTAL	LITTLE GOOSE	LOWER GRANITE
1998								
CHINOOK	280,944	154,132	130,027	114,604	26,117	21,537	19,798	18,557
Spring*	39,117	25,743	22,176	19,752	12,564	10,729	10,630	9,963
Summer*	24,111	16,906	17,780	17,634	5,777	4,591	4,632	4,683
Fall*	217,716	111,483	90,071	77,218	7,776	6,217	4,536	3,911
Jacks	32,084	20,513	13,744	15,172	3,958	3,603	2,956	2,439
STEELHEAD	185,094	116,682	158,547	99,705	85,122	66,118	63,753	72,017
SOCKEYE	13,218	8,826	9,837	9,391	7	2	5	2
COHO*	49,920	8,970	8,497	6,173	15	0	1	12
Adults	46,290	8,196	7,646	5,959	11	0	1	10
Jacks	3,630	774	851	214	4	0	0	2
SHAD	1,891,087	2,149,097	1,025,044	393,305	14,296	18,267	2,330	629
LAMPREY	24,664	7,717	12,666	3,393	248	69	90	51
1999								
CHINOOK	343,176	199,491	163,282	121,946	23,331	20,271	17,235	15,884
Spring*	47,360	23,743	20,498	13,232	8,008	6,650	6,135	5,803
Summer*	30,191	24,937	24,714	21,618	5,211	4,716	4,856	4,844
Fall*	265,625	150,811	118,070	87,096	10,112	8,905	6,244	5,237
Jacks	36,195	28,412	19,611	15,055	7,494	7,467	6,321	5,947
STEELHEAD	206,488	156,874	165,314	84,088	84,163	72,482	65,471	74,370
SOCKEYE	17,877	13,715	14,809	11,884	8	15	16	14
COHO*	45,152	15,041	13,232	4,934	144	88	89	262
Adults	40,864	13,393	11,901	4,736	135	81	85	242
Jacks	4,468	1,648	1,331	198	6	7	4	20
SHAD	1,638,272	1,718,683	763,007	248,895	32,578	41,759	7,412	1,006
LAMPREY	22,830	10,415	9,877	1,074	365	76	81	53
2000								
CHINOOK	491,905	316,836	394	489,784	64,909	68,961	62,886	62,659
Spring*	199,561	117,749	394	265,372	41,815	45,856	44,482	44,140
Summer*	44,170	35,580	0	77,514	6,638	7,957	7,991	7,695
Fall*	248,174	163,507	0	146,898	16,456	15,148	10,413	10,824
Jacks	90,194	63,769	6,208	52,664	22,591	23,314	20,765	21,204
STEELHEAD	275,178	205,241	483,409	398,784	126,424	112,616	101,030	113,211
SOCKEYE	93,398	73,383	107,869	97,188	215	291	296	299
COHO*	97,032	29,536	885	24,730	1,224	750	313	925
Adults	85,649	24,966	857	22,918	1,023	579	313	889
Jacks	11,383	4,570	28	1,812	201	171	0	36
SHAD	1,244,317	1,556,619	1,796,826	1,063,568	70,685	74,266	20,185	3,250
LAMPREY	19,002	8,050	4,005	2,539	315	94	71	28
2001								
CHINOOK	971,119	629,334	510,987	489,784	215,697	225,322	214,368	210,381
Spring*	405,539	313,865	270,385	265,372	174,199	182,614	177,811	175,093
Summer*	90,879	82,388	74,235	77,514	17,667	20,899	18,732	17,539
Fall*	474,701	233,081	166,367	146,898	23,831	21,809	17,825	17,749
Jacks	103,391	72,644	57,877	52,664	15,619	11,918	12,782	15,773
STEELHEAD	633,073	503,327	483,409	398,784	283,694	252,923	232,669	262,568
SOCKEYE	114,934	102,562	107,869	97,188	38	32	72	36
COHO*	266,314	64,557	51,181	24,730	1,595	957	540	1,087
Adults	259,533	62,378	48,870	22,918	1,501	798	490	968
Jacks	6,781	2,179	2,311	1,812	94	159	50	119
SHAD	2,297,959	2,724,948	1,796,826	1,063,568	287,874	224,248	63,102	18,432
LAMPREY	27,947	9,061	4,005	2,539	203	60	104	27
2002								
CHINOOK	924,585	583,155	447,729	417,090	137,404	124,673	119,324	119,304
Spring*	275,290	185,046	142,290	133,229	87,033	77,841	79,047	77,114
Summer*	135,388	118,812	110,969	116,747	29,044	25,454	23,108	24,112
Fall*	513,907	279,297	194,470	167,114	21,327	21,378	17,169	18,078
Jacks	54,644	42,982	37,568	36,114	10,342	9,432	8,333	9,769
STEELHEAD	480,309	387,920	390,300	286,805	202,173	212,639	203,494	218,718
SOCKEYE	49,610	40,554	41,915	39,424	61	46	38	55
COHO*	94,901	12,786	9,272	3,192	231	149	133	395
Adults	88,084	9,765	7,669	2,144	199	138	109	246
Jacks	6,817	3,021	1,603	1,048	32	11	24	149
SHAD	3,164,556	3,218,050	1,850,942	599,294	81,373	58,677	15,171	3,119
LAMPREY	100,476	23,417	26,821	11,282	1,127	284	365	138

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

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

*Includes Jack Counts.

FISH ESCAPEMENT AT MID COLUMBIA RIVER DAM: 1998 - 2002

SPECIES	PRIEST RAPIDS		ROCK ISLAND		ROCKY REACH		WELLS	
1998								
CHINOOK*	29,415	*	20,888	*	11,084	*	5,205	*
Spring*	4,161	*	3,241	*	816	*	30	*
Summer*	13,988	*	12,854	*	7,032	*	3,970	*
Fall*	11,266	*	4,793	*	3,236	*	1,205	*
Jacks	2,242		2,164		792		915	
STEELHEAD	5,837		4,962		4,442		2,668	
SOCKEYE	10,769		9,334		5,682		4,669	
COHO*	30	*						
Adults	30							
Jacks	0							
SHAD	8,079							
1999								
CHINOOK*	57,054	*	32,798	*	22,880	*	10,678	*
Spring*	4,910	*	4,225	*	1,622	*	345	*
Summer*	21,415	*	20,136	*	11,676	*	7,787	*
Fall*	30,729	*	8,437	*	9,582	*	2,546	*
Jacks	2,465		3,310		5,463		1,266	
STEELHEAD	8,277		6,362		4,815		3,504	
SOCKEYE	16,432		18,371		14,111		12,388	
COHO*	55	*	12	*	1	*	224	*
Adults	51		12		1		201	
Jacks	4						23	
SHAD	4,212							
2000								
CHINOOK*	91,223	*	61,118	*	31,693	*	16,161	*
Spring*	21,190	*	16,410	*	5,728	*	2,587	*
Summer*	24,810	*	32,307	*	18,831	*	10,156	*
Fall*	45,223	*	12,401	*	7,134	*	3,418	*
Jacks	10,006		16,627		5,954		5,372	
STEELHEAD	11,331		10,516		8,275		6,280	
SOCKEYE	89,547		76,515		57,428		59,944	
COHO*	378	*	1,624		550		0	
Adults	336		1,624		550		0	
Jacks	42		**		**		0	
SHAD	2,463		**		**		**	
LAMPREY	**		822		767		155	
2001								
CHINOOK*	139,930	*	123,184	*	72,941	*	58,588	*
Spring*	52,120	*	41,603	*	15,191	*	10,871	*
Summer*	57,053	*	61,930	*	44,722	*	38,126	*
Fall*	30,757	*	19,651	*	13,028	*	9,591	*
Jacks	10,726		21,141		10,037		8,430	
STEELHEAD	30,092		28,613		22,045		18,528	
SOCKEYE	111,326		104,847		66,222		74,490	
COHO*	11,189	*	10,465		1,628		616	*
Adults	10,144		10,465		1,628		609	
Jacks	1,045		**		**		7	
SHAD	4,417		**		**		**	
LAMPREY	1,622		1,460		805		259	
2002								
CHINOOK*	161,507	*	130,491	*	98,756	*	77,105	*
Spring*	34,279	*	24,844	*	10,160	*	7,626	*
Summer*	97,781	*	90,041	*	75,911	*	63,007	*
Fall*	29,447	*	15,606	*	12,685	*	6,472	*
Jacks	4,279		5,135		4,281		684	
STEELHEAD	15,895		15,282		11,853		9,475	
SOCKEYE	47,883		44,320		12,372		10,586	
COHO*	1,555	*	1,751	*	481		132	*
Adults	1,143		1,750		481		132	
Jacks	412		1		0		0	
SHAD	4,836		**		**		**	
LAMPREY	4,007		4,878		1,842		338	

ASSUMED 2002 DATES FOR CHINOOK RUNS (MAY VARY FROM PREVIOUS YEARS)

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

***Includes jack counts.**

****Not counted at that dam in that year.**

TABLE 3 and TABLE 4

STEELHEAD OVER COLUMBIA AND SNAKE RIVER DAMS 1953-2001
BY RUN-YEAR (JUNE 1 - MAY 31)

Information Below Concerns the Following Two Tables

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

Footnotes for the Following Two Tables

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

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

TABLE 3

STEELHEAD OVER COLUMBIA AND SNAKE RIVER DAMS 1953 - 2001

BY RUN-YEAR (JUNE 1 - MAY 31)

RUN-YEAR	THE DALLES	JOHN DAY	MCNARY	ICE HARBOR	LOWER MONUMENTAL	LITTLE GOOSE**	LOWER GRANITE
1953-54			8,252 *				
1954-55			72,913				
1955-56			84,434				
1956-57	3,531 *		40,660				
1957-58	128,124		105,136				
1958-59	120,170		87,413				
1959-60	155,892		111,288				
1960-61	110,955		95,556				
1961-62	134,740		104,679	9,474 *			
1962-63	163,125		163,333	108,186			
1963-64	118,899		113,676	76,788			
1964-65	110,509		99,872	58,025			
1965-66	142,376		120,469	62,566			
1966-67	144,267		144,461	64,987			
1967-68	122,231	6,598 *	83,948	47,536			
1968-69	147,844	122,649	107,806	85,273	16,240 *		
1969-70	111,617	81,623	74,933	58,172	63,269	9,256 *	
1970-71	99,319	81,238	68,598	54,445	58,430	54,257	
1971-72	151,329	117,402	110,450	66,196	68,704	70,867	
1972-73	135,730	149,704	95,837	63,584	66,650	63,033	
1973-74	100,924	93,951	62,158	37,245	38,288	37,099	
1974-75	71,336	40,868	26,191	12,170	14,851	13,818	2,789
1975-76	57,695	33,640	25,150	15,895	17,236	15,177	16,592
1976-77	83,194	59,368	54,409	24,140	21,801	21,109	22,562
1977-78	133,096	102,193	86,962	54,911	48,160	47,617	57,029
1978-79	58,995	43,554	34,580	27,252	19,849	24,050	26,473
1979-80	86,317	59,825	54,213	26,790	20,073	23,816	28,758
1980-81	93,309	77,113	63,957	47,778	32,599	36,680	37,996
1981-82	112,265	96,663	62,955	43,274	37,755	36,896	42,420
1982-83	116,178	105,438	72,246	70,236	60,775	**	72,384
1983-84	172,033	157,602	126,706	90,030	82,555		88,760
1984-85	221,299	204,595	142,246	101,008	92,947		104,417
1985-86	274,826	245,087	181,635	123,187	104,400		116,147
1986-87	280,671	234,651	193,096	142,273	121,107		129,983
1987-88	219,822	172,290	151,587	77,565	64,717		71,280
1988-89	197,669	163,283	150,361	98,950	81,324		87,137
1989-90	236,584	193,951	170,014	149,361	131,050	**	131,420
1990-91	128,123	107,117	94,522	54,370	44,518	1,070	56,865
1991-92	199,244	158,790	168,156	122,874	97,454	96,421	99,052
1992-93	233,430	197,715	197,739	166,654	136,820	118,949	128,265
1993-94	123,449	94,080	90,359	68,568	65,883	58,747	59,768
1994-95	111,378	92,362	92,568	49,450	48,231	46,258	47,302
1995-96	146,152	123,319	114,813	91,938	89,953	77,417	79,126
1996-97	162,447	156,924	124,820	101,384	96,785	82,573	86,898
1997-98	164,657	159,442	129,772	104,220	85,959	74,845	86,617
1998-99	116,262	156,628	98,606	84,135	65,173	62,641	70,721
1999-00	157,062	165,239	84,413	84,253	73,135	65,505	73,811
2000-01	205,801	219,433	131,330	126,989	113,454	102,074	116,490
2001-02	504,704	489,215	401,881	286,874	256,246	236,839	269,281
Total	6,869,580	4,763,550	5,281,159	3,239,006	2,436,391	1,477,014	2,210,343
10-Year Average	192,534	185,436	146,630	116,447	103,164	92,585	101,828

Extended 1996-2002 count seasons, using video counts November 1-December 15, at Ice Harbor and Lower Granite dams are included.

TABLE 4

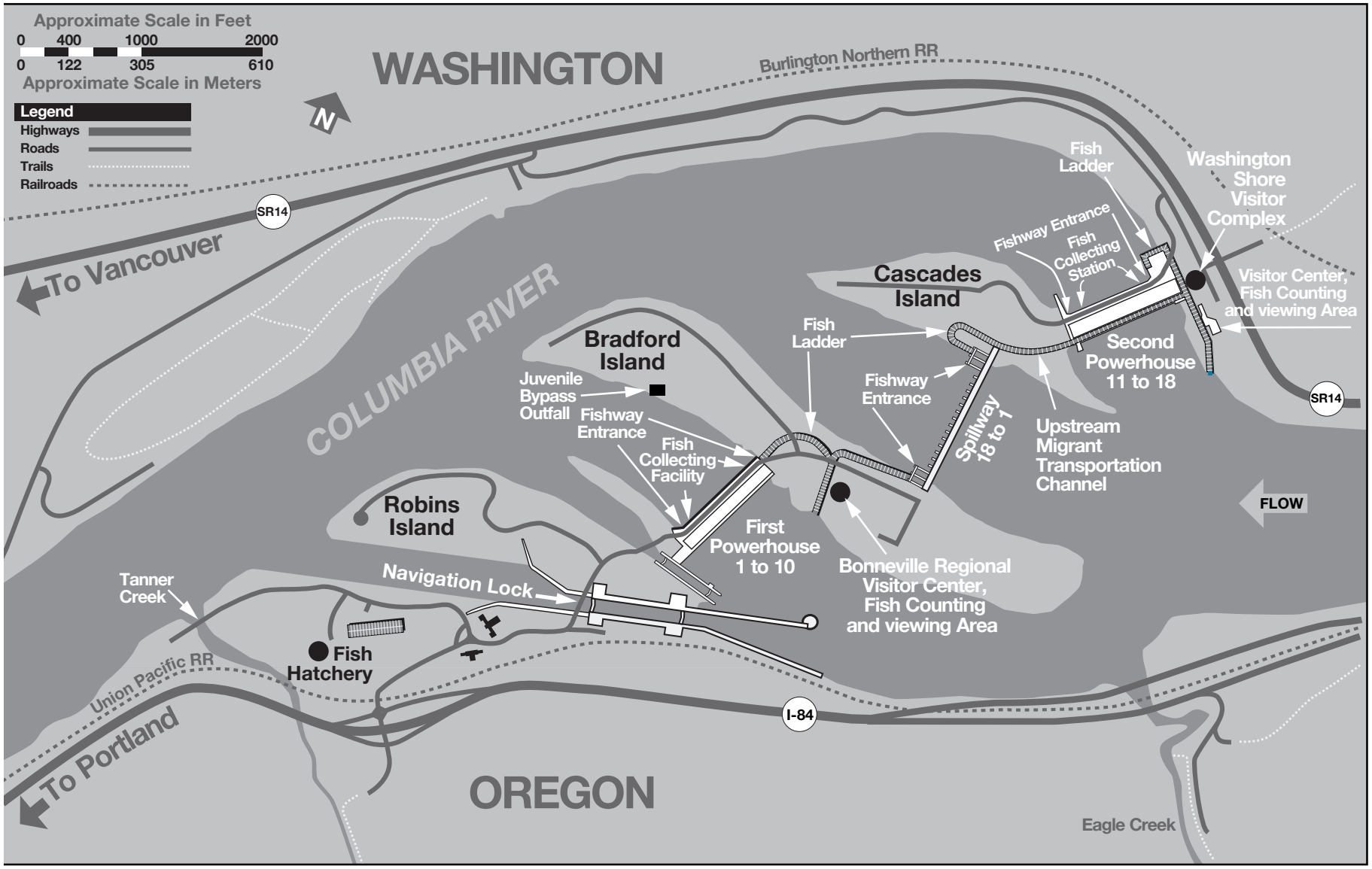
STEELHEAD OVER MID COLUMBIA RIVER DAMS 1959 - 2002

BY RUN-YEAR (JUNE 1 - MAY 31)

RUN-YEAR	PRIEST RAPIDS	ROCK ISLAND	ROCKY REACH	WELLS
1959-60	810 *			
1960-61	7,277			
1961-62	8,970			
1962-63	9,408			
1963-64	8,808			
1964-65	6,137			
1965-66	9,055			
1966-67	13,159			
1967-68	8,402			
1968-69	9,672			
1969-70	6,140			
1970-71	5,764			
1971-72	11,331			
1972-73	6,006			
1973--74	6,881			
1974-75	2,955			
1975-76	2,558			44 *
1976-77	9,490			4,636
1977-78	9,632			5,464
1978-79	4,479			1,475
1979-80	8,704			3,771
1980-81	8,308			3,363
1981-82	9,122	7,607	5,567	4,107
1982-83	10,948	9,737	6,037	7,805
1983-84	32,103	29,885	19,864	19,540
1984-85	26,566	25,287	17,349	16,663
1986-86	34,007	31,813	22,621	19,712
1986-87	22,332	22,766	15,060	13,251
1987-88	14,054	12,887	7,243	5,565
1988-89	10,138	9,100	5,573	4,358
1989-90	10,720	9,244	5,991	4,577
1990-91	7,858	6,926	5,023	3,842
1991-92	14,047	11,125	7,788	7,823
1992-93	13,593	12,382	7,429	7,029
1993-94	5,441	4,689	2,738	2,359
1994-95	6,709	5,633	2,825	2,181
1995-96	4,357	4,168	1,777	951
1996-97	8,375	7,295	5,780	4,154
1997-98	8,942	7,718	6,756	4,074
1998-99	5,846	4,968	4,404	2,676
1999-00	8,267	6,346	4,848	3,514
2000-01	11,341	10,565	8,307	6,287
2001-02	30,104	28,614	22,114	18,519
Total	428,712	240,141	162,980	159,221
10-Year Average	8,692	7,489	5,265	4,105

***Partial year**

Plate 2 Bonneville Lock and Dam



BONNEVILLE DAM

FISH COUNTING SCHEDULE

DATE	DIRECT OBSERVATION	VIDEO RECORDING
1 Nov - 31 Mar		24-hours /day
1 Apr - 31 Oct	16 hours /day (0400-2000 PST)	8 hours /day (2000-0400 PST)

ADULT FISH FACILITIES OPERATING SCHEDULE

Bradford Island Fish Ladder:
Dec 10, 01 – Feb 2, 02 A and B Branch (Out of service for annual maintenance).

Cascades Island Fish Ladder:
Feb 5, 02 – Mar 8, 02 (Out of service for annual maintenance).

Second Powerhouse Fish Ladder:
Dec 3, 01 – Dec 7, 01 (Out of service for PIT detector emergency maintenance).
Feb 11, 02 – Feb 28, 02 (Out of service for annual maintenance).

Fishway Auxiliary Water Supply Turbines:

Fish Unit 1:
Dec 3, 01 – Mar 13, 02 (Out of service for annual maintenance and PH2 ladder dewatering).
Mar 20, 02 –Mar 20, 02(Out of service for PH2 Collection Channel velocity meter installation).
Apr 16, 02 –Apr 16, 02 (Out of service for trashrack raking).
May 22, 02 –May 23, 02 (Out of service for exciter maintenance and stator measurements).
Jun 6, 02 –Jun 6, 02 (Out of service for cooling water strainer maintenance).
Jun 23, 02 –Jun 23, 02 (Out of service for decontamination of turbine bearing water).
Jul 9, 02 – Jul 9, 02 (Out of service for mid-season fishway inspection and slip ring work.
Aug 14, 02 –Aug 15, 02 (Out of service for contractor measurements and testing).
Aug 20, 02 –Aug 20, 02 (Out of service for T11/12 switching).
Sep 18, 02 –Sep 18, 02 (Out of service to install contractor instrumentation).
Nov 01, 02 – Dec 31, 02 (Out of service for overhaul and stator rewind).

Fish Unit 2:
Feb 11, 02 –Feb 28, 02 (Out of service for annual maintenance and PH2 ladder dewatering).

Mar 20, 02 –Mar 20, 02 (Out of service for PH2 Collection Channel velocity meter installation).
Apr 16, 02 –Apr 16, 02 (Out of service for trashrack raking).
Jul 9, 02 –Jul 9, 02 (Out of service for mid-season fishway inspection and slip ring work).
Aug 20, 02 –Aug 20, 02 (Out of service for T11/12 switching).
Aug 22, 02 –Aug 22, 02(Out of service for T11/12 switching).
Oct 1, 02 –Oct 1, 02 (Out of service for emergency repair of a failed farval line).

DOWNSTREAM MIGRANT FACILITIES OPERATING SCHEDULE

First Powerhouse:
Oct 4, 01 –Feb 27, 02 (Out of service for water conservation and annual maintenance).
Mar 5, 02 – Mar 6, 02 (Out of service for emergency maintenance).
Apr 15, 02 -- Apr 16, 02 (Out of service for emergency maintenance).
Apr 23, 02 -- Apr 23, 02 (Out of service for emergency maintenance).
Jun 25, 02 -- Jun 25, 02 (Out of service for emergency maintenance).
Jul 4, 02 -- Jul 8, 02 (Out of service for emergency maintenance).
Jul 18, 02 -- Jul 18, 02 (Out of service for emergency maintenance).
Jul 29, 02 – Dec 31, 02 (Flow turned south for summer removal of STS).

Second Powerhouse:
Jan 15, 02 –Mar 7, 02 (Out of service for JBS improvements and annual maintenance).

FISHWAY ACTIVITIES

The Corps of Engineers Waterways Experiment Station (WES) and Battelle hydroacoustically monitored juvenile fish passage through the first and second powerhouse trashracks. Spillway gates 2 - 17 were also monitored. These monitoring efforts will help provide a project-wide passage efficiency estimate.

To test the effects of newly-installed 7' flow deflectors (flip lips) vs. the old 14' deflectors, WES monitored water quality in the spill basin. Normandeau Associates conducted fish condition tests using balloon tags to recapture fish after passing through various spillbays. Tests were conducted in both spring and summer.

National Marine Fisheries Service (NMFS) tested Fish Guidance Efficiency (FGE) and Orifice Passage Efficiency (OPE) at Units 16 and 17 this year. A flow turning vane and gap closure device was added to the STS at Unit 17. Unit 17 VBS perforated plates were modified as were the gatewell guides. Tests compared FGE and OPE between the modified vs. unmodified units. NMFS also tested the DSM2 Outfall gates' effects on fry.

The Columbia River Inter-Tribal Fish Commission again used the second powerhouse Adult Fish Facility (AFF) to collect salmonids. Fish scales were sampled (to determine age) and biological data collected. The work helps satisfy a requirement of the U.S. - Canada Pacific Salmon Treaty to identify "indicator stocks". These stocks are monitored to annually evaluate the success of a program designed to rebuild depressed Columbia River salmon populations. All fish were immediately returned to the fish ladder.

The Oregon Department of Fish and Wildlife worked cooperatively with the CRITFC in the activity described above. They trapped steelhead to determine the hatchery to wild ratio and age composition as called for in the Columbia River Fish Management Plan. All fish trapped were immediately returned to the fish ladder.

The Washington Department of Fish and Wildlife jaw-tagged adult spring chinook at the AFF on the Washington Shore to use in the tooth net or tangle net studies in conjunction with the tangle tooth net fishery in Washington State.

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

National Marine Fisheries Service (NMFS) tagged and tracked lamprey through the project this year. A lamprey ladder was deployed in the AWS channel at Bradford Island. Different configurations were tested to determine the best method for encouraging lamprey to exit that channel.

University of Idaho conducted 28 tests on Pacific lamprey in the AFF lamprey flume. Tests were designed to evaluate the effectiveness of potential fishway modifications to

improve passage of lamprey through dams. Modifications included rounded versus square slot entrances, head differentials, and lamprey ramps.

Pacific States Marine Fisheries Commission (PSMFC) used the juvenile bypass system fish sampling facilities at Bonneville to monitor passage of downstream migrants. Sampling ceased at the PH1 JBS on 23 July because of low fish numbers. PH2 JBS work included pit tag sampling and smolt indexing. All PH2 sampling ended on 31 October.

The NMFS supplied a flat plate PIT tag detector at the sampling tank at the first powerhouse smolt monitoring facility for the fifth consecutive year. The device is intended to provide monitoring for PIT tagged fish. PIT tag detection at the second powerhouse monitoring facility was through the use of detector coils instead of a flat plate. These coils are part of the various transport flumes at the monitoring facility. PIT tag detectors were operated by PSMFC. PSMFC maintains a PIT tag information system to monitor juvenile salmonids in the Columbia River Basin.

The following agencies participated at Bonneville Dam in the BPA funded Northern Pikeminnow _management and research program. Pikeminnows are predators on juvenile salmonids and are believed to cause significant impact, particularly at locations such as the first powerhouse forebay, because prey and predators collect in large numbers.

- The Oregon Department of Fish & Wildlife (ODFW) sampled pikeminnow populations in many areas in the Columbia River including areas within Bonneville's boat restricted zone. Pikeminnow were collected by electrofishing from boats. ODFW is evaluating effectiveness of population control measures.

- The Washington Department of Fish & Wildlife implemented the sport reward fishery.

U. S. Geological Service Biological Resources Division (USGS) radio-tracked juvenile salmonids in many areas of the Columbia River. Researchers observed juvenile fish behavior in the forebays to determine how quickly and easily juveniles find passage routes.

USGS conducted research on the energy expenditure of upstream migrating adult salmon and steelhead. PIT tagged adult spring chinook from the Yakima River were collected at the adult lab. Fish were weighed, measured and sacrificed for tissue collection and analysis. Results should help assess the potential influence of delay, fallback, water temperature and dam operations on migration energetics and reproductive performance of salmon and steelhead.

The WDFW and ODFW cooperated in conducting special fish counting again this year to estimate passage for tule and bright stock fall chinook. The numbers are used for in-season predictions and to assess final run size. This program was implemented in 1979.

The WDFW counted adult fish under contract with the U.S. Army Corps of Engineers. Fish were counted according to the schedule above for 50 minutes of each hour. The 50 minute totals were multiplied by a factor of 1.2 to estimate passage for each full hour. WDFW also conducted the additional special counting by video recording that is described above in the fish counting schedule.

The WDFW collected adult steelhead in the AFF. They trapped steelhead to determine the number and timing of ESA listed steelhead stocks passing Bonneville Dam. The study also assessed stock composition at Bonneville and in the treaty fishery. The study was required by the U.S. v. Oregon Technical Advisory Committee (TAC) which included NMFS and USFWS. All fish trapped were immediately returned to the fish ladder.

NMFS installed Adult PIT tag detectors in the orifices of the Cascade Island and Bradford Island A and B branches. Leaks developed but there are no plans for repairs at this time.

Pelfrey Sturgeon Hatchery collected broodstock in Bonneville's tailwaters again this year. Their work is supported by ODFW.

NMFS continued to compare delayed mortality and disease susceptibility of yearling hatchery chinook salmon smolts with different juvenile migration histories. Smolts were collected from barges and PIT tagged smolts of interest were diverted at the second powerhouse monitoring facility. Once collected, smolts were held in tanks of seawater until death when they were necropsied and examined for signs of disease.

Oregon Cooperative Fish and Wildlife Research Unit and Idaho Cooperative Fish and Wildlife Research Unit studied post-barging smolt condition this year. The studies examined physiological effects of transporting juvenile salmonids downstream in barges.

TABLE 5

MONTHLY TOTALS OF SALMONID, SHAD AND LAMPREY COUNTED OVER BONNEVILLE DAM
YEAR 2002 DAYTIME COUNTS FROM MARCH 15 THROUGH NOVEMBER 15

SPECIES	JAN	FEB	MAR**	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV**	DEC	TOTAL
CHINOOK*			1,875	149,293	124,122	89,419	45,969	149,283	344,754	18,449	1,421		924,585
STEELHEAD			910	2,875	2,708	19,408	117,735	175,664	137,640	21,967	1,402		480,309
SOCKEYE					2	31,803	17,716	86	3				49,610
COHO*						0	9	4,366	50,856	37,732	1,938		94,901
CHUM											72		72
PINK									0				0
TOTAL			2,785	152,168	126,832	140,630	181,429	329,399	533,253	78,148	4,833		1,549,477
SHAD				0	382,611	2,670,772	110,780	393					3,164,556
LAMPREY				0	1,280	34,070	39,405	17,380	7,977	364			100,476

***Jacks included**
****Counts are daytime video counts from March 15 through March 31 and from November 1 through November 15. All other months are counted visually during daylight hours.**

MONTHLY TOTALS OF SALMONIDS COUNTED OVER BONNEVILLE DAM
24-HOUR VIDEO-TAPED COUNTS FROM JANUARY 1 THROUGH MARCH 14 AND FROM NOVEMBER 16 THROUGH DECEMBER 31
AND NIGHTITME VIDEO-TAPED COUNTS FROM MARCH 15 THROUGH NOVEMBER 15, 2002

SPECIES	JAN**	FEB**	MAR**	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV**	DEC**	TOTAL
CHINOOK*	74	207	2,285	7,086	4,772	1,701	1,142	3,217	14,187	1,966	4,085	255	40,977
STEELHEAD	1,311	833	860	43	44	510	2,188	4,717	14,167	2,037	2,738	923	30,371
SOCKEYE					1	957	633	-1					1,590
COHO*	0						-3	376	4,061	452	865	183	5,934
CHUM											56	26	82
PINK													
TOTAL	1,385	1,040	3,145	7,129	4,817	3,168	3,960	8,309	32,415	4,455	7,744	1,387	78,954

***Jacks included**
****Counts are 24-hour video counts from January 1 through March 14 and from November 16 through December 31. All other months or parts of months counted by video tape during the nighttime hours of 2000-0400, PST.**

To obtain total numbers for the year, add the video-taped counts to the visual counts.

TABLE 6

DISCHARGE AND WATER QUALITY DATA

BONNEVILLE PROJECT 2002

JANUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Jan 1	119.8	0.0	7.0	44.0
Jan 2	115.0	0.0	7.0	44.0
Jan 3	108.8	0.0	6.0	44.0
Jan 4	114.8	0.0	6.0	45.0
Jan 5	127.1	0.0	7.0	45.0
Jan 6	126.0	0.0	7.0	45.0
Jan 7	139.9	0.0	7.0	45.0
Jan 8	131.4	0.0	6.0	46.0
Jan 9	160.6	0.0	5.0	45.0
Jan 10	171.6	0.0	2.8	45.0
Jan 11	142.9	0.0	3.5	46.0
Jan 12	122.0	0.0	4.0	46.0
Jan 13	138.0	0.0	4.5	45.0
Jan 14	128.9	0.0	7.0	45.0
Jan 15	134.6	0.0	7.0	45.0
Jan 16	196.6	0.0	6.0	44.0
Jan 17	168.3	0.0	6.0	46.0
Jan 18	160.5	0.0	6.0	46.0
Jan 19	128.1	0.0	7.0	46.0
Jan 20	130.0	0.0	7.0	46.0
Jan 21	144.0	0.0	5.0	46.0
Jan 22	143.1	0.0	6.0	46.0
Jan 23	167.7	0.0	5.0	46.0
Jan 24	173.3	0.0	5.5	46.0
Jan 25	117.0	0.0	6.0	46.0
Jan 26	158.4	0.0	5.9	46.0
Jan 27	128.5	0.0	6.5	46.0
Jan 28	142.3	0.0	7.0	46.0
Jan 29	166.9	0.0	6.5	45.0
Jan 30	170.3	0.0	7.0	45.0
Jan 31	169.7	0.0	7.0	45.0
AVG.	143.4	0.0	6.0	45.4

FEBRUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Feb 1	163.5	0.0	6.5	45.0
Feb 2	152.2	0.0	7.0	44.0
Feb 3	128.7	0.0	7.0	44.0
Feb 4	160.6	0.0	7.0	44.0
Feb 5	167.2	0.0	7.0	44.0
Feb 6	158.2	0.0	7.0	44.0
Feb 7	156.6	0.0	7.0	44.0
Feb 8	168.9	0.0	6.8	44.0
Feb 9	172.8	0.0	7.0	44.0
Feb 10	125.2	0.0	6.0	44.0
Feb 11	144.5	0.0	7.0	44.0
Feb 12	172.1	0.0	6.0	44.0
Feb 13	136.8	0.0	7.0	44.0
Feb 14	176.8	0.0	5.0	44.0
Feb 15	154.6	0.0	4.0	44.0
Feb 16	131.5	0.0	7.0	44.0
Feb 17	122.7	0.0	7.0	44.0
Feb 18	122.7	0.0	7.0	44.0
Feb 19	137.0	0.0	7.0	44.0
Feb 20	150.8	0.0	7.0	44.0
Feb 21	149.3	0.0	7.0	44.0
Feb 22	135.9	0.0	7.0	45.0
Feb 23	119.1	0.0	5.5	45.0
Feb 24	129.8	0.0	5.6	46.0
Feb 25	150.5	0.0	6.0	46.0
Feb 26	163.3	0.0	7.0	45.0
Feb 27	152.6	0.0	0.0	46.0
Feb 28	161.2	0.0	0.0	46.0
AVG.	148.8	0.0	6.1	44.4

TABLE 7

MONTHLY FISH PASSAGE SUMMARY REPORT — **BONNEVILLE PROJECT**

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **MARCH 2002**

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Mar 1												151.6	0.0	7.0	45.0
Mar 2												134.3	0.0	7.0	45.0
Mar 3												123.6	0.0	7.0	45.0
Mar 4												121.3	0.0	7.0	45.0
Mar 5												120.7	0.0	5.5	45.0
Mar 6												119.5	0.0	7.0	45.0
Mar 7												128.1	0.0	7.0	45.0
Mar 8												117.8	0.0	7.0	46.0
Mar 9												121.8	0.0	7.0	46.0
Mar 10												117.2	0.0	7.0	45.0
Mar 11												110.4	0.0	7.0	45.0
Mar 12												141.0	36.5	6.0	45.0
Mar 13												191.7	87.2	5.0	45.0
Mar 14												161.0	76.7	5.0	45.0
Mar 15	76			0				33	-8			162.8	13.7	6.0	45.0
Mar 16	143			0				49	8			151.6	0.0	6.0	46.0
Mar 17	75			0				19	-1			123.6	0.0	6.0	46.0
Mar 18	127			0				21	1			129.4	0.0	5.0	46.0
Mar 19	105			0				24	2			133.1	0.0	5.0	46.0
Mar 20	129			0				58	0			126.3	0.0	5.5	46.0
Mar 21	227			0				64	7			144.7	0.0	5.0	46.0
Mar 22	32			0				28	0			131.4	0.0	5.0	45.0
Mar 23	70			0				59	2			121.0	0.0	5.0	45.0
Mar 24	69			0				70	2			118.5	0.0	5.0	46.0
Mar 25	58			0				60	1			118.5	0.0	6.5	46.0
Mar 26	95			0				111	13			118.5	0.0	0.0	47.0
Mar 27	131			0				74	2			134.3	0.0	6.5	47.0
Mar 28	193			0				68	8			128.9	0.0	6.0	47.0
Mar 29	154			0				13	0			138.6	0.0	6.0	47.0
Mar 30	64			0				59	4			130.4	0.0	5.5	47.0
Mar 31	127			0				100	11			127.8	0.0	6.0	47.0
TOTAL	1,875			0				910	52						
AVG	110			0				54	3			132.2	6.9	5.9	45.7

Note: From March 15-31, daytime counts were from video tape. The counts are 8-hour counts. Visual counting started April 1.

TABLE 8

MONTHLY FISH PASSAGE SUMMARY REPORT — **BONNEVILLE PROJECT**

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **APRIL 2002**

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Apr 1	454			0				142	56	0	0	159.1	0.0	4.0	48.0
Apr 2	806			0				165	49	0	0	175.7	0.0	5.0	48.0
Apr 3	676			1				126	50	0	0	143.3	0.0	5.0	48.0
Apr 4	908			1				114	44	0	0	137.7	0.0	4.0	51.0
Apr 5	863			1				103	32	0	0	135.5	0.0	5.5	51.0
Apr 6	584			0				94	29	0	0	126.1	0.0	4.0	51.0
Apr 7	1,090			0				135	51	0	0	127.8	0.0	4.8	51.0
Apr 8	2,096			1				140	54	0	0	161.4	0.0	5.0	51.0
Apr 9	1,015			2				133	48	0	0	157.9	0.0	4.0	52.0
Apr 10	1,343			1				114	37	0	0	183.5	12.7	3.5	53.0
Apr 11	1,320			0				102	40	0	0	213.2	51.5	3.5	53.0
Apr 12	2,156			5				96	51	0	0	204.9	65.4	4.5	53.0
Apr 13	2,616			4				102	40	0	0	230.7	76.6	4.0	53.0
Apr 14	5,884			20				121	69	0	0	252.8	76.2	2.5	53.0
Apr 15	2,401			3				89	30	0	0	270.2	87.9	2.0	54.0
Apr 16	1,516			1				80	44	0	0	345.5	134.3	2.0	54.0
Apr 17	1,569			1				109	51	0	0	348.4	151.9	2.4	6.2
Apr 18	3,143			21				94	27	0	0	324.0	159.8	2.5	55.0
Apr 19	3,914			14				85	43	0	0	310.3	150.4	2.6	55.0
Apr 20	5,446			29				76	34	0	0	283.1	107.7	2.8	54.0
Apr 21	7,753			71				64	26	0	0	301.8	106.8	2.0	54.0
Apr 22	4,775			26				48	16	0	0	259.4	149.0	3.0	55.0
Apr 23	3,722			12				48	18	0	0	271.1	149.0	3.0	55.0
Apr 24	6,296			27				85	28	0	0	278.5	107.5	3.0	55.0
Apr 25	12,303			55				91	32	0	0	252.2	103.5	3.2	50.0
Apr 26	14,196			112				74	18	0	0	242.2	102.6	3.0	48.0
Apr 27	18,162			150				76	28	0	0	245.9	98.9	3.0	48.0
Apr 28	7,399			82				24	5	0	0	199.3	139.0	3.0	48.0
Apr 29	8,132			125				57	16	0	0	205.4	135.3	4.5	48.0
Apr 30	25,631			359				88	30	0	0	240.3	93.8	4.0	48.0
TOTAL	148,169			1,124				2,875	1,096	0	0				
AVG	4,939			37				96	37	0	0	226.2	75.3	3.5	50.1

TOTALS TO DATE		CHINOOK ADULT	CHINOOK JACK	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
	SPRING	150,044	1,124	3,785	1,148	0	0

TABLE 9

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

MAY 2002

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
May 1	20,847			373			0	73	19	0	0	230.6	90.2	3.5	48.0
May 2	5,058			106			0	34	8	0	0	213.9	109.1	4.0	49.0
May 3	7,502			199			0	59	17	0	0	251.2	116.4	4.0	49.0
May 4	5,879			199			0	69	28	2	4	245.0	95.2	3.6	49.0
May 5	6,727			239			0	63	18	0	5	248.0	99.6	3.0	49.0
May 6	2,923			94			0	16	1	0	0	210.1	149.5	5.5	49.0
May 7	1,366			74			0	40	15	0	1	240.0	152.6	4.0	50.0
May 8	5,180			279			0	74	20	0	1	265.5	146.7	5.0	50.0
May 9	3,318			138			0	52	12	1	0	212.7	144.0	5.0	50.0
May 10	8,870			330			0	75	20	0	1	198.2	99.4	4.9	50.0
May 11	8,164			499			0	70	18	18	8	223.2	92.5	5.0	53.0
May 12	3,921			223			0	60	18	90	2	198.3	93.1	4.0	53.0
May 13	4,258			333			0	69	14	250	0	220.8	91.6	4.0	53.0
May 14	1,743			168			0	69	18	207	-1	205.8	134.7	5.0	53.0
May 15	1,715			99			1	60	15	71	1	215.9	124.4	5.0	54.0
May 16	2,048			119			0	70	15	219	2	208.1	118.9	7.0	54.0
May 17	1,823			162			0	57	15	903	1	221.4	115.4	5.0	54.0
May 18	2,172			179			0	77	19	2,205	4	227.2	86.0	5.0	54.0
May 19	2,065			150			0	86	14	4,298	2	229.1	85.0	3.7	55.0
May 20	2,077			127			0	77	23	6,935	17	232.6	81.6	4.4	54.0
May 21	1,973			118			-1	78	20	12,191	16	268.3	83.9	4.1	55.0
May 22	1,214			64			0	57	13	9,251	40	293.6	117.2	4.3	55.0
May 23	853			67			0	72	18	4,047	80	271.8	151.1	4.0	55.0
May 24	1,260			96			0	87	25	4,335	18	276.3	151.0	4.0	55.0
May 25	1,645			150			1	99	24	38,380	35	259.1	136.9	5.1	56.0
May 26	2,997			140			0	147	39	36,162	47	245.8	92.7	4.5	57.0
May 27	2,574			151			0	150	39	43,368	306	246.8	93.0	5.0	57.0
May 28	2,361			135			0	215	51	16,292	88	290.5	102.9	5.0	57.0
May 29	2,292			153			0	248	69	42,721	104	313.6	129.1	5.3	57.0
May 30	1,562			83			0	167	38	64,246	172	295.4	125.4	5.0	57.0
May 31	2,382			106			1	138	33	96,419	326	312.1	120.0	4.3	56.0
TOTAL	118,769			5,353			2	2,708	696	382,611	1,280				
AVG	3,831			173			0	87	22	12,342	41	244.2	113.8	4.6	53.1

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	268,813	6,477	2	6,493	1,844	382,611	1,280

TABLE 10

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

JUNE 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Jun 1		2,078		84			0	173	37	71,593	289
Jun 2		1,674		48			0	107	27	61,764	609
Jun 3		2,664		113			0	241	44	78,390	147
Jun 4		2,513		102			1	261	63	117,485	479
Jun 5		3,139		116			6	254	50	104,036	1,091
Jun 6		2,540		127			7	307	72	51,727	1,047
Jun 7		2,238		147			12	240	57	49,287	380
Jun 8		2,271		110			15	262	69	45,545	373
Jun 9		1,951		81			30	226	68	212,826	783
Jun 10		2,512		100			62	223	48	137,815	372
Jun 11		2,652		124			114	242	62	113,352	402
Jun 12		3,294		160			231	343	91	85,897	375
Jun 13		3,231		166			326	391	130	116,879	508
Jun 14		3,370		179			451	492	169	175,476	570
Jun 15		3,240		154			510	475	170	138,043	464
Jun 16		2,510		105			550	423	155	71,106	416
Jun 17		3,034		201			830	457	164	117,358	426
Jun 18		3,484		232			1,090	611	204	133,630	556
Jun 19		2,592		163			888	667	246	63,993	876
Jun 20		2,507		164			1,126	611	258	116,763	857
Jun 21		2,826		220			1,383	899	350	91,331	1,682
Jun 22		3,312		195			1,533	954	416	117,870	1,023
Jun 23		3,020		210			1,795	932	400	112,076	3,428
Jun 24		3,381		265			2,424	1,273	503	55,957	2,690
Jun 25		3,563		228			3,317	1,231	465	52,412	2,690
Jun 26		4,350		251			3,904	1,556	716	69,022	2,252
Jun 27		3,258		167			3,406	1,323	631	32,253	2,515
Jun 28		2,513		156			2,921	1,274	623	24,668	2,358
Jun 29		2,490		172			2,661	1,467	631	22,762	1,970
Jun 30		2,504		168			2,210	1,493	646	29,456	2,442
TOTAL		84,711		4,708			31,803	19,408	7,565	2,670,772	34,070
AVG		2,824		157			1,060	647	252	89,026	1,136

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Jun 1	349.5	134.7	3.0	56.0
Jun 2	312.8	170.7	3.5	56.0
Jun 3	308.5	144.4	4.0	56.0
Jun 4	332.0	184.1	3.5	56.0
Jun 5	361.9	208.0	2.8	56.0
Jun 6	375.2	207.1	3.0	56.0
Jun 7	348.4	166.2	3.0	57.0
Jun 8	353.2	182.6	3.6	56.0
Jun 9	321.5	150.9	3.5	56.0
Jun 10	305.4	118.4	3.5	57.0
Jun 11	337.1	153.7	5.0	57.0
Jun 12	298.1	115.3	4.0	57.0
Jun 13	308.4	118.5	3.5	57.0
Jun 14	285.2	96.6	3.7	57.0
Jun 15	300.4	106.3	3.7	57.0
Jun 16	278.4	101.4	3.5	58.0
Jun 17	304.5	123.5	4.0	57.0
Jun 18	298.0	107.8	3.0	58.0
Jun 19	342.7	149.1	4.0	58.0
Jun 20	359.5	163.6	4.5	58.0
Jun 21	350.7	156.9	3.5	58.0
Jun 22	323.2	132.0	3.0	58.0
Jun 23	301.7	98.1	5.0	59.0
Jun 24	326.1	113.2	4.5	59.0
Jun 25	291.6	93.7	4.5	59.0
Jun 26	288.5	93.1	4.6	60.0
Jun 27	310.7	116.4	3.5	60.0
Jun 28	324.0	148.0	3.6	61.0
Jun 29	356.4	167.0	3.5	61.0
Jun 30	310.7	112.4	3.5	61.0
AVG	322.1	137.8	3.7	57.7

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	268,813	6,477	0	31,805	25,901	9,409	3,053,383	35,350
SUMMER	84,711	4,708						
TOTAL	353,524	11,185						

TABLE 11

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

JULY 2002

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Jul 1		2,134		123	0	0	1,506	1,579	753	16,605	3274	313.1	166.8	3.0	61.0
Jul 2		2,060		129	0	0	1,512	1,495	649	21,106	1625	314.3	150.8	3.0	62.0
Jul 3		2,293		154	0	0	2,006	1,661	810	9,218	1186	299.3	139.5	3.0	62.0
Jul 4		2,148		156	0	0	2,497	1,875	870	8,595	980	313.4	125.6	3.0	62.0
Jul 5		2,289		165	0	0	1,966	1,714	766	10,829	831	285.1	87.6	3.0	62.0
Jul 6		2,140		222	0	0	1,602	1,655	723	10,603	1205	258.2	87.3	3.5	62.0
Jul 7		2,083		164	0	0	996	2,061	983	6,523	837	252.5	89.5	4.0	62.0
Jul 8		1,883		175	0	0	754	2,510	1,212	2,131	785	248.6	86.3	5.0	63.0
Jul 9		1,090		95	0	0	492	2,108	1,043	1,737	1001	228.2	109.7	4.0	63.0
Jul 10		2,009		166	0	0	759	3,140	1,561	1,907	659	216.7	115.4	7.0	63.0
Jul 11		1,839		106	0	0	594	3,512	1,625	2,160	725	236.3	122.8	6.0	63.0
Jul 12		1,948		153	0	0	645	4,643	2,261	4,458	1194	260.8	120.2	5.5	63.0
Jul 13		2,153		169	0	0	620	4,202	1,974	4,881	2857	251.4	84.7	5.5	64.0
Jul 14		1,303		116	0	0	323	3,387	1,516	1,342	1350	249.3	85.6	5.0	64.0
Jul 15		1,124		92	0	0	262	3,631	1,627	1,186	1302	252.0	121.7	4.5	64.0
Jul 16		962		79	0	0	213	3,219	1,422	1,159	888	216.7	127.9	5.0	64.0
Jul 17		1,356		80	0	0	223	4,361	2,055	1,061	1564	236.0	91.0	6.2	64.0
Jul 18		1,235		84	0	0	164	4,743	2,201	1,562	1654	257.4	93.3	3.0	65.0
Jul 19		1,095		74	0	0	119	4,814	2,163	1,004	1257	223.3	95.0	3.5	66.0
Jul 20		1,036		70	0	0	74	4,955	2,085	666	1633	222.5	98.2	4.5	66.0
Jul 21		424		50	0	0	45	2,510	935	359	1315	227.2	164.6	7.0	67.0
Jul 22		715		57	0	0	57	5,557	2,290	542	1633	232.2	151.6	5.5	67.0
Jul 23		1,100		64	4	0	43	6,050	2,408	278	1758	187.9	143.4	6.0	67.0
Jul 24		731		69	0	0	25	5,486	1,971	158	995	205.7	134.2	6.0	67.0
Jul 25		1,504		84	1	0	41	7,676	2,818	157	1206	202.3	91.5	5.0	68.0
Jul 26		883		68	0	0	23	5,703	1,851	165	852	169.3	91.9	7.5	68.0
Jul 27		403		36	0	0	31	4,434	1,545	107	675	171.7	138.5	7.0	67.0
Jul 28		640		48	0	0	36	4,326	1,548	43	599	162.0	138.6	4.5	67.0
Jul 29		808		60	0	0	36	3,579	1,219	88	1007	165.6	95.1	5.0	67.0
Jul 30		557		76	0	0	28	5,395	2,070	84	1306	198.1	95.9	5.0	67.0
Jul 31		780		60	3	1	24	5,754	2,091	66	1252	167.5	97.1	5.0	67.0
TOTAL		42,725		3,244	8	1	17,716	117,735	49,045	110,780	39,405				
AVG		1,378		105	0	0	571	3,798	1,582	3,574	1,271	233.1	114.2	4.9	64.6

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	268,813	6,477	8	1	49,521	143,636	58,454	3,164,163	74,755
SUMMER	127,436	7,952							
TOTAL	396,249	14,429							

TABLE 12

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

AUGUST 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Aug 1			642	41	0	0	14	6,524	2,231	33	983	175.9	99.7	7.0	67.0
Aug 2			543	56	0	0	8	5,565	1,805	31	951	166.6	128.6	3.0	67.0
Aug 3			531	44	0	0	5	6,397	2,242	18	812	171.2	132.8	5.5	67.0
Aug 4			715	62	1	0	1	8,164	2,740	25	638	151.2	91.2	5.5	67.0
Aug 5			532	44	0	0	6	8,730	2,512	38	857	178.9	91.8	5.0	67.0
Aug 6			473	35	0	0	3	6,077	1,814	20	519	171.4	133.9	6.0	66.0
Aug 7			901	71	1	0	9	7,444	2,175	24	536	148.7	110.5	7.0	66.0
Aug 8			290	25	0	0	2	3,978	1,167	42	557	172.4	133.9	7.0	66.0
Aug 9			406	58	0	0	6	5,129	1,518	16	413	181.6	143.5	7.0	66.0
Aug 10			1,090	62	2	1	3	7,627	2,196	25	659	152.0	87.6	7.0	66.0
Aug 11			941	64	1	4	5	7,164	1,893	17	521	166.3	86.9	6.7	67.0
Aug 12			1,162	91	7	3	3	7,801	2,174	3	312	158.6	84.9	7.0	67.0
Aug 13			1,002	92	7	0	3	7,087	1,844	0	552	170.3	89.1	6.8	67.0
Aug 14			772	61	2	1	1	5,553	1,496	8	489	162.3	123.5	6.5	67.0
Aug 15			1,053	111	11	4	5	6,942	1,849	6	587	164.3	125.0	7.0	67.0
Aug 16			1,251	106	15	5	7	6,138	1,584	1	496	179.0	98.7	7.0	67.0
Aug 17			1,264	98	11	3	0	4,164	1,194	4	358	146.4	93.4	6.5	67.0
Aug 18			910	90	12	1	0	4,464	1,206	2	434	139.1	101.9	7.0	67.0
Aug 19			764	79	19	0	0	3,358	882	7	437	147.2	109.5	6.0	67.0
Aug 20			864	57	15	2	1	2,479	695	6	435	158.3	120.7	6.0	67.0
Aug 21			1,481	100	32	9	0	2,816	775	4	247	162.2	124.4	6.0	67.0
Aug 22			2,939	189	38	10	0	2,942	817	6	540	152.5	91.8	7.0	67.0
Aug 23			6,523	294	85	1	0	3,334	1,103	4	443	156.6	91.9	7.0	66.0
Aug 24			10,573	458	178	2	0	5,478	1,732	7	471	163.3	86.3	7.0	66.0
Aug 25			15,274	597	300	15	1	6,238	1,860	26	709	135.8	85.9	5.5	66.0
Aug 26			14,604	702	502	23	1	7,488	1,994	10	574	140.8	87.9	6.0	66.0
Aug 27			11,419	504	353	26	1	6,262	1,730	10	686	139.4	85.2	7.0	67.0
Aug 28			10,235	542	447	52	0	4,625	1,356	0	539	157.7	77.8	7.0	67.0
Aug 29			17,621	698	588	65	0	4,895	1,402	0	601	137.9	54.2	7.0	67.0
Aug 30			19,898	915	821	72	1	5,890	1,486	0	621	142.6	89.1	3.0	67.0
Aug 31			15,441	823	553	66	0	4,911	1,171	0	403	159.4	120.6	6.0	67.0
TOTAL			142,114	7,169	4,001	365	86	175,664	50,643	393	17,380				
AVG			4,584	231	129	12	3	5,667	1,634	13	561	158.4	102.7	6.3	66.7

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	268,813	6,477
SUMMER	127,436	7,952
FALL	142,114	7,169
TOTAL	538,363	21,598

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
4,009	366	49,607	319,300	109,097	3,164,556	92,135

TABLE 13

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

SEPTEMBER 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Sep 1			9,072	606	299	72	0	3,617	892		680	123.7	1.8	7.0	67.0
Sep 2			10,905	498	172	63	0	3,152	761		826	100.4	1.7	0.0	67.0
Sep 3			17,877	858	187	33	0	3,196	692		721	100.7	1.6	6.0	67.0
Sep 4			19,468	1,051	91	48	1	2,407	499		740	119.0	1.9	0.0	67.0
Sep 5			20,814	1,110	242	86	0	2,676	684		421	115.1	1.8	7.0	67.0
Sep 6			18,959	907	540	94	0	2,916	822		457	111.9	1.8	7.0	66.0
Sep 7			24,497	1,148	1,146	156	0	4,992	1,209		441	95.3	2.0	7.0	66.0
Sep 8			24,200	1,186	1,935	150	0	6,378	1,532		366	88.1	1.4	7.0	66.0
Sep 9			20,862	874	2,413	144	0	7,055	1,649		203	89.2	1.5	7.0	65.0
Sep 10			19,456	1,274	3,422	219	0	8,854	2,002		302	108.8	1.8	7.0	65.0
Sep 11			16,507	1,276	2,844	204	0	8,215	1,739		360	107.4	1.7	7.0	65.0
Sep 12			17,511	1,387	3,410	198	1	7,422	1,681		291	83.4	1.6	0.0	66.0
Sep 13			14,010	1,398	2,474	300	0	5,747	1,142		298	81.2	1.8	7.0	66.0
Sep 14			14,130	1,995	3,764	293	0	7,251	1,324		504	110.0	2.1	7.0	66.0
Sep 15			9,038	1,206	2,145	217	1	4,320	812		175	88.6	2.1	6.0	66.0
Sep 16			7,865	1,392	1,655	153	0	5,395	955		182	80.1	2.1	7.0	66.0
Sep 17			7,576	1,358	1,828	303	0	4,582	960		120	98.8	2.0	7.0	66.0
Sep 18			4,346	959	1,250	164	0	3,298	694		164	108.8	2.2	6.0	65.0
Sep 19			5,357	1,077	1,106	170	0	4,387	902		104	110.5	2.1	6.0	65.0
Sep 20			5,204	972	1,131	145	0	5,553	944		156	120.2	2.1	7.5	65.0
Sep 21			5,384	1,068	1,942	212	0	6,290	1,148		95	117.3	2.1	5.0	64.0
Sep 22			3,928	747	1,996	84	0	4,765	803		86	100.8	2.1	8.0	64.0
Sep 23			2,947	564	1,483	138	0	3,666	677		80	138.3	2.1	7.0	64.0
Sep 24			2,983	742	1,381	144	0	3,243	635		8	111.7	2.1	7.0	64.0
Sep 25			2,087	566	1,392	105	0	3,615	687		18	115.5	2.1	7.0	64.0
Sep 26			2,985	763	1,456	153	0	3,445	672		39	126.4	2.1	7.0	64.0
Sep 27			2,335	716	1,376	119	0	3,400	678		4	122.5	2.1	7.0	64.0
Sep 28			2,020	566	1,243	86	0	3,201	664		44	95.9	2.1	6.0	64.0
Sep 29			1,729	435	938	101	0	2,276	463		53	92.2	2.1	6.0	64.0
Sep 30			1,553	450	1,115	126	0	2,326	481		39	88.7	1.9	6.0	64.0
TOTAL			315,605	29,149	46,376	4,480	3	137,640	28,803		7,977				
AVG			10,520	972	1,546	149	0	4,588	960		266	105.0	1.9	6.1	65.3

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	PINK
SPRING	268,813	6,477								
SUMMER	127,436	7,952								
FALL	457,719	36,318								
TOTAL	853,968	50,747	50,385	4,846	49,610	456,940	137,900	3,164,556	100,112	

TABLE 14

MONTHLY FISH PASSAGE SUMMARY REPORT | **BONNEVILLE PROJECT**

U.S. ARMY ENGINEER DISTRICT, PORTLAND | **OCTOBER 2002**

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Oct 1			1,321	375	1,234	140		1,923	400		48	86.5	1.9	7.0	63.0
Oct 2			1,080	348	1,248	113		2,499	434		32	90.9	1.9	0.0	62.0
Oct 3			1,352	323	1,571	58		1,984	381		43	92.4	1.9	0.0	62.0
Oct 4			1,017	315	1,387	119		1,459	302		38	129.4	2.1	7.0	61.0
Oct 5			702	237	1,340	70		1,056	226		8	83.2	2.1	7.0	61.0
Oct 6			658	198	1,764	66		1,245	207		22	83.7	2.1	7.0	61.0
Oct 7			701	183	2,194	95		1,195	242		16	107.3	2.0	7.0	61.0
Oct 8			549	132	1,819	97		932	204		30	97.5	2.0	7.0	61.0
Oct 9			583	195	2,097	133		815	187		26	123.5	2.1	7.0	61.0
Oct 10			638	193	1,765	88		716	148		6	127.6	2.1	7.0	60.0
Oct 11			527	102	1,283	89		757	194		5	123.9	2.1	7.0	60.0
Oct 12			568	120	1,593	66		786	192		10	101.8	2.1	7.0	59.0
Oct 13			439	110	1,201	42		670	161		5	89.4	2.1	7.0	59.0
Oct 14			379	101	1,359	49		678	126		4	101.8	1.9	7.0	57.0
Oct 15			378	140	970	77		665	159		5	120.4	1.9	7.0	57.0
Oct 16			370	104	1,551	77		422	109		-3	91.3	1.9	7.0	57.0
Oct 17			293	90	1,338	85		522	153		2	99.8	2.0	7.0	57.0
Oct 18			456	96	1,533	87		368	104		7	96.2	2.0	7.0	57.0
Oct 19			254	67	1,183	77		282	76		5	81.3	1.9	7.0	57.0
Oct 20			325	79	1,214	57		276	64		10	77.2	2.1	6.5	57.0
Oct 21			348	48	744	23		202	45		6	99.5	2.1	7.0	57.0
Oct 22			216	35	662	28		246	60		6	93.6	2.1	7.0	57.0
Oct 23			203	45	564	23		279	63		3	114.5	2.1	7.0	57.0
Oct 24			177	41	782	25		359	107		12	108.4	2.1	7.0	57.0
Oct 25			144	26	589	31		350	108		7	118.0	2.1	7.0	56.0
Oct 26			154	34	576	20		311	128		1	121.1	2.1	7.0	56.0
Oct 27			159	39	735	22		235	62		-1	96.3	2.1	7.0	56.0
Oct 28			153	31	413	15		212	68		-2	115.4	2.2	5.0	55.0
Oct 29			138	25	324	21		178	61		4	123.8	1.9	7.0	55.0
Oct 30			78	10	385	17		183	81		2	122.8	2.1	6.5	54.0
Oct 31			230	17	393	11		162	52		7	135.7	2.1	5.0	54.0
TOTAL			14,590	3,859	35,811	1,921		21,967	4,904		364				
AVG			471	124	1155	62		709	158		12	105.0	2.0	6.4	58.2

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	268,813	6,477
SUMMER	127,436	7,952
FALL	472,309	40,177
TOTAL	868,558	54,606

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	PINK
86,196	6,767	49,610	478,907	142,804	3,164,556	100,476	0

TABLE 15

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT

NOVEMBER 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
*Nov 1			45	10	256	5		162	14			140.9	2.1	4.0	54.0
*Nov 2			28	7	162	1		153	-3			138.3	2.1	7.0	51.0
Nov 3			32	0	95	10		65	4			116.1	2.1	7.0	50.0
Nov 4			51	0	47	1		74	6			123.2	1.8	7.0	50.0
Nov 5			61	0	99	2		99	5			122.0	2.1	7.0	50.0
Nov 6			73	6	49	6		117	3			119.7	2.1	6.5	50.0
Nov 7			124	0	46	4		84	7			118.1	2.1	6.5	50.0
Nov 8			72	3	37	0		60	3			119.1	2.2	6.0	50.0
Nov 9			61	0	107	5		57	17			120.8	2.2	7.0	50.0
Nov 10			62	0	201	7		77	17			121.1	2.1	7.0	50.0
Nov 11			72	0	101	3		99	5			126.0	2.0	7.0	50.0
Nov 12			86	0	142	4		76	5			129.3	1.9	6.0	49.0
Nov 13			156	10	149	0		81	8			131.3	1.9	4.0	49.0
Nov 14			115	0	171	2		92	16			124.5	1.9	5.0	49.0
Nov 15			345	2	226	0		106	10			126.8	1.9	7.0	49.0
Nov 16												123.6	1.8	6.0	49.0
Nov 17												120.9	1.8	6.2	48.0
Nov 18												127.3	1.9	7.0	48.0
Nov 19												120.0	1.9	6.5	48.0
Nov 20												124.7	2.0	7.0	48.0
Nov 21												123.6	2.0	7.0	48.0
Nov 22												127.1	2.0	7.0	48.0
Nov 23												122.5	2.0	7.0	48.0
Nov 24												126.3	1.8	7.0	48.0
Nov 25												129.0	1.9	7.0	49.0
Nov 26												143.0	1.9	7.0	48.0
Nov 27												143.6	1.9	5.0	47.0
Nov 28												134.1	1.9	5.0	47.0
Nov 29												132.3	1.8	7.0	46.0
Nov 30												130.1	1.9	7.0	46.0
TOTAL			1,383	38	1,888	50		1,402	117						
AVG			92	3	126	3		93	8			126.8	2.0	6.4	48.9

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	PINK	CHUM
SPRING	268,813	6,477	88,084	6,817	49,610	480,309	142,921	3,164,556	100,476	0	72
SUMMER	127,436	7,952									
FALL	473,692	40,215									
TOTAL	869,941	54,644									

Note: From November 1-15, daytime counts were from video tape. The counts are 8-hour counts. Visual counting ended October 31.

*** Tape recording malfunction.**

TABLE 16

DISCHARGE AND WATER QUALITY DATA

BONNEVILLE DAM PROJECT 2002

DECEMBER

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Dec 1	121.4	0	7	46
Dec 2	126.4	1.4	5	46
Dec 3	125.3	0	4.8	46
Dec 4	124.6	0	5.9	46
Dec 5	124.3	0	6	46
Dec 6	123.8	0	6	46
Dec 7	124.5	0	7	45
Dec 8	126.4	0	7	45
Dec 9	125.8	0	7	45
Dec 10	121.6	0	7	45
Dec 11	122.6	0	7	45
Dec 12	120.7	0	7	45
Dec 13	119	0		45
Dec 14	116.2	1.3	7	45
Dec 15	114.4	1	7	45
Dec 16	117.9	0.6	7	45
Dec 17	121.1	0	7	44
Dec 18	126.9	0	7	44
Dec 19	138.5	0	5.5	44
Dec 20	125	0	7	44
Dec 21	111.2	0	7	43
Dec 22	113.4	0	7	43
Dec 23	117.7	0	7	43
Dec 24	119.6	0	7	43
Dec 25	120.6	0	7	43
Dec 26	115.3	0	7	42
Dec 27	113	0	6.2	43
Dec 28	110.7	0	7	43
Dec 29	109.2	0	7	43
Dec 30	108.6	0	7	43
Dec 31	105.7	0	7	43
AVG.	124.2	0.1	6.3	45.5

TABLE 17

YEARLY TOTALS OF SALMONIDS COUNTED OVER BONNEVILLE DAM -- DAYTIME COUNTS

1938 - 2002

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	CHUM	PINK	TOTAL SALMONID
1938	271,799	107,003	75,040	15,185	2,117	0	471,144
1939	286,189	122,032	73,382	14,383	1,168	0	497,154
1940	391,587	185,174	148,807	11,917	1,729	0	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	0	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	0	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	0	679,348
1978	394,600	104,431	18,436	52,590	28	0	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	0	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	0	604,512
1983	244,346	218,439	100,545	15,173	50	52	578,605
1984	324,425	315,560	152,541	29,487	64	8	822,085
1985	463,873	343,987	166,340	56,857	97	147	1,031,301
1986	570,881	379,891	58,123	130,853	77	23	1,139,848
1987	547,494	303,081	116,993	27,635	147	20	995,370
1988	494,025	279,072	79,714	39,620	60	6	892,497
1989	416,117	287,798	41,884	39,281	16	12	785,108
1990	340,990	183,027	49,581	24,845	26	0	598,469
1991	274,622	274,545	76,481	64,057	5	550	690,260
1992	256,299	314,975	84,992	18,126	39	24	674,455
1993	277,657	188,386	80,178	11,732	17	15	557,985
1994	243,450	161,978	12,678	22,794	26	5	440,931
1995	240,050	202,448	8,774	12,034	30	36	463,372
1996	296,635	205,213	30,252	18,747	22	1	550,870
1997	387,088	258,385	47,008	27,267	47	64	719,859
1998	280,944	185,094	13,218	49,920	21	13	529,210
1999	343,176	206,488	17,877	45,152	43	28	612,764
2000	491,905	275,178	93,398	97,032	17	0	957,530
2001	971,119	633,073	114,934	266,314	29	-4	1,985,465
2002	924,585	480,309	49,610	94,901	72	0	1,549,477
Total	24,372,507	12,075,319	5,334,058	2,390,248	39,101	2,263	44,213,496
10-Year Average	445,661	279,655	46,793	64,589	32	16	836,746

***Jacks included**

TABLE 18

MONTHLY COUNT OF CHINOOK SALMON

BONNEVILLE DAM - 1938 - 2002

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 - Dec 31
1938					22,371	8,221	6,556	34,765	197,294	2,302	263	27	271,799	22,371	14,777	234,651
1939	6	12	121	51,410	25,159	5,602	17,828	32,909	150,851	2,197	78	16	286,189	76,708	23,430	186,051
1940			504	37,253	28,621	7,027	14,938	58,643	240,515	3,765	287	34	391,587	66,378	21,965	303,244
1941	4		1,360	51,486	19,445	7,013	9,395	12,590	351,967	7,179	866	138	461,443	72,295	16,408	372,740
1942	1	15	34	9,506	30,915	11,816	12,821	27,581	303,939	4,485	639	190	401,752	40,471	24,637	336,644
1943	11	6	43	12,172	53,268	5,440	8,044	28,985	201,414	3,354	365	21	313,123	65,500	13,484	234,139
1944	1	2	65	15,671	15,127	4,363	8,241	55,468	139,254	2,388	164	20	240,764	30,866	12,604	197,294
1945	6	4	81	17,148	26,276	11,293	16,317	32,254	189,675	4,281	137	6	297,478	43,515	27,610	226,353
1946	1	2	25	14,196	53,313	30,253	20,967	45,422	277,152	4,523	173	25	446,052	67,537	51,220	327,295
1947		2	141	83,520	49,899	25,502	13,358	43,062	260,385	3,945	526	37	480,377	133,562	38,860	307,955
1948	10		251	21,205	20,262	44,137	23,100	35,934	270,238	3,928	467	23	419,555	41,728	67,237	310,590
1949			5	5,765	44,304	24,232	22,500	41,500	137,599	1,571	215	6	277,697	50,074	46,732	180,891
1950			21	6,630	50,638	16,667	32,937	40,462	205,521	4,356	143		357,375	57,289	49,604	250,482
1951			32	28,801	86,055	54,889	24,394	33,785	97,131	6,489	212		331,788	114,888	79,283	137,617
1952			255	8,130	107,807	62,491	21,800	82,290	135,053	2,576	477		420,879	116,192	84,291	220,396
1953			1,254	126,450	42,583	27,228	30,593	27,398	75,145	1,495	333		332,479	170,287	57,821	104,371
1954		2	657	82,877	51,230	46,801	32,596	24,969	80,426	1,189	200		320,947	134,766	79,397	106,784
1955			1,391	84,436	85,769	45,502	37,437	32,833	70,558	1,803	124		359,853	171,596	82,939	105,318
1956			161	8,850	54,438	64,262	36,938	42,203	92,030	1,854	179	2	300,917	63,449	101,200	136,268
1957			328	90,984	45,128	104,243	30,790	34,829	95,457	1,352	175		403,286	136,440	135,033	131,813
1958			468	15,361	59,377	74,375	27,524	19,735	227,504	1,948	127		426,419	75,206	101,899	249,314
1959			182	26,944	34,007	39,581	49,371	24,945	168,187	1,643	168		345,028	61,133	88,952	194,943
1960			184	37,064	32,349	65,247	19,923	22,719	76,327	2,012	224		256,049	69,597	85,170	101,282
1961			476	72,526	25,693	41,302	25,159	22,675	90,688	3,108	353		281,980	98,695	66,461	116,824
1962			1,278	56,201	33,637	52,392	25,093	23,526	91,320	2,759	419		286,625	91,116	77,485	118,024
1963			2,802	43,859	28,810	36,836	27,178	28,586	104,415	5,571	503		278,560	75,471	64,014	139,075
1964			2,418	69,031	19,979	35,814	44,717	26,546	141,525	4,157	235		344,422	91,428	80,531	172,463
1965			1,238	47,083	35,945	38,482	37,515	38,727	112,664	6,074	229		317,957	84,266	75,997	157,694
1966			2,168	92,637	17,864	40,233	31,764	20,608	128,421	6,052	364		340,111	112,669	71,997	155,445
1967			1,620	71,957	11,358	41,847	53,812	25,760	154,323	5,405	155		366,237	84,935	95,659	185,643
1968			1,342	69,420	28,425	46,793	36,126	27,779	126,994	4,010	265		341,154	99,187	82,919	159,048
1969			1,910	65,371	106,281	59,177	42,976	38,456	187,502	5,511	359		507,543	173,562	102,153	231,828
1970			2,020	78,605	30,351	35,091	29,811	44,559	159,710	4,364	269		384,780	110,976	64,902	208,902

TABLE 18

(Continued)

MONTHLY COUNT OF CHINOOK SALMON

BONNEVILLE DAM - 1938-2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING Jan1- May 31	SUMMER Jun 1- Jul 31	FALL Aug - Dec 31
1971			683	60,849	63,985	37,757	40,154	26,749	166,346	8,820	359		405,702	125,517	77,911	202,274
1972			426	154,443	31,271	36,758	34,072	23,577	109,820	3,939	150		394,456	186,140	70,830	137,486
1973			1,585	128,495	12,068	24,164	21,196	31,513	170,895	8,457	262		398,635	142,148	45,360	211,127
1974			434	57,516	76,585	13,424	32,472	15,554	156,543	13,923	308		366,759	134,535	45,896	186,328
1975			162	48,295	55,647	16,989	27,362	37,907	234,145	4,847	212		425,566	104,104	44,351	277,111
1976			587	58,978	53,883	39,130	29,883	48,776	262,615	13,395	526		507,773	113,448	69,013	325,312
1977			3,569	98,710	17,229	21,790	19,233	21,992	171,303	11,805	1,026		366,657	119,508	41,023	206,126
1978			4,291	100,712	44,860	27,125	17,198	23,513	165,411	11,104	386		394,600	149,863	44,323	200,414
1979			790	29,751	20,921	15,924	18,293	41,273	142,241	6,865	248		276,306	51,462	34,217	190,627
1980			535	30,732	29,720	15,384	15,681	26,106	118,669	8,404	287		245,518	60,987	31,065	153,466
1981			1,853	41,917	21,239	13,262	13,667	32,519	154,696	6,288	209		285,650	65,009	26,929	193,712
1982			312	30,282	45,450	15,439	11,175	34,058	174,348	11,487	258		322,809	76,044	26,614	220,151
1983			144	25,423	31,154	12,793	10,665	26,147	116,879	20,458	683		244,346	56,721	23,458	164,167
1984			351	27,185	23,509	13,060	15,447	41,909	180,867	21,673	424		324,425	51,045	28,507	244,873
1985			2,036	52,145	36,780	16,763	13,107	64,899	255,020	22,099	1,024		463,873	90,961	29,870	343,042
1986			2,292	82,356	38,395	18,365	12,676	38,737	337,721	39,511	828		570,881	123,043	31,041	416,797
1987			2,727	68,866	30,214	22,728	14,979	82,500	298,865	25,614	1,001		547,494	101,807	37,707	407,980
1988			2,663	69,689	22,394	18,191	18,333	111,905	236,662	13,656	532		494,025	94,746	36,524	362,755
1989			36	56,583	30,640	15,659	17,316	102,573	181,691	11,218	401		416,117	87,259	32,975	295,883
1990			677	67,536	28,039	16,990	11,031	59,066	149,404	8,015	232		340,990	96,252	28,021	216,717
1991			601	41,431	19,196	12,755	9,198	21,959	159,068	10,116	298		274,622	61,228	21,953	191,441
1992			2,188	68,073	20,321	11,871	7,374	28,537	107,620	10,043	272		256,299	90,582	19,245	146,472
1993			226	77,174	34,772	15,968	7,648	37,893	97,693	6,036	247		277,657	112,172	23,616	141,869
1994			505	13,499	6,562	9,418	10,113	47,587	145,801	9,669	296		243,450	20,566	19,531	203,353
1995			206	6,934	5,423	8,252	8,821	46,060	148,607	15,349	398		240,050	12,563	17,073	210,414
1996			74	20,733	35,373	10,643	7,351	58,264	153,710	10,199	288		296,635	56,180	17,994	222,461
1997			289	66,847	47,827	19,329	10,536	79,442	153,410	9,083	325		387,088	114,963	29,865	242,260
1998			336	24,428	14,353	14,110	10,001	56,018	150,700	10,692	306		280,944	39,117	24,111	217,716
1999			150	18,557	28,653	14,517	15,674	65,213	185,673	14,453	286		343,176	47,360	30,191	265,625
2000			1,447	128,108	70,006	25,387	18,783	98,828	138,068	11,161	117		491,905	199,561	44,170	248,174
2001			8,533	302,483	94,523	51,971	38,908	107,300	340,620	24,816	1,965		971,119	405,539	90,879	474,701
2002			1,875	149,293	124,122	89,419	45,969	149,283	344,754	18,449	1,421		924,585	275,290	135,388	513,907
TOTAL	40	45	67,418	3,710,572	2,591,798	1,909,487	1,456,835	2,820,160	11,251,049	539,290	25,268	355	24,372,317	6,369,873	3,366,322	14,636,122
10-Year Average			1,364	80,806	46,161	25,901	17,380	74,589	185,904	12,991	565		445,661	128,331	43,282	274,048

***Jacks included**

TABLE 19

MONTHLY COUNT OF SOCKEYE SALMON

BONNEVILLE DAM 1938 - 2002

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

TABLE 19

(Continued)

MONTHLY COUNT OF SOCKEYE SALMON

BONNEVILLE DAM 1938 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1971					70	14,789	72,203	313	69	2	1		87,447
1972					614	16,505	37,939	1,254	9	2			56,323
1973					17	29,314	29,308	337	3				58,979
1974					14	8,073	35,407	340	3				43,837
1975					2	17,961	40,050	192	7				58,212
1976					94	22,532	20,661	297	26	1			43,611
1977				1	38	74,551	25,178	61					99,829
1978				1	2	12,442	5,884	101	6				18,436
1979					1	25,474	26,297	826	30				52,628
1980						22,949	35,764	164	4	1			58,882
1981					1	36,931	19,001	100	4				56,037
1982					12	20,731	29,207	264	4	1			50,219
1983						52,134	48,004	400	5	2			100,545
1984					6	106,892	45,141	494	7	1			152,541
1985				3	13	112,054	53,842	422	4	2			166,340
1986					2	27,303	30,279	475	63	1			58,123
1987					1	75,674	40,930	383	5				116,993
1988					11	44,409	35,168	121	5				79,714
1989					3	24,638	17,000	231	11	1			41,884
1990						26,141	23,244	195	1				49,581
1991						22,318	53,699	457	7				76,481
1992					20	54,292	30,409	271					84,992
1993					7	49,667	30,377	127					80,178
1994					2	9,514	3,152	10					12,678
1995					1	5,742	2,975	56					8,774
1996					3	22,496	7,712	41					30,252
1997					9	23,127	23,490	381	1				47,008
1998					1	7,668	5,459	90					13,218
1999						8,427	9,390	59	1				17,877
2000					140	80,111	13,081	66					93,398
2001					32	97,844	16,978	79	1				114,934
2002					2	31,803	17,716	86	3				49,610
TOTAL			76	541	8,112	2,233,757	3,045,273	43,502	2,627	137	32	1	5,334,058
10-Year Average					22	33,640	13,033	100					46,793

TABLE 20

MONTHLY COUNT OF COHO SALMON

BONNEVILLE DAM 1938 - 2002

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

TABLE 20

(Continued)

MONTHLY COUNT OF COHO SALMON

BONNEVILLE DAM 1938 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	JACKS
1971							57	7,292	58,235	9,753	652		75,989	22,172
1972							66	9,481	52,456	3,792	137		65,932	31,716
1973							636	12,656	33,736	6,715	866		54,609	28,760
1974							539	8,805	40,761	8,631	2,219		60,955	29,350
1975							56	5,373	39,167	11,892	1,819		58,307	25,535
1976							143	5,970	40,505	5,417	1,115		53,150	16,484
1977							55	1,134	15,163	2,582	474		19,408	10,083
1978				1			2	2,643	38,308	10,531	1,105		52,590	22,312
1979							68	7,324	28,732	7,583	1,621		45,328	15,716
1980							10	781	13,601	3,327	4,333		22,052	9,078
1981							4	3,162	23,962	3,108	274		30,510	8,575
1982							79	3,687	55,743	13,182	1,141		73,832	18,016
1983							44	319	7,237	5,020	2,553		15,173	6,775
1984							41	1,394	20,174	6,229	1,649		29,487	12,728
1985			1			7	92	3,977	46,749	5,670	361		56,857	18,307
1986							181	2,502	110,714	14,436	3,020		130,853	22,204
1987							464	2,364	21,002	3,556	249		27,635	9,713
1988							78	3,377	26,303	8,614	1,248		39,620	12,566
1989							60	2,353	24,089	9,543	3,236		39,281	11,863
1990							9	587	18,202	5,230	817		24,845	13,218
1991							5	941	46,331	13,713	3,067		64,057	5,189
1992							19	222	10,304	5,953	1,628		18,126	3,757
1993							15	448	8,191	2,786	292		11,732	1,090
1994							5	1,608	12,521	8,239	421		22,794	2,503
1995							115	962	6,833	3,827	297		12,034	1,639
1996							65	421	10,325	7,656	280		18,747	3,010
1997							19	1,375	18,962	6,729	182		27,267	3,206
1998							13	889	35,532	13,250	236		49,920	3,630
1999							3	960	34,561	9,422	206		45,152	4,468
2000							2	13,210	54,951	28,325	544		97,032	11,383
2001						2	6	33,141	197,512	33,807	1,846		266,314	6,781
2002						0	9	4,366	50,856	37,732	1,938		94,901	6,817
TOTAL	21	12	6	1	0	178	5,363	214,379	1,775,591	353,084	41,547	66	2,390,248	552,355
10 Year Average							25	5,738	43,024	15,177	624		64,589	4,453

***Jacks included**

TABLE 21

MONTHLY COUNT OF STEELHEAD
BONNEVILLE DAM; 1938 -2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	A-Run Jan 1- Aug 25	B-Run Aug 26 Dec 31
1938					6,622	2,382	19,455	29,231	46,618	2,264	339	92	107,003	49,306	57,69
1939	23	19	570	8,110	1,587	1,490	36,681	38,062	33,891	1,264	216	119	122,032	80,096	41,93
1940	5	96	1,688	4,125	998	4,489	61,188	46,071	64,377	1,786	292	59	185,174	106,724	78,45
1941	37	76	1,641	6,392	1,518	996	21,940	29,600	50,542	3,980	1,063	304	118,089	58,109	59,98
1942	4	37	256	3,642	4,159	1,588	19,905	41,973	77,076	2,412	566	182	151,800	65,219	86,58
1943	14	18	654	3,374	4,698	1,564	7,755	29,894	41,051	2,444	573	94	92,133	41,219	50,91
1944	50	157	1,019	6,142	2,224	1,169	21,868	24,508	35,907	6,129	1,119	226	100,518	51,585	48,93
1945	1,003	1,078	3,008	4,685	1,557	1,109	24,537	40,593	40,194	1,925	302	142	120,133	72,685	47,44
1946	64	551	3,040	9,839	5,482	3,265	20,600	58,466	38,399	2,070	262	769	142,807	93,422	49,38
1947	197	321	1,968	6,889	2,025	1,595	28,134	40,819	50,025	2,905	443	123	135,444	75,035	60,40
1948	154	119	1,631	4,473	1,170	1,895	33,191	53,621	40,609	1,742	381	76	139,062	87,453	51,60
1949	1		1,689	3,293	1,712	1,264	34,314	54,281	20,786	1,161	686	98	119,285	90,762	28,52
1950	13	8	1,156	4,537	1,667	691	25,142	53,904	24,226	1,932	811		114,087	80,191	33,89
1951			375	2,338	1,568	5,187	74,980	39,712	15,357	947	225		140,689	121,100	19,58
1952			278	1,248	1,751	8,202	118,110	79,735	48,293	2,735	638		260,990	190,012	70,97
1953			1,310	5,308	1,456	5,313	106,712	64,006	36,107	2,797	905		223,914	173,135	50,77
1954		6	679	5,511	1,571	6,115	59,443	65,234	34,941	2,209	551		176,260	126,085	50,17
1955			1,006	2,100	1,149	2,418	79,124	84,746	24,239	3,361	268		198,411	161,614	36,79
1956			1,409	2,718	1,582	3,122	48,306	47,148	23,343	2,846	635	7	131,116	99,692	31,42
1957			926	2,081	760	8,434	66,738	34,915	24,029	1,069	231		139,183	105,179	34,00
1958			495	651	1,457	5,645	53,734	22,827	44,478	1,859	291		131,437	79,533	51,90
1959			219	746	1,236	2,562	60,549	38,417	23,579	1,540	178		129,026	98,198	30,82
1960			412	904	1,090	4,314	44,026	33,571	28,058	1,090	211		113,676	77,141	36,53
1961			374	1,161	692	2,246	44,379	41,237	47,409	1,561	660		139,719	79,269	60,45
1962			381	1,957	1,491	3,737	49,789	40,177	64,084	1,798	611		164,025	86,990	77,03
1963			503	1,035	1,385	4,192	51,951	31,441	35,446	2,920	545		129,418	83,858	45,56
1964			490	1,609	769	1,940	50,640	26,892	32,406	1,954	552		117,252	76,135	41,11
1965			211	1,516	1,419	4,265	89,405	29,506	37,529	1,971	631		166,453	120,560	45,89

TABLE 21

(Continued)

MONTHLY COUNT OF STEELHEAD
BONNEVILLE DAM - 1938 -2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	Jan 1- Aug 25	Aug 26- Dec 31
1966			658	2,682	2,389	13,051	57,975	25,779	37,733	2,657	737		143,661	97,545	46,116
1967			416	1,182	899	3,062	40,881	36,787	35,472	2,701	472		121,872	78,794	43,078
1968			340	861	1,315	3,664	29,773	41,006	27,865	1,645	505		106,974	68,423	38,551
1969			911	2,164	2,897	6,889	63,222	36,077	26,565	1,484	573		140,782	104,051	36,731
1970			244	1,267	1,331	4,208	30,866	46,307	27,073	1,909	305		113,510	78,106	35,404
1971			463	1,377	1,810	4,469	84,877	58,249	38,619	3,739	363		193,966	141,054	52,912
1972			492	2,562	2,137	3,444	59,933	48,223	65,523	3,432	140		185,886	107,227	78,659
1973			830	2,534	1,367	5,360	53,820	46,399	43,275	3,918	320		157,823	100,011	57,812
1974			1,292	4,127	5,547	6,349	57,212	44,266	14,654	3,080	527		137,054	84,402	52,652
1975			1,080	4,284	4,324	6,058	30,823	28,623	9,106	904	338		85,540	71,586	13,954
1976			1,285	3,459	3,677	9,130	38,907	44,204	21,084	1,953	478		124,177	92,370	31,807
1977			1,159	4,121	4,115	11,395	67,554	35,161	66,084	3,298	550		193,437	113,682	79,755
1978			1,750	3,327	4,587	10,883	25,284	25,637	30,461	2,168	334		104,431	64,188	40,243
1979			1,333	1,905	1,785	7,585	33,379	39,399	23,592	4,710	291		113,979	79,472	34,507
1980			1,139	3,378	1,409	7,790	28,448	51,073	32,277	3,233	507		129,254	85,010	44,244
1981			1,031	3,812	3,887	12,628	56,787	52,435	25,737	2,650	303		159,270	121,785	37,485
1982			1,239	4,188	5,335	8,636	39,159	51,329	44,456	3,146	152		157,640	103,159	54,481
1983			458	1,253	1,638	6,017	69,036	86,066	48,920	4,636	415		218,439	148,853	69,586
1984			579	2,106	4,216	14,454	92,546	93,866	102,877	4,463	453		315,560	189,365	126,195
1985			977	2,956	3,997	13,036	102,256	152,455	63,575	4,088	647		343,987	251,723	92,264
1986			2,712	3,674	4,500	16,655	136,622	129,089	76,532	9,280	827		379,891	279,154	100,737
1987			1,189	2,112	3,233	12,443	104,615	115,481	58,815	4,331	862		303,081	227,013	79,120
1988			1,158	3,728	5,016	13,615	72,718	113,791	63,864	4,421	761		279,072	190,030	89,042
1989			630	2,213	3,343	10,176	62,913	117,686	84,665	5,419	753		287,798	176,965	110,833
1990			966	2,563	4,501	11,643	37,140	52,327	65,813	7,522	552		183,027	89,144	93,883
1991			640	2,082	2,196	6,601	52,187	110,027	93,152	6,947	713		274,545	150,542	124,003
1992			646	1,964	3,239	9,708	55,090	135,162	103,792	4,918	456		314,975	175,218	139,757
1993			771	1,744	2,691	9,923	34,148	64,062	69,129	5,531	387		188,386	99,941	88,445
1994			422	1,976	3,132	7,225	26,719	58,780	54,856	8,079	789		161,978	82,822	79,156
1995			333	840	1,197	6,187	28,665	110,953	47,313	6,427	533		202,448	123,723	78,725
1996			915	1,776	2,407	6,642	39,914	99,861	47,566	5,816	316		205,213	136,677	68,536
1997			921	1,930	2,434	7,530	56,185	122,892	48,001	17,794	698		258,385	177,054	81,331
1998			480	882	1,578	6,982	35,306	57,032	71,133	11,457	244		185,094	87,422	97,672
1999			355	817	1,286	5,059	47,812	99,428	44,975	6,364	392		206,488	138,258	68,230
2000			730	1,198	1,948	13,473	78,819	105,320	66,539	6,954	197		275,178	185,066	90,112
2001			976	2,003	3,217	23,505	194,803	249,250	138,022	19,430	1,867		633,073	435,035	198,038
2002			910	2,875	2,708	19,408	117,735	175,664	137,640	21,967	1,402		480,309	285,229	195,080
TOTAL	1,565	2,486	59,818	184,306	162,083	436,072	3,596,725	4,180,733	3,139,754	275,142	34,344	2,291	12,075,319	7,850,406	4,227,965
10-Year Average			681	1,604	2,260	10,593	66,011	114,324	72,517	10,982	683		279,655	175,123	104,533

TABLE 22

MONTHLY COUNT OF SHAD at
BONNEVILLE DAM 1938 - 2002

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

TABLE 22

(Continued)

MONTHLY COUNT OF SHAD at BONNEVILLE DAM 1938 - 2002

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1971					30	34,345	154,215	951	55	1			189,597
1972					38	16,689	192,608	5,301	88	1			214,725
1973					116,057	377,830	24,701	577	38	4			519,207
1974					7	6,122	91,302	1,496	17	1			98,945
1975					11	43,712	219,133	1,349	38	3			264,246
1976					4	123,053	179,994	2,112	49	7			305,219
1977					51,709	431,540	11,818	568	76	12			495,723
1978					30	802,110	57,997	991	33	5			861,166
1979					800	994,253	43,734	658	258	141	13		1,039,857
1980					1,460	766,473	170,705	685	51	15	1		939,390
1981				2	20,976	708,295	150,730	1,080	79	17			881,179
1982				1	6,888	655,037	117,325	914	37	9	1		780,212
1983					78,105	1,224,342	118,975	1,103	112	37			1,422,674
1984					553	950,406	320,526	4,097	153	55	1		1,275,791
1985					101,770	816,288	55,233	1,410	206	39	5		974,951
1986					104,724	722,443	29,622	1,164	166	47	4		858,170
1987				28	254,326	678,850	10,254	379	32	5	1		943,875
1988				20	408,822	734,635	20,146	697					1,164,320
1989				1	199,327	1,651,338	24,697	2,041					1,877,404
1990				4	532,617	2,296,098	116,799	2,347					2,947,865
1991				1	37,677	1,566,933	307,835	1,971					1,914,417
1992				256	685,939	1,767,696	93,446	4,102					2,551,439
1993			11	10	111,459	1,883,831	167,900	3,463					2,166,674
1994				53	136,547	1,223,421	195,894	1,640					1,557,555
1995				1	231,973	1,289,390	193,091	1,724					1,716,179
1996					24,653	1,676,695	221,795	1,514					1,924,657
1997					97,507	1,760,507	312,779	768					2,171,561
1998				1	185,810	1,660,405	44,656	120					1,890,992
1999					132,782	1,374,822	129,625	1,043					1,638,272
2000				6	229,344	961,587	52,558	822					1,244,317
2001				9	704,104	1,550,639	41,596	1,611					2,297,959
2002				0	382,611	2,670,772	110,780	393					3,164,556
TOTAL			14	401	4,840,133	34,430,522	7,017,476	115,746	4,136	593	36		46,409,057
10 Year Average					223,679	1,605,207	147,067	1,310					1,977,272

Shad are no longer counted past August.

MONTHLY COUNT OF LAMPREY at
BONNEVILLE DAM 1939[1] - 1969, 1997 - 2002

Information concerning the lamprey count table.

The counts in the following table can be considered an approximation of trends, only. Lamprey are difficult animals to count in that they move back and forth in front of the fish count window. They also spend long periods of time resting. Lamprey also are more likely to pass at night than are salmon and for most of the years, fish counting took place only in the daytime. Further, during the 1970s, the count station was changed from a flash board counting system in which the fish passed over a white board to a vertical slot system in which the fish pass through a lighted window. This change could have made a difference in the counts. In addition, it is known that lamprey do not always use the fish ladder and may pass over a dam through several routes including the navigation lock and the auxillary water supply.

Despite the lack of certainty in these counts, they can demonstrate approximate trends in migration patterns throughout the fish passage season and a rough estimate of population trends from year to year. Nevertheless, to determine present populations will require more study of these animals.

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1939				732	9,027	95,814	103,726	14,403	3,349	71	0		227,122
1940				338	24,551	40,642	67,760	20,554	2,217	40	0		156,102
1941				1,428	7,449	6,960	34,952	12,801	1,305	57	2		64,954
1942				13	1,302	3,457	28,641	16,270	2,619	40	19		52,361
1943				0	1,684	3,539	14,332	26,508	5,017	14	2		51,096
1944				22	2,189	1,411	19,288	11,853	1,342	86	18		36,209
1945				56	1,676	4,365	16,395	11,533	2,407	56	0		36,488
1946				57	684	13,834	42,772	15,820	1,565	93	0		74,825
1947				158	9,183	7,563	54,032	17,680	3,566	2,141	3		94,326
1948			1	82	295	13,744	79,507	44,511	4,948	725	2		143,815
1949				5	1,105	5,678	41,438	8,264	1,372	40	7	19	57,928
[2]1950					207	1,073	6,702	22,128	2,436	140	7		32,693
1951				1	4	11,001	8,554	25,078	420	51	1		45,110
1952					8	3,674	13,854	7,462	1,194	11			26,203
1953				79	946	727	17,917	26,053	1,381	25	1		47,129
1954				33	201	1,001	10,303	26,535	2,824	89			40,986
1955					210	764	16,368	21,765	3,341	154	1		42,603
1956					24	657	36,987	10,181	1,949	113			49,911
1957				19	185	17,698	28,506	5,907	699	17			53,031
1958				132	877	8,092	79,548	7,448	1,036	171	1,115		98,419
1959				23	67	6,273	123,104	79,976	4,006	1,626	8		215,083
1960				8	1,521	12,185	125,962	30,751	7,329	142			177,898
1961				30	649	16,786	200,722	126,438	20,110	70			364,805
1962				1	441	13,573	49,868	30,253	7,103	166	21		101,426
1963				21	20,827	5,803	28,348	24,639	7,702	597			87,937
1964			2	8	2,575	17,796	39,223	41,214	3,167	347	5		104,337
1965				54	6,674	8,886	71,027	16,949	4,617	772	8		108,987
1966				168	6,562	11,772	25,813	20,543	2,207	844	5		67,914
1967				211	4,416	6,348	38,591	14,792	1,570	225	18		66,171
1968				92	14,698	18,389	57,011	17,611	949	275	4		109,029
1969				44	24,386	230,096	87,769	32,908	4,126	170	10		379,509
*** Counting lamprey was stopped after 1969. It was resumed again in 1997. ***													
1997				4	1,691	[3] #####	1,939	9,783	8,643	770	0		22,830
1998				103	2,213	12,851	14,548	5,304	2,211	285	0		37,515
1999				65	4,780	8,801	12,047	7,584	3,717	302	0		37,296
2000				91	2,204	7,953	4,184	3,408	1,038	123	1		19,002
2001				1	2,075	11,143	9,895	4,141	620	72			27,947
2002				0	1,280	34,070	39,405	17,380	7,977	364			100,476
TOTAL			3	4,079	158,866	664,419	1,651,038	836,428	132,079	11,284	1,258		3,459,473
1997-2002 6-Year Average				44	2,374	14,964	13,670	7,933	4,034	319			28,918

[1]No data are available for 1938.

[2]Because of changes in the Washington shore counting station, lamprey counts from 1938-1949 cannot be compared with counts from 1950 on.

[3]Because of the heavy shad run, fish counters were not asked to count lamprey from June 1 through July 27.

TABLE 24

U.S. ARMY ENGINEER DISTRICT, PORTLAND **Video counting @ Bonneville**

JANUARY 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
Jan 1	2			0	0	0		16	51	
Jan 2	3			0	0	0		15	44	
Jan 3	3			0	0	0		12	15	
Jan 4	-2			0	0	0		14	18	
Jan 5	3			0	0	0		19	30	
Jan 6	3			0	0	0		14	44	
Jan 7	0			0	0	0		27	84	
Jan 8	26			0	0	0		32	15	
Jan 9	7			0	0	0		36	30	
Jan 10	5			0	0	0		33	83	
Jan 11	1			0	0	0		29	54	
*Jan 12	0			0	0	0		16	44	
Jan 13	0			0	0	0		5	23	
Jan 14	6			1	0	0		20	52	
Jan 15	0			0	0	0		9	27	
Jan 16	0			0	0	0		19	47	
Jan 17	4			0	0	0		23	69	
Jan 18	4			0	0	0		18	25	
Jan 19	1			0	0	0		16	38	
Jan 20	2			0	0	0		1	51	
Jan 21	2			0	0	0		29	111	
Jan 22	1			0	0	0		4	29	
Jan 23	1			0	0	0		17	35	
Jan 24	1			0	0	0		-1	48	
Jan 25	0			0	0	0		11	111	
Jan 26	1			0	0	0		6	53	
Jan 27	0			0	0	0		7	6	
Jan 28	1			0	0	0		5	32	
Jan 29	0			0	0	0		11	18	
Jan 30	-1			0	0	0		7	13	
Jan 31	-1			0	0	0		5	11	
TOTAL	73			1	0	0		475	1311	
AVG	2			0	0	0		15	43	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	WILD STEELHEAD	STEELHEAD
SPRING	73	1	0	0	475	1,311

Video counts were made 24 hours per day.
January 1 through January 31, Bradford Island ladder out of service for maintenance.
***Jan 12 tape for Washington shore night counts missing.**

TABLE 25

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **Video counting @ Bonneville**

FEBRUARY 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
Feb 1	0			0				4	10	
Feb 2	2			0				6	1	
Feb 3	3			0				2	10	
Feb 4	0			0				4	4	
Feb 5	4			0				5	10	
Feb 6	2			0				9	23	
Feb 7	4			0				13	32	
Feb 8	5			0				17	60	
Feb 9	1			0				10	17	
Feb 10	10			0				5	31	
*Feb 11	0			0				6	16	
*Feb 12	0			0				-3	29	
*Feb 13	2			0				-5	20	
*Feb 14	3			0				-2	19	
*Feb 15	0			0				-4	31	
Feb 16	2			0				0	1	
*Feb 17	4			0				1	3	
Feb 18	6			0				1	15	
Feb 19	3			0				2	32	
Feb 20	9			0				12	43	
Feb 21	28			0				10	48	
Feb 22	44			0				29	114	
Feb 23	20			0				8	74	
Feb 24	1			0				3	79	
Feb 25	12			0				1	37	
Feb 26	17			0				1	40	
Feb 27	10			0				-1	-2	
Feb 28	15			0				3	36	
TOTAL	207			0				137	833	
AVG	7			0				5	30	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	WILD STEELHEAD	STEELHEAD
SPRING	280	1	612	2,144

Video counts were made 24 hours per day.
Feb 1 though Feb 3, Bradford Island ladder out of service for maintenance.
Feb. 11 through Feb 28, Washington ladder out of service for maintenance.
***Feb 11 - Feb 15 and Feb 17, Bradford Island night tape had recording difficulties.**

TABLE 26

U.S. ARMY ENGINEER DISTRICT, PORTLAND **Video Counts @ Bonneville**

MARCH 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
Mar 1	35			0				2	26	
Mar 2	9			0				-2	-4	
*Mar 3	0			0				-1	39	
[1]*Mar 4	16			0				-1	22	
[1]*Mar 5	9			0				3	59	
*Mar 6	13			0				4	14	
Mar 7	12			0				1	6	
Mar 8	17			0				4	32	
Mar 9	42			0				3	32	
Mar 10	89			0				3	36	
Mar 11	174			0				-5	71	
Mar 12	296			0				-35	23	
Mar 13	143			0				-2	58	
Mar 14	124			0				5	57	
Mar 15	61			0				11	12	
Mar 16	55			0				4	16	
Mar 17	68			0				-1	8	
Mar 18	77			0				4	20	
Mar 19	3			0				0	3	
Mar 20	85			0				0	46	
Mar 21	48			0				-1	12	
Mar 22	17			0				-2	15	
Mar 23	37			0				4	25	
Mar 24	52			0				0	27	
Mar 25	33			0				4	44	
Mar 26	75			0				2	31	
Mar 27	94			0				10	39	
Mar 28	239			0				16	29	
Mar 29	99			0				15	28	
Mar 30	106			0				17	13	
Mar 31	157			0				24	21	
TOTAL	2,285			0				86	860	
AVG	74			0				3	28	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	WILD STEELHEAD	STEELHEAD
SPRING	2,565	1	698	3,004

Video counts were 24 hours per day March 1 through 15 and 2000 hours until 0400 hours PST after the 15th.

[1]No Washington Shore Day counts on Mar 4 and Mar 5. Tape recording difficulties.

* Tape recording difficulties occurred with the Washington Shore night counts on Mar 3-6. Some missing data.

TABLE 27

U.S. ARMY ENGINEER DISTRICT, PORTLAND **Video Counts @ Bonneville**

APR 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
Apr 1	29			0				-2	0	
Apr 2	16			0				0	4	
Apr 3	28			0				1	6	
Apr 4	36			0				-1	3	
Apr 5	29			0				0	3	
Apr 6	15			0				0	2	
Apr 7	121			0				0	2	
Apr 8	136			0				0	5	
Apr 9	72			0				1	6	
Apr 10	96			0				-1	7	
Apr 11	81			0				0	-3	
Apr 12	41			0				-6	-4	
Apr 13	67			0				1	14	
Apr 14	74			0				2	16	
Apr 15	43			0				-2	-4	
Apr 16	27			0				0	-3	
Apr 17	18			0				0	-3	
Apr 18	118			0				0	-8	
Apr 19	35			0				0	-4	
Apr 20	164			0				-1	-1	
Apr 21	196			0				0	-1	
Apr 22	123			1				0	0	
Apr 23	128			4				-1	3	
Apr 24	519			9				0	-3	
Apr 25	1244			1				-1	-4	
*Apr 26	1424			-2				1	2	
Apr 27	630			1				1	2	
Apr 28	243			0				1	2	
Apr 29	474			-1				0	3	
Apr 30	841			5				-1	1	
TOTAL	7,068			18				-8	43	
AVG	236			1				0	1	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	WILD STEELHEAD	STEELHEAD
SPRING	9,633	19	690	3,047

Video counting took place between 2000 and 0400 hours PST.
***On April 26, Bradford Island tape stopped at 2:10:34.**

TABLE 28

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **Video Counts @ Bonneville**

MAY 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
May 1	636			9			0	0	1	
May 2	258			8			0	1	0	
May 3	461			7			0	2	3	
May 4	397			12			0	1	1	
May 5	443			13			0	2	3	
May 6	118			1			0	0	0	
May 7	41			1			0	0	-1	
May 8	155			2			0	0	1	
May 9	61			-4			0	0	-3	
May 10	246			4			0	1	2	
May 11	496			3			0	4	6	
May 12	329			12			0	4	8	
May 13	32			5			1	0	0	
May 14	31			0			1	2	1	
May 15	55			5			-1	0	5	
May 16	33			3			0	1	1	
May 17	23			2			0	-2	-1	
May 18	304			21			0	-1	2	
May 19	27			0			0	1	0	
May 20	11			1			0	-1	-1	
May 21	10			0			0	0	-1	
May 22	6			0			0	1	0	
May 23	6			1			0	0	1	
May 24	56			2			0	-1	-3	
May 25	126			3			0	5	9	
May 26	134			8			0	3	3	
May 27	94			15			0	3	1	
May 28	6			-2			0	0	3	
May 29	25			0			0	-3	0	
May 30	16			0			0	-1	4	
May 31	4			0			0	0	-1	
TOTAL	4,640			132			1	22	44	
AVG	150			4			0	1	1	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD
SPRING	14,273	151	1	712	3,091

Video counting took place between 2000 and 0400 hours PST.

TABLE 29

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **Video Counts @ Bonneville**

JUNE 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
Jun 1		46		1			13	6	0	
Jun 2		62		1			2	3	7	
Jun 3		29		0			0	2	3	
Jun 4		24		0			0	-1	-2	
Jun 5		31		0			0	2	6	
Jun 6		20		0			0	0	6	
Jun 7		27		2			0	4	7	
Jun 8		31		2			1	2	7	
Jun 9		30		0			0	11	16	
Jun 10		39		0			0	-3	5	
Jun 11		19		0			0	2	7	
Jun 12		40		-1			4	7	6	
Jun 13		19		0			8	0	7	
Jun 14		51		-1			4	-2	-1	
Jun 15		35		1			7	-1	-4	
Jun 16		36		0			11	2	11	
Jun 17		24		0			13	6	5	
Jun 18		30		0			27	-1	1	
Jun 19		49		0			18	5	1	
Jun 20		35		0			5	0	14	
Jun 21		19		0			37	6	13	
Jun 22		162		2			97	31	33	
Jun 23		150		10			76	25	46	
Jun 24		94		1			41	14	38	
Jun 25		58		2			66	25	50	
Jun 26		43		0			129	9	18	
Jun 27		44		-1			65	3	21	
Jun 28		6		2			56	5	11	
Jun 29		194		13			125	46	83	
Jun 30		208		12			152	61	95	
TOTAL		1,655		46			957	269	510	
AVG		55		2			32	9	17	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	14,273	151
SUMMER	1,655	46
TOTAL	15,928	197

SOCKEYE	WILD STEELHEAD	STEELHEAD
958	981	3,601

Video counting took place between 2000 and 0400 hours PST.

TABLE 30

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Video Counts @ Bonneville

JULY 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	[3]COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
Jul 1		69		9	0	0	74	6	45	
Jul 2		59		-1	0	0	84	5	29	
Jul 3		60		0	0	0	91	16	48	
Jul 4		24		-1	0	0	76	10	49	
Jul 5		188		4	0	0	42	13	26	
Jul 6		64		2	0	0	22	23	32	
Jul 7		60		1	0	0	17	17	53	
Jul 8		41		0	0	0	19	33	87	
Jul 9		52		-2	0	0	22	17	73	
Jul 10		32		0	0	0	32	7	40	
Jul 11		65		1	0	0	16	19	51	
Jul 12		41		1	0	0	17	9	29	
Jul 13		9		0	0	0	5	3	19	
Jul 14		16		0	0	0	5	11	31	
Jul 15		21		0	0	0	17	23	62	
Jul 16		29		1	0	0	17	23	79	
Jul 17		29		1	0	0	6	21	55	
Jul 18		17		0	0	0	11	37	108	
Jul 19		35		4	-5	0	9	46	112	
Jul 20		12		0	0	0	9	103	134	
Jul 21		20		1	0	0	13	87	105	
Jul 22		30		0	1	0	8	140	215	
Jul 23		7		0	2	1	6	34	97	
*Jul 24		30		-1	0	0	5	27	91	
Jul 25		20		2	0	0	9	28	131	
Jul 26		19		0	0	0	1	29	76	
Jul 27		15		0	-2	0	0	27	49	
Jul 28		4		0	5	0	0	4	11	
Jul 29		15		4	-3	0	0	14	39	
Jul 30		15		-1	0	0	0	40	108	
Jul 31		19		0	-2	0	0	35	104	
TOTAL		1,117		25	-4	1	633	907	2,188	
AVG		36		1	0	0	20	29	71	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	14273	151
SUMMER	2,772	71
TOTAL	17,045	222

COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD
-4	1	1,591	1,888	5,789

Video counting took place between 2000 and 0400 hours PST.
***No PM tape for Jul 24 Washington Shore.**

TABLE 31

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **Video Counts @ Bonneville**

AUGUST 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
Aug 1			19	0	-6	0	0	4	47	
Aug 2			7	0	0	1	0	4	12	
Aug 3			20	0	-4	0	-1	65	165	
Aug 4			16	2	-2	0	0	96	150	
Aug 5			19	2	-3	-1	0	76	103	
Aug 6			29	2	8	6	0	94	226	
Aug 7			61	2	-4	1	0	96	176	
Aug 8			21	0	-6	1	0	41	65	
Aug 9			16	0	-5	0	0	41	68	
Aug 10			52	1	1	0	0	170	308	
Aug 11			38	3	-1	0	0	154	299	
Aug 12			13	0	19	2	0	53	88	
Aug 13			38	0	59	1	0	76	153	
Aug 14			58	0	153	3	0	37	83	
Aug 15			26	2	71	0	0	68	96	
Aug 16			67	1	42	0	0	56	132	
Aug 17			30	-1	1	0	0	51	92	
Aug 18			38	3	-1	0	0	89	178	
Aug 19			37	1	4	1	0	30	84	
[1]Aug 20			36	2	23	8	0	53	84	
[1]Aug 21			4	0	-5	3	0	17	33	
Aug 22			57	0	-7	-1	0	28	42	
Aug 23			161	0	13	0	0	74	111	
Aug 24			226	6	3	2	0	125	317	
Aug 25			417	15	-7	2	0	256	613	
[2]Aug 26			286	9	0	1	0	105	289	
[2]Aug 27			143	5	1	0	0	48	120	
Aug 28			223	7	-9	0	0	-1	168	
Aug 29			375	2	14	1	0	-3	129	
Aug 30			416	2	-6	0	0	3	172	
Aug 31			169	33	-1	0	0	-3	114	
TOTAL			3,118	99	345	31	-1	2,003	4,717	
AVG			101	3	11	1	0	65	152	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD
SPRING	14273	151	341	32	1,590	3,891	10,506
SUMMER	2,772	71					
FALL	3,118	99					
TOTAL	20,163	321					

Video counting took place between 2000 and 0400 hours PST.

[1]Blank Tape 2100-2400 on Aug 20 Washington Shore.

Blank Tape 0000-0440 on Aug 21 Washington Shore.

[2]Damaged Tape 2100 - 2400 on Aug 26 Washington Shore. Damaged Tape 0000 - 0500 on Aug 27 Washington Shore.

TABLE 32

U.S. ARMY ENGINEER DISTRICT, PORTLAND **Video Counts @ Bonneville**

SEPTEMBER 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
Sep 1			255	3	7	0		62	138	
Sep 2			700	0	-10	2		143	295	
Sep 3			953	-1	29	-2		68	213	
Sep 4			972	1	44	-2		66	122	
Sep 5			914	8	54	3		103	164	
Sep 6			896	10	37	13		103	287	
Sep 7			1,196	6	176	10		271	580	
Sep 8			1,544	27	616	8		319	689	
Sep 9			819	19	418	13		327	697	
Sep 10			545	7	331	15		347	925	
Sep 11			454	12	270	19		114	298	
Sep 12			1,276	20	250	8		466	1169	
Sep 13			591	-3	362	23		282	912	
Sep 14			524	10	224	32		403	925	
Sep 15			389	5	127	15		295	800	
Sep 16			136	17	129	7		259	661	
Sep 17			330	4	68	11		285	594	
Sep 18			82	2	11	8		102	216	
Sep 19			257	5	-5	4		174	654	
Sep 20			97	14	64	4		209	663	
Sep 21			122	12	-7	8		169	356	
Sep 22			143	11	345	93		191	406	
Sep 23			88	16	9	7		161	333	
Sep 24			70	8	-1	4		129	233	
Sep 25			67	15	-52	3		64	228	
Sep 26			140	6	41	5		134	389	
Sep 27			129	21	52	8		247	529	
Sep 28			70	23	35	18		108	231	
Sep 29			85	10	99	2		137	286	
Sep 30			44	11	0	-1		117	174	
TOTAL			13,888	299	3,723	338		5,855	14,167	
AVG			463	10	124	11		195	472	

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	14273	151
SUMMER	2,772	71
FALL	17,006	398
TOTAL	34,051	620

COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD
4,064	370	1,590	9,746	24,673

Video counting took place between 2000 and 0400 hours PST.

TABLE 33

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **Video Counts @ Bonneville**

OCTOBER 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
Oct 1			59	10	32	7		95	142	
Oct 2			56	7	13	-3		78	202	
Oct 3			65	3	4	-1		107	204	
Oct 4			86	22	32	14		51	95	
Oct 5			89	5	20	6		71	123	
Oct 6			68	11	41	1		100	166	
Oct 7			73	5	199	18		70	114	
Oct 8			107	11	2	2		60	127	
Oct 9			166	0	11	2		42	62	
Oct 10			98	2	-6	2		51	83	
Oct 11			115	5	-12	0		40	90	
Oct 12			49	6	-11	1		47	57	
Oct 13			63	4	11	5		58	82	
Oct 14			117	5	60	7		52	72	
Oct 15			67	3	18	1		14	17	
Oct 16			34	2	-11	0		35	53	
Oct 17			70	6	-10	0		38	84	
Oct 18			45	0	7	-1		14	13	
Oct 19			16	0	-1	22		7	5	
Oct 20			59	1	2	0		27	61	
Oct 21			31	0	-9	0		13	16	
Oct 22			65	0	-8	0		20	16	
Oct 23			50	0	-13	0		15	16	
Oct 24			54	0	-10	0		13	30	
Oct 25			40	0	1	0		15	16	
Oct 26			32	0	-2	1		10	13	
Oct 27			25	-2	11	1		18	25	
Oct 28			16	1	7	0		8	18	
Oct 29			26	0	-5	0		9	9	
Oct 30			3	0	2	0		3	14	
*Oct 31			15	0	-8	0		0	12	
TOTAL			1,859	107	367	85		1,181	2,037	
AVG			60	3	12	3		38	66	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD
SPRING	14273	151	4,431	455	1,590	10,927	26,710
SUMMER	2,772	71					
FALL	18,865	505					
TOTAL	35,910	727					

Video counting took place between 2000 and 0400 hours PST.

***On Oct 31 Washington Shore, hours 2000-0000 are included with 11/01/02 counts because time stamp on video was incomplete.**

TABLE 34

U.S. ARMY ENGINEER DISTRICT, PORTLAND **Video Counts @ Bonneville**

NOVEMBER 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
[1]Nov 1			61	2	16	0		1	13	0
[2]Nov 2			63	1	63	7		3	35	0
Nov 3			67	0	38	4		8	48	0
Nov 4			54	1	50	6		5	47	0
Nov 5			46	0	10	-1		3	45	0
Nov 6			113	0	55	8		3	48	0
Nov 7			59	0	23	4		2	29	0
Nov 8			123	-4	-1	0		-3	22	0
Nov 9			69	3	0	1		6	47	0
Nov 10			135	1	-27	0		-6	29	0
Nov 11			148	1	4	0		9	80	0
Nov 12			113	4	-4	5		10	79	0
Nov 13			149	12	10	-10		27	87	0
Nov 14			273	2	6	0		57	133	0
Nov 15			235	5	8	3		17	72	0
Nov 16			421	3	124	4		129	257	2
Nov 17			432	0	74	1		82	208	2
[3]Nov 18			284	0	150	5		70	222	0
[4]Nov 19			37	1	-1	0		21	79	0
Nov 20			171	1	78	0		19	151	0
Nov 21			240	0	36	0		65	211	4
Nov 22			108	3	7	-1		21	102	7
Nov 23			91	0	28	-1		13	72	4
Nov 24			80	0	30	1		27	95	1
Nov 25			94	0	0	-1		27	49	2
Nov 26			49	1	18	0		33	89	4
Nov 27			116	1	-11	0		18	83	3
Nov 28			82	0	19	-5		82	152	10
Nov 29			43	3	7	1		30	79	6
Nov 30			88	0	24	0		46	75	11
TOTAL			4,044	41	834	31		825	2,738	56
AVG			135	1	28	1		28	91	2

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
SPRING	14,273	151	5,265	486	1,590	11,752	29,448	56
SUMMER	2,772	71						
FALL	22,909	546						

Video counting took place between 2000 and 0400 hours PST Nov 1 through Nov 15, and 24 hours per day Nov 16 through Nov 30.

[1]Day time tape recording difficulties at Washington Shore on Nov. 1. Counts are for 24 hour period.

:cording difficulties at Washington Shore on Nov. 2. Video date stamp was not readable. Some counts are combined with Nov. 1.

[3]The night video tape for Washington Shore was blank after 16:23 on Nov. 18.

[4]The day time video tape for Washington Shore was blank on Nov. 19. Washington night video was blank until 0800.

TABLE 35

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **Video Counts @ Bonneville**

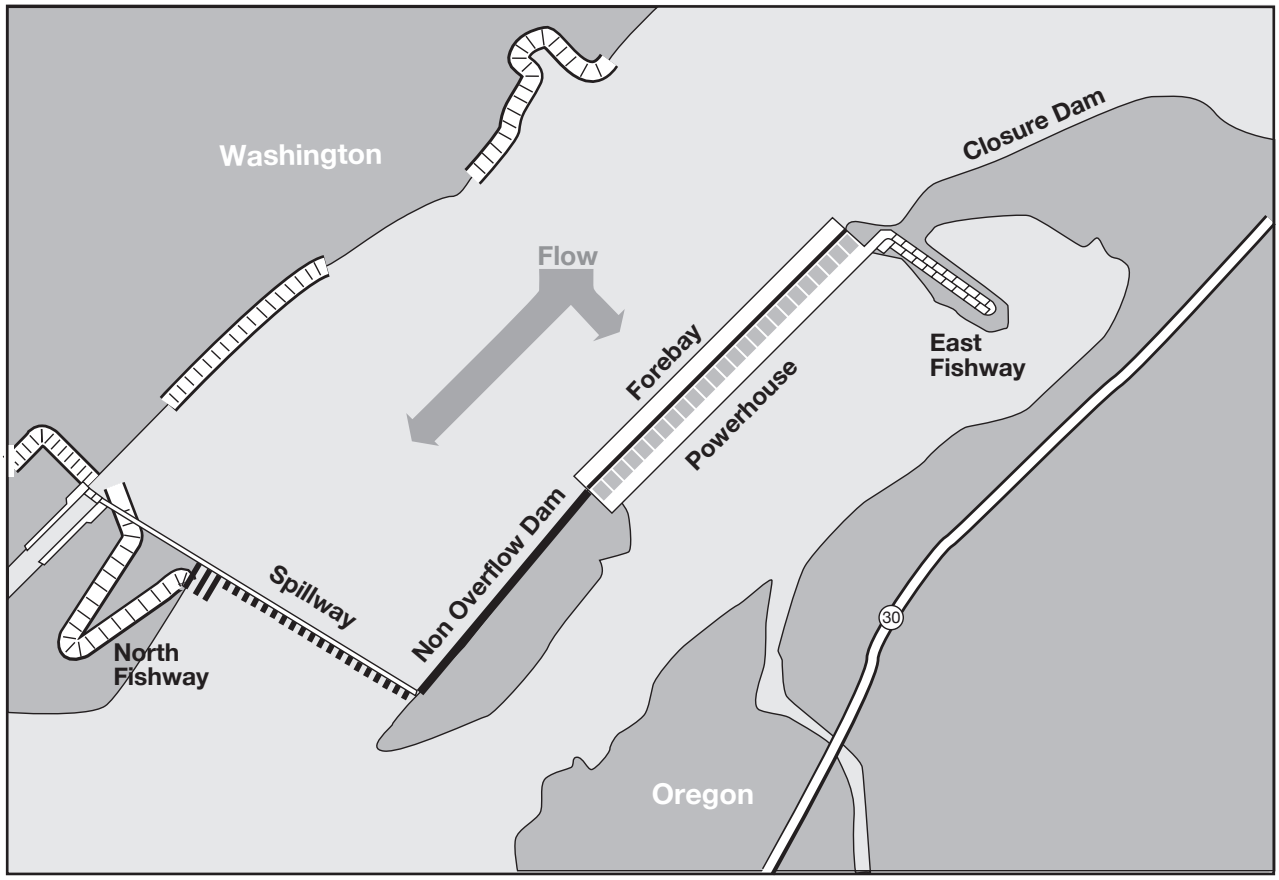
DECEMBER 2002

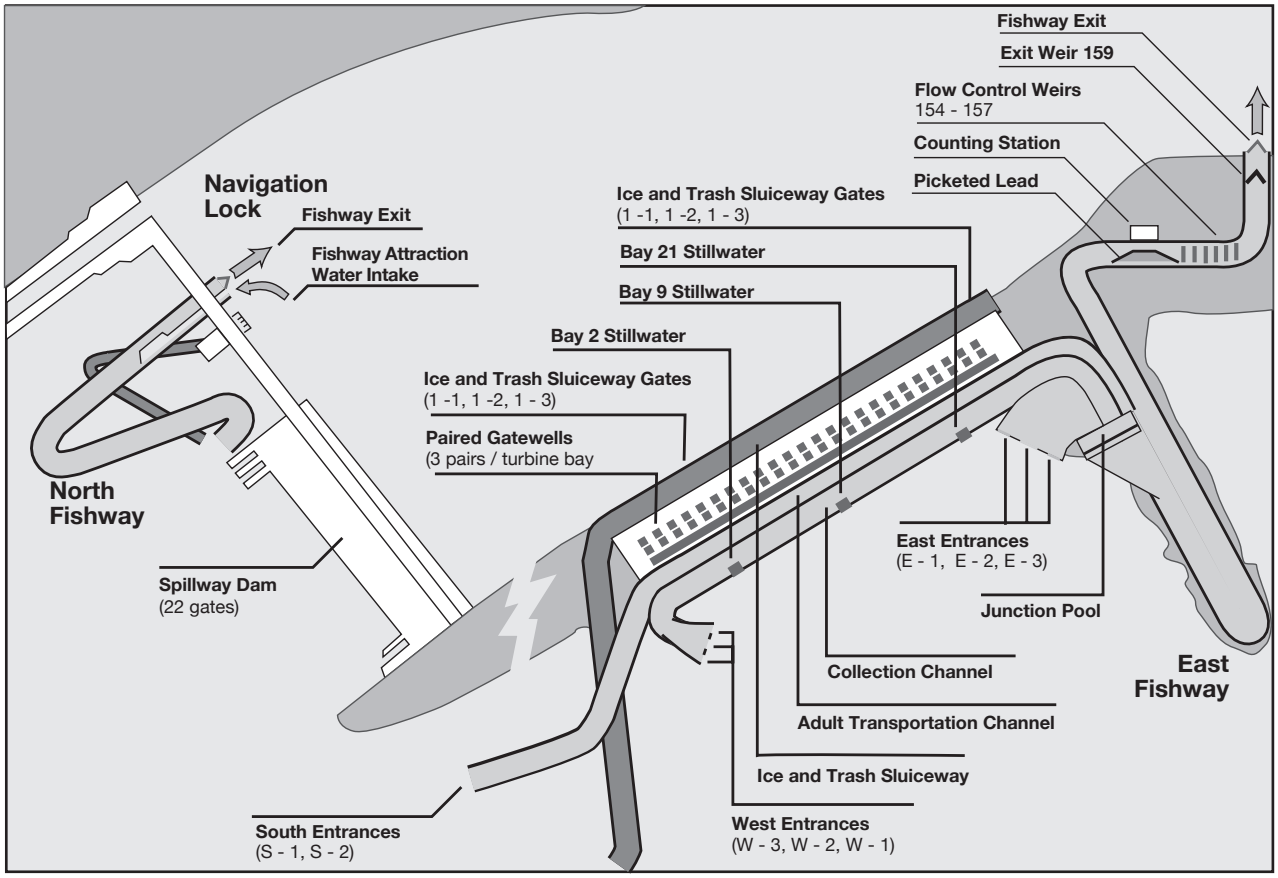
DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
Dec 1			33		16	-2		3	34	9
Dec 2			33		34	-1		5	74	2
Dec 3			9		7	0		8	43	0
Dec 4			15		1	0		9	35	0
Dec 5			19		11	0		-3	36	4
Dec 6			33		18	-1		-1	67	6
Dec 7			23		27	0		0	38	6
Dec 8			-3		11	0		2	35	4
Dec 9			9		12	0		4	42	2
Dec 10			21		1	0		0	0	4
Dec 11			13		-8	0		6	18	2
Dec 12			32		4	0		4	45	2
[1]Dec 13			7		6	0		0	-1	4
[2]Dec 14			-1		7	0		0	9	2
[2]Dec 15			7		21	3		6	65	4
[3]Dec 16			-2		10	0		9	17	0
Dec 17			1		3	-1		9	32	0
Dec 18			1		2	0		9	31	0
Dec 19			-1		2	0		9	21	0
Dec 20			0		0	0		10	43	0
Dec 21			1		0	0		3	11	0
Dec 22			3		0	1		2	23	0
Dec 23			-5		0	0		-1	33	0
Dec 24			1		0	0		4	46	0
Dec 25			0		0	0		0	18	0
Dec 26			2		0	0		1	14	0
Dec 27			0		0	0		-1	16	0
Dec 28			2		-1	0		1	18	0
Dec 29			0		0	0		7	16	0
Dec 30			1		0	0		2	10	0
Dec 31			1		0	0		1	34	0
TOTAL			255		184	-1		108	923	26
AVG			8		6	0		3	30	2

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
SPRING	14,273	151	5,449	485	1,590	11,860	30,371	82
SUMMER	2,772	71						
FALL	23,164	546						
TOTAL	40,209	768						

Video counts were made 24 hours per day.
On Dec. 3, Washington shore ladder was out of service for maintenance;
Cascades Island ladder in use Dec. 5 through Dec. 16. Dec. 5 video taping started at 11:52.
[1]Cascades Island tape stopped at 09:42 on Dec. 13.
[2]Tape recording difficulties at Cascades Island on Dec. 14 and 15.
[3]Cascades Island tape stopped at 08:35 on Dec. 16.

Plate 3 The Dalles Lock and Dam





THE DALLES DAM

FISH COUNTING SCHEDULE

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

ADULT FISHWAY OPERATING 2002 SCHEDULE

The following information includes fishway operation for calender year 2002. Total length of time for annual fishway outages can be determined by referring to previous years annual reports. "Out of service' indicates fish ladder dewatered and auxiliary water system off for routine annual maintenance. Dive inspection was conducted on 8/14/02, per Fish Passage Plan requirement, requiring a short period of fishway outage.

ADULT FISH FACILITY OPERATING SCHEDULE

East Fishway

Jan. 1 - Jan. 9	out of service.
Jan. 9 - Dec. 2	in service.
Dec. 2 - Dec. 31	out of service.

North Fishway

Jan. 1 - Jan. 22	in service.
Jan. 22 - Mar. 8	out of service.
Mar. 8 - Dec. 31	in service.

Ice / Trash Sluiceway (Juvenile)

Jan. 1 - Apr. 1	orifice flow.
Apr. 1 - Dec. 1	in service.
Dec. 1 - Dec. 23	orifice flow.
Dec. 23 - Dec. 31	closed.

Spillway (Juvenile)

Jan. 1 - Apr. 10	closed.
Apr. 10 - Aug. 31	24 hour spill for fish.
Aug. 31 - Dec. 31	closed.

2002 FISH RELATED DEWATERINGS

Fishway Dewatering Procedures

Bulkheads are installed and drain valves open to dewater various areas of fishways. Fisheries personnel enter these areas to salvage fish that become entrapped. Minimal handling of fish is applied. Fish that are reluctant to vacate an area are captured and transported to the forebay or tailwater, depending on circumstances such as fish species, age class and stress levels. A follow up inspection is made to account for possible missed fish. Efforts are made to provide continual water supply during the entire operation to reduce fish stranding. Fishway areas not included on this list are inspected by divers to insure equipment integrity.

Fishway Dewaterings

North fishway auxiliary water system (Jan. 15) – Three juvenile steelhead removed from juvenile sample tank and released to tailwater.
North fish ladder (Jan. 22) – One adult steelhead, 1 juvenile chinook, 10 juvenile steelhead and 4 lamprey removed and released to tailwater.
North fishway entrance (Jan. 24 - 28) – Two adult steelhead, 3 catfish, 3 bass and 3 juvenile steelhead removed and released to tailwater.
East fish ladder (Dec 2) - Pushed 20 carp, 6 shad and 1 sturgeon to tailwater. Removed adult steelhead, 2 lamprey, 1 juvenile steelhead and 12 carp and released to forebay..

Turbine Dewatering Procedures

Turbine dewatering for routine maintenance usually involves low numbers of fish, due to operational guidelines. If a turbine unit fails, operational guidelines cannot always be following, which usually results in higher numbers of fish entrapment. Removal of fish from these areas has a greater fish stress risk due to handling. Procedures are continually analyzed to determine the best method for preventing fish stress or loss. Fish are removed from scroll case and draft tubes by fish bags. If numbers of fish are higher than two bags, transport tanks are placed in the draft tube gallery for transport by crane. Fish are released to tailwater either with bag and rope or tank and crane.

Turbine Dewaterings

Main turbine unit 11 (Jan. 7) – Routine maintenance. No fish found in scroll case or draft tube.
Fish turbine unit F1 (Jan 24) - Routine maintenance. No fish found in scroll case or draft tube.
Main turbine unit 10 (Apr 6) – Routine maintenance. One juvenile steelhead found in scroll case. No fish found in draft tube.
Main turbine unit 13 (June 18) – Routine maintenance. No fish found in scroll case or draft tube.
Main turbine unit 18 (Aug 14) – Routine maintenance. No fish round in scroll case. Thirty catfish, 20 sturgeon and 4 lamprey found in draft tube. One sturgeon died on drain grating.
Main turbine unit 8 (Nov 26) – Turbine thrust bearing failure. No fish removed from scroll case. Six catfish and 550 sturgeon removed from draft tube. Three catfish and 48 sturgeon died on drain grating.
Fish turbine unit F1 (Dec 4) – Routine maintenance. No fish found in scroll case or draft tube.

Navigation Lock Dewatering Procedures

Navigation lock dewaterings for annual maintenance requires labor intensive fish removal efforts. It is impossible to remove fish from all areas of the navigation lock areas due to access limitations. Fish are removed are from the supply conduits and the floor diffuser laterals. Fish are then removed by seine and dipnet and transported to a release site by tank.

Navigation Lock Dewaterings

Navlock dewater for annual inspection/maintenance (Mar.2) - Upstream gate area, no fish found.

2002, 2001, 2000- FISHWAY INSPECTION COMPARISON

Adult fishway inspections are conducted three per day during the adult fish passage season (March 1 to November 31) and once per day during the non- passage season. Guidelines are provided by the COE Fish Passage Plan. Weekly fishway status reports are provided. Increased or continual problem areas indicated in red.

Fishway Inspection Results

	Percent out of Criteria		
Criteria Item	Year 2002	Year 2001	Year 2000
East Fishway			
Exit differential	0	NA	NA
Weir 158	3	0	0
Weirs 154 – 157	8	17	5
Count station differential	2	1	3
Weir crest depth	1	2	0
JP2 junction pool	20	0	4
JP4 junction pool	18	11	4
JP6 junction pool	21	9	4
E1 entrance depth	out of service	out of service	out of service
E2 entrance depth	4	2	6
E3 entrance depth	4	2	2
East entrance differential	12	7	3
W1 entrance depth	9	8	1
W2 entrance depth	8	7	0
W3 entrance depth	out of service	out of service	out of service
West entrance differential	18	12	5
S1 entrance depth	31	45	26
S2 entrance depth	2	22	23
South entrance differential	14	17	17
North Fishway			
Exit differential	0	1	8
Count station differential	0	0	0
Weir crest depth	0	0	0
N1 entrance depth	1	1	4
N2 entrance depth	out of service	0	out of service
North entrance differential	1	5	1
PUD intake differential	1	1	2
Ice/Trash Sluiceway			
Sluice gate operation	0	0	4
Spillway			
Spill Pattern	0	0	2

Discussion

Junction pool weirs were manual adjusted throughout the passage season. This resulted in a substantial decrease in criteria performance. Automation upgrades should correct this problem.

The east entrance differential showed a substantial increase in differential criteria problems, however this was usually from exceeding the 2' limit, rather than the usual shortage of differential. Automation upgrades should resolve this problem for 2003.

The west entrance continued to have intermittent automation problems, which resulted in decrease in criteria performance. New automation equipment is ordered and should be installed for the 2003 passage season.

The south entrance was the largest problem area, due to the entrance weir failures. S2 weir cables failed early spring. Maintenance was unable to remove weir from guide. S3 bulkheads were removed temporarily to hold differential in criteria. S2 bulkheads were installed to provide a fixed entrance depth. S3 was then closed and S1 was used to maintain criteria differential. New weirs and 2 part cable systems should be resolve this problem for the 2003 passage season. Surprisingly there was an overall improvement in south entrance criteria operation from 2001. This was largely due to the manual adjustments made during fishway inspections.

TABLE 36

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER THE DALLES DAM

2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				63,869	116,008	76,400	45,761	63,943	197,956	19,218			583,155
STEELHEAD				2,308	439	7,027	67,132	84,140	170,382	56,492			387,920
SOCKEYE					1	22,714	17,746	93					40,554
COHO*								275	8,286	4,225			12,786
CHUM													
PINK													
TOTAL				66,177	116,448	106,141	130,639	148,451	376,624	79,935			1,024,415
SHAD					420,389	2,646,320	150,914	427					3,218,050
LAMPREY						1,908	10,807	8,178	2,406	118			23,417

*Jacks included

TABLE 37

DISCHARGE AND WATER QUALITY DATA

THE DALLES PROJECT 2002

JANUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Jan 1	115.5	0.0	6.0	43.0
Jan 2	115.4	0.0	6.0	43.0
Jan 3	111.6	0.0	6.0	43.0
Jan 4	120.0	0.0	6.0	43.0
Jan 5	135.6	0.0	6.0	42.0
Jan 6	134.2	0.0	6.0	42.0
Jan 7	124.8	0.0	5.5	42.0
Jan 8	102.6	0.0	5.0	42.0
Jan 9	148.4	0.0	6.0	42.0
Jan 10	149.8	0.0	6.0	42.0
Jan 11	130.3	0.0	6.0	42.0
Jan 12	110.8	0.0	6.0	43.0
Jan 13	110.6	0.0	6.0	43.0
Jan 14	127.8	0.0	6.0	43.0
Jan 15	164.1	0.0	6.0	43.0
Jan 16	185.7	0.0	6.0	43.0
Jan 17	158.6	0.0	6.0	43.0
Jan 18	154.1	0.0	6.0	44.0
Jan 19	107.1	0.0	6.0	43.0
Jan 20	133.5	0.0	6.0	43.0
Jan 21	131.7	0.0	6.0	43.0
Jan 22	129.8	0.0	6.0	43.0
Jan 23	169.2	0.0	6.0	43.0
Jan 24	166.8	0.0	6.0	43.0
Jan 25	123.4	0.0	6.0	43.0
Jan 26	146.4	0.0	6.0	42.0
Jan 27	117.3	0.0	6.0	41.0
Jan 28	140.5	0.0	6.0	43.0
Jan 29	158.6	0.0	6.0	41.0
Jan 30	163.6	0.0	6.0	41.0
Jan 31	167.9	0.0	5.0	40.0
AVG.	137.3	0.0	5.9	42.5

FEBRUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Feb 1	169.3	0.0	6.0	41.0
Feb 2	143.1	0.0	6.0	41.0
Feb 3	121.2	0.0	6.0	41.0
Feb 4	157.8	0.0	6.0	41.0
Feb 5	149.5	0.0	6.0	41.0
Feb 6	155.2	0.0	5.0	40.0
Feb 7	158.1	0.0	5.0	40.0
Feb 8	158.7	0.0	4.5	40.0
Feb 9	165.7	0.0	5.0	40.0
Feb 10	122.0	0.0	6.0	40.0
Feb 11	141.3	0.0	6.0	41.0
Feb 12	161.4	0.0	6.0	41.0
Feb 13	140.7	0.0	6.0	41.0
Feb 14	177.3	0.0	6.0	41.0
Feb 15	153.9	0.0	6.0	41.0
Feb 16	121.0	0.0	6.0	41.0
Feb 17	111.0	0.0	6.0	40.0
Feb 18	126.3	0.0	6.0	40.0
Feb 19	129.4	0.0	4.5	41.0
Feb 20	145.6	0.0	5.0	41.0
Feb 21	138.6	0.0	5.5	41.0
Feb 22	127.1	0.0	5.0	41.0
Feb 23	102.2	0.2	6.0	42.0
Feb 24	117.9	0.0	6.0	42.0
Feb 25	149.0	0.0	5.0	41.0
Feb 26	161.4	0.0	4.5	41.0
Feb 27	144.9	0.0	5.0	41.0
Feb 28	154.2	0.0	5.0	41.0
AVG.	143.0	0.0	5.5	40.8

MARCH

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Mar 1	135.9	0.0	6.0	41.0
Mar 2	129.1	0.0	6.0	41.0
Mar 3	101.4	0.0	6.0	40.0
Mar 4	122.8	0.0	5.0	42.0
Mar 5	114.3	0.0	4.5	42.0
Mar 6	118.3	0.0	5.0	43.0
Mar 7	127.8	0.0	4.5	42.0
Mar 8	110.1	0.0	4.5	42.0
Mar 9	123.6	0.0	4.5	42.0
Mar 10	86.0	0.0	4.5	42.0
Mar 11	110.2	0.0	5.5	42.0
Mar 12	127.5	0.0	5.0	42.0
Mar 13	164.8	0.0	5.5	42.0
Mar 14	137.9	0.0	5.5	41.5
Mar 15	149.0	0.0	6.0	42.0
Mar 16	137.0	0.0	6.0	41.0
Mar 17	113.6	0.0	5.0	41.0
Mar 18	125.8	0.0	6.0	42.0
Mar 19	124.4	0.0	6.0	42.0
Mar 20	109.2	0.0	6.0	43.0
Mar 21	137.2	0.0	5.0	43.0
Mar 22	127.3	0.0	5.1	43.0
Mar 23	107.3	0.0	4.5	42.0
Mar 24	80.6	0.0	4.0	43.0
Mar 25	140.0	0.0	5.5	43.0
Mar 26	119.8	0.0	5.0	43.0
Mar 27	122.1	0.0	5.0	43.0
Mar 28	118.9	0.0	5.8	43.0
Mar 29	131.5	0.0	5.5	42.0
Mar 30	138.0	0.0	5.0	41.0
Mar 31	117.3	0.0	6.0	42.0
AVG.	122.9	0.0	5.3	42.0

TABLE 38

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

THE DALLES PROJECT
APRIL 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Apr 1	323			0				148	36			153.2	0.0	5.5	42.0
Apr 2	192			0				142	47			168.8	0.0	5.0	44.0
Apr 3	130			0				142	42			140.6	0.0	4.0	44.0
Apr 4	165			0				104	37			133.6	0.0	4.0	45.0
Apr 5	244			1				77	17			131.0	0.0	4.0	45.0
Apr 6	427			1				107	33			118.2	0.0	5.0	41.0
Apr 7	217			0				123	26			109.9	0.0	4.0	46.0
Apr 8	597			0				95	43			163.9	0.6	3.5	45.0
Apr 9	527			2				103	34			150.9	0.0	5.0	44.0
Apr 10	761			0				107	30			171.8	15.3	3.0	47.0
Apr 11	659			0				135	46			182.5	72.4	3.5	48.0
Apr 12	755			0				99	47			179.2	70.2	4.5	47.0
Apr 13	658			1				151	77			211.7	84.2	4.2	48.0
Apr 14	1,018			2				139	62			205.8	81.1	4.0	50.0
Apr 15	997			1				114	51			262.3	107.5	3.0	49.0
Apr 16	976			4				80	37			334.7	125.0	3.0	49.0
Apr 17	732			5				66	29			339.7	128.3	2.0	49.0
Apr 18	617			1				52	24			315.7	123.9	3.0	49.0
Apr 19	1,042			3				44	19			291.5	116.2	2.5	50.0
Apr 20	1,338			2				48	21			275.1	109.0	3.0	50.0
Apr 21	1,303			1				29	20			280.5	111.3	3.0	50.0
Apr 22	2,754			2				34	22			249.2	98.2	2.5	51.0
Apr 23	2,717			2				32	12			270.9	107.3	2.5	51.0
Apr 24	2,404			2				13	6			258.9	103.0	2.5	52.0
Apr 25	5,414			13				20	8			239.0	94.0	3.5	53.0
Apr 26	3,284			7				20	11			217.9	86.0	4.0	54.0
Apr 27	3,655			15				16	5			229.2	82.1	4.0	54.0
Apr 28	9,383			30				16	4			169.2	68.6	4.0	54.0
Apr 29	11,545			59				34	22			208.9	79.8	3.5	54.0
Apr 30	8,826			55				18	8			228.0	88.4	3.0	55.0
TOTAL	63,660			209				2,308	876						
AVG.	2,122			7				77	29			213.1	65.1	3.6	48.7

TABLE 39

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

THE DALLES PROJECT
MAY 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
May 1	8,157			48			0	19	11	0		210.0	81.8	3.0	54.0
May 2	13,241			81			0	12	6	0		196.3	77.0	4.5	55.0
May 3	8,474			91			0	25	9	0		246.0	91.2	4.0	54.0
May 4	6,105			87			0	16	6	0		229.1	89.7	3.0	55.0
May 5	7,132			121			0	7	3	0		213.8	84.5	3.2	55.0
May 6	7,071			133			0	14	7	0		215.9	84.8	4.0	51.0
May 7	3,931			106			0	11	5	0		234.7	93.8	4.0	56.0
May 8	3,704			108			0	6	2	0		252.3	97.3	4.5	50.0
May 9	2,755			63			0	1	1	7		209.0	79.0	4.5	56.0
May 10	3,814			173			0	5	2	2		187.8	70.8	4.0	56.0
May 11	2,612			89			0	12	11	10		206.9	81.2	4.0	57.0
May 12	4,933			196			0	12	3	15		174.5	68.7	4.0	57.0
May 13	6,846			199			0	13	5	17		206.0	80.2	4.5	57.0
May 14	3,598			183			0	11	2	14		201.4	79.3	4.0	57.0
May 15	2,538			182			0	17	9	10		211.2	82.0	5.5	53.0
May 16	2,350			166			0	16	3	34		186.6	73.7	3.5	57.0
May 17	1,927			92			0	5	2	120		224.7	85.5	4.5	58.0
May 18	1,665			96			0	5	-1	194		202.5	76.0	3.5	51.0
May 19	2,156			150			0	21	5	440		214.2	82.8	3.8	53.0
May 20	2,209			124			0	15	5	960		220.9	84.2	5.0	59.0
May 21	1,767			126			0	17	8	1,107		256.6	86.3	4.5	58.0
May 22	1,356			88			0	14	4	1,189		273.5	90.6	5.0	55.0
May 23	1,434			54			0	12	4	5,190		260.6	101.8	4.0	60.0
May 24	1,313			59			0	19	8	24,870		275.8	109.8	4.5	59.0
May 25	1,277			53			0	12	6	29,186		243.7	96.0	5.5	59.0
May 26	1,313			79			0	8	0	72,043		236.1	92.6	4.0	59.0
May 27	1,506			110			0	22	8	69,969		234.0	85.0	4.0	59.0
May 28	1,818			112			0	10	2	63,332		274.9	88.0	4.0	62.0
May 29	1,620			101			0	29	1	49,107		301.6	80.8	5.0	57.0
May 30	1,757			89			1	21	3	31,981		288.8	75.0	4.0	62.0
May 31	2,163			107			0	32	5	70,592		299.7	75.0	4.5	63.0
TOTAL	112,542			3,466			1	439	145	420,389					
AVG.	3630			112			0	14	5	13,561		231.9	84.7	4.2	56.6

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	176,202	3,675	1	2,747	1,021	420,389	0

TABLE 40

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

THE DALLES PROJECT
JUNE 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jun 1	1136			45			0	33	11	74,668	0	345.2	99.2	4.0	63.0
Jun 2	1766			75			0	29	8	85,369	4	313.2	165.4	4.0	58.0
Jun 3	2072			75			0	17	6	103,295	2	305.1	122.5	4.0	62.0
Jun 4		1336		48			0	32	9	68,094	5	333.7	128.3	3.5	59.0
Jun 5		1705		74			1	51	14	82,124	0	372.9	198.5	4.5	60.0
Jun 6		1798		56			2	36	4	91,542	4	374.4	179.2	3.0	59.0
Jun 7		2308		80			0	51	13	85,137	1	337.4	142.3	4.0	63.0
Jun 8		2130		79			7	44	12	81,549	0	364.9	145.0	4.0	60.0
Jun 9		2462		94			11	75	28	67,711	3	329.8	139.2	3.5	59.0
Jun 10		1849		70			19	79	19	98,135	2	288.6	108.8	3.5	59.0
Jun 11		1507		72			29	83	29	130,372	1	340.8	110.0	3.5	57.0
Jun 12		2225		67			48	67	27	116,306	9	289.5	99.8	4.0	59.0
Jun 13		2700		91			98	85	31	102,534	9	303.2	96.7	4.0	59.0
Jun 14		3777		143			196	132	40	115,896	38	268.3	85.8	4.0	59.0
Jun 15		2667		111			285	159	67	114,420	17	286.8	80.0	3.5	57.0
Jun 16		3665		110			399	176	72	154,686	24	249.3	83.8	3.5	56.0
Jun 17		1803		86			387	166	82	112,277	18	303.2	94.6	4.0	56.0
Jun 18		2858		90			553	196	91	76,795	33	301.0	101.9	3.5	56.0
Jun 19		1830		124			646	155	80	92,971	47	336.6	105.0	3.0	56.0
Jun 20		2860		171			780	224	86	93,733	63	355.8	110.8	3.0	56.0
Jun 21		2530		151			852	220	98	83,273	54	354.4	114.2	3.0	60.0
Jun 22		2345		116			1,151	320	143	87,227	122	312.3	110.0	3.5	60.0
Jun 23		3244		153			1,296	396	179	89,549	45	291.1	110.5	3.5	59.0
Jun 24		2353		125			1,195	444	190	71,427	78	322.7	115.7	3.5	58.0
Jun 25		2725		152			1,578	492	249	65,970	46	279.6	108.0	4.5	60.0
Jun 26		3041		157			2,223	523	263	80,165	202	278.0	75.1	3.5	60.0
Jun 27		4107		188			3,699	828	419	94,315	208	303.6	103.0	4.0	61.0
Jun 28		2976		160			2,465	704	377	63,233	274	327.6	133.7	3.2	57.0
Jun 29		2736		95			2,383	550	296	31,566	268	354.0	166.0	3.0	57.0
Jun 30		2725		106			2,411	660	364	31,981	331	292.0	98.5	3.8	57.0
TOTAL	4,974	68,262		3,164			22,714	7,027	3,307	2,646,320	1,908				
AVG.	1,658	2528		105			757	453	213	170,730	123	317.2	117.7	3.7	58.7

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	181,176	3,870
SUMMER	68,262	2,969
TOTAL	249,438	6,839

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
22,715	9,774	4,328	3,066,709	1,908

TABLE 41

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

THE DALLES PROJECT
JULY 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jul 1		2,387		124			1,920	699	338	4,751	156	316.4	173.0	3.5	60.0
Jul 2		2,299		96			1,479	922	440	37,862	65	315.6	125.6	4.5	60.0
Jul 3		2,401		92			1,286	721	415	19,311	136	303.3	117.3	4.0	62.0
Jul 4		1,806		96			1,347	887	478	16,458	174	311.6	100.0	3.5	61.0
Jul 5		2,022		134			1,875	1,015	514	8,244	134	259.7	101.1	4.0	62.0
Jul 6		1,985		118			1,756	1,155	600	9,476	149	259.7	98.9	4.0	62.0
Jul 7		2,336		108			1,672	1,335	705	9,891	304	234.6	86.3	4.2	63.0
Jul 8		2,165		140			1,159	1,343	625	7,783	209	226.0	86.3	3.5	62.0
Jul 9		1,717		99			750	1,262	566	5,272	217	212.5	81.3	4.0	63.0
Jul 10		1,758		100			487	1,531	818	5,479	273	206.9	80.2	4.5	63.0
Jul 11		1,403		82			627	1,700	820	4,654	506	232.9	85.0	4.0	66.0
Jul 12		1,951		108			527	2,141	1,086	2,608	428	250.9	89.4	4.0	60.0
Jul 13		1,663		94			560	2,508	1,324	4,672	410	247.3	97.1	4.0	58.0
Jul 14		2,101		125			576	2,932	1,359	4,136	482	237.0	94.3	4.0	58.0
Jul 15		1,569		98			401	3,325	1,631	4,242	270	243.9	98.8	5.0	68.0
Jul 16		1,145		84			282	3,609	1,644	2,007	404	187.6	72.2	5.5	59.0
Jul 17		823		58			181	2,586	1,189	500	332	249.8	97.3	5.5	59.0
Jul 18		1,008		71			149	2,687	1,233	503	442	240.7	95.2	4.0	59.0
Jul 19		1,333		80			125	3,172	1,561	398	324	216.7	86.2	4.5	69.0
Jul 20		1,035		79			120	2,544	1,079	618	366	211.6	79.7	4.2	68.0
Jul 21		1,107		49			106	3,118	1,467	503	294	222.3	87.2	4.0	67.0
Jul 22		744		47			76	2,461	1,113	241	339	233.5	93.1	3.8	67.0
Jul 23		507		62			48	2,484	1,124	468	536	191.4	76.3	4.5	71.0
Jul 24		791		54			35	2,196	916	239	453	199.9	79.6	4.5	70.0
Jul 25		818		88			40	2,478	1,050	237	801	182.6	71.9	5.0	70.0
Jul 26		1,035		57			34	2,687	1,030	104	616	150.6	59.4	5.0	70.0
Jul 27		1,042		53			36	3,197	1,322	84	352	154.0	57.8	4.0	70.0
Jul 28		577		44			18	2,781	978	37	458	143.0	51.0	4.4	70.0
Jul 29		383		46			32	3,045	1,126	48	464	178.1	66.5	3.8	69.0
Jul 30		710		50			25	2,394	916	48	368	184.0	69.5	5.0	72.0
Jul 31		544		60			17	2,217	774	40	345	162.1	62.4	5.0	70.0
TOTAL		43,165		2,596			17,746	67,132	30,241	150,914	10,807				
AVG		1,392		84			572	2,166	976	4,868	349	224.7	87.7	4.3	64.8

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	181,176	3,870
SUMMER	111,427	5,565
TOTAL	292,603	9,435

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
40,461	76,906	34,569	3,217,623	12,715

TABLE 42

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT

AUGUST 2002

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Aug 1		529		72	0	0	15	2,017	886	47	266	163.9	63.7	4.0	69.0
Aug 2		655		58	0	0	11	2,328	902	80	302	155.6	58.7	5.0	70.0
Aug 3		458		48	0	0	8	1,939	740	48	318	167.6	65.5	4.0	70.0
Aug 4			507	41	0	0	6	2,480	848	48	498	139.6	53.0	4.0	69.0
Aug 5			427	36	0	0	16	1,636	623	27	442	159.6	62.5	4.5	70.0
Aug 6			455	37	0	0	5	2,159	706	23	438	154.8	61.7	4.5	69.0
Aug 7			408	56	0	0	12	2,949	831	19	398	149.3	59.8	4.5	69.0
Aug 8			589	38	0	0	5	2,824	793	20	337	168.4	66.9	5.0	70.0
Aug 9			480	66	0	0	7	2,655	777	28	208	170.1	67.5	4.5	72.0
Aug 10			421	84	0	0	6	2,698	858	18	222	139.8	55.4	4.5	72.0
Aug 11			637	61	0	0	0	3,062	1,019	5	208	148.7	57.8	4.5	72.0
Aug 12			621	47	0	0	0	2,696	871	6	175	150.3	58.7	4.8	70.0
Aug 13			490	69	0	0	1	2,625	736	9	291	159.9	62.7	4.2	70.0
Aug 14			600	55	0	0	0	1,665	530	3	227	147.2	56.2	4.4	70.0
Aug 15			866	76	0	0	0	4,743	1,297	1	139	161.6	62.8	6.0	71.0
Aug 16			671	54	0	0	0	2,756	770	8	313	160.2	64.4	4.5	69.0
Aug 17			714	48	1	0	0	2,361	671	0	249	128.4	50.3	4.2	69.0
Aug 18			1,156	83	4	0	0	3,145	961	8	374	124.1	46.4	4.5	70.0
Aug 19			747	53	0	0	0	2,314	668	13	258	136.6	50.9	4.5	70.0
Aug 20			624	94	0	0	0	1,755	440	2	348	150.0	59.2	4.5	70.0
Aug 21			470	55	0	0	0	2,205	521	4	218	159.4	63.3	5.0	70.0
Aug 22			651	55	0	0	0	2,413	649	1	232	151.8	59.5	5.0	70.0
Aug 23			1,440	62	2	0	0	3,484	897	0	249	132.0	52.1	4.0	70.0
Aug 24			2,421	114	1	0	0	2,903	849	2	264	147.7	58.5	4.0	70.0
Aug 25			4,272	204	7	2	1	1,947	615	2	206	123.3	48.7	5.0	70.0
Aug 26			6,660	155	5	3	0	2,297	671	2	222	140.0	55.2	3.5	67.0
Aug 27			6,860	324	37	5	0	4,079	1,166	1	183	141.1	55.7	4.0	69.0
Aug 28			6,420	360	29	12	0	3,930	1,167	2	160	139.5	55.1	4.0	68.0
Aug 29			3,455	276	29	12	0	2,886	745	0	151	125.9	49.4	4.0	69.0
Aug 30			5,863	416	42	12	0	2,907	778	0	162	129.4	50.8	4.5	70.0
Aug 31			9,715	464	47	25	0	4,282	1,158	0	120	139.9	54.9	4.2	70.0
TOTAL		1,642	58,640	3,661	204	71	93	84,140	25,143	427	8,178				
AVG.		547	2,094	240	14	5	5	5,465	1,617	24	526	147.3	57.7	4.4	69.8

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	181,176	3,870
SUMMER	113,069	5,743
FALL	58,640	3,483
TOTAL	352,885	13,096

COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
204	71	40,554	161,046	59,712	3,218,050	20,893

TABLE 43

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

THE DALLES PROJECT
SEPTEMBER 2002

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Sep 1			8,860	416	129	28		8,465	2,254		120	113.2	0.0	3.6	69.0
Sep 2			7,037	382	104	57		5,440	1,514		55	102.2	0.0	4.5	69.0
Sep 3			4,206	467	68	39		4,269	1,126		111	100.1	0.0	5.0	70.0
Sep 4			5,586	551	66	47		2,839	915		99	123.2	0.0	6.0	69.0
Sep 5			6,048	498	22	37		3,075	763		68	107.6	0.0	6.0	70.0
Sep 6			8,068	702	66	41		3,494	908		108	113.2	0.0	5.5	70.0
Sep 7			8,109	837	79	95		3,960	1,049		147	90.7	0.0	5.5	69.0
Sep 8			10,180	926	168	110		6,968	1,914		119	74.5	0.0	6.0	69.0
Sep 9			9,622	914	226	70		6,204	1,593		54	84.9	0.0	6.0	69.0
Sep 10			11,450	831	341	105		6,759	1,466		61	110.8	0.0	6.0	69.0
Sep 11			10,803	935	323	86		6,465	1,634		115	111.2	0.0	5.5	68.0
Sep 12			8,788	946	325	139		4,570	1,118		227	80.0	0.0	4.5	67.0
Sep 13			9,565	960	297	170		4,185	957		162	79.6	0.0	5.5	68.0
Sep 14			6,196	1,184	241	153		3,324	862		202	108.8	0.0	5.0	68.0
Sep 15			5,673	1,523	264	188		5,256	1,244		108	84.1	0.0	5.0	68.0
Sep 16			7,650	1,644	378	172		7,054	1,622		117	70.7	0.0	5.0	68.0
Sep 17			3,417	738	198	108		4,611	1,130		78	102.7	0.0	5.0	68.0
Sep 18			4,701	825	198	87		6,594	1,651		34	108.2	0.0	5.0	68.0
Sep 19			4,603	1,030	209	108		8,212	1,998		42	108.7	0.0	5.0	67.0
Sep 20			3,718	1,199	261	91		9,700	2,490		66	119.7	0.0	5.0	68.0
Sep 21			4,031	937	249	123		10,158	2,581		22	110.9	0.0	5.0	68.0
Sep 22			3,954	864	215	69		8,234	1,948		31	101.9	0.0	5.0	68.0
Sep 23			4,263	922	204	83		7,229	1,551		18	135.4	0.0	5.8	68.0
Sep 24			3,049	1,024	252	82		5,696	1,231		39	105.8	0.0	5.6	66.0
Sep 25			2,380	862	156	74		3,885	881		32	121.0	0.0	5.5	68.0
Sep 26			1,995	604	100	51		3,494	804		44	123.5	0.0	5.5	68.0
Sep 27			2,225	678	109	36		4,864	1,012		44	124.8	0.0	4.5	59.0
Sep 28			2,482	780	132	47		4,655	1,008		18	79.5	0.0	4.0	67.0
Sep 29			2,149	646	146	33		5,105	1,022		30	71.8	0.0	4.0	66.0
Sep 30			1,747	576	200	31		5,618	1,332		35	*	*	5.5	66.0
TOTAL			172,555	25,401	5,726	2,560		170,382	41,578		2,406				
AVG.			5,752	847	191	85		5,679	1,386		80	102.4	0.0	5.2	67.8

*Data unavailable

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	181,176	3,870	5,930	2,631	40,554	331,428	101,290	3,218,050	23,299
SUMMER	113,069	5,743							
FALL	231,195	28,884							
TOTAL	525,440	38,497							

TABLE 44

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

THE DALLES PROJECT
OCTOBER 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Oct 1			1,480	303	151	47		5,198	1,296		24	88.3	0.0	5.5	66.0
Oct 2			1,275	441	133	28		4,766	1,267		12	91.5	0.0	5.5	66.0
Oct 3			1,119	432	131	31		3,468	850		18	99.7	0.0	6.0	66.0
Oct 4			914	336	142	23		3,500	884		12	123.4	0.0	6.0	66.0
Oct 5			1,067	322	198	24		4,159	1,113		7	75.8	0.0	5.8	65.0
Oct 6			947	288	305	14		3,669	987		0	85.5	0.0	5.8	64.0
Oct 7			603	238	206	31		2,961	717		9	105.6	0.0	5.0	63.0
Oct 8			629	170	136	6		3,031	875		7	84.7	0.0	6.0	65.0
Oct 9			532	175	106	12		2,853	768		6	135.5	0.0	5.5	65.0
Oct 10			381	119	123	21		2,065	540		6	127.8	0.0	6.0	65.0
Oct 11			433	155	156	12		1,838	470		5	123.5	0.0	6.0	64.0
Oct 12			461	187	207	20		1,536	412		2	98.6	0.0	6.0	63.0
Oct 13			461	198	267	12		1,736	478		1	81.6	0.0	6.0	64.0
Oct 14			397	108	139	14		1,300	353		0	102.0	0.0	6.0	64.0
Oct 15			305	114	148	5		1,148	337		3	114.4	0.0	6.0	63.0
Oct 16			306	104	104	4		1,094	306		0	90.8	0.0	6.0	63.0
Oct 17			284	123	90	9		1,085	273		0	99.2	0.0	6.0	63.0
Oct 18			325	115	81	4		1,182	336		1	95.8	0.0	5.5	63.0
Oct 19			317	81	173	13		1,307	367		0	73.0	0.0	5.8	62.0
Oct 20			347	76	131	7		1,154	363		5	71.5	0.0	5.8	62.0
Oct 21			169	55	59	5		855	263		0	101.7	3.6	5.0	64.0
Oct 22			301	54	92	8		948	310		0	91.3	2.0	5.0	62.0
Oct 23			234	52	52	6		966	282		0	111.7	2.2	5.0	63.0
Oct 24			242	37	68	6		862	246		0	100.2	1.8	5.0	61.0
Oct 25			221	39	60	1		694	217		0	118.7	9.9	6.0	62.0
Oct 26			168	37	66	2		452	141		0	116.1	10.5	6.0	62.0
Oct 27			166	31	70	8		497	145		0	101.6	0.0	6.0	60.0
Oct 28			112	24	47	4		406	125		0	112.7	9.2	6.0	62.0
Oct 29			123	20	108	8		563	168		0	114.2	1.8	5.5	62.0
Oct 30			197	20	52	3		493	170		0	127.2	1.9	6.0	61.0
Oct 31			217	31	34	2		706	216		0	135.2	2.5	5.5	61.0
TOTAL			14,733	4,485	3,835	390		56,492	15,275		118				
AVG.			475	145	124	13		1,822	493		4	103.2	1.5	5.7	63.3

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	PINK	CHUM
SPRING	181,176	3,870	9,765	3,021	40,554	387,920	116,565	3,218,050	23,417	0	0
SUMMER	113,069	5,743									
FALL	245,928	33,369									
TOTAL	540,173	42,982									

TABLE 45

DISCHARGE AND WATER QUALITY DATA
THE DALLES PROJECT 2002

NOVEMBER

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCH	TURBIDITY DEG F
Nov 1	139.3	3.0	6.0	56.0
Nov 2	143.6	12.5	6.0	55.0
Nov 3	108.2	6.1	6.0	54.0
Nov 4	126.3	0.0	6.0	54.0
Nov 5	109.2	0.0	6.0	53.0
Nov 6	117.2	0.0	6.0	53.0
Nov 7	120.7	0.0	5.5	53.0
Nov 8	125.2	0.0	5.5	52.0
Nov 9	110.6	0.0	5.0	52.0
Nov 10	115.3	0.0	6.0	52.0
Nov 11	128.7	0.0	6.0	52.0
Nov 12	130.4	0.0	6.0	52.0
Nov 13	126.9	0.0	6.0	52.0
Nov 14	103.5	0.0	6.0	51.0
Nov 15	134.7	0.0	6.0	51.0
Nov 16	106.1	0.0	6.0	52.0
Nov 17	116.8	0.0	6.0	52.0
Nov 18	143.0	0.0	6.0	51.0
Nov 19	114.5	0.0	6.0	51.0
Nov 20	120.9	0.0	6.0	51.0
Nov 21	118.3	0.0	6.0	51.0
Nov 22	130.1	0.0	6.0	52.0
Nov 23	124.5	0.0	4.5	51.0
Nov 24	118.2	0.0	5.5	50.0
Nov 25	126.3	0.0	5.5	51.0
Nov 26	143.4	0.0	6.0	51.0
Nov 27	142.7	0.0	5.5	51.0
Nov 28	125.1	0.0	5.0	51.0
Nov 29	117.9	0.0	6.0	50.0
Nov 30	130.6	0.0	6.0	50.0
AVG.	123.9	0.7	5.8	51.9

DECEMBER

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Dec 1	129.6	0	6	50
Dec 2	121.1	0	6	49
Dec 3	141.5	0	6	49
Dec 4	109.7	0	6	49
Dec 5	133.4	0	6	49
Dec 6	131.9	0	5.5	48
Dec 7	122.8	0	6	50
Dec 8	119.5	0	5.5	49
Dec 9	124.9	0	6	47
Dec 10	133.8	0	6	47
Dec 11	121.2	0	6	47
Dec 12	118.8	0	6	47
Dec 13	114.9	0	6	47
Dec 14	111.5	0	6	46
Dec 15	99.5	0	6	46
Dec 16	114.5	0	6	46.5
Dec 17	105.8	0	6	47
Dec 18	129.8	0	6	47
Dec 19	142.5	0	6	46
Dec 20	114.1	0	6	45
Dec 21	114	0	5	45
Dec 22	99.7	0	6	45
Dec 23	121.5	0	6	45
Dec 24	118.6	0	6	45
Dec 25	103.8	0	6	46
Dec 26	118.3	0	6	45
Dec 27	115.7	0	6	45
Dec 28	108.2	0	6	45
Dec 29	114	0	6	45
Dec 30	104	0	6	45
Dec 31	101.3	0	6	44
AVG.	118.1	0.0	5.9	46.7

TABLE 46

YEARLY TOTALS OF SALMONIDS COUNTED OVER THE DALLES DAM
1957 - 2002

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	CHUM	PINK	TOTALS
1957	312,678	129,361	90,201	6,793	75	4	539,112
1958	301,960	121,420	111,039	2,395	31	5	536,850
1959	207,461	156,090	86,259	2,709	25	9	452,553
1960	196,962	111,189	59,441	3,000	35	5	370,632
1961	201,335	134,572	16,689	2,139		4	354,739
1962	187,132	163,301	27,127	3,696		5	381,261
1963	180,969	118,957	56,931	3,716	23	3	360,599
1964	183,842	110,033	79,042	5,978		5	378,900
1965	195,049	141,052	44,279	17,468	1	3	397,852
1966	240,671	146,172	147,886	32,279		1	567,009
1967	280,112	121,614	120,589	32,015	1	4	554,335
1968	262,975	147,481	116,897	42,687		1	570,041
1969	314,258	112,529	37,226	17,054		1	481,068
1970	261,457	99,187	77,678	23,219		4	461,545
1971	250,528	151,348	76,103	29,061		3	507,043
1972	268,628	135,303	44,671	16,562			465,164
1973	280,945	100,082	52,303	11,152		1	444,483
1974	217,181	70,875	28,827	14,655			331,538
1975	217,283	57,675	43,198	13,976			332,132
1976	216,163	82,568	27,747	19,392			345,870
1977	224,950	133,882	86,252	10,021			455,105
1978	199,228	60,485	11,845	18,877			290,435
1979	150,647	83,364	32,791	8,726		4	275,532
1980	113,951	93,963	42,088	6,326			256,328
1981	135,176	113,268	35,447	6,941		1	290,833
1982	172,682	117,434	33,331	7,383			330,830
1983	156,190	171,055	84,204	3,459	1		414,909
1984	203,920	219,123	101,177	3,142		1	527,363
1985	370,982	276,025	117,254	4,625		5	768,891
1986	443,013	281,953	48,477	4,842	3	4	778,292
1987	421,190	217,768	87,599	3,310	1	2	729,870
1988	378,080	198,499	55,802	9,226			641,607
1989	282,168	235,639	39,672	12,611			570,090
1990	207,556	129,271	40,230	4,645			381,702
1991	153,023	199,853	63,405	9,601		103	425,985
1992	168,507	232,179	66,384	3,825		3	470,898
1993	184,953	124,829	62,252	4,360			376,394
1994	161,758	112,253	9,356	4,376			287,743
1995	141,793	145,844	7,166	3,269			298,072
1996	167,911	162,456	25,055	4,583			360,005
1997	223,801	164,756	32,430	4,729			425,716
1998	154,132	116,682	8,826	8,970			288,610
1999	199,491	156,874	13,715	15,041		19	385,140
2000	316,836	205,241	73,383	29,536		1	624,997
2001	629,334	503,327	102,562	64,557			1,299,780
2002	583,155	387,920	40,554	12,786			1,024,415
Totals	11,322,016	7,254,752	2,665,390	569,713	196	201	21,812,268
10-Year Average	276,316	208,018	37,530	15,221			537,087

*Jacks included

TABLE 47

MONTHLY COUNT OF CHINOOK SALMON
THE DALLES DAM 1957 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING 1 JAN-3 JUN	SUMMER 4 JUN-3 AUG	FALL 4 AUG-31 DEC	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				36,035	39,173	15,785	10,332	37,806	203,470	27,058	1,323		370,982	76,514	25,385	269,083	145,007
1986			175	48,892	36,928	14,175	10,452	22,684	264,091	45,616			443,013	87,004	24,826	331,183	176,461
1987				48,812	27,586	17,923	12,145	50,680	236,216	27,828			421,190	77,453	30,804	312,933	65,115
1988				51,680	20,756	16,644	13,494	66,509	193,490	15,507			378,080	73,663	29,892	274,525	69,631
1989				24,474	27,477	15,539	13,899	58,674	130,931	10,438	736		282,168	53,014	30,555	198,599	28,671
1990			115	36,062	20,749	13,390	9,099	22,152	96,538	9,451			207,556	57,424	22,615	127,517	32,794
1991				14,513	17,313	10,949	7,638	8,384	84,861	9,365			153,023	32,359	18,467	102,197	36,820
1992				38,141	19,414	9,595	5,797	14,589	71,281	9,690			168,507	58,451	14,976	95,080	27,160
1993				42,391	25,824	14,165	6,481	19,297	71,395	5,400			184,953	69,356	20,063	95,534	12,298
1994				6,573	4,938	7,376	8,360	22,910	98,997	12,604			161,758	11,798	15,997	133,963	25,470
1995				3,008	4,244	6,176	7,111	23,094	82,723	15,437			141,793	7,553	13,558	120,682	32,813
1996				5,631	20,896	8,018	6,718	26,505	90,762	9,381			167,911	27,127	14,488	126,296	5,851
1997				25,639	42,467	14,718	8,011	23,666	100,652	8,648			223,801	69,740	21,134	132,704	16,249
1998				14,927	10,488	10,289	6,702	20,129	78,191	13,406			154,132	25,743	16,906	111,483	20,513
1999				5,396	17,579	10,972	13,864	30,830	107,411	13,439			199,491	23,743	24,937	150,811	28,412
2000				68,618	47,131	20,878	15,442	57,600	97,042	10,125			316,836	117,749	35,580	163,507	63,769
2001				228,568	79,627	50,030	35,889	38,452	172,871	23,897			629,334	313,865	80,249	233,081	72,644
2002				63,869	116,008	76,400	45,761	63,943	197,956	19,218			583,155	185,046	118,812	279,297	42,982
Total			2,197	1,695,176	1,486,806	1,014,752	918,805	1,157,269	4,555,520	488,237	3,254		11,322,016	3,246,041	1,933,995	6,139,618	2,432,895
10-Year Average				46,462	36,920	21,902	15,434	32,643	109,800	13,156			276,316	85,172	36,172	154,736	32,100

***Jacks included**

TABLE 48

MONTHLY COUNT OF SOCKEYE SALMON
THE DALLES DAM 1957 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1957					125	33,476	54,294	2,081	221	4			90,201
1958					29	28,854	80,324	1,583	248	1			111,039
1959					413	7,176	76,347	2,245	77	1			86,259
1960					2	36,907	22,228	297	7				59,441
1961					66	5,863	10,629	116	15				16,689
1962					55	8,333	18,545	180	14				27,127
1963					199	17,914	38,633	185					56,931
1964					23	9,984	68,205	758	72				79,042
1965					184	11,023	31,622	1,438	12				44,279
1966					65	36,539	109,167	2,106	9				147,886
1967					114	15,713	103,862	892	8				120,589
1968					5	77,878	38,542	462	10				116,897
1969					22	15,165	21,933	102	3	1			37,226
1970					1	18,309	56,903	2,387	75	3			77,678
1971						8,887	66,841	369	6				76,103
1972						9,276	34,924	466	5				44,671
1973					8	19,510	32,674	105	6				52,303
1974					4	3,935	24,790	98					28,827
1975						7,679	35,291	225	2	1			43,198
1976					1	10,988	16,637	121					27,747
1977					5	60,049	26,146	52					86,252
1978					24	7,158	4,559	104					11,845
1979						14,750	17,734	307					32,791
1980						11,096	30,046	927	19				42,088
1981						17,692	17,686	68	1				35,447
1982						11,430	21,742	144	15				33,331
1983					1	34,684	49,302	197	19	1			84,204
1984						62,500	37,926	745	6				101,177
1985				1	17	75,603	41,107	521	4		1		117,254
1986					12	17,224	30,686	550	4	1			48,477
1987					1	48,798	38,443	348	8	1			87,599
1988					5	30,443	25,096	208	50				55,802
1989					1	22,196	17,321	152	2				39,672
1990						17,603	22,406	218	3				40,230
1991					1	14,106	48,824	443	27	4			63,405
1992					16	38,319	27,812	232	4	1			66,384
1993					2	36,517	25,584	146	3				62,252
1994						6,752	2,594	8	2				9,356
1995					1	4,195	2,890	61	15	4			7,166
1996						17,013	7,983	44	15				25,055
1997					4	11,707	20,292	395	29	3			32,430
1998						4,777	3,978	65	6				8,826
1999						5,210	8,445	57	3				13,715
2000					69	61,980	11,242	88	4				73,383
2001					12	85,939	16,527	82	2				102,562
2002					1	22,714	17,746	93					40,554
Total				1	1,488	1,123,864	1,516,508	22,471	1,031	26	1		2,665,390
10-Year Average					15	26,829	13,190	116	8				40,153

TABLE 49

MONTHLY COUNT OF COHO SALMON
THE DALLES DAM; 1957-2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	JACKS
1957							220	605	5,615	342	11		6,793	
1958								96	2,132	161	6		2,395	
1959								46	2,428	234	1		2,709	
1960								475	2,288	227	10		3,000	
1961							4	5	1,898	232			2,139	
1962							5	258	3,194	239			3,696	
1963							2	361	2,931	422			3,716	
1964								506	4,723	749			5,978	
1965							7	200	13,064	4,197			17,468	
1966							225	3,850	25,476	2,728			32,279	
1967							192	494	27,860	3,469			32,015	20,456
1968							372	3,319	36,568	2,346	82		42,687	13,035
1969							412	970	13,179	2,493			17,054	11,218
1970							96	2,064	19,983	1,076			23,219	11,327
1971							1	1,589	26,066	1,405			29,061	11,174
1972							3	1,090	14,564	905			16,562	10,272
1973								793	9,443	916			11,152	5,256
1974								522	10,715	3,418			14,655	9,054
1975								465	10,356	3,155			13,976	8,534
1976								608	14,609	4,175			19,392	13,083
1977							1	91	8,131	1,798			10,021	6,096
1978								355	13,069	5,453			18,877	13,533
1979								211	7,109	1,367	39		8,726	4,836
1980								287	5,064	975			6,326	2,970
1981								295	6,061	585			6,941	4,405
1982								336	5,792	1,255			7,383	3,047
1983								65	2,343	1,051			3,459	2,256
1984								24	2,521	597			3,142	1,282
1985							4	208	3,537	828	48		4,625	1,555
1986							2	1	3,772	1,067			4,842	1,458
1987							12	91	2,409	798			3,310	1,953
1988								232	7,082	1,912			9,226	2,701
1989								283	9,027	3,173	128		12,611	4,781
1990								60	3,229	1,356			4,645	2,340
1991								30	7,714	1,857			9,601	1,053
1992								11	3,119	695			3,825	1,239
1993								18	3,256	1,086			4,360	3,416
1994							1	121	2,922	1,332			4,376	590
1995							6	204	2,013	1,046			3,269	483
1996							3	73	3,795	712			4,583	967
1997								35	3,649	1,045			4,729	662
1998								7	3,520	5,443			8,970	774
1999								37	11,456	3,548			15,041	1,226
2000								2,248	20,526	6,762			29,536	4,570
2001								1,351	36,099	27,107			64,557	2,179
2002								275	8,286	4,225			12,786	3,021
Total							1,568	25,265	432,593	109,962	325		569,713	186,802
10-Year Average								398	8,967	4,818			14,185	1,739

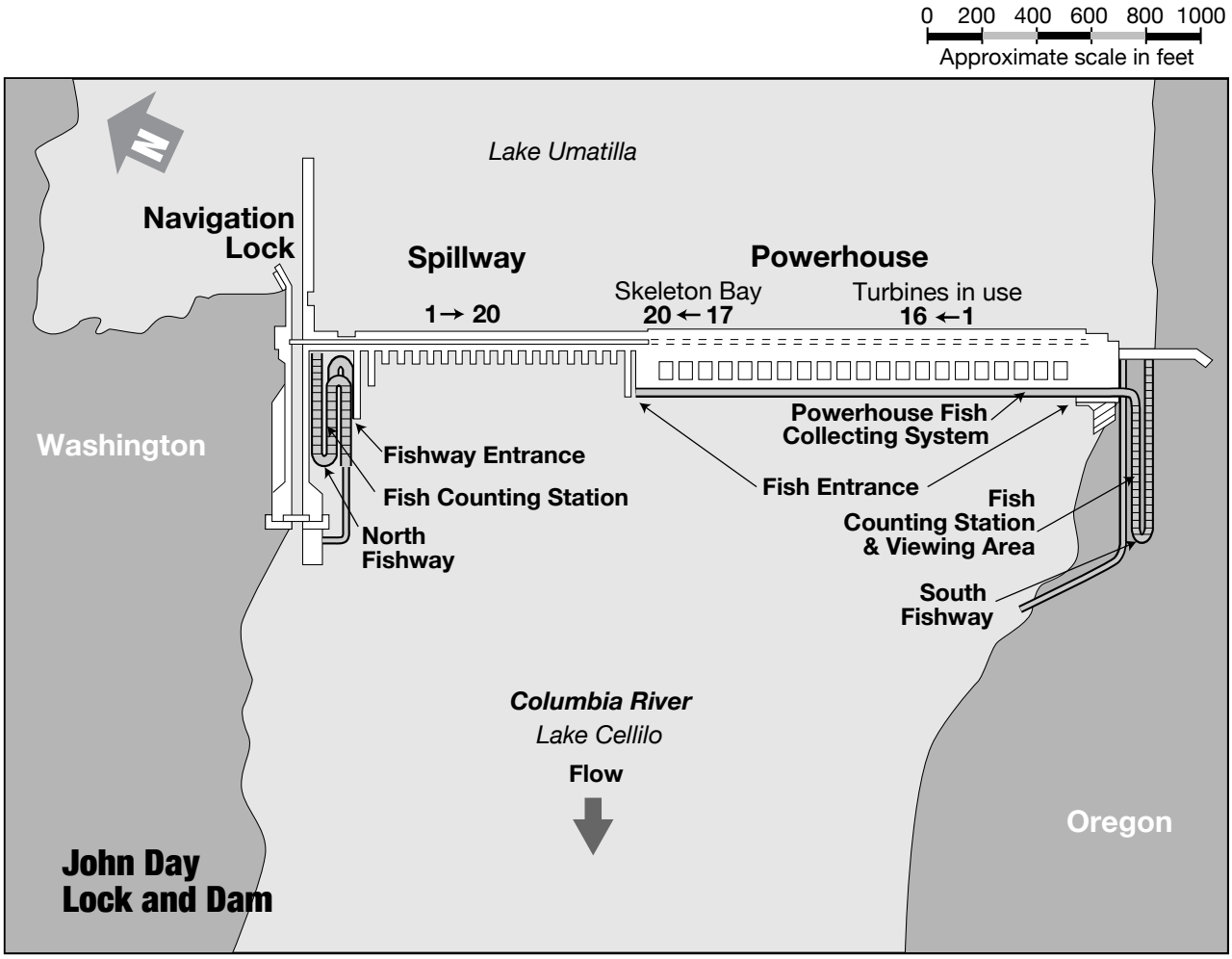
*Includes Jacks

TABLE 50

MONTHLY COUNT OF STEELHEAD
THE DALLES DAM 1957 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1957			1,603	951	977	4,782	45,445	33,319	35,396	6,545	343		129,361
1958			122	274	1,898	4,906	20,384	11,442	75,036	6,846	512		121,420
1959			1	541	502	2,227	46,271	60,841	41,026	4,502	179		156,090
1960				289	557	2,591	28,218	32,667	42,447	4,021	399		111,189
1961				305	307	1,396	21,906	17,850	87,344	5,464			134,572
1962				528	252	1,068	36,609	31,507	87,463	5,874			163,301
1963				153	451	1,361	30,485	25,360	48,066	13,081			118,957
1964			50	369	127	493	36,773	31,742	38,197	2,282			110,033
1965			36	502	484	896	60,522	21,132	53,389	4,091			141,052
1966		25	788	933	600	3,816	52,975	26,382	53,721	6,932			146,172
1967				258	183	435	27,914	22,746	56,082	13,996			121,614
1968			23	691	344	973	20,974	58,866	57,666	7,456	488		147,481
1969			54	953	414	1,442	33,952	22,963	44,146	8,605			112,529
1970				337	172	733	15,905	32,752	44,823	4,465			99,187
1971				408	233	821	40,712	31,812	69,602	7,760			151,348
1972				463	159	604	35,569	30,631	63,748	4,129			135,303
1973				723	326	1,981	29,067	25,437	38,017	4,531			100,082
1974				529	1,362	1,859	24,779	21,835	15,059	5,452			70,875
1975				1,018	1,334	1,973	18,046	20,531	11,519	3,254			57,675
1976				768	1,604	3,357	22,021	30,386	21,586	2,846			82,568
1977				1,666	1,332	5,038	42,859	13,022	61,678	8,287			133,882
1978				834	1,378	3,459	13,493	11,457	26,189	3,675			60,485
1979				478	244	1,942	23,054	21,974	20,961	14,079	632		83,364
1980				2,885	790	2,134	15,114	30,755	34,447	7,838			93,963
1981				1,389	1,632	3,768	34,242	36,537	26,837	8,863			113,268
1982				729	1,289	2,710	22,607	31,410	49,050	9,639			117,434
1983				438	324	1,492	37,029	47,521	75,210	9,041			171,055
1984				846	894	3,715	52,825	36,859	107,377	16,607			219,123
1985				2,405	1,511	5,679	41,534	102,866	107,574	13,337	1,119		276,025
1986			1,395	610	712	4,492	78,494	60,458	111,066	24,726			281,953
1987				1,069	366	3,280	55,395	58,850	76,461	22,347			217,768
1988				2,520	969	3,984	34,612	54,986	85,061	16,367			198,499
1989				1,810	849	3,950	35,167	45,694	119,322	25,880	2,967		235,639
1990			1,169	1,515	920	3,078	17,942	17,772	58,805	28,070			129,271
1991				1,826	630	1,755	25,686	37,560	104,833	27,563			199,853
1992				1,104	743	3,494	18,753	37,269	157,216	13,600			232,179
1993				2,367	731	3,847	17,962	20,194	61,600	18,128			124,829
1994				1,327	391	2,263	11,434	11,703	55,247	29,889			112,254
1995				435	407	2,329	11,953	46,428	59,604	24,688			145,844
1996				669	481	1,981	20,317	61,136	65,400	12,472			162,456
1997				658	483	2,187	18,916	34,055	84,006	24,451			164,756
1998				609	433	2,433	9,911	12,180	62,331	28,785			116,682
1999				279	343	1,625	25,277	56,665	60,762	11,923			156,874
2000				491	319	6,467	37,760	48,697	96,040	15,467			205,241
2001				788	582	13,063	100,501	95,859	226,711	65,823			503,327
2002				2,308	439	7,027	67,132	84,140	170,382	56,492			387,920
Total		25	5,241	43,048	31,478	134,906	1,518,496	1,706,248	3,148,503	660,169	6,639		7,254,753
10-Year Average				1,003	487	4,247	30,901	46,211	99,936	27,429			210,215

Plate 4 John Day Dam Lock and Dam



JOHN DAY DAM

FISH COUNTING SCHEDULE

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

ADULT FISHWAY OPERATING 2002 SCHEDULE

The following information includes fishway operation for calender year 2002. Total length of time for annual fishway outages can be determined by referring to previous years annual reports. "Out of service' indicates fish ladder dewatered and auxiliary water system off for routine annual maintenance. Dive inspection was conducted on 8/15/02, per Fish Passage Plan requirement, requiring a short period of fishway outage.

ADULT FISH FACILITY OPERATING SCHEDULE

South Adult Fishway

Jan. 1 - Jan. 8	in service.
Jan. 8 – Feb. 28	out of service.
Feb. 28 – Nov. 14	in service.
Nov. 14 – Dec. 31	out of service.

North Adult Fishway

Jan. 1 - Dec. 31	in service.

Smolt Monitoring Facility

Jan. 1 – Mar. 18	out of service.
Mar. 18 – Oct. 7	in service.
Oct. 7 - Dec. 31	out of service.

Juvenile Bypass System

Jan. 1 – Jan. 9	in service.
Jan. 9 – Feb. 5	out of service.
Feb. 5 - Dec. 31	in service.

Spillway (Juvenile)

Jan. 1 - Apr. 10	closed.
Apr. 10 - Aug. 31	intermittent spill for fish.
Aug. 31 - Dec. 31	closed.

2002 FISH RELATED DEWATERINGS

Fishway Dewatering Procedures

Bulkheads are installed and drain valves open to dewater various areas of fishways. Fisheries personnel enter these areas to salvage fish that become entrapped. Minimal handling of fish is applied. Fish that are reluctant to vacate an area are captured and transported to the forebay or tailwater, depending on circumstances such as fish species, age class and stress levels. A follow up inspection is made to account for possible missed fish. Efforts are made to provide continual water supply during the entire operation to reduce fish stranding. Fishway areas not included on this list are inspected by divers to insure equipment integrity.

Fishway Dewaterings

South fish ladder (Jan.8)- Approximately 1,000 adult steelhead were pushed to tailwater. Approximately 70 adult steelhead , 160 lamprey, 12 juvenile steelhead and several suckers were removed and released to tailwater and forebay. Approximately 400 lamprey were collected by the Umatilla tribe for restocking efforts.

Juvenile Bypass System (Jan.9) – One adult steelhead, 1 juvenile salmonid and 3 suckers were pushed to tailwater.

Smolt Monitor Facility (Oct 7) – Six sturgeon (3'-6'), 50 catfish, 20 lamprey, and 300 adult salmonids (mostly steelhead) were pushed through the PDS fish drain to tailwater.

South fish ladder (Nov 14) – Approximately 300 adult steelhead, 20 adult Chinook, 3 adult coho and 3,000 lamprey were pushed to tailwater. Several thousand salmonids vacated system during new flushing procedures. Approximately 1,000 lamprey were removed and released to forebay. Approximately 500 lamprey were given to Umatilla tribe for a restocking program. Approximately 150 lamprey were removed and given to USGS for research efforts. Approximately 270 lamprey were removed from on top the diffuser grating the following day. Approximately 1,140 lamprey died several days following dewatering as a result of entrapment under diffuser grating. New procedures are being investigated to prevent this loss in the future.

Collection channel to bay 2 (Dec 11) – Two perch, 1 juvenile salmonid, 5 smallmouth bass, 40 catfish 215 lamprey and 170 sculpin removed and released to tailwater. Twenty lamprey and 1 juvenile steelhead died under diffuser grating.

South fishway auxiliary water conduit (Dec 23) – Three lamprey and 2 suckers were removed and release to tailwater. Two smallmouth, 10 catfish and 2 lamprey died on drain grating.

Turbine Dewatering Procedures

Turbine dewatering for routine maintenance usually involves low numbers of fish, due to operational guidelines. If a turbine unit fails, operational guidelines cannot always be following, which usually results in higher numbers of fish entrapment. Removal of fish from these areas has a greater fish stress risk due to handling. Procedures are continually analyzed to determine the best method for preventing fish stress or loss. Fish are removed from scroll case and draft tubes by fish bags. If numbers of fish are higher than two bags, transport tanks are placed in the draft tube gallery for transport by crane. Fish are released to tailwater either with bag and rope or tank and crane.

Turbine Dewaterings

Main turbine unit 10 (Jan 8) – Routine maintenance. No fish found in scroll case or draft tube.
Main turbine unit 13 (Apr 23) – Routine maintenance. No fish found in scroll case. Eight catfish and 2 sturgeon found in draft tube.
Main turbine unit 16 (June 5) – Turbine oil line failure. No fish found in scroll case. Two juvenile steelhead, 150 catfish and 672 sturgeon removed from draft tube and released to tailwater. Fifty catfish and 83 sturgeon died on drain grating.
Main turbine unit 14 (June 24) – Routine maintenance. Two crappie found in scroll case. Three sturgeon, 60 catfish and 3 smallmouth bass found in draft tube.
Main turbine unit 15 (Aug 27) – Routine maintenance. One smallmouth bass and 5 crappie found in scroll case. Twenty-eight sturgeon and 21 catfish found in draft tube.

Navigation Lock Dewatering Procedures

Navigation lock dewaterings for annual maintenance requires labor intensive fish removal efforts. It is impossible to remove fish from all areas of the navigation lock areas due to access limitations. Fish are removed are from the supply conduits and the floor diffuser laterals. Fish are then removed by seine and dipnet and transported to a release site by tank.

Navigation Lock Dewaterings

Navlock (Mar. 4) – Two adult steelhead and 4 juvenile chinook removed from one conduit and released to forebay and tailwater. Second conduit and floor laterals not fished due to water depth.

2002, 2001, 2000- FISHWAY INSPECTION COMPARISON

Adult fishway inspections are conducted three per day during the adult fish passage season (March 1 to November 31) and once per day during the non- passage season. Guidelines are provided by the COE Fish Passage Plan. Weekly fishway status reports are provided. Inspections of the John Day Smolt Monitor Facility are made once per two hours, 24 hours per day during the juvenile sampling season (April 1 to Mid Sept.) SMF status reports are included in the weekly fishway status report. Increased or continual problem areas indicated in red.

Fishway Inspection Results

	Percent out of Criteria		
Criteria Item	Year 2002	Year 2001	Year 2000
South Fishway			
Exit differential	0	0	0
Count station differential	0	0	0
Weir crest depth	0	0	0
SE1 entrance depth	4	1	5
SE1 differential	2	1	1
Bay 1 differential	NA	NA	0
Bay 19 differential	3	1	1
NE1 entrance depth	1	1	20
NE2 entrance depth	2	2	4
North Fishway			
Exit differential	0	0	0
Count station differential	0	0	0
Weir crest depth	0	0	0
EW1 entrance depth	11	6	5
EW2 entrance depth	out of service	8	out of service
EW1/EW2 differential	9	0	4
Juvenile Bypass			
Conduit differential	1	0	0
Spillway			
Spill Pattern	0	0	0

Discussion

The north entrance showed a decrease in criteria performance for differential and weir depth. Automation is being investigated.

TABLE 51

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER JOHN DAY DAM

2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*
CHINOOK*				36,677	99,270	69,941	44,890	37,086	143,126	16,739			447,729
STEELHEAD				7,330	972	5,875	42,167	59,430	170,893	103,633			390,300
SOCKEYE					1	20,044	21,772	96	1	1			41,915
COHO*								66	5,101	4,105			9,272
CHUM													0
PINK													0
TOTAL				44,007	100,243	95,860	108,829	96,678	319,121	124,478			889,216
SHAD					84,143	1,550,799	214,697	1,303					1,850,942
LAMPREY					145	553	9,973	11,005	4,601	544			26,821

***Jacks Included**

TABLE 52

DISCHARGE AND WATER QUALITY DATA

JOHN DAY PROJECT 2002

JANUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Jan 1	118.0	0.0	6.0	43.0
Jan 2	107.1	0.0	6.0	42.0
Jan 3	115.7	0.0	6.0	42.0
Jan 4	119.0	0.0	6.0	42.0
Jan 5	134.1	0.0	6.0	42.0
Jan 6	133.7	0.0	6.0	42.0
Jan 7	121.2	0.0	6.0	42.0
Jan 8	98.1	0.0	6.0	42.0
Jan 9	146.2	0.0	6.0	42.0
Jan 10	145.1	0.0	6.0	42.0
Jan 11	125.0	0.0	6.0	42.0
Jan 12	112.4	0.0	6.0	42.0
Jan 13	110.1	0.0	6.0	43.0
Jan 14	121.1	0.0	6.0	43.0
Jan 15	164.8	0.0	6.0	43.0
Jan 16	185.8	0.0	6.0	43.0
Jan 17	157.7	0.0	6.0	43.0
Jan 18	157.3	0.0	6.0	43.0
Jan 19	107.1	0.0	6.0	43.0
Jan 20	132.2	0.0	6.0	43.0
Jan 21	129.3	0.0	5.5	43.0
Jan 22	132.3	0.0	5.0	43.0
Jan 23	169.8	0.0	6.0	42.0
Jan 24	167.8	0.0	6.0	42.0
Jan 25	123.6	0.0	6.0	42.0
Jan 26	144.2	0.0	6.0	42.0
Jan 27	115.8	0.0	6.0	41.0
Jan 28	138.1	0.0	6.0	41.0
Jan 29	163.0	0.0	6.0	41.0
Jan 30	163.3	0.0	6.0	41.0
Jan 31	169.3	0.0	6.0	41.0
AVG.	136.4	0.0	6.0	42.2

FEBRUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Feb 1	169.2	0.0	6.0	41.0
Feb 2	145.5	0.0	6.0	41.0
Feb 3	121.2	0.0	6.0	40.0
Feb 4	155.3	0.0	6.0	41.0
Feb 5	153.6	0.0	6.0	40.0
Feb 6	158.0	0.0	6.0	40.0
Feb 7	156.5	0.0	6.0	40.0
Feb 8	159.8	0.0	6.0	41.0
Feb 9	163.9	0.0	5.5	40.0
Feb 10	122.6	0.0	6.0	40.0
Feb 11	139.1	0.0	6.0	40.0
Feb 12	168.6	0.0	6.0	40.0
Feb 13	141.8	0.0	6.0	40.0
Feb 14	180.3	0.0	6.0	41.0
Feb 15	151.5	0.0	6.0	40.0
Feb 16	124.5	0.0	6.0	40.0
Feb 17	109.0	0.0	6.0	40.0
Feb 18	127.2	0.0	6.0	40.0
Feb 19	132.7	0.0	6.0	40.0
Feb 20	144.5	0.0	6.0	40.0
Feb 21	139.5	0.0	6.1	40.0
Feb 22	127.3	0.0	6.0	40.0
Feb 23	101.6	0.0	6.0	41.0
Feb 24	119.0	0.0	6.0	41.0
Feb 25	149.5	0.0	6.0	41.0
Feb 26	163.1	0.0	6.0	42.0
Feb 27	142.2	0.0	6.0	41.0
Feb 28	159.9	0.0	6.0	41.0
AVG.	143.8	0.0	6.0	40.4

MARCH

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Mar 1	134.7	0.0	6.0	41.0
Mar 2	124.6	0.0	6.0	41.0
Mar 3	103.3	0.0	6.0	41.0
Mar 4	121.1	0.0	5.5	41.0
Mar 5	114.7	0.0	6.0	41.0
Mar 6	116.4	0.0	6.0	41.0
Mar 7	126.5	0.0	6.0	37.0
Mar 8	108.6	0.0	6.0	41.0
Mar 9	123.7	0.0	5.0	41.0
Mar 10	83.3	0.0	4.5	41.0
Mar 11	108.8	0.0	5.0	41.0
Mar 12	125.8	0.0	4.5	42.0
Mar 13	167.2	0.0	6.0	41.0
Mar 14	138.5	0.0	6.0	41.0
Mar 15	146.8	0.0	6.0	41.0
Mar 16	136.5	0.0	6.0	41.0
Mar 17	112.7	0.0	6.0	42.0
Mar 18	122.1	0.0	6.0	42.0
Mar 19	126.6	0.0	5.5	42.0
Mar 20	107.0	0.0	4.5	42.0
Mar 21	137.5	0.0	4.5	42.0
Mar 22	127.9	0.0	6.0	41.0
Mar 23	107.7	0.0	4.0	42.0
Mar 24	75.6	0.0	4.0	42.0
Mar 25	143.9	0.0	6.0	42.0
Mar 26	118.3	0.0	6.0	42.0
Mar 27	122.3	0.0	6.0	42.0
Mar 28	117.8	0.0	6.0	42.0
Mar 29	133.3	0.0	5.0	42.0
Mar 30	139.3	0.0	5.5	42.0
Mar 31	117.7	0.0	5.5	42.0
AVG.	122.3	0.0	5.5	41.4

TABLE 53

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

APRIL 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD		DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCH	DEG F
Apr 1	84			0				337	113			152.9	0.0	4.5	43.0
Apr 2	87			0				865	175			170.8	0.0	5.0	44.0
Apr 3	24			0				552	221			140.9	0.0	4.0	45.0
Apr 4	88			0				723	240			131.6	0.0	3.5	44.0
Apr 5	192			0				149	45			131.2	0.0	4.0	47.0
Apr 6	148			0				127	64			119.4	0.0	4.0	44.0
Apr 7	183			0				269	98			109.1	0.0	3.5	46.0
Apr 8	105			0				752	241			165.4	0.0	3.5	46.0
Apr 9	109			0				278	94			150.8	0.0	4.0	49.0
Apr 10	347			0				311	117			177.8	27.3	3.0	46.0
Apr 11	195			0				415	59			180.8	53.6	2.0	51.0
Apr 12	502			0				163	87			183.9	49.0	4.0	49.0
Apr 13	634			0				261	128			214.5	48.9	4.0	50.0
Apr 14	805			0				116	86			207.3	49.5	4.0	50.0
Apr 15	486			0				111	55			271.4	79.1	3.0	49.0
Apr 16	221			0				150	30			350.8	109.9	3.0	50.0
Apr 17	266			4				353	142			345.3	97.6	2.0	49.0
Apr 18	960			1				144	65			319.7	74.2	2.5	49.0
Apr 19	697			1				126	60			295.6	54.0	3.4	49.0
Apr 20	833			1				142	78			283.2	90.3	3.0	49.0
Apr 21	824			2				180	73			280.2	83.1	3.5	49.0
Apr 22	1,129			1				135	72			258.0	51.3	3.0	49.0
Apr 23	687			0				86	33			281.4	62.1	3.0	49.0
Apr 24	2,158			5				43	27			262.6	92.0	3.5	49.0
Apr 25	2,749			0				110	39			243.1	74.3	3.0	49.0
Apr 26	2,450			5				84	30			226.6	67.5	3.0	49.0
Apr 27	2,401			10				128	50			228.4	66.7	4.0	53.0
Apr 28	4,192			7				73	16			181.3	42.4	3.5	48.0
Apr 29	4,895			26				100	72			214.7	65.2	4.5	51.0
Apr 30	8,130			33				47	25			234.4	86.6	4.5	52.0
TOTAL	36,581			96				7,330	2,635						
AVG.	1,219			3				244	88			217.1	47.5	3.5	48.2

TABLE 54

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

MAY 2002

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
May 1	7,352			34			0	41	29	0	0	211.6	62.0	4.0	49.0
May 2	7,260			35			0	46	22	0	0	203.6	38.3	4.5	52.0
May 3	8,068			42			0	74	26	0	0	247.9	57.6	4.5	50.0
May 4	7,681			51			0	7	2	0	0	236.4	88.0	3.5	51.0
May 5	6,275			47			0	33	8	0	2	219.5	65.0	3.0	51.0
May 6	8,154			71			0	27	23	0	0	216.2	51.3	4.0	51.0
May 7	5,240			63			0	29	23	0	0	241.2	71.3	5.5	51.0
May 8	2,917			73			0	48	22	0	0	257.6	74.9	4.5	50.0
May 9	2,567			38			0	11	-3	0	0	204.1	60.0	4.5	5.0
May 10	950			25			0	64	27	0	0	199.2	68.4	4.0	55.0
May 11	2,922			60			0	24	12	0	1	212.2	63.0	4.0	52.0
May 12	2,963			92			0	81	38	0	5	170.8	50.9	5.5	53.0
May 13	4,035			128			0	38	20	0	2	209.7	60.4	56.0	4.5
May 14	5,071			132			0	38	22	0	-2	205.9	46.1	53.0	4.5
May 15	3,681			122			0	18	16	1	1	219.1	61.7	53.0	5.5
May 16	2,080			96			0	36	21	0	3	194.3	59.7	4.0	55.0
May 17	2,406			124			0	31	12	0	1	225.2	70.3	4.5	55.0
May 18	1,318			69			0	50	24	4	2	205.0	78.6	4.0	53.0
May 19	904			73			0	33	6	14	1	220.1	65.1	4.0	55.0
May 20	1,500			76			0	32	25	46	14	228.9	67.1	6.0	56.0
May 21	1,847			112			0	16	1	22	1	262.3	76.9	5.5	55.0
May 22	1,084			75			0	30	10	101	11	276.7	59.7	5.0	55.0
May 23	1,097			56			0	26	9	196	32	270.7	77.2	5.5	55.0
May 24	1,766			66			0	19	8	963	4	275.2	76.1	5.6	50.0
May 25	1,336			38			0	23	15	2,352	4	246.3	74.0	5.5	57.0
May 26	834			32			0	11	3	2,016	17	238.9	89.8	5.5	56.0
May 27	955			55			0	15	1	2,400	12	246.6	70.5	4.5	57.0
May 28	952			34			0	12	7	3,417	0	284.8	77.3	4.0	57.0
May 29	1,526			62			0	16	0	10,678	12	305.9	80.1	5.0	57.0
May 30	1,100			43			0	1	-5	29,953	11	303.0	82.6	5.0	57.0
May 31	1,347			58			1	42	6	31,980	11	305.2	92.1	4.5	56.0
TOTAL	97,188			2,082			1	972	430	84,143	145				
AVG.	3135			67			0	31	14	2,714	5	236.9	68.3	9.4	47.4

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	133,769	2,178	1	8,302	3,065	84,143	145

TABLE 55

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT

JUNE 2002

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Jun 1	908			57			0	14	7	30,978	12	359.2	116.2	5.0	58.0
Jun 2	1,259			40			0	41	6	11,077	0	308.8	154.7	4.5	58.0
Jun 3	1,646			52			4	24	7	19,329	7	312.6	141.6	4.0	59.0
Jun 4	1,545			45			2	25	7	13,575	12	342.5	152.8	4.0	58.0
Jun 5	760			31			0	16	2	24,640	4	377.6	195.9	4.5	58.0
Jun 6		998		42			2	39	12	19,079	9	383.8	188.9	4.5	58.0
Jun 7		1,682		45			11	48	6	35,629	1	348.0	146.3	5.0	58.0
Jun 8		2,148		60			12	39	13	15,575	-1	376.3	165.2	4.2	59.0
Jun 9		2,404		74			20	62	4	42,445	7	341.3	132.6	4.0	58.0
Jun 10		2,100		67			18	53	9	96,116	31	295.2	72.5	4.0	58.0
Jun 11		880		57			30	125	16	28,672	13	349.8	124.3	3.5	57.0
Jun 12		1,267		74			49	70	12	27,814	10	298.8	89.4	3.5	57.0
Jun 13		1,761		43			58	58	23	37,198	4	314.8	86.8	5.0	57.0
Jun 14		2,678		83			95	102	34	43,326	4	278.4	75.5	4.5	58.0
Jun 15		3,983		120			154	115	41	83,754	3	297.6	76.7	5.0	58.0
Jun 16		3,241		74			329	129	36	106,666	12	262.3	72.8	5.0	59.0
Jun 17		2,008		85			336	125	65	63,226	6	303.8	102.2	5.0	60.0
Jun 18		1,533		65			344	134	37	45,744	7	310.9	83.6	4.0	60.0
Jun 19		2,325		116			510	244	72	72,609	18	358.6	79.8	4.0	60.0
Jun 20		2,446		109			657	124	73	116,519	14	370.3	111.9	4.0	60.0
Jun 21		2,915		93			903	262	69	86,602	8	363.9	105.4	3.2	60.0
Jun 22		2,814		126			901	177	60	110,475	13	313.4	69.5	3.5	61.0
Jun 23		1,841		110			1,228	329	117	41,318	30	298.2	101.8	3.0	58.0
Jun 24		2,471		115			1,324	254	94	53,157	31	324.9	95.4	3.5	59.0
Jun 25		3,366		63			1,287	444	213	67,032	51	286.7	82.8	4.5	61.0
Jun 26		3,349		110			1,464	525	250	61,788	83	293.9	83.3	4.5	60.0
Jun 27		3,167		100			2,236	526	208	53,538	65	316.2	86.8	4.0	61.0
Jun 28		3,774		244			3,339	635	230	55,277	39	337.8	149.9	4.0	63.0
Jun 29		2,529		123			2,443	590	236	48,450	29	355.7	131.5	4.0	63.0
Jun 30		3,534		186			2,288	546	257	39,191	31	301.1	139.2	4.0	63.0
TOTAL	6,118	61,214		2,609			20,044	5,875	2,216	1,550,799	553				
AVG.	1224	2,449		87			668	196	74	51,693	18	326.1	113.8	4.2	59.2

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	139,887	2,403
SUMMER	61,214	2,384
TOTAL	201,101	4,787

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
20,045	14,177	5,281	1,634,942	698

TABLE 56

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

JOHN DAY PROJECT
JULY 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Jul 1		2,437		157			2,282	571	223	27,005	54
Jul 2		1,629		114			1,931	457	185	30,714	114
Jul 3		2,994		105			1,609	619	267	32,501	104
Jul 4		966		77			1,242	427	176	6,105	74
Jul 5		2,427		116			1,640	618	267	14,369	167
Jul 6		1,947		90			1,901	743	395	17,867	285
Jul 7		2,022		128			1,821	755	394	12,807	117
Jul 8		1,906		75			1,605	779	385	6,163	145
Jul 9		3,181		182			1,406	1,098	570	12,331	264
Jul 10		990		113			805	1,212	601	8,617	247
Jul 11		1,568		91			666	891	378	7,692	171
Jul 12		2,150		96			784	1,270	547	7,233	182
Jul 13		975		92			657	840	387	5,226	234
Jul 14		2,005		171			655	1,783	908	2,923	232
Jul 15		1,958		127			649	1,679	776	8,009	339
Jul 16		1,844		90			522	2,283	1,144	5,228	388
Jul 17		351		59			251	1,174	522	2,647	365
Jul 18		787		45			270	1,683	796	1,794	377
Jul 19		906		106			225	1,946	889	778	428
Jul 20		794		80			174	1,539	662	685	789
Jul 21		885		209			117	2,351	1,164	1,106	954
Jul 22		1,515		93			146	2,500	1,296	872	558
Jul 23		529		75			83	1,958	929	556	207
Jul 24		250		32			78	1,167	569	424	368
Jul 25		303		67			66	1,394	557	278	334
Jul 26		746		42			44	1,863	875	208	590
Jul 27		2,110		82			53	2,237	994	78	634
Jul 28		856		48			21	1,408	662	81	451
Jul 29		148		25			20	1,124	424	213	209
Jul 30		218		63			24	1,498	621	113	317
Jul 31		566		77			25	2,300	912	74	275
TOTAL		41,963		2,927			21,772	42,167	19,475	214,697	9,973
AVG		1,354		94			702	1,360	628	6,926	322

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Jul 1	317.0	125.8	4.4	60.0
Jul 2	327.4	101.2	4.5	63.0
Jul 3	313.5	78.1	4.5	64.0
Jul 4	320.7	159.0	4.0	64.0
Jul 5	268.8	97.4	4.5	63.0
Jul 6	262.4	73.9	4.0	63.0
Jul 7	245.0	70.0	3.8	62.0
Jul 8	230.0	67.1	4.0	63.0
Jul 9	214.7	62.1	4.0	63.0
Jul 10	209.5	60.9	4.5	63.0
Jul 11	244.0	56.1	4.0	66.0
Jul 12	257.7	62.8	4.0	65.0
Jul 13	255.1	90.6	4.0	66.0
Jul 14	245.8	73.1	4.0	66.0
Jul 15	240.2	59.1	4.5	66.0
Jul 16	190.6	50.5	5.5	67.0
Jul 17	257.3	89.9	5.5	68.0
Jul 18	245.0	72.5	4.0	67.0
Jul 19	212.4	61.4	4.6	67.0
Jul 20	221.8	65.6	4.5	68.0
Jul 21	225.5	46.6	4.2	68.0
Jul 22	230.1	58.5	4.4	67.0
Jul 23	202.7	54.3	4.5	69.0
Jul 24	199.9	50.1	4.5	69.0
Jul 25	183.4	65.3	5.0	69.0
Jul 26	151.1	44.6	5.0	69.0
Jul 27	159.8	28.9	4.0	69.0
Jul 28	141.4	42.7	4.5	68.0
Jul 29	176.9	63.9	4.0	70.0
Jul 30	187.5	55.3	5.0	69.0
Jul 31	168.6	49.6	5.0	70.0
AVG	229.2	68.9	4.4	66.2

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	139,887	2,403
SUMMER	103,177	5,311
TOTAL	243,064	7,714

COHO ADULT	COHO JACKS	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
0	0	41,817	56,344	24,756	1,849,639	10,671

TABLE 57

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

JOHN DAY PROJECT
AUGUST 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Aug 1		281		55	0	0	20	1,418	556	364	289
Aug 2		1134		112	-1	0	26	2,264	890	44	200
Aug 3		316		37	0	0	12	1,116	441	61	425
Aug 4		147		62	1	0	8	1,370	489	45	180
Aug 5		299		38	0	0	12	871	317	52	331
Aug 6			457	42	0	0	3	1,248	395	59	446
Aug 7			144	46	0	0	0	861	270	52	385
Aug 8			322	51	0	0	5	1,729	592	255	400
Aug 9			265	92	0	0	1	2,039	671	66	355
Aug 10			136	92	0	0	1	2,382	786	98	438
Aug 11			284	112	0	0	4	2,985	992	37	661
Aug 12			335	83	0	0	0	2,214	760	44	600
Aug 13			473	138	0	0	0	2,855	984	12	327
Aug 14			693	52	0	0	0	1,941	678	22	270
Aug 15			54	91	0	0	0	411	128	0	475
Aug 16			557	103	7	0	1	2,417	690	2	202
Aug 17			243	42	0	0	1	2,303	710	5	238
Aug 18			607	81	0	0	0	1,508	526	2	499
Aug 19			1,127	86	1	0	0	1,744	493	19	191
Aug 20			592	134	0	0	0	1,329	386	11	347
Aug 21			258	59	0	0	0	1,243	338	11	205
Aug 22			165	36	1	0	0	1,397	353	23	395
Aug 23			291	48	0	0	0	1,278	367	9	278
Aug 24			615	49	1	0	1	1,610	478	0	273
Aug 25			1,761	114	4	0	1	3,102	842	3	246
Aug 26			3,554	128	4	0	0	2,565	714	-1	293
Aug 27			3,200	173	2	2	0	2,451	711	2	694
Aug 28			5,659	157	1	0	0	2,424	654	0	448
Aug 29			4,545	265	14	1	0	3,401	954	2	437
Aug 30			2,579	239	17	0	0	2,616	664	3	219
Aug 31			2,819	357	11	0	0	2,338	574	1	258
TOTAL		2,177	31,735	3,174	63	3	96	59,430	18,403	1,303	11,005
AVG.		435	1,221	102	2	0	3	1,917	594	42	355

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Aug 1	162.9	47.3	4.5	69.0
Aug 2	163.0	36.3	5.0	70.0
Aug 3	166.7	50.0	4.5	69.0
Aug 4	143.3	52.5	4.0	69.0
Aug 5	163.9	48.4	4.5	70.0
Aug 6	155.9	34.3	4.5	69.0
Aug 7	150.1	43.3	4.5	70.0
Aug 8	174.9	55.7	4.5	69.0
Aug 9	170.6	45.1	4.5	68.0
Aug 10	142.1	51.9	4.5	69.0
Aug 11	149.8	43.9	4.5	69.0
Aug 12	148.1	43.3	5.0	69.0
Aug 13	163.0	48.9	6.0	70.0
Aug 14	147.7	29.6	5.0	70.0
Aug 15	165.5	45.2	6.0	69.0
Aug 16	158.6	53.3	4.0	69.0
Aug 17	124.3	37.3	4.4	68.0
Aug 18	128.6	30.2	4.5	69.0
Aug 19	132.8	39.2	5.0	70.0
Aug 20	157.8	43.7	5.0	70.0
Aug 21	159.0	47.3	5.0	69.0
Aug 22	149.9	53.7	5.5	69.0
Aug 23	139.1	41.8	4.5	69.0
Aug 24	145.1	42.8	5.0	70.0
Aug 25	118.1	35.7	5.0	70.0
Aug 26	141.3	30.2	4.0	69.0
Aug 27	142.2	41.5	4.5	69.0
Aug 28	142.0	29.3	4.2	69.0
Aug 29	106.4	263.7	4.0	70.0
Aug 30	129.7	26.2	4.2	70.0
Aug 31	137.4	40.6	4.0	70.0
AVG.	147.7	49.4	4.7	69.3

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	139,887	2,403
SUMMER	105,354	5,615
FALL	31,735	2,870
TOTAL	276,976	10,888

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
63	3	41,913	115,774	43,159	1,850,942	21,676

TABLE 58

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

JOHN DAY PROJECT
SEPTEMBER 2002
RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Sep 1			4,918	393	23	0	0	3,416	930		84	111.0	0.0	4.0	68.0
Sep 2			3,016	275	14	0	0	3,402	926		398	95.8	0.0	4.0	69.0
Sep 3			6,223	480	51	17	1	4,579	1,258		263	94.1	0.0	5.0	70.0
Sep 4			1,129	199	36	3	0	2,733	865		214	122.9	0.0	5.0	69.0
Sep 5			3,365	371	35	10	0	3,158	760		104	101.8	0.0	5.5	69.0
Sep 6			2,830	302	26	16	0	2,936	738		180	106.5	0.0	5.5	69.0
Sep 7			4,329	405	48	10	0	2,316	625		218	87.9	0.0	5.5	69.0
Sep 8			6,474	529	60	20	0	3,616	919		294	73.6	0.0	5.5	68.0
Sep 9			5,708	545	39	6	0	2,819	678		359	75.8	0.0	5.5	68.0
Sep 10			8,031	823	56	12	0	4,798	1,229		156	113.9	0.0	6.0	68.0
Sep 11			6,528	845	146	20	0	6,935	1,794		146	101.6	0.0	5.5	68.0
Sep 12			4,514	651	113	2	0	5,445	1,237		101	80.5	0.0	5.0	68.0
Sep 13			6,911	1159	198	45	0	7,540	1,871		213	72.6	0.0	5.5	68.0
Sep 14			3,597	619	264	55	0	5,520	1,282		129	106.9	0.0	6.0	68.0
Sep 15			7,111	1245	246	68	0	7,907	1,909		104	77.4	0.0	5.0	68.0
Sep 16			9,068	1213	479	85	0	5,106	1,295		133	67.3	0.0	4.5	68.0
Sep 17			4,201	1070	163	90	0	5,951	1,465		342	99.9	0.0	5.0	68.0
Sep 18			2,284	617	202	114	0	4,431	1,123		188	105.3	0.0	5.0	67.0
Sep 19			2,875	730	131	78	0	5,908	1,421		125	101.3	0.0	4.7	68.0
Sep 20			2,899	1080	62	26	0	6,843	1,617		99	115.4	0.0	5.0	67.0
Sep 21			3,521	1213	166	27	0	10,289	2,419		107	109.7	0.0	6.0	67.0
Sep 22			3,301	1230	93	6	0	10,929	2,483		84	98.1	0.0	6.0	67.0
Sep 23			2,566	800	111	12	0	9,519	2,312		105	131.9	0.0	6.0	66.0
Sep 24			3,449	1062	125	81	0	7,855	1,944		69	100.2	0.0	5.5	66.0
Sep 25			3,040	843	305	29	0	7,830	1,911		98	119.7	0.0	6.5	66.0
Sep 26			1,559	865	194	58	0	5,713	1,204		72	118.4	0.0	5.5	67.0
Sep 27			1,662	641	151	90	0	5,500	1,317		51	117.8	0.0	5.0	67.0
Sep 28			1,800	589	137	59	0	5,314	1,229		51	76.2	0.0	4.0	66.0
Sep 29			2,078	655	126	27	0	5,233	1,346		63	62.2	0.0	3.8	66.0
Sep 30			2,064	626	184	51	0	7,352	1,811		51	97.8	0.0	5.0	66.0
TOTAL			121,051	22,075	3,984	1,117	1	170,893	41,918		4,601				
AVG.			4,035	736	133	37	0	5,696	1,397		153	98.1	0.0	5.2	67.6

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	139,887	2,403
SUMMER	105,354	5,615
FALL	152,786	24,945
TOTAL	398,027	32,963

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
4,047	1,120	41,914	286,667	85,077	1,850,942	26,277

TABLE 59

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

JOHN DAY PROJECT
OCTOBER 2002

FISH COUNTS / **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Oct 1			1,204	497	141	21	0	5,342	1,315		37	87.7	0.0	5.5	65.0
Oct 2			1,399	453	149	57	0	5,968	1,591		30	87.7	0.0	5.5	65.0
Oct 3			694	277	100	5	0	5,571	1,327		17	96.0	0.0	5.0	65.0
Oct 4			1,122	366	155	16	0	6,464	1,634		25	113.2	0.0	5.5	65.0
Oct 5			1,018	287	193	60	0	6,094	1,607		19	73.2	0.0	5.0	64.0
Oct 6			816	275	196	27	0	6,426	1,642		24	80.5	0.0	5.0	63.0
Oct 7			621	234	181	16	0	3,909	1,083		34	100.5	0.0	6.0	64.0
Oct 8			520	177	165	18	1	6,030	1,627		47	79.7	0.0	6.0	63.0
Oct 9			573	199	177	24	0	4,874	1,284		17	134.4	0.0	6.0	62.0
Oct 10			320	186	189	14	0	5,091	1,339		23	124.5	0.0	6.0	63.0
Oct 11			312	149	78	13	0	4,311	1,189		48	118.2	0.0	6.0	62.0
Oct 12			317	111	112	36	0	3,305	939		48	94.6	0.0	6.0	61.0
Oct 13			312	199	121	11	0	2,468	612		25	74.1	0.0	5.0	62.0
Oct 14			232	144	145	12	0	3,329	899		8	98.8	0.0	6.0	62.0
Oct 15			214	125	213	15	0	3,041	731		21	107.2	0.0	5.5	60.0
Oct 16			212	103	145	26	0	2,737	744		25	88.0	0.0	6.0	61.0
Oct 17			186	93	119	13	0	2,042	599		12	96.1	0.0	6.0	61.0
Oct 18			270	87	84	11	0	2,136	528		13	92.2	0.0	6.0	61.0
Oct 19			172	83	107	26	0	3,199	941		6	71.3	0.0	6.0	60.0
Oct 20			320	106	141	14	0	2,776	738		21	65.6	0.0	6.0	60.0
Oct 21			102	42	106	17	0	2,961	987		10	98.6	0.0	6.0	60.0
Oct 22			203	84	93	1	0	2,693	756		12	88.5	0.0	6.0	60.0
Oct 23			133	70	78	5	0	3,083	788		1	105.8	0.0	6.0	60.0
Oct 24			118	24	38	1	0	1,333	376		8	94.7	0.0	6.0	60.0
Oct 25			85	33	72	5	0	1,759	626		13	116.8	0.0	6.0	60.0
Oct 26			139	37	71	3	0	1,234	391		13	113.3	0.0	5.5	59.0
Oct 27			97	38	57	2	0	1,171	295		-7	95.2	0.0	5.0	59.0
Oct 28			134	38	42	2	0	1,187	282		3	112.3	0.0	5.5	60.0
Oct 29			140	49	74	6	0	1,425	335		-14	114.7	0.0	5.5	62.0
Oct 30			63	25	41	3	0	1,152	281		5	127.8	0.0	6.0	57.0
Oct 31			86	14	39	3	0	522	192		0	135.2	0.0	4.8	56.0
TOTAL			12,134	4,605	3,622	483	1	103,633	27,678		544				
AVG.			391	149	117	16	0	3,343	893		18	99.6	0.0	5.7	61.4

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	139,887	2,403	7,669	1,603	41,915	390,300	112,755	1,850,942	26,821
SUMMER	105,354	5,615							
FALL	164,920	29,550							
TOTAL	410,161	37,568							

TABLE 60

DISCHARGE AND WATER QUALITY DATA

JOHN DAY PROJECT 2002

NOVEMBER

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Nov 1	134.7	0.0	6.0	56.0
Nov 2	135.2	0.0	6.0	55.0
Nov 3	101.8	0.0	6.0	54.0
Nov 4	122.7	0.0	5.5	54.0
Nov 5	108.3	0.0	6.0	53.0
Nov 6	110.9	0.0	6.0	53.0
Nov 7	117.0	0.0	6.0	52.0
Nov 8	122.6	0.0	6.0	52.0
Nov 9	108.4	0.0	5.0	52.0
Nov 10	109.4	0.0	5.5	52.0
Nov 11	126.2	0.0	6.0	52.0
Nov 12	122.6	0.0	6.0	52.0
Nov 13	123.8	0.0	6.0	51.0
Nov 14	99.4	0.0	6.0	51.0
Nov 15	125.5	0.0	6.0	51.0
Nov 16	106.5	0.0	6.0	51.0
Nov 17	113.5	0.0	5.5	51.0
Nov 18	135.0	0.0	6.0	51.0
Nov 19	112.3	0.0	6.0	51.0
Nov 20	116.0	0.0	6.0	51.0
Nov 21	116.1	0.0	6.0	52.0
Nov 22	127.0	0.0	6.0	52.0
Nov 23	118.5	0.0	5.0	51.0
Nov 24	114.7	0.0	6.0	52.0
Nov 25	122.5	0.0	6.0	51.0
Nov 26	143.9	0.0	6.0	51.5
Nov 27	135.9	0.0	6.0	51.0
Nov 28	120.1	0.0	5.0	51.0
Nov 29	108.5	0.0	5.5	51.0
Nov 30	126.0	0.0	6.0	50.0
AVG.	119.5	0.0	5.8	51.9

DECEMBER

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Dec 1	125.7	0	6	50
Dec 2	118.7	0	6	50
Dec 3	139.1	0	6	49
Dec 4	108.9	0	6	49
Dec 5	129.7	0	5.5	49
Dec 6	125.1	0	6	49
Dec 7	121.5	0	6	50
Dec 8	113.4	0	6	49
Dec 9	120.9	0	7	47
Dec 10	133	0	6	47
Dec 11	116.3	0	6	47
Dec 12	119.3	0	6	47
Dec 13	108.5	0	5.5	46
Dec 14	110.1	0	6	46
Dec 15	94.8	0	6	46
Dec 16	111	0	6	46
Dec 17	102.7	0	6	46
Dec 18	128.6	0	6	46
Dec 19	138.7	0	6	46
Dec 20	110.8	0	6	46
Dec 21	108.7	0	6	46
Dec 22	97.1	0	6	46
Dec 23	118	0	6	46
Dec 24	112.4	0	6	46
Dec 25	97.4	0	6	45
Dec 26	119.1	0	6	45
Dec 27	111.5	0	5.5	45
Dec 28	105.2	0	6	45
Dec 29	110.4	0	6	45
Dec 30	99.6	0	6	45
Dec 31	98.3	0	6	45
AVG.	114.7	0.0	6.0	46.8

TABLE 61

YEARLY TOTALS OF SALMONIDS COUNTED OVER JOHN DAY DAM
1968 - 2002

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTAL SALMONIDS	
1968	233,654	121,256	87,847	38,233	480,990	
1969	276,051	86,348	39,847	13,589	415,835	
1970	222,506	82,440	78,133	19,543	402,622	
1971	193,881	115,977	72,232	40,830	422,920	
1972	225,631	141,628	51,793	17,533	436,585	
1973	249,492	101,440	64,744	13,359	429,035	
1974	167,888	43,756	33,121	14,651	259,416	
1975	159,079	32,651	50,774	6,305	248,809	
1976	175,911	59,808	30,446	5,806	271,971	
1977	194,931	102,558	85,701	1,123	384,313	
1978	174,852	44,188	13,778	8,355	241,173	
1979	118,154	55,877	43,630	5,061	222,722	
1980	100,664	78,199	50,675	1,924	231,462	
1981	114,359	95,172	46,146	2,562	258,239	
1982	144,082	108,603	37,970	4,063	294,718	
1983	139,866	154,425	91,917	1,640	387,848	
1984	188,373	201,154	107,951	2,080	499,558	
1985	337,624	247,093	124,941	1,652	711,310	
1986	346,700	238,010	46,327	1,933	632,970	
1987	327,752	170,654	75,529	3,355	577,290	
1988	277,251	164,650	48,095	6,813	496,809	
1989	208,254	193,460	39,374	9,663	450,751	
1990	156,313	107,849	42,077	3,023	309,262	
1991	118,921	160,257	63,760	8,021	350,959	
1992	132,025	195,194	69,731	2,633	399,583	
1993	141,705	95,642	61,218	2,995	301,560	
1994	126,645	93,075	11,170	2,842	233,732	
1995	107,277	123,246	8,667	2,117	241,307	
1996	130,602	156,002	25,698	4,279	316,581	
1997	185,240	157,038	35,830	0	378,108	
1998	130,028	158,547	9,837	8,497	306,909	
1999	163,282	165,314	14,809	13,232	356,638	**
2000	269,371	220,328	88,372	23,969	602,040	
2001	510,987	483,409	107,869	51,181	1,153,446	
2002	447,729	390,300	41,915	9,272	889,216	
TOTALS	7,197,080	5,145,548	1,901,924	352,134	14,596,687	
10-Year Average	213,172	203,463	43,192	11,002	470,829	

*Jacks included
**Includes 1 pink

TABLE 62
MONTHLY COUNT OF CHINOOK SALMON
JOHN DAY DAM 1968 - 2002

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
1986			21	38,075	37,959	13,227	9,703	10,797	194,928	41,990			346,700	77,884	22,051	246,765	133,827
1987				33,985	26,852	13,641	8,948	24,363	196,596	23,367			327,752	62,313	22,244	243,195	53,794
1988				33,323	20,170	14,731	9,648	37,002	147,553	14,824			277,251	55,195	23,569	198,487	51,330
1989				12,510	23,983	12,793	10,124	35,985	101,794	11,065			208,254	37,773	23,868	146,613	25,092
1990				23,689	18,854	11,209	9,199	13,542	71,508	8,312			156,313	43,127	20,532	92,654	22,195
1991				7,419	13,668	8,868	8,390	4,879	64,950	10,747			118,921	21,847	16,872	80,202	28,646
1992				27,538	16,623	9,452	5,263	7,677	58,140	7,332			132,025	45,457	13,910	72,658	22,084
1993				26,309	28,204	13,295	6,311	10,703	51,667	5,216			141,705	56,144	18,364	67,197	9,621
1994				4,436	4,937	6,305	6,397	13,345	79,538	11,687			126,645	9,745	12,935	103,965	18,867
1995				2,034	3,378	4,977	6,273	14,694	61,273	14,648			107,277	5,776	11,476	90,025	24,192
1996				1,860	18,616	7,419	6,356	18,550	68,198	9,603			130,602	21,599	13,148	95,855	12,071
1997				13,579	45,408	16,551	8,328	10,355	81,039	9,980			185,240	62,580	21,769	100,891	1,588
1998				9,279	12,439	10,076	7,535	11,073	62,107	17,519			130,028	22,177	17,780	90,071	13,745
1999				3,008	16,517	10,206	14,226	20,201	86,380	12,744			163,282	20,498	24,714	118,070	19,611
2000				48,176	47,705	19,201	13,579	44,377	86,737	9,596			269,371	98,710	31,056	139,605	56,892
2001				187,104	74,233	46,449	33,904	20,506	128,230	20,561			510,987	270,385	74,235	166,367	57,877
2002				36,677	99,270	69,941	44,890	37,086	143,126	16,739			447,729	142,290	110,969	194,470	37,568
TOTAL			27	878,896	1,100,642	570,603	533,592	582,852	3,064,574	461,853	4,041		7,197,080	2,049,290	1,081,762	4,066,028	1,746,904
10-Year Average				32,727	33,394	19,443	13,915	18,961	82,403	12,330			213,172	68,669	31,851	112,652	24,920

***Jacks included**

TABLE 63

MONTHLY COUNT OF SOCKEYE SALMON
JOHN DAY DAM: 1968 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1968						42,175	44,942	690	32	7	1		87,847
1969						13,383	26,174	245	37	8			39,847
1970						18,029	58,176	1,909	19				78,133
1971						5,219	66,183	787	38	5			72,232
1972						6,762	43,704	1,257	68	2			51,793
1973					2	21,283	42,588	864	6	1			64,744
1974						2,024	30,687	403	6	1			33,121
1975						6,154	44,454	163	2	1			50,774
1976						8,907	21,278	258	1	2			30,446
1977					6	52,852	32,269	537	34	3			85,701
1978						5,633	8,006	119	20				13,778
1979						13,466	29,603	560	1				43,630
1980						9,596	40,536	530	13				50,675
1981						17,064	28,975	94	13				46,146
1982						8,708	28,974	286	2				37,970
1983						27,372	63,995	506	37	7			91,917
1984						54,975	51,728	1,230	16	2			107,951
1985						78,326	46,184	421	10				124,941
1986						13,472	32,116	738	0	1			46,327
1987						35,022	39,983	513	11				75,529
1988						25,001	22,855	225	12	2			48,095
1989						18,883	20,330	148	12	1			39,374
1990					1	15,247	26,580	245	4				42,077
1991						10,917	52,130	699	9	5			63,760
1992					1	38,618	30,788	303	20	1			69,731
1993					1	30,668	30,348	198	2	1			61,218
1994						7,004	4,141	22	2	1			11,170
1995					1	4,242	4,352	71	1				8,667
1996						15,316	10,323	59	0				25,698
1997					10	11,605	23,604	603	4	4			35,830
1998						4,371	5,314	131	19	2			9,837
1999					1	4,803	9,910	88	2	5			14,809
2000					15	73,119	15,122	108	7	1			88,372
2001					7	86,624	21,062	100	75	1			107,869
2002					1	20,044	21,772	96	1	1			41,915
TOTAL					46	806,884	1,079,186	15,206	536	65	1		1,901,924
10-Year Average						26,947	16,067	162	12				43,192

TABLE 64

MONTHLY COUNT OF COHO SALMON
JOHN DAY DAM 1968 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*
1968							4	1,311	32,882	3,848	188		38,233
1969							25	308	9,879	3,377			13,589
1970							14	1,026	17,272	1,231			19,543
1971								944	36,401	3,485			40,830
1972								1,253	14,965	1,315			17,533
1973								788	11,350	1,221			13,359
1974								730	11,253	2,668			14,651
1975								85	4,266	1,954			6,305
1976								57	3,739	2,010			5,806
1977								8	534	581			1,123
1978								6	2,676	5,673			8,355
1979							1	132	2,853	1,753	322		5,061
1980								27	1,431	466			1,924
1981								90	2,030	442			2,562
1982								145	3,032	886			4,063
1983								99	1,353	188			1,640
1984								4	1,736	331	9		2,080
1985								95	1,140	395	22		1,652
1986									1,527	406			1,933
1987							1	16	3,205	133			3,355
1988							3	241	5,170	1,399			6,813
1989								264	6,832	2,567			9,663
1990								1	1,890	1,132			3,023
1991								5	6,140	1,876			8,021
1992									2,153	480			2,633
1993								11	2,233	751			2,995
1994								164	1,892	786			2,842
1995								63	1,199	855			2,117
1996								11	3,432	836			4,279
1997								1	2,860	1,368			4,229
1998								18	2,806	5,673			8,497
1999								8	9,471	3,753			13,232
2000					2			921	15,355	7,691			23,969
2001							49	480	23,204	27,448			51,181
2002								66	5,101	4,105			9,272
TOTAL					2	0	97	9,378	253,262	93,083	541		356,363
10-Year Average								174	6,337	4,886			11,386

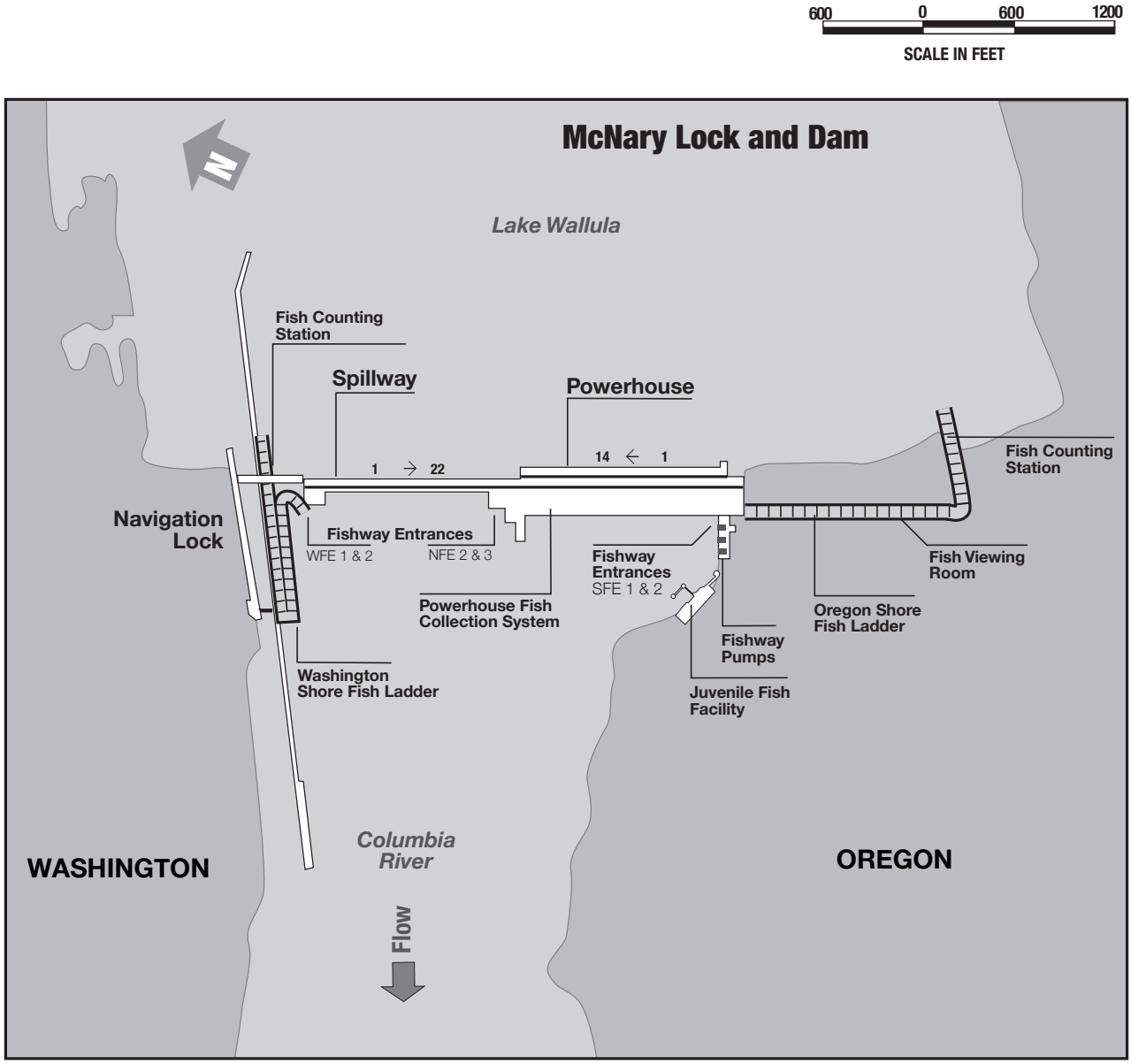
*Jacks included

TABLE 65

MONTHLY COUNT OF STEELHEAD
JOHN DAY DAM 1968 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1968				3,939	2,659	151	6,094	26,824	68,791	11,405	1,393		121,256
1969			314	3,986	3,691	714	12,004	13,267	40,082	12,290			86,348
1970				1,987	1,279	253	7,373	19,412	46,036	6,100			82,440
1971				1,472	592	263	17,459	19,693	63,868	12,630			115,977
1972				1,523	1,966	356	17,656	20,502	78,138	21,487			141,628
1973				8,019	3,546	785	12,134	15,608	46,566	14,782			101,440
1974				1,713	2,363	1,361	9,713	8,419	12,479	7,708			43,756
1975				760	428	648	6,251	8,583	9,977	6,004			32,651
1976				929	1,248	1,868	9,254	17,964	22,754	5,791			59,808
1977				1,319	418	2,341	18,366	7,088	56,134	16,892			102,558
1978				741	631	1,601	5,573	6,911	22,896	5,835			44,188
1979				602	136	253	8,012	10,717	16,202	18,072	1,883		55,877
1980				4,131	555	577	5,850	18,114	34,700	14,272			78,199
1981				2,061	1,539	2,515	15,999	18,283	34,098	20,677			95,172
1982				3,393	1,698	1,167	10,168	19,693	50,725	21,759			108,603
1983				1,492	434	560	15,088	31,453	83,215	22,183			154,425
1984				3,316	1,787	2,101	21,442	19,743	100,437	46,506	5,822		201,154
1985				6,821	1,723	3,583	19,631	64,456	109,488	37,227	4,164		247,093
1986			3,611	2,040	887	2,362	37,732	31,576	107,002	52,800			238,010
1987				3,926	-747	942	23,614	34,203	69,585	39,131			170,654
1988				4,290	525	2,188	17,649	25,741	81,859	32,398			164,650
1989				2,940	508	2,445	18,254	22,548	104,521	42,244			193,460
1990				3,339	600	1,902	10,544	9,445	42,888	39,131			107,849
1991				2,547	660	1,256	12,827	18,310	87,277	37,380			160,257
1992				1,334	406	2,337	10,732	17,326	143,823	19,236			195,194
1993				3,453	808	2,845	9,434	11,018	46,447	21,637			95,642
1994				2,286	413	1,647	6,961	7,140	44,175	30,453			93,075
1995				1,498	488	1,757	7,755	26,450	45,087	40,211			123,246
1996				1,597	462	1,576	11,885	42,853	67,171	30,458			156,002
1997				2,171	810	2,021	12,847	22,179	75,119	41,891			157,038
1998				4,367	1,018	2,460	9,827	9,053	67,322	64,500			158,547
1999				2,702	764	1,975	17,083	42,160	72,719	27,911			165,314
2000				2,607	784	4,500	23,496	37,827	113,619	37,495			220,328
2001				1,946	550	11,031	52,946	50,723	230,803	135,410			483,409
2002				7,330	972	5,875	42,167	59,430	170,893	103,633			390,300
TOTAL			3,925	98,577	36,601	70,216	543,820	814,712	2,466,896	1,097,539	13,262		5,145,548
10-YR Average				2,845	680	3,457	18,648	29,651	97,925	50,258			203,463

Plate 5 McNary Lock and Dam



McNARY DAM

FISH COUNTING SCHEDULE

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

FISH LADDER OPERATING SCHEDULE

Washington Ladder

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

Oregon Ladder

1 Jan – 3 Feb	In service.
4 Feb – 8 Mar	Out of service for annual maintenance.
9 Mar – 31 Dec	In service.

FISHWAY ACTIVITIES

Adult chinook and steelhead were radio-tracked past the dam in 2002 as part of a broader, ongoing study to evaluate fish passage from below Bonneville Dam to above Lower Granite Dam.

Stowaway temperature probes were installed in several locations within the adult fishways during the 2002 fish passage season. Water temperature data were recorded on an hourly basis from May through October.

Adult PIT tag detectors were installed around submerged orifices in both ladders during the winter outage. In addition, detectors were installed in the Oregon ladder's fish counting slot.

The juvenile fish facility was operated for juvenile fish transport/bypass and adult fallbacks from 18 March to 19 December.

TABLE 66

MONTHLY TOTALS OF SALMONIDS, SHAD AND LAMPREY COUNTED OVER McNARY DAM

2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*
CHINOOK*				14,867	108,862	65,935	56,149	26,798	123,089	21,390			417,090
STEELHEAD				4,650	271	2,957	29,979	48,226	120,936	79,786			286,805
SOCKEYE					1	12,518	26,745	156	2	2			39,424
COHO*								10	1,765	1,417			3,192
CHUM													
PINK													
TOTAL				19,517	109,134	81,410	112,873	75,190	245,792	102,595			746,511
SHAD					1,934	339,712	256,420	1,228					599,294
LAMPREY						43	2,452	6,107	2,432	248			11,282

***Jacks Included**

TABLE 67

DISCHARGE AND WATER QUALITY DATA

MCNARY PROJECT 2002

JANUARY

DATE	DISCH KCFS	SPILL KCFS	[1]TURBIDITY SECCHI	[1]DEG F
Jan 1	114.0	0.0	*	42.0
Jan 2	96.3	0.0	*	42.0
Jan 3	120.4	0.0	6+	42.0
Jan 4	131.9	0.0	5.9	42.0
Jan 5	135.4	0.0	6+	43.0
Jan 6	125.9	0.0	6+	43.0
Jan 7	111.4	0.0	6.0	43.0
Jan 8	97.9	0.0	6+	43.0
Jan 9	137.1	0.0	6.0	43.0
Jan 10	129.3	0.0	*	44.0
Jan 11	113.3	0.0	*	44.0
Jan 12	114.2	0.0	6.0	44.0
Jan 13	103.9	0.0	5.9	44.0
Jan 14	116.1	0.0	5.4	44.0
Jan 15	152.1	0.0	5.4	43.0
Jan 16	170.8	0.0	*	43.0
Jan 17	144.4	0.0	*	42.0
Jan 18	148.2	0.0	*	42.0
Jan 19	119.7	0.0	*	42.0
Jan 20	126.9	0.0	*	42.0
Jan 21	113.6	0.0	*	42.0
Jan 22	132.9	0.0	*	42.0
Jan 23	158.1	0.0	6+	42.0
Jan 24	157.9	0.0	6+	41.0
Jan 25	111.9	0.0	6+	41.0
Jan 26	139.8	0.0	6+	41.0
Jan 27	111.5	0.0	6+	41.0
Jan 28	125.3	0.0	*	41.0
Jan 29	156.1	0.0	*	41.0
Jan 30	159.1	0.0	*	41.0
Jan 31	160.6	0.0	*	41.0
AVG.	130.2	0.0	5.8	42.3

FEBRUARY

DATE	DISCH KCFS	SPILL KCFS	[1]TURBIDITY SECCHI	[1]DEG F
Feb 1	153.2	0.0	*	41.0
Feb 2	136.7	0.0	*	40.0
Feb 3	117.3	0.0	6.0	40.0
Feb 4	133.4	0.0	*	41.0
Feb 5	152.2	0.0	*	40.0
Feb 6	155.6	0.0	*	40.0
Feb 7	148.4	0.0	6+	40.0
Feb 8	156.8	0.0	6+	39.0
Feb 9	146.2	0.0	6+	39.0
Feb 10	114.1	0.0	6+	39.0
Feb 11	119.2	0.0	6+	39.0
Feb 12	170.2	0.0	5.7	40.0
Feb 13	148.9	0.0	5.7	40.0
Feb 14	156.4	0.0	*	40.0
Feb 15	132.2	0.0	5.7	40.0
Feb 16	126.5	0.0	5.8	40.0
Feb 17	109.4	0.0	5.8	40.0
Feb 18	114.7	0.0	6.0	40.0
Feb 19	131.9	0.0	*	40.0
Feb 20	138.0	0.0	*	40.0
Feb 21	123.8	0.0	*	40.0
Feb 22	118.3	0.0	*	40.0
Feb 23	106.6	0.0	*	40.0
Feb 24	113.2	0.0	*	41.0
Feb 25	144.7	0.0	*	41.0
Feb 26	133.2	0.0	5.4	41.0
Feb 27	143.3	0.0	6+	42.0
Feb 28	150.8	0.0	6+	42.0
AVG.	135.5	0.0	5.8	40.2

MARCH

DATE	DISCH KCFS	SPILL KCFS	[1]TURBIDITY SECCHI	[1]DEG F
Mar 1	125.0	0.0	4+	42.0
Mar 2	116.5	0.0	4+	42.0
Mar 3	96.1	0.0	5.0	42.0
Mar 4	110.3	0.0	*	42.0
Mar 5	96.0	0.0	*	42.0
Mar 6	113.7	0.0	*	42.0
Mar 7	116.6	0.0	*	42.0
Mar 8	128.2	0.0	5.4	40.0
Mar 9	109.3	0.0	4.3	40.0
Mar 10	86.0	0.0	4.6	40.0
Mar 11	99.1	0.0	*	40.0
Mar 12	132.7	0.0	*	40.0
Mar 13	152.6	0.0	*	40.0
Mar 14	128.7	0.0	4.7	40.0
Mar 15	130.6	0.0	4.8	41.0
Mar 16	131.3	0.0	4.7	41.0
Mar 17	103.9	0.0	4.7	41.0
Mar 18	113.6	0.0	4.6	41.0
Mar 19	121.0	0.0	4.6	42.0
Mar 20	105.2	0.0	4.8	42.0
Mar 21	123.3	0.0	*	41.0
Mar 22	120.5	0.0	4.6	41.0
Mar 23	104.8	0.0	*	41.0
Mar 24	82.9	0.0	*	41.0
Mar 25	126.5	0.0	*	41.0
Mar 26	109.1	0.0	*	41.0
Mar 27	117.2	0.0	*	41.0
Mar 28	117.6	0.0	*	42.0
Mar 29	128.8	0.0	*	42.0
Mar 30	121.1	0.0	*	42.0
Mar 31	118.0	0.0	*	42.0
AVG.	115.7	0.0	4.7	41.2

***Data unavailable.**

TABLE 68

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

APRIL 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO		TOTAL	WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCH	DEG F
Apr 1	36			0				235	86			138.0	0.0	3.2	44.0
Apr 2	46			0				239	70			148.2	0.0	3.2	44.0
Apr 3	45			0				194	74			127.9	0.0	2.8	44.0
Apr 4	86			1				254	101			121.8	0.0	2.6	45.0
Apr 5	75			0				289	67			114.7	0.0	2.6	46.0
Apr 6	33			0				449	149			121.8	0.0	2.8	46.0
Apr 7	139			0				534	180			117.9	0.0	3.4	46.0
Apr 8	105			0				315	127			145.6	0.0	3.4	46.0
Apr 9	270			0				157	48			138.2	0.0	2.7	47.0
Apr 10	187			0				160	43			154.0	28.6	2.9	46.0
Apr 11	127			0				231	89			170.0	61.0	2.6	48.0
Apr 12	58			1				227	84			173.4	65.5	2.4	50.0
Apr 13	284			0				272	133			213.9	71.2	2.4	50.0
Apr 14	302			1				197	96			199.8	75.6	2.4	50.0
Apr 15	270			2				147	69			267.6	134.9	*	48.0
Apr 16	334			0				124	72			319.2	151.2	2.4	50.0
Apr 17	392			0				86	40			320.5	153.0	2.4	49.0
Apr 18	358			0				58	33			301.0	147.4	3.2	49.0
Apr 19	267			0				74	35			296.3	138.3	3.3	48.0
Apr 20	213			6				67	34			282.4	133.8	3.3	48.0
Apr 21	357			0				56	29			265.2	117.5	3.2	48.0
Apr 22	304			2				57	29			261.9	114.6	3.5	48.0
Apr 23	313			16				42	19			275.0	131.9	3.8	48.0
Apr 24	142			1				27	20			257.8	129.6	3.9	46.0
Apr 25	721			7				35	17			240.5	112.3	3.9	47.0
Apr 26	359			1				31	19			232.2	101.7	3.9	48.0
Apr 27	3,064			36				48	34			205.2	93.8	3.9	48.0
Apr 28	1,468			6				20	13			187.1	77.0	4.1	48.0
Apr 29	1,153			7				12	8			217.2	79.6	4.2	49.0
Apr 30	3,234			38				13	8			224.8	87.3	4.6	48.0
TOTAL	14,742			125				4,650	1,826						
AVG.	491			4				155	61			208.0	73.5	3.2	47.4

*Data unavailable.

TABLE 69

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

MAY 2002

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
May 1	4,032			84			0	14	8	0		211.0	76.2	4.0	48.0
May 2	9,676			117			0	13	6	0		214.7	50.2	4.4	48.0
May 3	6,036			133			0	11	7	0		224.7	59.0	4.2	50.0
May 4	3,383			57			0	13	6	0		239.4	68.3	4.1	50.0
May 5	8,497			167			0	11	3	0		217.5	56.9	4.2	50.0
May 6	5,812			146			0	15	10	0		212.4	65.0	3.9	51.0
May 7	3,256			62			0	7	1	0		241.4	88.0	3.9	51.0
May 8	10,504			199			0	7	1	0		247.3	78.4	4.0	51.0
May 9	7,074			86			0	5	4	0		198.5	73.2	4.0	51.0
May 10	7,091			128			0	7	3	0		196.3	72.0	4.0	50.0
May 11	4,109			155			0	6	1	0		208.0	67.2	3.8	51.0
May 12	1,051			58			0	14	6	0		156.3	50.8	3.8	50.0
May 13	1,679			61			0	7	0	0		213.6	77.7	3.8	51.0
May 14	3,409			145			0	6	4	0		210.0	67.4	5.8	52.0
May 15	3,727			145			0	7	4	1		211.6	62.1	5.7	52.0
May 16	3,807			173			0	9	2	0		202.3	60.0	5.7	52.0
May 17	3,783			108			0	13	2	0		216.8	68.5	5.5	54.0
May 18	2,197			124			0	18	8	0		208.4	69.8	5.5	54.0
May 19	2,026			98			0	6	1	0		209.0	70.9	5.4	54.0
May 20	1,198			72			0	3	0	5		226.4	73.2	5.2	54.0
May 21	952			55			0	11	7	1		276.5	108.0	5.4	55.0
May 22	1,474			85			0	5	2	3		269.1	107.3	5.4	54.0
May 23	1,405			98			0	9	5	3		273.2	113.4	5.4	54.0
May 24	1,306			60			0	8	1	28		266.0	111.1	5.2	54.0
May 25	1,334			55			0	5	0	48		241.8	103.1	5.4	54.0
May 26	1,413			71			0	4	3	48		230.7	99.3	5.5	55.0
May 27	1,296			98			0	15	7	216		268.4	119.7	5.2	55.0
May 28	959			56			0	12	8	398		276.3	114.9	5.3	55.0
May 29	891			63			0	7	2	239		295.1	133.3	5.4	56.0
May 30	1,260			72			1	2	0	490		294.8	122.8	5.4	57.0
May 31	1,105			89			0	1	1	454		322.2	149.4	5.4	56.0
TOTAL	105,742			3,120			1	271	113	1,934					
AVG.	3,411			101			0	9	4	62		234.8	85.1	4.8	52.5

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD
SPRING	120,484	3,245	1	4,921	1,939	1,934

TABLE 70

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT

JUNE 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jun 1	1,419			80			0	17	6	308	0	345.2	171.0	5.4	56.0
Jun 2	1,060			83			0	9	2	547	0	300.4	129.4	5.4	56.0
Jun 3	803			91			0	13	0	1,348	0	313.1	139.6	4.8	56.0
Jun 4	1,140			86			0	24	4	1,129	0	358.3	193.2	4.8	57.0
Jun 5	1,047			89			0	9	0	1,449	0	376.9	221.5	4.8	57.0
Jun 6	1,775			98			0	23	7	684	0	374.0	211.6	4.7	58.0
Jun 7	673			54			0	16	5	699	0	344.8	184.1	3.6	59.0
Jun 8	956			46			0	12	0	222	0	370.8	212.8	3.6	59.0
Jun 9		1,183		59			1	33	8	117	0	332.6	163.5	4.3	56.0
Jun 10		1,696		77			0	25	6	1,104	0	294.7	128.4	3.6	56.0
Jun 11		1,584		98			2	23	7	3,343	0	338.7	168.7	4.4	56.0
Jun 12		1,886		89			7	44	7	9,040	0	297.8	145.2	4.6	56.0
Jun 13		927		43			9	35	5	11,948	0	308.3	143.8	4.3	56.0
Jun 14		1,659		102			27	53	12	14,652	0	281.8	121.3	4.5	57.0
Jun 15		1,692		95			21	41	15	16,593	0	306.1	134.8	4.6	58.0
Jun 16		3,290		152			60	86	23	28,064	1	271.0	98.0	4.6	59.0
Jun 17		2,651		177			79	78	21	5,735	0	297.7	141.1	4.6	60.0
Jun 18		3,654		153			190	103	26	8,360	1	328.2	166.7	4.6	60.0
Jun 19		2,633		138			260	84	26	5,063	1	345.7	179.5	4.6	60.0
Jun 20		2,126		98			228	106	35	10,711	0	361.1	188.7	4.6	59.0
Jun 21		2,255		99			309	94	29	11,337	1	350.6	176.6	3.8	59.0
Jun 22		1,991		117			526	120	42	13,016	5	323.1	149.8	3.8	59.0
Jun 23		3,260		157			676	156	52	21,046	4	305.2	135.0	4.9	59.0
Jun 24		2,798		139			776	176	77	32,085	5	300.0	129.0	4.9	60.0
Jun 25		2,027		151			1,134	228	74	29,459	6	295.7	121.9	5.0	61.0
Jun 26		2,410		159			1,028	154	70	33,462	4	308.1	135.7	5.0	61.0
Jun 27		3,203		188			1,189	235	90	24,958	3	312.6	140.0	5.0	61.0
Jun 28		2,604		180			1,400	278	110	19,288	5	344.0	181.4	4.3	63.0
Jun 29		4,623		211			2,170	382	148	15,994	2	344.2	173.3	4.0	63.0
Jun 30		3,424		177			2,426	300	110	17,951	5	304.8	132.0	4.0	62.0
TOTAL	8,873	53,576		3,486			12,518	2,957	1,017	339,712	43				
AVG.	1109	2435		116			417	99	34	11,324	1	324.5	157.3	4.5	58.6

TOTAL TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	129,357	3,872
SUMMER	53,576	2,859
TOTAL	182,933	6,731

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
12,519	7,878	2,956	341,646	43

TABLE 71

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

MCNARY PROJECT
JULY 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jul 1		2,840		164			2,454	386	147	19,335	4	308.6	139.5	4.0	62.0
Jul 2		2,794		144			2,009	370	140	19,091	6	332.1	157.4	5.0	62.0
Jul 3		2,907		136			2,076	412	162	15,399	4	322.0	149.5	5.0	62.0
Jul 4		2,495		179			2,354	451	173	9,821	5	313.0	140.9	3.3	62.0
Jul 5		2,387		170			2,143	429	169	10,150	8	248.8	76.7	4.2	61.0
Jul 6		2,040		120			1,252	412	152	8,362	13	259.9	86.9	4.2	61.0
Jul 7		1,837		144			1,366	412	177	10,972	9	249.0	75.6	4.2	61.0
Jul 8		2,660		187			1,906	451	145	12,590	25	239.8	66.9	4.2	61.0
Jul 9		1,984		158			2,048	582	257	13,653	14	204.0	36.5	4.4	63.0
Jul 10		2,174		153			1,737	626	274	21,422	12	204.5	36.7	4.3	63.0
Jul 11		2,172		144			1,364	471	207	14,415	17	259.7	90.1	3.3	64.0
Jul 12		2,600		132			980	637	257	18,375	27	248.1	77.1	3.6	65.0
Jul 13		1,931		111			793	777	376	15,015	30	267.8	97.3	4.9	65.0
Jul 14		2,804		94			596	785	317	12,672	35	263.6	94.3	4.9	66.0
Jul 15		1,021		124			597	1,008	471	7,618	53	219.6	55.1	5.3	65.0
Jul 16		1,627		157			541	861	392	11,629	44	215.4	49.9	4.9	65.0
Jul 17		2,360		224			705	1,133	495	6,582	24	258.7	85.4	5.0	65.0
Jul 18		1,506		95			352	985	449	5,087	26	242.6	71.7	4.9	68.0
Jul 19		879		93			289	1,519	637	7,452	54	205.3	36.0	4.9	68.0
Jul 20		667		71			185	1,092	502	2,876	38	232.3	60.7	4.2	68.0
Jul 21		1,031		92			277	1,448	639	3,060	78	225.9	56.2	5.3	68.0
Jul 22		1,125		70			164	1,185	528	1,542	78	226.6	66.4	5.3	68.0
Jul 23		852		68			97	1,203	493	1,962	53	209.8	53.3	5.2	68.0
Jul 24		1,489		65			102	1,191	555	1,529	192	195.7	36.7	4.6	68.0
Jul 25		881		75			79	1,230	543	2,451	380	191.4	26.5	4.9	68.0
Jul 26		629		60			79	1,960	856	822	356	158.1	4.0	4.6	69.0
Jul 27		320		39			59	1,937	918	429	213	161.7	6.7	4.7	69.0
Jul 28		805		63			45	1,501	693	660	171	153.5	9.4	4.7	68.0
Jul 29		1,810		98			39	1,659	746	642	208	169.5	14.4	4.4	68.0
Jul 30		1,497		68			30	1,396	563	543	183	180.8	24.2	4.4	68.0
Jul 31		484		43			27	1,470	637	264	92	175.1	28.3	4.4	69.0
TOTAL		52,608		3,541			26,745	29,979	13,070	256,420	2,452				
AVG.		1697		114			863	967	422	8,272	79	230.4	64.8	4.6	65.4

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	129,357	3,872
SUMMER	106,184	6,400
TOTAL	235,541	10,272

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
39,264	37,857	16,026	598,066	2,495

TABLE 72

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

MCNARY PROJECT
AUGUST 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Aug 1		304		44	0	0	19	1,448	582	72	113
Aug 2		670		50	0	0	22	1,482	592	113	134
Aug 3		423		38	0	0	14	1,647	621	57	128
Aug 4		1055		123	0	0	18	1,854	703	25	145
Aug 5		367		37	0	0	14	1,392	491	-71	135
Aug 6		185		39	0	0	10	1,196	465	196	126
Aug 7		342		39	0	0	7	1,029	385	112	165
Aug 8		407		40	0	0	13	1,448	494	104	181
Aug 9			275	44	0	0	5	727	224	6	117
Aug 10			292	32	0	0	6	891	342	51	198
Aug 11			260	34	0	0	6	887	291	82	197
Aug 12			161	23	0	0	4	1,371	448	51	294
Aug 13			268	28	0	0	7	1,345	418	12	259
Aug 14			271	41	0	0	5	1,454	446	33	263
Aug 15			360	31	0	0	0	1,424	489	20	273
Aug 16			785	68	0	0	0	2,323	824	4	210
Aug 17			186	36	0	0	0	2,572	840	33	248
Aug 18			508	45	0	0	0	1,867	627	34	240
Aug 19			284	39	0	0	1	1,536	474	35	246
Aug 20			686	54	0	0	1	1,646	508	37	191
Aug 21			1,062	77	0	0	4	2,197	715	20	178
Aug 22			521	71	0	0	0	1,618	445	24	243
Aug 23			388	56	0	0	0	1,247	358	16	224
Aug 24			230	33	0	0	0	897	261	15	167
Aug 25			307	40	0	0	0	924	225	6	173
Aug 26			666	45	0	0	0	1,206	354	31	242
Aug 27			1,521	115	0	0	0	1,888	556	29	217
Aug 28			3,509	282	1	0	0	2,514	713	28	166
Aug 29			2,991	211	6	0	0	1,939	562	16	186
Aug 30			2,659	222	2	1	0	1,997	553	25	197
Aug 31			2,567	251	0	0	0	2,260	633	12	251
TOTAL		3,753	20,757	2,288	9	1	156	48,226	15,639	1,228	6,107
AVG.		469	902	74	0	0	5	1,556	504	40	197

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Aug 1	165.3	4.4	4.4	69.0
Aug 2	160.6	0.1	4.4	69.0
Aug 3	160.3	0.0	4.4	69.0
Aug 4	160.9	0.0	4.4	68.0
Aug 5	150.1	0.0	4.4	68.0
Aug 6	142.8	0.0	5.8	68.0
Aug 7	149.3	0.0	4.5	68.0
Aug 8	170.3	0.0	4.3	68.0
Aug 9	168.1	0.0	4.8	70.0
Aug 10	147.0	0.0	4.7	69.0
Aug 11	146.5	0.0	4.3	70.0
Aug 12	154.7	0.0	4.7	70.0
Aug 13	159.5	0.0	4.7	70.0
Aug 14	156.8	0.0	5.2	70.0
Aug 15	157.2	0.0	5.2	70.0
Aug 16	158.2	0.0	5.0	73.0
Aug 17	125.6	0.0	5.4	70.0
Aug 18	126.1	0.0	5.6	70.0
Aug 19	127.7	0.0	5.5	70.0
Aug 20	158.4	0.0	5.5	70.0
Aug 21	145.6	0.0	5.5	70.0
Aug 22	151.8	0.0	5.0	70.0
Aug 23	159.1	0.0	4.8	69.0
Aug 24	129.2	0.0	5.0	69.0
Aug 25	122.1	0.0	5.0	69.0
Aug 26	142.5	0.0	5.2	69.0
Aug 27	134.1	0.0	5.2	70.0
Aug 28	142.8	0.0	5.1	70.0
Aug 29	140.2	0.0	5.1	70.0
Aug 30	131.2	0.0	5.0	70.0
Aug 31	139.0	0.0	5.1	70.0
AVG.	147.8	0.1	4.9	69.5

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	129,357	3,872
SUMMER	109,937	6,810
FALL	20,757	1,878
TOTAL	260,051	12,560

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
9	1	39,420	86,083	31,665	599,294	8,602

TABLE 73

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

MCNARY PROJECT
SEPTEMBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Sep 1			2,481	235	8	3	0	2,008	600		205
Sep 2			3,483	206	22	7	0	2,510	667		68
Sep 3			4,592	269	18	5	0	2,054	684		94
Sep 4			3,829	202	12	3	0	2,365	703		110
Sep 5			5,421	427	8	13	0	2,595	788		115
Sep 6			1,031	291	5	0	0	2,772	674		108
Sep 7			1,190	378	5	0	0	2,642	640		113
Sep 8			2,801	574	8	1	0	2,712	752		56
Sep 9			3,558	439	1	1	0	1,924	505		87
Sep 10			5,885	769	7	5	0	1,852	519		89
Sep 11			5,827	624	14	10	0	2,036	533		80
Sep 12			7,339	919	13	11	0	2,680	762		89
Sep 13			3,603	870	26	12	0	3,273	891		75
Sep 14			3,156	708	27	19	0	3,280	914		92
Sep 15			5,019	995	31	15	0	3,518	993		62
Sep 16			5,321	1,025	78	49	1	8,736	2470		61
Sep 17			5,808	1,181	67	27	0	6,029	1478		65
Sep 18			3,978	1,028	39	27	0	4,005	920		93
Sep 19			3,557	917	79	46	1	4,024	966		64
Sep 20			2,115	667	89	91	0	4,655	1117		95
Sep 21			1,626	498	61	53	0	3,874	936		72
Sep 22			2,848	567	42	33	0	3,448	874		80
Sep 23			3,907	798	55	27	0	5,488	1337		72
Sep 24			3,792	783	74	57	0	6,821	1751		62
Sep 25			2,706	596	49	34	0	5,816	1426		80
Sep 26			3,278	706	62	36	0	7,765	1899		39
Sep 27			1,354	563	58	15	0	6,029	1413		89
Sep 28			1,412	489	31	8	0	5,203	1324		51
Sep 29			1,473	488	47	26	0	5,143	1109		28
Sep 30			1,928	559	66	29	0	5,679	1253		38
TOTAL			104,318	18,771	1,102	663	2	120,936	30,898		2,432
AVG.			3,477	626	37	22	0	4,031	1,030		81

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Sep 1	114.7	0.0	5.8	71.0
Sep 2	96.7	0.0	5.8	71.0
Sep 3	95.7	0.0	5.6	69.0
Sep 4	132.1	0.0	5.6	70.0
Sep 5	100.9	0.0	4.9	70.0
Sep 6	105.5	0.0	4.6	70.0
Sep 7	93.1	0.0	4.2	69.0
Sep 8	73.0	0.0	4.2	69.0
Sep 9	71.9	0.0	4.4	68.0
Sep 10	120.8	0.0	5.0	68.0
Sep 11	96.8	0.0	4.9	68.0
Sep 12	87.8	0.0	4.9	67.0
Sep 13	80.7	0.0	5.2	68.0
Sep 14	109.2	0.0	5.1	67.0
Sep 15	78.9	0.0	6.0	67.0
Sep 16	67.7	0.0	5.1	67.0
Sep 17	97.9	0.0	4.8	67.0
Sep 18	103.7	0.0	5.8	68.0
Sep 19	109.4	0.0	5.9	68.0
Sep 20	117.9	0.0	5.9	67.0
Sep 21	113.4	0.0	6.0	67.0
Sep 22	100.1	0.0	6.0	67.0
Sep 23	123.0	0.0	5.1	66.0
Sep 24	104.8	0.0	4.3	66.0
Sep 25	120.1	0.0	3.9	66.0
Sep 26	116.3	0.0	3.8	66.0
Sep 27	120.8	0.0	4.2	65.0
Sep 28	75.6	0.0	4.0	66.0
Sep 29	75.9	0.0	4.0	66.0
Sep 30	91.3	0.0	3.8	65.0
AVG.	99.9	0.0	5.0	67.6

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	129,357	3,872
SUMMER	109,937	6,810
FALL	125,075	20,649
TOTAL	364,369	31,331

COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
1,111	664	39,422	207,019	62,563	599,294	11,034

TABLE 74

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

MCNARY PROJECT
OCTOBER 2002

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Oct 1			1,929	490	50	41	0	5,547	1,207		37	97.6	0.0	5.0	65.0
Oct 2			1,638	398	27	19	0	4,104	862		29	103.9	0.0	5.0	64.0
Oct 3			1,643	382	49	25	1	3,973	971		32	101.6	0.0	5.0	64.0
Oct 4			1,776	379	41	29	0	6,336	1,545		6	102.0	0.0	3.8	62.0
Oct 5			873	293	56	31	0	4,963	1,178		18	81.5	0.0	3.8	62.0
Oct 6			977	263	42	17	0	4,686	1,183		9	81.2	0.0	4.2	62.0
Oct 7			1,042	270	49	19	0	4,341	1,068		9	96.5	0.0	4.8	63.0
Oct 8			661	199	49	22	0	3,796	891		16	92.4	0.0	4.8	62.0
Oct 9			495	187	38	8	1	3,555	655		18	141.0	0.0	4.6	62.0
Oct 10			482	209	44	11	0	6,657	1,443		9	123.3	0.0	4.5	62.0
Oct 11			590	168	44	17	0	4,989	1,125		9	111.2	0.0	4.5	62.0
Oct 12			268	115	35	10	0	3,118	717		16	93.9	0.0	5.2	62.0
Oct 13			458	181	36	8	0	2,171	491		13	74.5	0.0	4.8	62.0
Oct 14			409	135	34	13	0	1,564	335		12	98.4	0.0	4.7	61.0
Oct 15			309	97	26	4	0	1,143	288		5	103.9	0.0	4.7	61.0
Oct 16			388	115	35	13	0	1,771	493		4	92.1	0.0	4.5	61.0
Oct 17			270	105	43	10	0	1,439	376		1	96.1	0.0	4.8	60.0
Oct 18			221	85	29	6	0	1,565	329		1	96.9	0.0	4.9	60.0
Oct 19			197	95	40	4	0	1,498	329		0	83.2	0.0	4.8	60.0
Oct 20			221	90	36	7	0	1,290	352		0	66.2	0.0	4.8	59.0
Oct 21			216	78	35	9	0	1,268	324		0	91.6	0.0	5.7	59.0
Oct 22			202	64	18	9	0	1,128	254		1	87.1	0.0	5.4	61.0
Oct 23			169	63	27	2	0	1,280	329		2	107.9	0.0	5.3	60.0
Oct 24			228	61	23	12	0	1,963	564		0	104.5	0.0	5.5	59.0
Oct 25			185	42	30	12	0	908	271		0	105.3	0.0	5.3	59.0
Oct 26			195	45	14	7	0	1,184	316		1	124.4	0.0	5.5	58.0
Oct 27			158	48	17	4	0	1,079	301		0	104.3	0.0	5.5	58.0
Oct 28			135	32	14	5	0	974	310		0	108.2	0.0	5.5	57.0
Oct 29			131	45	20	4	0	925	222		0	105.4	0.0	5.8	58.0
Oct 30			53	23	13	2	0	252	74		0	127.9	0.0	5.8	56.0
Oct 31			88	26	19	4	0	319	73		0	135.6	0.0	6.0	55.0
TOTAL			16,607	4,783	1,033	384	2	79,786	18,876		248				
AVG.			536	154	33	12	0	2,574	609		8	101.3	0.0	5.0	60.5

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	129,357	3,872
SUMMER	109,937	6,810
FALL	141,682	25,432
TOTAL	380,976	36,114

COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
2,144	1,048	39,424	286,805	81,439	599,294	11,282

TABLE 75

DISCHARGE AND WATER QUALITY DATA

MCNARY PROJECT - 2002

NOVEMBER

DATE	DISCH KCFS	SPILL KCFS	[1]TURBIDITY SECCHI	DEG F
Nov 1	142.4	0.0	5.8	55.0
Nov 2	127.1	0.0	5.9	55.0
Nov 3	109.3	0.0	5.8	54.0
Nov 4	118.5	0.0	6.0	53.0
Nov 5	109.2	0.0	5.9	52.0
Nov 6	110.1	0.0	6+	52.0
Nov 7	118.3	0.0	*	52.0
Nov 8	139.5	0.0	5.2	52.0
Nov 9	111.5	0.0	*	52.0
Nov 10	103.9	0.0	5.5	52.0
Nov 11	129.7	0.0	*	52.0
Nov 12	115.9	0.0	*	53.0
Nov 13	119.7	0.0	*	53.0
Nov 14	94.6	0.0	*	52.0
Nov 15	120.8	0.0	*	53.0
Nov 16	115.1	0.0	*	53.0
Nov 17	112.6	0.0	*	53.0
Nov 18	126.4	0.0	6.0	53.0
Nov 19	111.6	0.0	5.1	53.0
Nov 20	114.9	0.0	5.9	53.0
Nov 21	124.7	0.0	*	53.0
Nov 22	125.7	0.0	6.0	53.0
Nov 23	122.8	0.0	6.0	53.0
Nov 24	119.5	0.0	6.0	53.0
Nov 25	135.4	0.0	*	53.0
Nov 26	141.4	0.0	6.0	52.0
Nov 27	138.2	0.0	6.0	52.0
Nov 28	120.2	0.0	6.0	52.0
Nov 29	97.8	0.0	6+	50.0
Nov 30	115.7	0.0	6+	50.0
AVG.	119.8	0.0	5.8	52.6

DECEMBER

DATE	DISCH KCFS	SPILL KCFS	[1]TURBIDITY SECCHI	[1]DEG F
Dec 1	115.7	0	6+	49
Dec 2	129.3	0	6+	49
Dec 3	134.4	0	6+	48
Dec 4	131.7	0	6+	48
Dec 5	133.4	0	6+	47
Dec 6	129.8	0	6	47
Dec 7	124.7	0	6+	47
Dec 8	110	0	6+	47
Dec 9	115.3	0	*	47
Dec 10	128.3	0	*	47
Dec 11	123.8	0	*	47
Dec 12	126.9	0	6+	47
Dec 13	107.6	0	6+	47
Dec 14	116.6	0	6+	47
Dec 15	90.4	0	6+	47
Dec 16	111.1	0	*	47
Dec 17	109.9	0	*	48
Dec 18	132.1	0	*	48
Dec 19	128.5	0	*	48
Dec 20	113	0	*	47
Dec 21	105.7	0	*	46
Dec 22	100.8	0	*	45
Dec 23	110.6	0	*	45
Dec 24	107.9	0	*	44
Dec 25	106.9	0	*	44
Dec 26	105.2	0	*	44
Dec 27	111.2	0	*	44
Dec 28	111.3	0	*	44
Dec 29	109.8	0	*	44
Dec 30	95.7	0	*	44
Dec 31	106.8	0	*	44
AVG.	115.6	0.0	6.0	46.4

***Data unavailable.**

YEARLY TOTALS OF SALMONIDS COUNTED OVER McNARY DAM
1954 - 2002

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS*
1954	126,555	75,059	108,181	950	310,745
1955	108,915	85,575	173,758	643	368,891
1956	114,342	42,554	102,145	683	259,724
1957	292,696	105,728	85,460	2,855	486,739
1958	226,092	87,890	102,397	1,350	417,729
1959	171,490	110,475	83,977	1,970	367,912
1960	176,767	96,895	55,372	1,580	330,614
1961	154,996	103,743	16,388	2,045	277,172
1962	152,756	163,181	29,372	3,195	348,504
1963	154,459	113,646	59,744	3,113	330,962
1964	167,934	100,742	83,931	3,317	355,924
1965	150,907	118,960	42,052	2,700	314,619
1966	223,141	145,130	173,028	8,525	549,824
1967	195,653	77,700	105,635	27,226	406,214
1968	200,488	112,522	101,007	39,518	453,535
1969	213,407	76,681	29,787	53,716	373,591
1970	168,892	69,759	59,636	36,399	334,686
1971	171,448	109,630	52,867	39,358	373,303
1972	168,821	93,820	26,422	45,635	334,698
1973	184,112	64,620	42,731	17,682	309,145
1974	127,858	26,932	26,505	13,746	195,041
1975	133,150	23,663	43,143	3,975	203,931
1976	163,314	54,000	24,632	7,539	249,485
1977	183,581	87,712	80,781	4,622	356,696
1978	144,148	34,740	18,511	20,356	217,755
1979	95,275	50,304	37,792	12,800	196,171
1980	80,773	66,524	44,301	571	192,169
1981	80,619	61,985	26,644	3,736	172,984
1982	102,225	75,099	15,077	3,119	195,520
1983	121,636	125,254	40,903	2,470	290,263
1984	159,071	135,515	56,906	2,841	354,333
1985	288,483	188,204	98,457	6,917	582,061
1986	342,417	193,481	46,443	1,374	583,715
1987	286,638	148,811	72,190	615	508,254
1988	243,608	151,765	50,080	2,010	447,463
1989	176,407	170,467	41,318	3,383	391,575
1990	147,439	95,061	46,145	2,059	290,704
1991	114,841	168,692	69,365	2,272	355,170
1992	135,707	194,026	68,737	1,801	400,271
1993	143,412	93,183	66,485	481	303,561
1994	128,868	94,427	10,603	1,735	235,633
1995	113,354	114,910	8,320	1,021	237,605
1996	114,947	124,177	28,585	1,853	269,562
1997	162,946	129,817	38,043	2,580	333,386
1998	114,604	99,705	9,391	6,173	229,873
1999	121,946	84,088	11,884	4,934	222,852
2000	191,231	130,332	60,242	11,152	392,957
2001	489,784	398,784	97,188	24,730	1,010,486
2002	417,090	286,805	39,424	3,192	746,511
Totals	8,649,243	5,562,773	2,811,985	446,517	17,470,518
10-Year Average	193,990	159,114	39,900	5,423	398,427

*Jacks included

TABLE 77

MONTHLY COUNT OF CHINOOK SALMON
McNARY DAM: 1954 - 2002

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

TABLE 77

(Continued)

MONTHLY COUNT OF CHINOOK SALMON

McNARY DAM: 1954 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING MAR 15-JUN 8	SUMMER JUN 9-AUG 8	FALL AUG 9-OCT 31
1986			2	28,739	44,459	14,515	12,315	9,636	168,230	64,521			342,417	76,077	25,798	240,542
1987				26,258	32,171	12,889	11,219	19,123	151,410	33,568			286,638	60,396	25,353	200,889
1988				26,267	22,245	14,605	9,282	30,714	115,878	24,617			243,608	51,178	23,621	168,809
1989				9,625	24,281	12,484	11,112	23,034	80,089	15,782			176,407	35,954	24,708	115,745
1990				19,309	23,861	11,007	11,148	7,306	61,718	13,090			147,439	44,499	22,248	80,692
1991				4,942	15,838	9,289	9,409	4,328	56,251	13,674	1,074	36	114,841	22,631	17,588	74,622
1992				25,549	22,799	9,511	6,159	5,846	51,961	13,882			135,707	50,590	14,414	70,703
1993				18,649	37,255	14,880	8,119	8,414	48,093	8,002			143,412	59,556	20,374	63,482
1994				2,940	5,513	5,486	8,242	11,085	80,693	14,909			128,868	8,987	14,313	105,568
1995				1,392	3,871	4,343	8,270	13,224	61,633	20,621			113,354	5,930	13,219	94,205
1996				426	15,212	8,242	8,206	13,964	56,847	12,050			114,947	17,832	15,102	82,013
1997				6,529	44,264	18,384	10,584	6,892	63,484	12,809			162,946	56,826	23,649	82,471
1998				6,645	11,964	9,965	8,249	5,652	50,987	21,142			114,604	19,752	17,634	77,218
1999				1,193	10,841	7,570	13,475	15,402	59,360	14,105			121,946	13,232	21,618	87,096
2000				25,136	46,396	16,096	13,641	27,931	50,138	11,893			191,231	75,644	27,696	87,891
2001				164,846	86,605	50,064	36,562	16,605	111,369	23,733			489,784	265,372	77,514	146,898
2002				14,867	108,862	65,935	56,149	26,798	123,089	21,390			417,090	133,229	116,747	167,114
Total			62	807,836	1,615,529	997,594	1,072,144	606,623	2,916,622	626,941	5,861	36	8,649,248	2,607,084	2,038,101	4,004,063
10-Year Average				24,379	35,780	19,134	16,151	13,801	68,878	15,867			193,990	64,268	32,935	96,787

***Jacks included**

TABLE 78

MONTHLY COUNT OF SOCKEYE SALMON
McNARY DAM; 1954 - 2002

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

TABLE 78

(Continued)

MONTHLY COUNT OF SOCKEYE SALMON
McNARY DAM; 1954 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1986						8,362	36,863	819	348	51			46,443
1987					4	28,742	42,464	889	85	6			72,190
1988						23,466	25,984	599	14	17			50,080
1989					1	14,721	26,239	334	21	2			41,318
1990					1	8,922	36,791	427	0	4			46,145
1991					1	6,509	61,780	1,024	38	11	1	1	69,365
1992					7	30,339	37,915	448	28				68,737
1993						26,492	39,607	377	9				66,485
1994					1	5,910	4,672	20					10,603
1995					1	3,001	5,259	58		1			8,320
1996						11,594	16,927	64					28,585
1997						7,706	29,645	688	4				38,043
1998						3,585	5,754	45	7				9,391
1999						2,842	8,940	99	1	2			11,884
2000					4	44,379	15,752	106	1				60,242
2001					4	70,327	26,610	225	17	5			97,188
2002					1	12,518	26,745	156	2	2			39,424
Total				1	190	559,789	2,153,316	85,489	9,396	3,798	5	1	2,811,985
10-Year Average						19,881	19,802	208	9				39,900

TABLE 79

MONTHLY COUNT OF COHO SALMON
McNARY DAM; 1954 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS*
1954								4	751	180	14	1	950
1955									350	260	33		643
1956								16	462	157	48		683
1957							18	208	2,364	265			2,855
1958								29	1,091	230			1,350
1959								32	1,892	46			1,970
1960								24	1,432	124			1,580
1961								22	1,731	292			2,045
1962							5	106	2,884	200			3,195
1963							5	437	2,259	412			3,113
1964							3	307	2,734	273			3,317
1965							22	105	2,264	309			2,700
1966								811	7,195	519			8,525
1967							11	11	22,492	4,712			27,226
1968								1,010	36,260	2,248			39,518
1969								1,643	45,497	6,576			53,716
1970								3,576	31,161	1,662			36,399
1971								927	33,828	4,603			39,358
1972								2,433	38,747	4,455			45,635
1973							66	1,768	14,452	1,396			17,682
1974								1,160	10,052	2,534			13,746
1975							1	268	3,675	31			3,975
1976								373	5,201	1,965			7,539
1977						2		274	2,698	1,648			4,622
1978						1		138	10,445	7,459	2,313		20,356
1979				1		4	194	652	9,058	2,431	460		12,800
1980								2	180	203	186		571
1981								421	2,840	435	40		3,736
1982							141	235	2,148	595			3,119
1983								229	1,536	705			2,470
1984						6		147	2,506	154	28		2,841
1985					14	37	44	2,040	4,493	289			6,917

TABLE 79

(Continued)

MONTHLY COUNT OF COHO SALMON
McNARY DAM; 1954 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS*
1986								1	851	522			1,374
1987							3	24	377	211			615
1988								17	1,210	783			2,010
1989								35	2,043	1,305			3,383
1990								1	1,007	1,051			2,059
1991									1,105	937	211	19	2,272
1992								1	1,130	670			1,801
1993								2	254	225			481
1994								9	978	748			1,735
1995								8	344	669			1,021
1996							2	1	1,212	638			1,853
1997								29	1,577	974			2,580
1998								6	687	5,480			6,173
1999								6	2,931	1,997			4,934
2000								309	6,947	3,896			11,152
2001								59	11,631	13,040			24,730
2002								10	1,765	1,417			3,192
TOTAL				1	14	50	515	19,926	340,727	81,931	3,333	20	446,517
10-Year Average								40	2,678	2,705			5,423

*Jacks included

TABLE 80

MONTHLY COUNT OF STEELHEAD
McNARY DAM: 1954-2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1954			376	5,569	2,307	128	2,628	20,939	26,944	11,627	2,937	1,604	75,059
1955	931	35	70	3,279	1,791	162	5,257	36,035	17,463	16,941	2,874	737	85,575
1956	66	753	563	2,365	1,218	276	5,440	14,492	8,245	6,787	2,349		42,554
1957			840	2,084	147	334	18,100	28,926	34,478	20,775	8	36	105,728
1958	62	137	1,069	877	334	1,265	9,967	6,535	50,229	17,415			87,890
1959				1,317	685	748	10,508	32,872	49,542	14,803			110,475
1960				1,579	1,236	908	8,475	22,443	51,749	10,505			96,895
1961				896	580	1,281	7,469	11,428	64,521	17,568			103,743
1962				1,650	762	1,108	11,321	28,288	98,042	22,010			163,181
1963				813	1,751	2,639	8,252	26,282	47,982	25,927			113,646
1964				1,789	805	486	7,602	25,918	53,180	10,962			100,742
1965				1,361	363	231	11,749	31,155	54,450	19,651			118,960
1966				2,279	954	1,476	18,241	26,062	71,180	24,938			145,130
1967				1,434	1,130	152	5,771	14,894	32,310	22,009			77,700
1968				5,451	3,361	247	4,058	22,268	61,167	15,970			112,522
1969				2,304	1,792	711	7,668	13,641	35,836	14,729			76,681
1970				1,347	1,001	340	5,183	15,236	39,150	7,502			69,759
1971				813	374	271	8,931	21,324	62,083	15,834			109,630
1972				1,614	393	130	8,155	20,548	46,393	16,587			93,820
1973				3,178	846	270	6,898	11,121	32,701	9,606			64,620
1974				847	715	681	4,093	5,242	8,648	6,706			26,932
1975				612	209	254	3,623	6,708	9,329	2,928			23,663
1976				936	1,372	1,949	5,772	16,145	22,423	5,403			54,000
1977				1,730	987	2,916	13,132	7,833	43,792	17,322			87,712
1978				1,266	701	1,832	3,444	4,863	15,627	5,708	1,299		34,740
1979			970	681	156	93	4,955	9,970	14,648	15,580	3,251		50,304
1980			1,753	3,355	608	381	2,740	14,431	27,706	12,776	2,774		66,524
1981			861	1,479	809	878	7,212	12,839	19,961	15,652	2,294		61,985
1982			1,530	1,764	825	321	4,279	12,621	36,282	17,477			75,099
1983				1,051	215	137	7,746	25,821	70,369	19,915			125,254
1984				1,858	860	653	13,165	14,944	68,837	33,608	1,590		135,515
1985			1,583	6,483	1,383	2,949	13,818	46,632	87,026	28,330			188,204

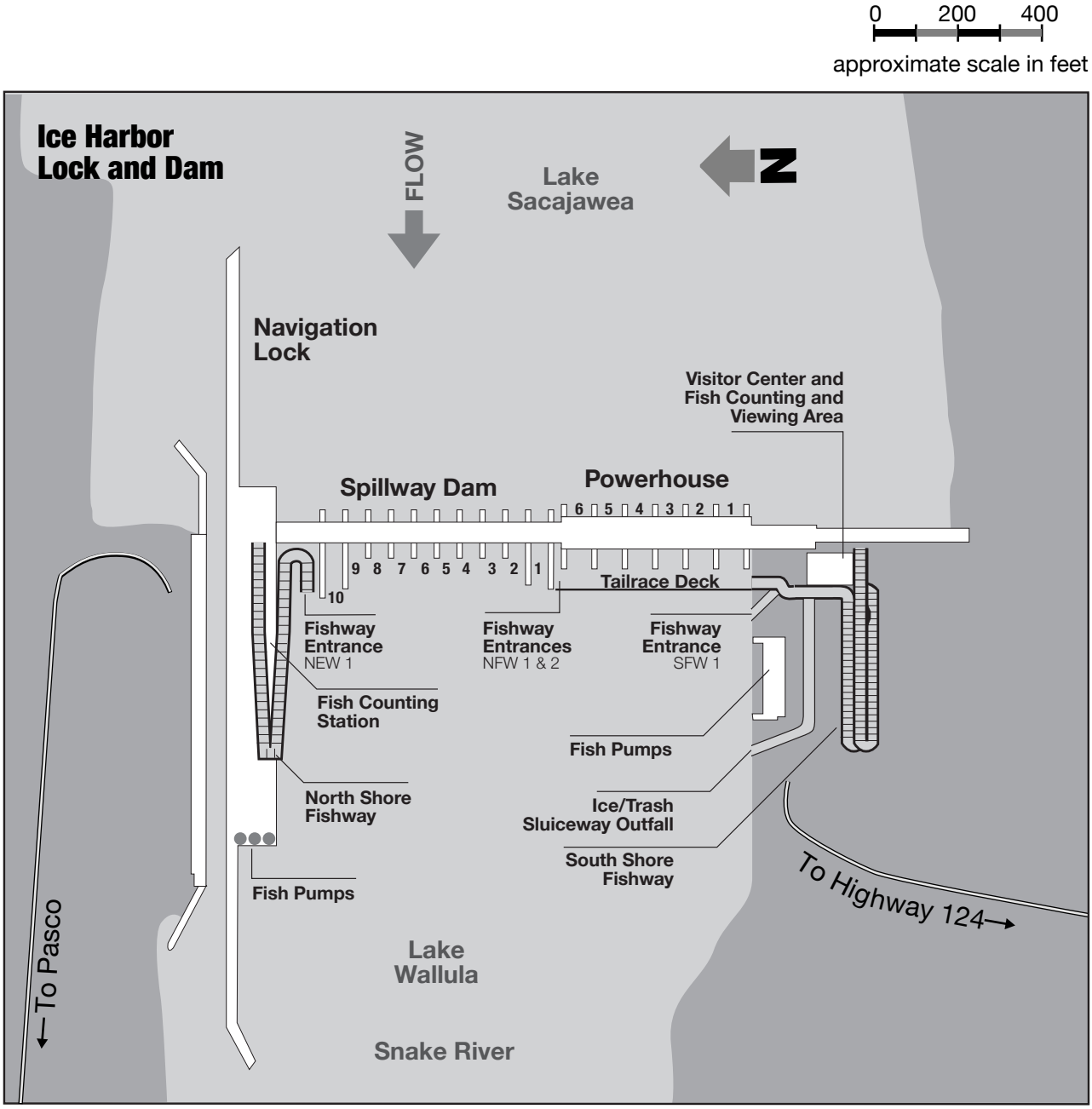
TABLE 80

(Continued)

MONTHLY COUNT OF STEELHEAD
McNARY DAM; 1954 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS*
1986			1,282	1,184	414	1,193	27,563	32,339	74,769	54,737			193,481
1987				2,082	413	885	16,658	35,661	59,326	33,786			148,811
1988				4,176	1,095	2,117	11,609	25,875	69,259	37,634			151,765
1989				3,269	598	1,921	16,002	20,819	87,722	40,136			170,467
1990				2,754	660	1,489	9,105	10,368	33,452	37,233			95,061
1991				2,245	630	846	9,921	17,752	78,363	46,941	9,388	2,876	168,962
1992				1,427	642	1,921	10,989	15,504	127,626	35,917			194,026
1993				5,194	588	2,197	9,692	10,003	35,287	30,222			93,183
1994				2,622	336	1,169	7,436	5,468	40,871	36,525			94,427
1995				774	325	998	8,042	21,720	45,237	37,814			114,910
1996				701	301	950	8,726	34,385	50,723	28,391			124,177
1997				1,210	435	1,241	10,174	19,917	58,210	38,630			129,817
1998				1,236	364	1,391	6,372	4,040	38,324	47,978			99,705
1999				253	248	905	7,175	27,592	35,243	12,672			84,088
2000				588	238	1,901	16,311	23,148	59,803	28,343			130,332
2001				1,337	487	7,741	46,981	50,463	190,205	101,570			398,784
2002				4,650	271	2,957	29,979	48,226	120,936	79,786			286,805
Total	1,059	925	10,897	99,763	38,715	58,029	508,387	1,011,736	2,567,649	1,231,866	28,764	5,253	5,563,043
10-Year Avg.				1,817	385	2,125	14,716	23,679	72,951	43,441			159,114

Plate 6 Ice Harbor Lock and Dam



ICE HARBOR DAM

FISH COUNTING SCHEDULE

1 Jan – 31 Mar	No counting.
1 Apr – 31 Oct	Visual counting daily 0400-2000 hours Pacific Standard Time. Video counting daily 2000-0400 hours Pacific Standard Time.
1 Nov – 15 Dec	Video counting 24 hours per day.
16 Dec – 31 Dec	No counting.

FISH LADDER OPERATING SCHEDULE

North Ladder

1 Jan – 3 Feb	In service.
4 Feb – 13 Feb	Out of service for annual maintenance.
14 Feb – 31 Nov	In service.
1 Dec – 31 Dec	Out of service for installation of new AWS pumps and diffusers.

South Ladder

1 Jan – 13 Jan	In service.
14 Jan – 29 Jan	Out of service for annual maintenance.
30 Jan – 31 Dec	In service.

FISHWAY ACTIVITIES

Adult chinook and steelhead were radio-tracked past the dam in 2002 as part of a broader, ongoing study to evaluate fish passage from below Bonneville Dam to above Lower Granite Dam.

Stowaway temperature probes were installed in several locations within the adult fishways during the 2002 fish passage season. Water temperature data were recorded on an hourly basis from April through October.

The Walla Walla District continued a hydraulic evaluation of the adult fishways in 2002. The purpose was to analyze existing operating conditions and investigate alternatives to improve fish passage.

The juvenile fish facility was operated for juvenile fish bypass and adult fallbacks from 18 March to 18 December.

TABLE 81

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER ICE HARBOR DAM
DAYTIME COUNTS FROM APRIL 1 THROUGH DECEMBER 15, 2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				5,016	71,511	33,555	5,750	2,752	15,874	2,946			137,404
STEELHEAD				4,507	134	943	12,760	30,321	87,357	66,151			202,173
SOCKEYE						10	48	3					61
COHO*									19	212			231
PINK													
TOTAL				9,523	71,645	34,508	18,558	33,076	103,250	69,309	0	0	339,869
SHAD						8,986	70,254	2,133					81,373
LAMPREY						1	271	596	237	22			1,127

***Jacks included**

These counts include the extended season videotaped counts that were made between 0600 and 1600 hours in November and Decembe

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER ICE HARBOR DAM
NIGHTTIME VIDEO COUNTS FROM APRIL 1 THROUGH DECEMBER 15, 2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				36	241	643	212	46	593	251	82	2	2,106
STEELHEAD				743	11	29	307	358	4,931	5,396	2,870	329	14,974
SOCKEYE						3	9						12
COHO*					2				1	51	21	1	76
PINK													
TOTAL				779	254	675	528	404	5,525	5,698	2,973	332	17,168
SHAD						652	1,064	73					1,789
LAMPREY						2	379	1,082	594	30			2,087

***Jacks included**
Night video fish counting from April through October took place between 2000 and 0400 hours PST.
Night video counting for November and December took place between 1600 and 0600 hours PST.
To obtain total numbers for the year, add the nighttime video-taped counts to the visual counts.

TABLE 82

DISCHARGE AND WATER QUALITY DATA
ICE HARBOR PROJECT 2002

JANUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	DEG F*
Jan 1	17.8	0.0		
Jan 2	20.9	0.0		
Jan 3	19.6	0.0		
Jan 4	27.3	0.0		
Jan 5	24.3	0.0		
Jan 6	27.9	0.0		
Jan 7	25.5	0.0		
Jan 8	33.0	0.0		
Jan 9	39.2	0.0		
Jan 10	43.4	0.0		
Jan 11	28.5	0.0		
Jan 12	30.4	0.0		
Jan 13	27.1	0.0		
Jan 14	21.5	0.0		
Jan 15	36.3	0.0		
Jan 16	28.3	0.0		
Jan 17	29.3	0.0		
Jan 18	31.5	0.0		
Jan 19	23.2	0.0		
Jan 20	17.8	0.0		
Jan 21	26.3	0.0		
Jan 22	33.5	0.0		
Jan 23	25.5	0.0		
Jan 24	34.4	0.0		
Jan 25	27.3	0.0		
Jan 26	28.3	0.0		
Jan 27	28.4	0.0		
Jan 28	28.9	0.0		
Jan 29	35.1	0.0		
Jan 30	30.1	0.0		
Jan 31	28.2	0.0		
AVG.	28.3	0.0		

FEBRUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	DEG F*
Feb 1	23.5	0.0		
Feb 2	29.7	0.0		
Feb 3	28.4	0.0		
Feb 4	37.1	0.0		
Feb 5	35.7	0.0		
Feb 6	38.7	0.0		
Feb 7	48.3	0.0		
Feb 8	39.5	0.0		
Feb 9	17.3	0.0		
Feb 10	21.4	0.0		
Feb 11	29.3	0.0		
Feb 12	34.8	0.0		
Feb 13	40.5	0.0		
Feb 14	42.0	0.0		
Feb 15	35.2	0.0		
Feb 16	18.3	0.0		
Feb 17	19.5	0.0		
Feb 18	24.1	0.0		
Feb 19	31.5	0.0		
Feb 20	34.6	0.0		
Feb 21	30.0	0.0		
Feb 22	29.3	0.0		
Feb 23	21.9	0.0		
Feb 24	35.2	0.0		
Feb 25	41.3	0.0		
Feb 26	41.6	0.0		
Feb 27	45.7	0.0		
Feb 28	36.4	0.0		
AVG.	32.5	0.0		

MARCH

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	DEG
Mar 1	22.8	0.0		
Mar 2	25.0	0.0		
Mar 3	26.3	0.0		
Mar 4	25.7	0.0		
Mar 5	28.4	0.0		
Mar 6	29.3	0.0		
Mar 7	28.9	0.0		
Mar 8	31.7	0.0		
Mar 9	22.0	0.0		
Mar 10	18.7	0.0		
Mar 11	29.3	0.0		
Mar 12	51.5	0.0		
Mar 13	47.5	0.0		
Mar 14	45.7	0.0		
Mar 15	34.6	0.0		
Mar 16	37.0	0.0		
Mar 17	21.7	0.0		
Mar 18	34.9	0.0		
Mar 19	33.4	0.0		
Mar 20	29.5	0.0		
Mar 21	35.5	0.0		
Mar 22	27.5	0.0		
Mar 23	33.9	0.0		
Mar 24	34.8	0.0		
Mar 25	53.4	0.0		
Mar 26	62.0	0.0		
Mar 27	66.2	0.0		
Mar 28	65.8	0.0		
Mar 29	72.6	0.0		
Mar 30	66.0	0.0		
Mar 31	62.2	0.0		
AVG.	38.8	0.0		

*All water temperature and turbidity data for January and February are unavailable. Only partial temperature and turbidity data for March are available.

TABLE 83

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

ICE HARBOR PROJECT
APRIL 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD		DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Apr 1	2			0				150	18			77.6	0.0	2.1	43.0
Apr 2	11			0				190	16			84.4	0.0	2.1	42.0
Apr 3	24			0				286	51			65.7	0.0	2.2	42.0
Apr 4	17			0				272	51			54.3	0.0	2.2	43.0
Apr 5	32			0				214	72			55.1	0.0	2.2	44.0
Apr 6	39			0				309	90			69.5	0.0	2.2	44.0
Apr 7	47			0				345	96			67.2	0.0	2.2	43.0
Apr 8	40			0				425	117			68.7	0.0	3.0	44.0
Apr 9	26			0				128	41			76.2	0.0	3.2	46.0
Apr 10	74			0				193	77			80.1	20.7	3.0	46.0
Apr 11	26			0				193	66			83.9	57.0	3.0	46.0
Apr 12	83			0				212	63			74.7	51.9	3.0	46.0
Apr 13	94			0				282	59			80.7	57.8	3.0	46.0
Apr 14	70			1				235	67			100.0	66.6	3.0	48.0
Apr 15	144			0				247	86			129.7	79.4	3.0	48.0
Apr 16	111			0				193	50			122.5	70.8	3.0	48.0
Apr 17	132			0				105	43			108.0	72.5	3.0	48.0
Apr 18	100			0				91	36			93.8	67.0	3.0	48.0
Apr 19	74			0				70	27			89.2	60.7	3.6	48.0
Apr 20	103			0				51	12			81.4	61.4	3.0	48.0
Apr 21	314			0				60	29			75.7	58.0	3.0	48.0
Apr 22	165			0				84	42			70.0	57.4	3.0	48.0
Apr 23	139			0				24	5			80.6	59.8	3.0	48.0
Apr 24	146			0				30	5			77.2	56.6	2.3	48.0
Apr 25	167			0				16	0			69.0	52.4	2.0	48.0
Apr 26	205			0				27	4			63.4	47.4	2.0	48.0
Apr 27	570			1				23	8			65.2	50.7	2.3	48.0
Apr 28	746			0				16	5			59.9	51.4	2.3	48.0
Apr 29	844			2				25	12			68.6	56.7	2.3	48.0
Apr 30	466			1				11	5			48.9	38.3	3.0	48.0
TOTAL	5,011			5				4,507	1,253						
AVG.	167			0				150	42			78.0	39.8	2.7	46.4

TABLE 84

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

MAY 2002

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
May 1	922			2				11	8			69.9	56.5	3.0	49.0
May 2	3,076			17				22	13			75.0	56.6	3.0	50.0
May 3	5,351			16				13	6			73.2	60.2	3.0	50.0
May 4	6,240			17				15	8			88.0	65.1	4.1	50.0
May 5	3,870			35				11	7			79.0	60.3	3.4	50.0
May 6	2,753			39				12	7			76.8	58.2	3.4	50.0
May 7	3,468			18				1	1			76.6	54.8	3.9	50.0
May 8	3,326			18				2	0			71.6	55.7	4.0	50.0
May 9	4,863			43				1	1			60.5	50.7	4.1	51.0
May 10	3,414			49				4	4			60.4	50.5	4.5	51.0
May 11	2,430			46				0	0			61.4	50.6	5.2	51.0
May 12	3,058			46				2	2			57.9	46.3	5.2	52.0
May 13	722			17				2	0			55.2	45.6	5.2	52.0
May 14	2,312			101				1	0			70.1	54.7	5.3	53.0
May 15	2,651			47				1	0			70.3	54.0	5.3	53.0
May 16	3,709			114				1	0			71.4	55.2	5.5	52.0
May 17	1,930			50				6	6			67.2	49.9	5.5	52.0
May 18	1,722			55				1	0			72.9	59.3	5.5	52.0
May 19	1,694			73				12	0			80.2	64.2	5.5	52.0
May 20	1,337			103				0	0			101.7	66.4	5.5	52.0
May 21	920			42				0	0			111.1	68.2	4.5	53.0
May 22	703			40				2	2			112.2	70.0	4.5	50.0
May 23	638			26				1	0			105.7	70.1	5.0	52.0
May 24	1,806			72				0	0			111.8	70.7	5.0	52.0
May 25	1,204			44				4	2			90.9	62.6	6.4	54.0
May 26	1,468			74				4	1			88.7	67.6	6.4	54.0
May 27	1,273			48				0	0			95.5	67.6	6.4	54.0
May 28	1,266			45				5	0			95.9	61.1	6.4	54.0
May 29	641			32				0	0			113.6	69.5	6.8	53.0
May 30	602			18				0	0			117.4	71.0	6.8	53.0
May 31	779			16				0	0			140.3	74.0	4.8	53.0
TOTAL	70,148			1,363				134	68						
AVG.	2263			44				4	2			84.6	60.2	5.0	51.7

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	75,159	1,368	4,641	1,321	0	0

TABLE 84

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT

MAY 2002

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
May 1	922			2				11	8			69.9	56.5	3.0	49.0
May 2	3,076			17				22	13			75.0	56.6	3.0	50.0
May 3	5,351			16				13	6			73.2	60.2	3.0	50.0
May 4	6,240			17				15	8			88.0	65.1	4.1	50.0
May 5	3,870			35				11	7			79.0	60.3	3.4	50.0
May 6	2,753			39				12	7			76.8	58.2	3.4	50.0
May 7	3,468			18				1	1			76.6	54.8	3.9	50.0
May 8	3,326			18				2	0			71.6	55.7	4.0	50.0
May 9	4,863			43				1	1			60.5	50.7	4.1	51.0
May 10	3,414			49				4	4			60.4	50.5	4.5	51.0
May 11	2,430			46				0	0			61.4	50.6	5.2	51.0
May 12	3,058			46				2	2			57.9	46.3	5.2	52.0
May 13	722			17				2	0			55.2	45.6	5.2	52.0
May 14	2,312			101				1	0			70.1	54.7	5.3	53.0
May 15	2,651			47				1	0			70.3	54.0	5.3	53.0
May 16	3,709			114				1	0			71.4	55.2	5.5	52.0
May 17	1,930			50				6	6			67.2	49.9	5.5	52.0
May 18	1,722			55				1	0			72.9	59.3	5.5	52.0
May 19	1,694			73				12	0			80.2	64.2	5.5	52.0
May 20	1,337			103				0	0			101.7	66.4	5.5	52.0
May 21	920			42				0	0			111.1	68.2	4.5	53.0
May 22	703			40				2	2			112.2	70.0	4.5	50.0
May 23	638			26				1	0			105.7	70.1	5.0	52.0
May 24	1,806			72				0	0			111.8	70.7	5.0	52.0
May 25	1,204			44				4	2			90.9	62.6	6.4	54.0
May 26	1,468			74				4	1			88.7	67.6	6.4	54.0
May 27	1,273			48				0	0			95.5	67.6	6.4	54.0
May 28	1,266			45				5	0			95.9	61.1	6.4	54.0
May 29	641			32				0	0			113.6	69.5	6.8	53.0
May 30	602			18				0	0			117.4	71.0	6.8	53.0
May 31	779			16				0	0			140.3	74.0	4.8	53.0
TOTAL	70,148			1,363				134	68						
AVG.	2263			44				4	2			84.6	60.2	5.0	51.7

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	75,159	1,368	4,641	1,321	0	0

TABLE 85

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

ICE HARBOR PROJECT
JUNE 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Jun 1	877			36			0	2	0	1	0
Jun 2	774			54			0	1	0	1	0
Jun 3	1,144			32			0	4	1	2	0
Jun 4	922			58			0	8	0	0	0
Jun 5	814			42			0	1	1	0	-1
Jun 6	1,116			64			0	1	0	0	1
Jun 7	1,009			33			0	6	2	2	0
Jun 8	751			33			0	1	0	0	0
Jun 9	570			30			0	1	1	0	0
Jun 10	694			30			0	5	0	0	0
Jun 11	1,377			46			0	2	0	1	0
Jun 12		1,986		111			0	8	3	11	0
Jun 13		1,456		64			0	9	0	20	0
Jun 14		842		65			0	12	0	126	-1
Jun 15		1,105		58			0	9	2	178	0
Jun 16		952		55			0	6	1	137	0
Jun 17		2,026		73			0	6	0	37	1
Jun 18		1,895		105			0	10	0	1	0
Jun 19		1,241		76			2	16	2	6	0
Jun 20		898		54			0	18	5	10	0
Jun 21		1,079		84			0	56	19	60	0
Jun 22		1,260		75			0	58	15	671	0
Jun 23		875		67			1	41	15	894	1
Jun 24		941		106			2	77	33	1,135	0
Jun 25		798		90			0	68	26	2,178	0
Jun 26		878		86			0	72	25	1,082	0
Jun 27		752		65			2	92	24	605	0
Jun 28		998		103			2	134	38	360	0
Jun 29		770		102			1	106	27	463	0
Jun 30		783		75			0	113	29	1,005	0
TOTAL	10,048	21,535		1,972			10	943	269	8,986	1
AVG.	913	1133		66			0	31	9	300	0

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Jun 1	136.5	72.1	4.8	53.0
Jun 2	132.1	102.1	4.8	54.0
Jun 3	137.2	89.1	4.8	54.0
Jun 4	117.6	85.7	4.8	54.0
Jun 5	116.7	89.0	4.5	54.0
Jun 6	109.5	83.1	4.5	54.0
Jun 7	108.2	74.4	4.5	55.0
Jun 8	100.8	67.6	4.5	56.0
Jun 9	93.1	71.3	4.5	56.0
Jun 10	75.8	58.5	4.5	56.0
Jun 11	84.9	63.3	4.5	56.0
Jun 12	75.1	50.8	4.5	56.0
Jun 13	79.9	57.3	4.0	56.0
Jun 14	76.9	57.0	4.0	57.0
Jun 15	76.9	57.6	4.0	56.0
Jun 16	84.4	60.8	4..0	58.0
Jun 17	97.7	65.2	4.0	58.0
Jun 18	96.8	62.7	4.0	58.0
Jun 19	99.2	68.0	4.0	58.0
Jun 20	91.7	65.9	4.5	56.0
Jun 21	88.0	60.2	4.5	56.0
Jun 22	83.5	63.2	4.5	56.0
Jun 23	91.4	63.0	4.5	60.0
Jun 24	92.3	61.7	4.5	60.0
Jun 25	94.4	60.8	5.0	60.0
Jun 26	84.7	52.6	5.0	60.0
Jun 27	83.9	61.2	5.0	60.0
Jun 28	78.6	65.6	5.0	60.0
Jun 29	87.2	70.0	5.0	60.0
Jun 30	81.0	62.5	5.0	60.0
AVG.	95.2	67.4	4.5	56.9

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	85,207	1,826
SUMMER	21,535	1,514
TOTAL	106,742	3,340

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
10	5,584	1,590	8,986	1

TABLE 86

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

ICE HARBOR PROJECT
JULY 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Jul 1		595		114			4	170	53	517	0
Jul 2		343		64			4	167	58	2,036	0
Jul 3		539		66			3	218	90	1,167	2
Jul 4		451		63			2	206	71	1,465	0
Jul 5		247		42			4	137	61	2,080	0
Jul 6		309		59			0	165	54	2,688	0
Jul 7		206		35			4	191	55	5,989	1
Jul 8		281		47			8	201	72	3,156	0
Jul 9		279		33			1	219	79	4,558	0
Jul 10		197		32			2	219	75	10,634	1
Jul 11		141		31			1	282	88	6,057	1
Jul 12		132		41			1	274	81	4,708	3
Jul 13		93		22			0	245	96	3,300	4
Jul 14		143		43			0	312	119	3,228	5
Jul 15		135		37			0	448	190	2,774	7
Jul 16		72		18			3	480	167	3,844	1
Jul 17		84		30			1	502	169	2,647	17
Jul 18		67		37			0	482	153	1,619	12
Jul 19		86		20			2	720	231	2,163	8
Jul 20		60		13			4	729	249	837	6
Jul 21		65		11			2	559	204	1,763	9
Jul 22		38		9			0	613	223	661	10
Jul 23		38		4			1	602	264	357	12
Jul 24		36		4			0	693	263	347	16
Jul 25		36		4			0	697	258	313	23
Jul 26		37		1			0	660	237	97	11
Jul 27		51		6			0	791	272	222	19
Jul 28		12		2			0	390	114	307	20
Jul 29		18		2			0	362	133	191	22
Jul 30		38		1			1	520	180	242	19
Jul 31		25		5			0	506	147	287	42
TOTAL		4,854		896			48	12,760	4,506	70,254	271
AVG.		157		29			2	412	145	2,266	9

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Jul 1	68.7	52.5	5.0	61.0
Jul 2	66.4	56.6	5.0	61.0
Jul 3	50.7	39.9	5.9	61.0
Jul 4	53.8	43.2	5.9	61.0
Jul 5	50.8	40.6	5.9	62.0
Jul 6	47.6	39.5	5.9	62.0
Jul 7	43.6	33.3	5.9	62.0
Jul 8	39.7	30.2	5.9	62.0
Jul 9	48.0	37.4	6.4	62.0
Jul 10	39.6	31.2	7.2	62.0
Jul 11	48.6	41.3	7.2	62.0
Jul 12	46.5	35.5	7.5	62.0
Jul 13	43.8	35.9	7.5	63.0
Jul 14	39.9	31.9	7.5	67.0
Jul 15	39.7	33.6	7.5	67.0
Jul 16	39.0	30.7	7.5	67.0
Jul 17	40.8	33.2	7.5	67.0
Jul 18	40.7	34.4	7.5	67.0
Jul 19	34.9	27.1	7.5	67.0
Jul 20	35.9	28.7	7.5	68.0
Jul 21	32.7	27.0	7.5	68.0
Jul 22	35.3	21.6	7.5	68.0
Jul 23	31.6	25.0	7.5	68.0
Jul 24	37.1	30.6	7.5	68.0
Jul 25	34.7	28.5	7.5	68.0
Jul 26	34.7	28.8	6.0	68.0
Jul 27	26.6	20.6	6.0	68.0
Jul 28	34.6	28.7	6.0	70.0
Jul 29	31.5	25.7	6.0	70.0
Jul 30	33.8	27.9	6.0	70.0
Jul 31	33.1	27.2	6.0	70.0
AVG.	41.4	33.2	6.7	65.5

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	85,207	1,826
SUMMER	26,389	2,410
TOTAL	111,596	4,236

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
58	18,344	6,096	79,240	272

TABLE 87

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

ICE HARBOR PROJECT
AUGUST 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
		FISH COUNTS										RIVER CONDITIONS			
Aug 1		18		4			0	628	188	113	17	27.2	21.1	6.0	70.0
Aug 2		6		0			0	344	120	252	24	30.6	24.9	6.0	70.0
Aug 3		18		0			0	266	78	167	20	28.0	22.3	6.0	70.0
Aug 4		9		0			1	148	51	241	16	30.3	24.9	6.0	70.0
Aug 5		31		1			0	433	151	88	12	32.1	26.2	6.0	70.0
Aug 6		17		6			0	243	61	119	30	31.7	26.1	6.0	70.0
Aug 7		13		2			1	302	92	94	22	30.9	25.3	6.0	69.0
Aug 8		24		7			0	198	38	159	25	26.6	20.9	6.0	70.0
Aug 9		33		2			0	260	68	222	10	32.0	26.5	7.5	70.0
Aug 10		14		1			0	225	45	132	11	32.1	26.4	7.3	69.0
Aug 11		35		4			0	293	60	220	37	36.0	29.8	7.3	69.0
Aug 12			24	0			0	309	62	24	36	34.7	29.1	7.3	69.0
Aug 13			26	1			0	379	114	18	37	31.7	25.9	7.3	69.0
Aug 14			16	2			0	508	128	44	51	37.4	31.7	7.8	68.0
Aug 15			38	2			0	765	212	22	23	33.5	27.7	7.8	68.0
Aug 16			32	6			0	797	175	21	16	42.8	37.3	8.8	68.0
Aug 17			62	11			0	1,252	298	6	23	33.7	27.7	8.8	68.0
Aug 18			94	6			0	1,038	268	13	40	36.4	30.6	8.8	68.0
Aug 19			50	14			0	2,041	552	31	20	24.4	18.7	8.8	68.0
Aug 20			123	18			0	2,409	599	30	13	33.2	27.5	8.8	68.0
Aug 21			78	6			0	2,345	581	39	12	27.5	21.4	8.8	68.0
Aug 22			93	16			0	949	223	18	17	32.6	27.0	6.5	67.0
Aug 23			80	12			0	1,574	417	4	2	41.0	35.4	6.5	67.0
Aug 24			44	5			0	1,305	354	19	3	39.8	34.0	6.5	67.0
Aug 25			31	4			0	1,069	248	7	7	27.5	13.5	6.5	67.0
Aug 26			57	2			0	1,041	300	5	7	30.5	16.2	6.5	67.0
Aug 27			103	18			0	1,582	429	0	10	31.5	12.4	6.5	67.0
Aug 28			148	15			0	1,242	294	7	18	29.7	14.4	6.5	67.0
Aug 29			259	18			0	1,361	345	6	18	32.5	14.4	6.5	67.0
Aug 30			477	50			1	2,920	740	2	14	29.2	13.0	6.5	67.0
Aug 31			382	84			0	2,095	600	10	5	29.6	16.2	6.5	67.0
TOTAL		218	2,217	317			3	30,321	7,891	2,133	596				
AVG.		20	111	10			0	978	255	69	19	32.2	24.1	7.0	68.4

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	85,207	1,826
SUMMER	26,607	2,437
FALL	2217	290
TOTAL	114,031	4,553

COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
0	0	61	48,665	13,987	81,373	868

TABLE 88

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

ICE HARBOR PROJECT
SEPTEMBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Sep 1			423	58	0	0		1,801	494		24	21.3	0.3	6.5	67.0
Sep 2			380	55	0	0		1,559	408		36	12.6	0.0	6.5	67.0
Sep 3			405	37	0	0		1,438	360		31	22.3	0.0	6.5	67.0
Sep 4			493	54	0	0		1,848	503		24	30.1	0.0	6.5	67.0
Sep 5			627	59	0	0		2,197	701		11	27.7	0.0	6.5	67.0
Sep 6			551	100	1	0		2,150	522		7	25.0	0.0	8.5	67.0
Sep 7			372	70	0	0		1,607	393		11	20.8	0.0	8.5	67.0
Sep 8			209	45	0	0		1,726	376		5	19.8	0.0	8.5	67.0
Sep 9			310	93	0	0		1,447	347		7	24.8	0.0	8.5	67.0
Sep 10			396	100	0	0		1,502	444		13	21.3	0.0	8.5	67.0
Sep 11			624	142	0	0		2,499	589		5	20.4	0.0	9.0	67.0
Sep 12			504	107	1	0		2,018	498		5	19.1	0.0	9.0	66.0
Sep 13			527	175	1	0		2,120	528		4	19.8	0.0	9.0	66.0
Sep 14			414	170	0	0		2,114	530		5	23.8	0.0	9.0	66.0
Sep 15			443	201	0	0		3,090	787		6	15.1	0.0	9.0	66.0
Sep 16			297	104	0	0		2,160	601		2	18.2	0.0	9.0	66.0
Sep 17			405	198	0	0		4,630	1,412		6	24.9	0.0	9.0	66.0
Sep 18			611	270	0	0		4,823	1,194		9	18.4	0.0	9.0	66.0
Sep 19			382	264	5	0		3,693	917		2	15.3	0.0	9.0	66.0
Sep 20			472	230	1	0		2,281	608		5	21.2	0.0	7.5	66.0
Sep 21			335	147	1	0		2,440	624		1	16.1	0.0	7.5	65.0
Sep 22			338	177	0	0		3,795	865		6	16.0	0.0	7.5	65.0
Sep 23			324	186	0	0		3,174	734		0	18.4	0.0	7.5	65.0
Sep 24			343	247	0	0		4,115	877		1	18.5	0.0	7.5	64.0
Sep 25			295	150	0	0		4,290	1,069		2	24.3	0.0	7.5	64.0
Sep 26			330	245	2	0		5,842	1,334		2	15.8	0.0	8.0	64.0
Sep 27			248	223	0	0		4,232	1,116		0	16.7	0.0	8.0	63.0
Sep 28			155	126	2	0		4,618	1,146		4	19.8	0.0	8.0	63.0
Sep 29			181	169	0	0		5,240	1,177		1	18.9	0.0	8.0	63.0
Sep 30			118	160	5	0		2,908	667		2	17.5	0.0	8.0	63.0
TOTAL			11,512	4,362	19	0		87,357	21,821		237				
AVG.			384	145	1	0		2,912	727		8	20.1	0.0	8.0	65.7

RIVER CONDITIONS

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	85,207	1,826
SUMMER	26,607	2,437
FALL	13,729	4,652
TOTAL	125,543	8,915

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
19	0	61	136,022	35,808	81,373	1,105

TABLE 89

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

ICE HARBOR PROJECT
OCTOBER 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
	FISH COUNTS											RIVER CONDITIONS			
Oct 1			189	196	2	0		4,212	1022		5	25.3	0.0	8.0	63.0
Oct 2			150	161	1	0		4,151	1048		0	18.3	0.0	8.0	62.0
Oct 3			141	138	13	2		4,901	1130		1	19.8	0.0	8.0	62.0
Oct 4			127	95	1	0		3,788	794		4	19.5	0.0	8.0	62.0
Oct 5			145	109	6	0		4,282	978		2	18.5	0.0	8.0	62.0
Oct 6			96	108	4	1		4,029	855		1	22.2	0.0	8.0	61.0
Oct 7			80	71	6	0		3,502	816		2	13.7	0.0	6.8	61.0
Oct 8			66	37	10	2		3,418	751		2	17.1	0.0	6.8	60.0
Oct 9			71	76	19	1		3,823	887		0	19.8	0.0	6.8	60.0
Oct 10			33	43	7	4		4,316	1033		1	17.5	0.0	6.8	60.0
Oct 11			50	58	6	0		2,773	656		0	21.5	0.0	6.8	60.0
Oct 12			29	51	8	0		3,103	722		0	15.5	0.0	6.5	60.0
Oct 13			29	43	18	0		3,080	743		2	14.5	0.0	6.5	60.0
Oct 14			24	30	4	1		1,822	471		2	13.4	0.0	6.5	60.0
Oct 15			23	37	6	0		1,378	316		0	13.5	0.0	7.8	60.0
Oct 16			15	22	2	0		989	252		0	15.5	0.0	7.8	60.0
Oct 17			22	23	2	0		1,103	228		0	15.4	0.0	7.8	60.0
Oct 18			26	18	2	0		1,415	323		0	15.0	0.0	7.8	60.0
Oct 19			24	11	5	1		1,231	249		0	13.5	0.0	7.8	60.0
Oct 20			18	7	6	1		1,102	291		0	16.4	0.0	7.8	60.0
Oct 21			15	8	2	0		550	117		0	13.8	0.0	7.8	60.0
Oct 22			13	13	4	1		729	186		0	17.9	0.0	7.8	60.0
Oct 23			16	13	1	6		764	190		0	14.2	0.0	8.0	58.0
Oct 24			13	27	17	7		684	163		0	14.4	0.0	8.0	58.0
Oct 25			14	5	1	1		807	229		0	18.1	0.0	8.0	57.0
Oct 26			10	6	2	0		851	199		0	14.3	0.0	8.0	57.0
Oct 27			23	4	7	0		806	205		0	13.1	0.0	8.0	57.0
Oct 28			14	5	2	2		732	218		0	13.7	0.0	8.0	57.0
Oct 29			8	1	1	0		622	129		0	17.7	0.0	8.0	57.0
Oct 30			23	5	11	0		586	138		0	18.2	0.0	8.0	57.0
Oct 31			12	6	4	2		602	161		0	13.9	0.0	8.0	56.0
TOTAL			1,519	1,427	180	32		66,151	15,500		22				
AVG.			49	46	6			2,134	500		1	16.6	0.0	7.6	59.6

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	85,207	1,826
SUMMER	26,607	2,437
FALL	15,248	6,079
TOTAL	127,062	10,342

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
199	32	61	202,173	51,308	81,373	1,127

TABLE 90

DISCHARGE AND WATER QUALITY DATA

ICE HARBOR PROJECT - 2002

NOVEMBER					DECEMBER				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	DEG F*	DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	DEG F*
Nov 1	14.6	0.0			Dec 1	12.5	0		
Nov 2	13.5	0.0			Dec 2	20	0		
Nov 3	12.5	0.0			Dec 3	14.5	0		
Nov 4	14.0	0.1			Dec 4	13	0		
Nov 5	16.6	0.0			Dec 5	17	0		
Nov 6	11.8	0.0			Dec 6	14.5	0		
Nov 7	16.1	0.0			Dec 7	12.8	0		
Nov 8	17.6	0.1			Dec 8	13.8	0		
Nov 9	16.1	0.1			Dec 9	14.1	0		
Nov 10	16.7	0.0			Dec 10	17.3	0		
Nov 11	18.1	0.0			Dec 11	16.4	0		
Nov 12	16.4	0.0			Dec 12	15.3	0		
Nov 13	18.2	0.0			Dec 13	15.2	0		
Nov 14	15.4	0.0			Dec 14	16.2	0		
Nov 15	17.5	0.0			Dec 15	12.4	0		
Nov 16	15.8	0.0			Dec 16	17.9	0		
Nov 17	15.2	0.0			Dec 17	18.6	0		
Nov 18	19.1	0.0			Dec 18	16.8	0		
Nov 19	17.7	0.0			Dec 19	18.6	0		
Nov 20	15.0	0.0			Dec 20	11.6	0		
Nov 21	16.1	0.0			Dec 21	17.7	0		
Nov 22	17.9	0.0			Dec 22	14.8	0		
Nov 23	11.9	0.0			Dec 23	14.1	0		
Nov 24	15.8	0.0			Dec 24	18.4	0		
Nov 25	18.2	0.0			Dec 25	15.8	0		
Nov 26	20.5	0.0			Dec 26	18.6	0		
Nov 27	15.0	0.0			Dec 27	13.3	0		
Nov 28	13.3	0.0			Dec 28	14.9	0		
Nov 29	12.6	0.0			Dec 29	15.7	0		
Nov 30	12.4	0.0			Dec 30	21.2	0		
					Dec 31				
AVG.	15.7	0.0			AVG.	15.8	0.0		

*Water temperature and turbibity data are unavailable.

TABLE 91

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

Extended Season Daytime Counts @ Ice Harbor
Counting took place between 0600 and 1600 hours PST
November 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Nov 1			8	4	9	0		529	125		
Nov 2			1	1	2	0		370	83		
Nov 3			0	0	4	1		262	59		
Nov 4			2	5	1	3		221	63		
Nov 5			9	4	1	1		200	56		
Nov 6			4	1	1	0		197	55		
Nov 7			2	1	1	0		168	32		
Nov 8			0	2	4	0		119	28		
Nov 9			5	2	2	1		413	94		
Nov 10			2	1	3	0		364	68		
Nov 11			2	1	1	0		311	80		
Nov 12			3	2	0	1		237	67		
Nov 13			4	1	0	0		275	70		
Nov 14			8	1	2	0		492	96		
Nov 15			3	2	2	0		343	92		
Nov 16			1	0	0	0		375	72		
Nov 17			0	1	2	0		516	152		
Nov 18			3	1	2	0		341	99		
Nov 19			0	1	1	0		484	129		
Nov 20			2	0	4	0		462	93		
Nov 21			0	1	3	1		310	57		
Nov 22			2	1	1	0		324	66		
Nov 23			2	0	0	0		316	50		
Nov 24			0	0	0	0		195	42		
Nov 25			0	0	2	0		188	48		
Nov 26			0	0	1	0		174	30		
Nov 27			3	0	0	0		199	42		
Nov 28			2	0	0	0		168	32		
Nov 29			0	-1	0	0		138	30		
Nov 30			0	0	0	0		79	26		
TOTAL			68	32	49	8		8,770	2,036		
AVG.			2	1	2	0		292	68		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	85,207	1,826
SUMMER	26,607	2,437
FALL	15,316	6,111
TOTAL	127,130	10,374

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
248	40	61	210,943	53,344	81,373	1,127

TABLE 92

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

Extended Season Daytime counts @ Ice Harbor
Counting took place between 0600 and 1600 hours PST
December 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Dec 1			1		0	0		75	17		
Dec 2			0		0	0		80	24		
Dec 3			2		0	0		85	22		
Dec 4			0		1	0		56	15		
Dec 5			0		0	0		41	4		
Dec 6			0		0	0		53	10		
Dec 7			0		0	0		40	15		
Dec 8			0		0	0		67	9		
Dec 9			0		0	0		24	8		
Dec 10			0		0	0		19	2		
Dec 11			0		0	0		38	3		
Dec 12			0		0	0		81	19		
Dec 13			0		0	0		50	17		
Dec 14			0		0	0		42	11		
Dec 15			0		0	0		68	20		
TOTAL			3		1	0		819	196		
AVG.			0		0	0		55	13		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	85,207	1,826
SUMMER	26,607	2,437
FALL	15,319	6,111
TOTAL	127,133	10,374

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
249	40	61	211,762	53,540	81,373	1,127

TABLE 93

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

NIGHT VIDEO FISH COUNTS @ ICE HARBOR
APRIL 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Apr 1	0							56	4		
Apr 2	0							71	8		
Apr 3	0							66	8		
Apr 4	0							61	8		
Apr 5	0							55	4		
Apr 6	0							57	5		
Apr 7	1							43	5		
Apr 8	2							57	9		
Apr 9	0							43	7		
Apr 10	0							29	4		
Apr 11	0							21	2		
Apr 12	1							23	2		
Apr 13	0							35	3		
Apr 14	1							34	4		
Apr 15	1							23	0		
Apr 16	0							19	4		
Apr 17	1							9	2		
Apr 18	2							7	1		
Apr 19	3							2	0		
Apr 20	2							7	1		
Apr 21	0							7	0		
Apr 22	2							2	0		
Apr 23	0							0	0		
Apr 24	1							4	0		
Apr 25	0							2	0		
Apr 26	0							6	0		
Apr 27	1							2	0		
Apr 28	3							2	1		
Apr 29	7							0	0		
Apr 30	8							0	0		
TOTAL	36							743	82		
AVG.	1							25	3		

TOTALS TO DATE	CHINOOK ADULT
SPRING	36
TOTAL	36

STEELHEAD	WILD STEELHEAD
743	82

Night video fish counting took place between 2000 and 0400 hours PST

TABLE 94

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

NIGHT VIDEO FISH COUNTS @ ICE HARBOR
MAY 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
May 1	11			0		0		0	0		
May 2	5			0		0		2	1		
May 3	4			0		0		2	1		
May 4	17			0		0		0	0		
May 5	1			0		0		0	0		
May 6	4			0		0		1	1		
May 7	5			0		0		1	1		
May 8	0			0		0		2	2		
May 9	20			0		0		0	0		
May 10	22			0		0		0	0		
May 11	13			0		0		0	0		
May 12	3			0		0		0	0		
May 13	7			0		0		0	0		
May 14	2			0		0		0	0		
May 15	4			0		0		0	0		
May 16	6			0		0		0	0		
May 17	4			0		0		0	0		
May 18	2			0		0		0	0		
May 19	6			0		0		0	0		
May 20	3			0		0		0	0		
May 21	21			0		0		2	2		
May 22	9			0		0		0	0		
May 23	11			0		0		0	0		
May 24	7			0		0		0	0		
May 25	7			0		0		0	0		
May 26	4			0		0		0	0		
May 27	6			0		0		0	0		
May 28	1			0		0		0	0		
May 29	3			0		0		0	0		
May 30	8			0		0		0	0		
May 31	23			2		0		1	1		
TOTAL	239			2		0		11	9		
AVG.	8			0		0		0	0		

TOTALS TO DATE		CHINOOK ADULT	CHINOOK JACK	COHO JACK	STEELHEAD	WILD STEELHEAD
	SPRING	275	2	0	754	91
	TOTAL	275	2			

Night video fish counting took place between 2000 and 0400 hours PST

TABLE 95

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

NIGHT VIDEO FISH COUNTS @ ICE HARBOR
JUNE 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Jun 1	11			0			0	0	0	0	0
Jun 2	61			0			0	0	0	0	0
Jun 3	27			1			0	0	0	0	0
Jun 4	11			0			0	0	0	0	0
Jun 5	13			0			0	0	0	0	0
Jun 6	14			0			0	0	0	0	0
Jun 7	12			1			0	0	0	0	0
Jun 8	9			0			0	0	0	0	0
Jun 9	3			0			0	0	0	0	0
Jun 10	16			1			0	0	0	0	0
Jun 11	82			3			0	0	0	0	0
Jun 12		37		1			0	0	0	5	0
Jun 13		21		1			0	2	0	6	0
Jun 14		10		0			0	0	0	12	0
Jun 15		12		1			0	0	0	3	0
Jun 16		61		2			0	0	0	18	0
Jun 17		16		0			0	2	2	1	0
Jun 18		5		0			1	0	0	5	0
Jun 19		28		1			0	0	0	2	0
Jun 20		13		1			0	1	0	4	0
Jun 21		12		4			1	2	0	36	0
Jun 22		24		1			0	1	0	38	2
Jun 23		17		2			0	1	1	76	0
Jun 24		12		1			0	2	1	108	0
Jun 25		36		0			0	2	0	122	0
Jun 26		20		2			0	9	2	55	0
Jun 27		6		1			0	2	0	37	0
Jun 28		8		1			0	0	0	22	0
Jun 29		11		2			1	2	0	35	0
Jun 30		7		1			0	3	1	67	0
TOTAL	259	356		28			3	29	7	652	2
AVG.	24	19		1			0	1	0	22	0

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	534	8
SUMMER	356	22
TOTAL	890	30

COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
0	3	783	98	652	2

Night video fish counting took place between 2000 and 0400 hours PST

TABLE 96

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

NIGHT VIDEO FISH COUNTS @ ICE HARBOR
JULY 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Jul 1		17		0			2	3	0	52	0
Jul 2		15		1			0	4	2	39	0
Jul 3		11		2			0	1	0	23	3
Jul 4		5		0			2	3	0	76	1
Jul 5		8		0			0	2	1	74	0
Jul 6		10		1			0	4	2	103	0
Jul 7		10		0			0	3	0	46	0
Jul 8		18		1			2	3	0	42	0
Jul 9		12		1			2	12	1	82	0
Jul 10		10		1			0	8	2	123	4
Jul 11		6		0			1	4	1	34	4
Jul 12		6		2			0	13	1	57	2
Jul 13		5		2			0	10	2	40	1
Jul 14		3		1			0	7	2	27	7
Jul 15		9		0			0	17	5	40	6
Jul 16		5		1			0	7	2	19	14
Jul 17		4		1			0	12	3	15	11
Jul 18		1		4			0	10	1	20	8
Jul 19		3		0			0	12	2	16	22
Jul 20		3		1			0	13	5	23	17
Jul 21		3		0			0	7	0	15	8
Jul 22		2		1			0	15	2	23	12
Jul 23		4		0			0	13	2	8	14
Jul 24		6		3			0	8	4	9	25
Jul 25		2		0			0	16	6	8	15
Jul 26		2		1			0	9	1	15	18
Jul 27		0		0			0	17	4	15	38
Jul 28		1		1			0	11	5	4	44
Jul 29		3		0			0	21	6	7	27
Jul 30		1		0			0	22	9	2	44
Jul 31		2		0			0	20	5	7	34
TOTAL		187		25			9	307	76	1,064	379
AVG.		6		1			0	10	2	34	12

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	534	8
SUMMER	543	47
TOTAL	1,077	55

COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
0	12	1,090	174	1,716	381

Night video fish counting took place between 2000 and 0400 hours PST

TABLE 97

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

NIGHT VIDEO FISH COUNTS @ ICE HARBOR
AUGUST 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Aug 1		4		0				9	3	15	40
Aug 2		1		0				5	2	3	37
Aug 3		0		0				3	1	4	14
Aug 4		3		0				16	5	8	17
Aug 5		0		0				8	2	3	28
Aug 6		0		0				2	0	3	11
Aug 7		3		0				10	1	7	34
Aug 8		0		0				4	0	2	29
Aug 9		2		0				4	1	2	40
Aug 10		0		2				5	5	2	42
Aug 11		1		0				9	2	9	40
Aug 12			2	0				11	2	3	59
Aug 13			1	0				15	4	3	98
Aug 14			1	0				17	5	3	50
Aug 15			1	0				18	4	0	69
Aug 16			0	0				13	3	0	49
Aug 17			2	0				9	4	0	53
Aug 18			0	0				15	2	2	49
Aug 19			1	0				16	4	0	50
Aug 20			1	0				21	6	0	30
Aug 21			0	0				19	4	2	19
Aug 22			0	1				25	3	0	27
Aug 23			3	0				7	7	0	21
Aug 24			0	0				28	6	0	27
Aug 25			1	0				19	9	2	18
Aug 26			0	0				7	0	0	25
Aug 27			0	0				15	3	0	27
Aug 28			0	0				0	0	0	0
Aug 29			0	0				0	0	0	0
Aug 30			1	0				9	2	0	38
Aug 31			15	0				19	6	0	41
TOTAL		14	29	3				358	96	73	1082
AVG.		1	1	0				12	3	2	35

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	534	8
SUMMER	557	49
FALL	29	1
TOTAL	1,120	58

COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
0	12	1,448	270	1,789	1,463

Night video fish counting took place between 2000 and 0400 hours PST

TABLE 98

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

NIGHT VIDEO FISH COUNTS @ ICE HARBOR
SEPTEMBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Sep 1			7	0	0			36	11		101
Sep 2			4	1	0			34	15		95
Sep 3			10	0	0			53	15		54
Sep 4			6	3	0			96	35		45
Sep 5			11	4	0			126	43		32
Sep 6			8	0	0			83	19		32
Sep 7			3	2	0			52	8		22
Sep 8			7	0	0			60	10		21
Sep 9			12	3	0			71	15		31
Sep 10			11	6	0			96	25		16
Sep 11			4	5	0			70	23		14
Sep 12			4	3	0			58	14		16
Sep 13			7	11	0			73	21		11
Sep 14			9	5	0			97	29		12
Sep 15			8	6	0			99	33		10
Sep 16			8	12	0			172	39		4
Sep 17			14	14	0			424	97		6
Sep 18			13	8	0			201	53		11
Sep 19			7	21	0			108	24		6
Sep 20			22	16	0			117	25		4
Sep 21			29	27	0			235	33		6
Sep 22			22	30	0			215	32		7
Sep 23			9	9	1			199	42		3
Sep 24			10	10	0			190	36		2
Sep 25			8	13	0			471	92		5
Sep 26			18	17	0			327	63		5
Sep 27			13	14	0			577	139		3
Sep 28			27	14	0			307	91		9
Sep 29			8	4	0			151	38		3
Sep 30			15	1	0			133	21		8
TOTAL			334	259	1			4,931	1,141		594
AVG.			11	9	0			164	38		20

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	534	8
SUMMER	557	49
FALL	363	260
TOTAL	1,454	317

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
1	0	12	6,379	1,411	1,789	2,057

Night video fish counting took place between 2000 and 0400 hours PST

TABLE 99

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

NIGHT VIDEO FISH COUNTS @ ICE HARBOR
OCTOBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Oct 1			12	9	0	0		252	50		6
Oct 2			7	7	0	0		266	51		4
Oct 3			9	9	0	0		459	104		4
Oct 4			15	19	0	0		426	106		5
Oct 5			9	9	6	0		315	71		2
Oct 6			14	6	1	0		318	84		2
Oct 7			3	6	2	0		289	60		2
Oct 8			3	4	3	0		191	40		0
Oct 9			3	4	0	0		237	44		1
Oct 10			0	0	0	0		201	30		0
Oct 11			7	4	0	1		359	69		0
Oct 12			0	1	1	0		172	25		0
Oct 13			1	2	1	0		176	35		3
Oct 14			1	2	1	0		113	16		0
Oct 15			6	4	0	0		118	10		0
Oct 16			0	3	3	0		126	19		0
Oct 17			1	4	3	0		180	29		0
Oct 18			3	0	1	0		107	13		0
Oct 19			3	1	3	0		137	23		0
Oct 20			4	0	1	0		92	11		0
Oct 21			1	2	0	0		82	19		0
Oct 22			8	0	2	0		73	15		1
Oct 23			5	0	1	0		110	23		0
Oct 24			5	2	1	1		83	14		0
Oct 25			0	2	0	0		149	31		0
Oct 26			4	0	5	0		102	20		0
Oct 27			0	0	1	0		27	3		0
Oct 28			5	0	1	0		33	13		0
Oct 29			5	0	2	0		30	8		0
Oct 30			9	0	5	0		98	24		0
Oct 31			8	0	5	0		75	19		0
TOTAL			151	100	49	2		5,396	1079		30
AVG.			5	3	2	0		174	35		1

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	534	8
SUMMER	557	49
FALL	514	360
TOTAL	1,605	417

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
50	2	12	11,775	2,490	1,789	2,087

Night video fish counting took place between 2000 and 0400 hours PST

TABLE 100

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

NIGHT VIDEO FISH COUNTS @ ICE HARBOR
NOVEMBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Nov 1			3	1	1	0		156	36		
Nov 2			3	2	0	0		116	25		
Nov 3			2	1	5	1		61	19		
Nov 4			6	2	0	0		74	20		
Nov 5			7	0	1	1		80	16		
Nov 6			5	1	0	1		68	29		
Nov 7			5	0	0	0		66	25		
Nov 8			5	2	3	0		56	14		
Nov 9			2	1	2	0		44	22		
Nov 10			3	0	0	0		82	21		
Nov 11			3	0	0	1		104	22		
Nov 12			1	0	0	0		88	21		
Nov 13			1	0	4	0		139	51		
Nov 14			0	0	0	0		176	36		
Nov 15			4	1	0	0		120	32		
Nov 16			1	0	0	0		135	29		
Nov 17			3	0	0	0		134	40		
Nov 18			4	1	0	0		170	42		
Nov 19			2	0	0	0		194	60		
Nov 20			0	0	0	0		144	41		
Nov 21			3	0	0	0		90	14		
Nov 22			0	0	0	0		82	13		
Nov 23			0	0	0	0		70	21		
Nov 24			4	0	1	0		57	22		
Nov 25			0	0	0	0		73	25		
Nov 26			1	1	0	0		78	11		
Nov 27			1	0	0	0		74	18		
Nov 28			0	0	0	0		65	7		
Nov 29			0	0	0	0		40	14		
Nov 30			0	0	0	0		34	5		
TOTAL			69	13	17	4		2,870	751		
AVG.			2	0	1	0		96	25		

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	534	8
SUMMER	557	49
FALL	583	373
TOTAL	1,674	430

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
67	6	12	14,645	3,241	1,789	2,087

Night video fish counting took place between 1600 and 0600 hours PST

TABLE 101

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

NIGHT VIDEO FISH COUNTS @ ICE HARBOR
DECEMBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Dec 1			1		1			55	12		
Dec 2			1		0			23	7		
Dec 3			0		0			25	6		
Dec 4			0		0			28	6		
Dec 5			0		0			18	3		
Dec 6			0		0			12	3		
Dec 7			0		0			20	8		
Dec 8			0		0			12	5		
Dec 9			0		0			7	1		
Dec 10			0		0			12	4		
Dec 11			0		0			20	1		
Dec 12			0		0			13	3		
Dec 13			0		0			28	5		
Dec 14			0		0			44	13		
Dec 15			0		0			12	2		
TOTAL			2		1			329	79		
AVG.			0		0			22	5		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	534	8
SUMMER	557	49
FALL	585	373
TOTAL	1,676	430

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
68	6	12	14,974	3,320	1,789	2,087

Night video fish counting took place between 1600 and 0600 hours PST

TABLE 102

YEARLY TOTALS OF SALMONIDS COUNTED OVER ICE HARBOR DAM 1962 - 2002

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS*
1962	94,301	115,796	38	3,207	213,342
1963	61,190	74,539	1,118	1,933	138,780
1964	60,097	58,860	1,276	2,071	122,304
1965	39,233	62,873	317	320	102,743
1966	75,882	65,798	278	878	142,836
1967	84,930	44,205	717	3,770	133,622
1968	98,681	82,383	1,165	6,227	188,456
1969	100,514	63,889	745	5,316	170,464
1970	77,698	53,870	797	3,636	136,001
1971	70,248	67,029	532	2,969	140,778
1972	82,632	63,593	363	2,522	149,110
1973	81,821	38,311	233	2,443	122,808
1974	32,444	12,528	204	1,334	46,510
1975	31,686	16,218	243	1,559	49,706
1976	36,556	23,885	771	1,991	63,203
1977	56,514	54,820	582	1,561	113,477
1978	61,352	27,142	86	652	89,232
1979	13,929	23,117	30	398	37,474
1980	14,717	50,221	36	58	65,032
1981	22,092	41,290	142	82	63,606
1982	22,646	73,405	174	348	96,573
1983	20,259	88,475	216	465	109,415
1984	17,757	94,030	105	22	111,914
1985	47,981	128,481	24	10	176,496
1986	52,615	144,292	20	0	196,927
1987	47,477	74,491	13	0	121,981
1988	48,066	99,714	22	0	147,802
1989	27,234	151,101	4	0	178,339
1990	31,841	54,758	1	1	86,601
1991	23,175	123,762	9	1	146,947
1992	36,021	160,614	33	0	196,668
1993	34,991	73,107	17	0	108,115
1994	7,577	51,704	0	1	59,282
1995	7,990	92,026	5	4	100,025
1996	16,419	100,805	1	0	117,225
1997	55,412	103,830	15	128	159,385
1998	26,117	85,122	3	15	111,257
1999	23,331	84,163	8	144	107,646
2000	72,154	126,424	215	1,224	200,017
2001	215,697	283,694	38	1,595	501,024
2002	137,404	202,173	61	231	339,869
Totals	2,168,681	3,436,538	10,657	47,116	5,662,992
10-Year Average	57,556	123,969	36	304	181,865

***Jacks included**

These counts include the extended season videotaped counts that were made between 0600 and 1600 hours in November and December for the count seasons, 1996-2000.

TABLE 103

MONTHLY COUNT OF CHINOOK SALMON
ICE HARBOR DAM; 1962 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING 1 APR-11 JUN	SUMMER 12 JUN-11 AUG	FALL 12 AUG-15-Dec
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
1986			1	14,764	22,025	8,299	1,672	169	3,664	2,021			52,615	39,087	7,745	5,783
1987				11,141	18,821	6,550	2,437	329	6,089	2,110			47,477	32,083	6,982	8,412
1988				14,274	17,196	8,609	1,904	702	3,621	1,760			48,066	34,394	7,790	5,882
1989				3,307	11,724	4,946	1,143	776	3,917	1,421			27,234	17,029	4,215	5,990
1990				7,578	12,166	5,353	1,337	320	3,315	1,773			31,842	20,730	5,794	5,317
1991				1,639	7,953	5,367	2,101	155	4,053	1,907			23,175	11,288	5,861	6,026
1992				11,462	12,001	5,791	1,189	228	3,716	1,634			36,021	26,114	4,377	5,530
1993				5,776	15,879	8,705	1,405	338	2,087	801			34,991	24,935	6,919	3,137
1994				717	2,268	1,183	289	170	1,693	1,257			7,577	3,472	1,003	3,102
1995				256	1,253	928	315	387	2,920	1,931			7,990	1,873	915	5,202
1996				97	6,254	3,954	1,367	792	2,983	928	44	0	16,419	7,671	4,086	4,662
1997				3,442	30,332	14,678	2,224	411	2,502	1,680	143	0	55,412	41,473	9,318	4,621
1998				3,850	7,285	6,001	1,165	421	4,324	3,006	64	1	26,117	12,564	5,777	7,776
1999				260	5,717	5,659	1,461	917	6,283	2,943	89	2	23,331	8,008	5,211	10,112
2000				13,749	29,916	9,877	2,076	1,928	9,763	4,738	105	2	72,154	48,278	7,420	16,456
2001				104,883	55,788	26,709	4,268	1,327	18,315	4,262	140	5	215,697	174,199	17,667	23,831
2002				5,016	71,511	33,555	5,750	2,752	15,874	2,946			137,404	87,033	29,044	21,327
TOTAL		1	206	387,677	817,103	377,934	212,948	38,668	246,515	84,290	3,256	84	2,168,682	1,319,535	490,016	359,130
10-Year Avg.				13,592	21,655	10,640	1,955	879	6,405	2,375			57,556	39,602	8,340	9,614

***Jacks included**

The 1996 through 2000 count seasons were extended to include video counts made between 0600 and 1600 hours daily from November 1 through December 15.

TABLE 104

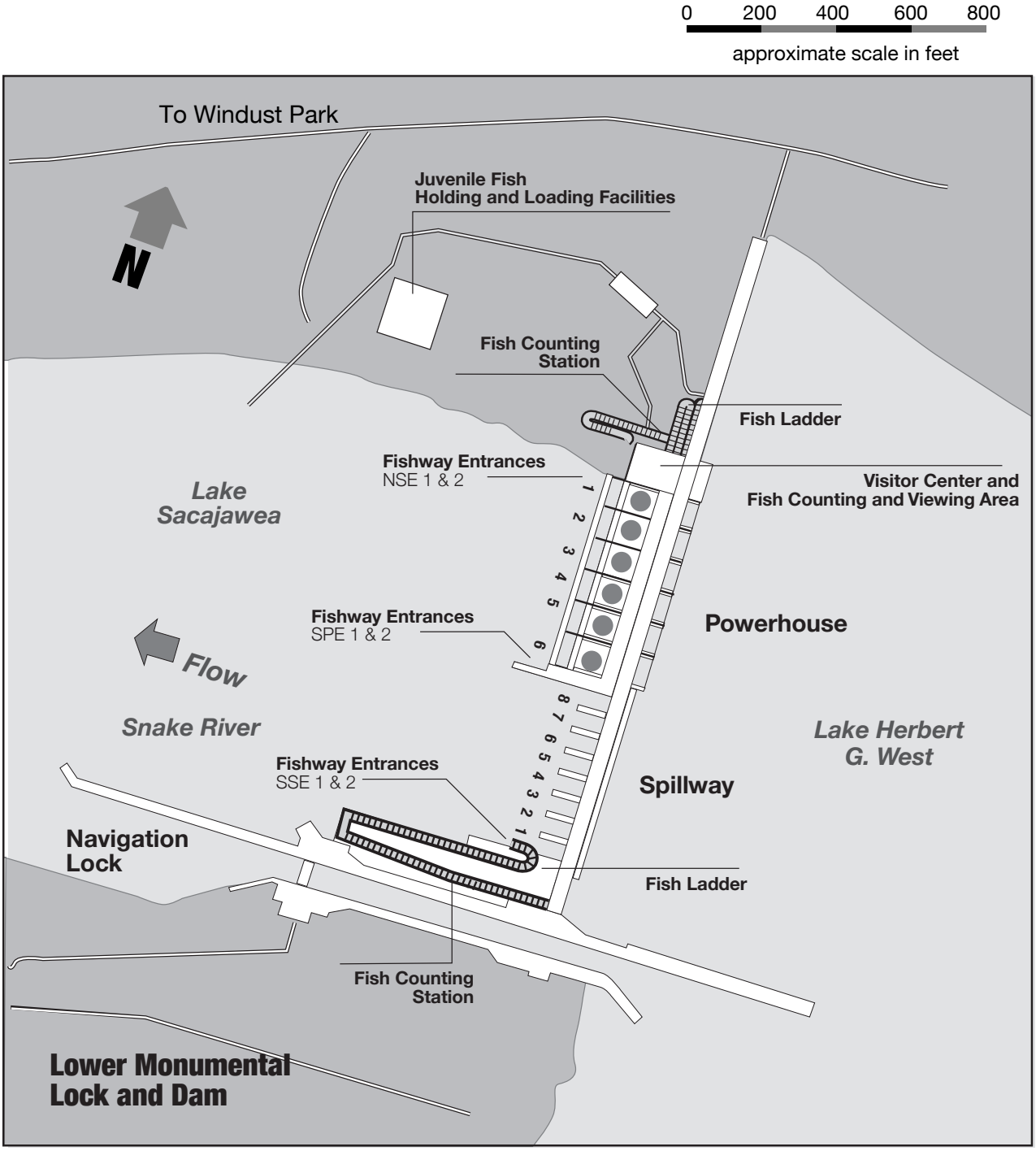
MONTHLY COUNT OF STEELHEAD

ICE HARBOR DAM
1962 -2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
1962				8,758	716	261	2,384	7,450	75,924	20,303			115,796
1963				969	895	163	2,157	6,514	35,382	24,070	4,042	347	74,539
1964	105	136	796	2,269	807	153	1,596	9,462	34,435	7,357	1,347	397	58,860
1965	31	110	673	1,976	488	439	3,739	4,497	33,595	13,522	3,803		62,873
1966				2,161	810	413	1,383	2,517	40,185	18,329			65,798
1967				1,266	894	345	972	953	18,914	20,861			44,205
1968				2,558	2,933	357	952	8,107	45,552	17,270	3,692	962	82,383
1969	132	41	807	4,971	2,430	321	3,348	5,715	27,219	14,953	3,874	78	63,889
1970				1,597	1,067	389	2,620	7,611	30,101	8,290	1,891	304	53,870
1971			458	1,938	843	215	3,064	2,996	42,481	15,034			67,029
1972				1,853	553	152	3,062	6,503	34,134	17,336			63,593
1973				1,570	827	254	1,785	2,699	22,021	9,155			38,311
1974				972	359	104	1,482	2,202	3,661	3,748			12,528
1975				564	409	76	1,223	3,878	6,816	3,252			16,218
1976				508	142	165	1,714	5,138	11,141	5,077			23,885
1977				685	220	308	3,654	3,017	30,610	16,326			54,820
1978				908	88	43	1,308	2,907	15,094	6,092	702		27,142
1979			454	538	114	60	1,995	1,778	6,136	9,717	2,325		23,117
1980			1,420	2,796	563	39	1,303	4,333	22,064	15,424	2,279		50,221
1981			797	1,106	433	137	2,305	1,431	16,563	16,669	1,849		41,290
1982			1,471	1,931	918	45	2,564	8,895	30,574	27,007			73,405
1983				1,001	150	36	3,773	9,875	48,519	25,121			88,475
1984				2,218	488	49	4,103	4,554	50,638	31,980			94,030
1985			1,892	7,353	439	306	3,070	14,468	75,378	25,575			128,481
1986			2,561	1,642	187	174	6,600	8,679	63,598	60,851			144,292
1987				2,136	235	262	3,292	4,972	28,491	35,103			74,491
1988				4,865	580	671	3,251	5,955	46,838	37,554			99,714
1989				4,326	355	487	7,399	8,916	80,799	48,819			151,101
1990				2,793	148	252	2,631	2,000	18,728	28,206			54,758
1991				2,297	256	166	3,254	1,275	55,447	61,067			123,762
1992				1,433	232	742	4,190	8,137	89,281	56,599			160,614
1993				7,418	287	745	5,896	8,086	21,614	29,061			73,107
1994				3,040	126	394	3,295	3,162	16,702	24,985			51,704
1995				828	84	193	4,699	14,521	39,494	32,207			92,026
1996				743	81	229	3,427	15,391	48,722	28,657	2,303	1,252	100,805
1997				1,187	216	280	4,323	11,522	40,238	37,036	8,484	544	103,830
1998				1,719	74	259	3,226	3,114	25,408	43,844	5,400	2,078	85,122
1999				713	93	246	3,784	16,120	40,424	18,887	2,809	1,087	84,163
2000				805	91	870	7,202	11,684	65,713	33,899	5,510	650	126,424
2001				1,322	139	3,682	17,607	27,925	136,208	68,837	22,449	5,525	283,694
2002				4,507	134	943	12,760	30,321	87,357	66,151			202,173
Totals	268	287	11,329	94,240	20,904	15,425	152,392	309,280	1,662,199	1,084,231	72,759	13,224	3,436,538
10-Year Average				2,156	142	780	6,401	13,635	55,560	40,015			123,969

The 1996 through 2000 count seasons were extended to include video counts made between 0600 and 1600 hours daily, November 1 to December 15.

Plate 7 Lower Monumental Lock and Dam



LOWER MONUMENTAL DAM

FISH COUNTING SCHEDULE

1 Jan – 31 Mar	Video counting daily 0800-1600 hours Pacific Standard Time.
1 Apr – 31 Oct	Visual counting daily 0400-2000 hours Pacific Standard Time.
1 Nov – 31 Dec	Video counting daily 0600-1600 hours Pacific Standard Time.

FISH LADDER OPERATING SCHEDULE

North Ladder

1 Jan – 2 Jan	In service.
3 Jan – 22 Jan	Out of service for annual maintenance.
23 Jan – 31 Dec	In service.

South Ladder

1 Jan – 21 Jan	In service.
22 Jan – 4 Feb	Out of service for annual maintenance.
5 Feb – 31 Dec	In service.

FISHWAY ACTIVITIES

Adult chinook and steelhead were radio-tracked past the dam in 2002 as part of a broader, ongoing study to evaluate fish passage from below Bonneville Dam to above Lower Granite Dam. The floating orifices at Lower Monumental were closed for the season as part of this study.

Stowaway temperature probes were installed in several locations within the adult fishways during the 2002 fish passage season. Water temperature data were recorded on an hourly basis from April through October.

The Walla Walla District continued a hydraulic evaluation of the adult fishways in 2002. The purpose was to analyze existing operating conditions and investigate alternatives to improve fish passage.

The juvenile fish facility was operated for juvenile fish transport/bypass and adult fallbacks from 23 March to 16 December.

TABLE 105

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER LOWER MONUMENTAL DAM
2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				3,881	60,767	31,795	6,496	2,367	15,707	3,660			124,673
STEELHEAD				4,876	196	688	10,901	25,998	94,310	75,670			212,639
SOCKEYE						10	33	3					46
COHO*								1	7	141			149
PINK													
TOTAL				8,757	60,963	32,493	17,430	28,369	110,024	79,471			337,507
SHAD						3,989	53,629	1,059					58,677
LAMPREY						5	51	159	66	3			284

***Jacks included**

TABLE 106

DISCHARGE AND WATER OUALITY DATA

LOWER MONUMENTAL PROJECT 2002

JANUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	DEG F*
Jan 1	19.0	0.0		
Jan 2	20.2	0.0		
Jan 3	21.2	0.0		
Jan 4	27.7	0.0		
Jan 5	24.0	0.0		
Jan 6	29.6	0.0		
Jan 7	24.9	0.0		
Jan 8	34.0	0.0		
Jan 9	39.1	0.0		
Jan 10	42.7	0.0		
Jan 11	27.6	0.0		
Jan 12	31.5	0.0		
Jan 13	27.2	0.0		
Jan 14	22.6	0.0		
Jan 15	36.1	0.0		
Jan 16	28.6	0.0		
Jan 17	29.3	0.0		
Jan 18	30.7	0.0		
Jan 19	23.3	0.0		
Jan 20	18.6	0.0		
Jan 21	25.5	0.0		
Jan 22	32.2	0.0		
Jan 23	27.8	0.0		
Jan 24	31.0	0.0		
Jan 25	29.9	0.0		
Jan 26	27.4	0.0		
Jan 27	27.9	0.0		
Jan 28	27.8	0.0		
Jan 29	35.4	0.0		
Jan 30	29.0	0.0		
Jan 31	28.6	0.0		
AVG.	28.4	0.0		

FEBRUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	DEG F*
Feb 1	24.3	0.0		
Feb 2	31.3	0.0		
Feb 3	28.5	0.0		
Feb 4	36.3	0.0		
Feb 5	35.3	0.0		
Feb 6	39.1	0.0		
Feb 7	48.2	0.0		
Feb 8	40.0	0.0		
Feb 9	15.1	0.0		
Feb 10	22.4	0.0		
Feb 11	30.9	0.0		
Feb 12	33.2	0.0		
Feb 13	40.6	0.0		
Feb 14	42.6	0.0		
Feb 15	33.4	0.0		
Feb 16	18.7	0.0		
Feb 17	20.2	0.0		
Feb 18	24.6	0.0		
Feb 19	31.3	0.0		
Feb 20	34.5	0.0		
Feb 21	30.4	0.0		
Feb 22	28.8	0.0		
Feb 23	22.7	0.0		
Feb 24	35.9	0.0		
Feb 25	39.8	0.0		
Feb 26	41.6	0.0		
Feb 27	44.2	0.0		
Feb 28	37.0	0.0		
AVG.	32.5	0.0		

MARCH

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	DE(
Mar 1	26.9	0.0		
Mar 2	21.9	0.0		
Mar 3	26.0	0.0		
Mar 4	26.5	0.0		
Mar 5	29.5	0.0		
Mar 6	28.2	0.0		
Mar 7	28.8	0.0		
Mar 8	30.9	0.0		
Mar 9	23.0	0.0		
Mar 10	20.1	0.0		
Mar 11	28.3	0.0		
Mar 12	50.9	0.0		
Mar 13	47.1	0.0		
Mar 14	47.2	0.0		
Mar 15	36.5	0.0		
Mar 16	36.6	0.0		
Mar 17	21.7	0.0		
Mar 18	33.6	0.0		
Mar 19	34.1	0.0		
Mar 20	30.9	0.0		
Mar 21	34.1	0.0		
Mar 22	27.2	0.0		
Mar 23	36.5	0.0		
Mar 24	36.2	0.0		
Mar 25	53.4	0.0		
Mar 26	63.4	0.0		
Mar 27	63.4	0.0		
Mar 28	67.9	0.0		
Mar 29	69.4	0.0		
Mar 30	66.6	0.0		
Mar 31	63.7	0.0		
AVG.	39.0	0.0		

***All water temperature and turbididty data are unavailable.**

TABLE 107

MONTHLY FISH PASSAGE SUMMARY REPORT — **LOWER MONUMENTAL PROJEC**

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **APRIL 2002**

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Apr 1	6			0				358	74			78.1	0.0	1.8	42.0
Apr 2	1			0				477	148			84.1	0.0	1.8	44.0
Apr 3	1			0				294	89			66.2	0.0	1.8	44.0
Apr 4	4			0				254	81			53.8	0.0	2.0	45.0
Apr 5	13			0				286	109			55.3	0.0	2.0	45.0
Apr 6	26			0				178	71			70.6	0.0	2.0	45.0
Apr 7	25			0				287	125			68.3	0.0	2.0	45.0
Apr 8	17			0				300	113			70.3	0.0	2.0	46.0
Apr 9	40			0				330	139			76.0	0.0	2.0	46.0
Apr 10	13			0				219	89			79.5	0.0	2.0	46.0
Apr 11	32			0				285	132			80.0	0.0	2.0	46.0
Apr 12	80			0				198	94			71.4	0.0	2.0	46.0
Apr 13	75			0				182	90			78.6	0.0	2.0	46.0
Apr 14	151			0				216	100			95.3	0.0	2.0	46.0
Apr 15	64			0				208	90			127.2	8.3	2.0	46.0
Apr 16	84			0				172	81			120.3	1.0	1.5	47.0
Apr 17	55			0				132	69			105.6	0.0	1.5	47.0
Apr 18	64			0				97	41			90.8	0.0	1.5	47.0
Apr 19	121			0				89	49			87.3	0.0	1.5	47.0
Apr 20	77			0				49	30			80.0	0.0	1.2	48.0
Apr 21	83			0				29	6			72.9	0.0	1.2	47.0
Apr 22	63			0				27	11			67.4	0.0	1.5	46.0
Apr 23	186			0				56	32			77.3	0.0	1.5	46.0
Apr 24	120			10				19	7			73.3	0.0	1.5	47.0
Apr 25	145			19				33	22			65.9	0.0	1.5	47.0
Apr 26	311			0				21	13			61.4	0.0	1.5	47.0
Apr 27	218			2				14	10			62.0	0.0	1.5	47.0
Apr 28	298			0				24	8			59.2	0.0	1.5	47.0
Apr 29	552			1				22	11			64.3	0.0	1.8	47.0
Apr 30	916			8				20	19			47.5	0.0	1.8	47.0
TOTAL	3,841			40				4,876	1,953						
AVG.	128			1				163	65			76.3	0.3	1.7	46.1

TABLE 108

MONTHLY FISH PASSAGE SUMMARY REPORT — **LOWER MONUMENTAL PROJEC**

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **MAY 2002**

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
May 1	949			4				28	20			66.0	0.0	1.8	49.0
May 2	1,088			11				14	10			72.0	0.0	2.5	48.0
May 3	2,622			10				21	15			70.9	0.0	3.0	50.0
May 4	4,623			5				27	19			87.5	0.0	3.5	50.0
May 5	3,430			15				11	8			75.3	0.0	3.5	51.0
May 6	3,358			12				25	24			72.8	0.0	3.5	50.0
May 7	1,804			10				5	4			75.1	0.0	3.5	50.0
May 8	3,824			23				7	7			66.8	0.0	3.5	50.0
May 9	3,099			22				12	12			59.3	0.0	3.5	50.0
May 10	4,103			25				8	6			57.7	0.0	3.5	51.0
May 11	3,511			45				2	2			59.1	0.0	3.5	51.0
May 12	1,705			19				2	1			55.4	0.0	3.5	51.0
May 13	3,054			37				1	1			52.8	0.0	3.5	50.0
May 14	1,409			19				4	2			65.3	0.0	3.5	50.0
May 15	1,452			46				8	6			69.1	0.0	3.5	51.0
May 16	2,074			35				3	3			66.7	0.0	*	51.0
May 17	2,235			48				0	0			66.7	0.0	3.0	51.0
May 18	2,207			56				6	5			70.9	0.0	4.0	51.0
May 19	1,358			24				1	1			78.2	0.0	4.0	52.0
May 20	1,690			49				1	1			99.4	0.0	3.5	52.0
May 21	1,372			77				1	0			108.2	0.0	4.0	53.0
May 22	983			39				0	0			113.1	0.0	4.0	53.0
May 23	693			37				0	0			103.3	0.0	3.8	53.0
May 24	853			42				6	5			109.7	0.0	3.8	53.0
May 25	1,121			53				1	1			92.5	0.0	3.8	54.0
May 26	838			15				0	0			84.6	0.0	3.8	54.0
May 27	1,044			36				1	1			91.8	0.0	3.8	52.0
May 28	1,018			51				0	0			94.3	0.0	3.5	52.0
May 29	905			13				0	0			112.5	0.0	2.5	52.0
May 30	805			33				1	0			119.2	3.2	2.5	53.0
May 31	612			17				0	0			139.0	16.3	2.5	53.0
TOTAL	59,839			928				196	154						
AVG.	1,930			30				6	5			82.4	0.6	3.4	51.3

*Data unavailable.

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	STEELHEAD	WILD STEELHEAD
SPRING	63,680	968	5,072	2,107

TABLE 109

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

LOWER MONUMENTAL PROJEC
JUNE 2002

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Jun 1	733			25			0	2	2	0	0	135.0	12.6	2.5	55.0
Jun 2	956			48			0	0	0	0	0	129.0	8.8	2.5	56.0
Jun 3	643			52			0	2	1	0	0	135.2	14.5	2.5	56.0
Jun 4	1,434			46			0	2	2	0	0	116.0	5.5	2.5	56.0
Jun 5	985			54			0	1	0	0	1	115.6	0.0	2.5	56.0
Jun 6	639			42			0	1	1	0	0	107.5	0.0	2.5	57.0
Jun 7	858			42			0	0	0	0	0	106.1	0.0	2.5	57.0
Jun 8	913			39			0	1	0	0	0	102.3	0.0	2.5	56.0
Jun 9	822			31			0	2	0	0	0	89.2	0.0	2.5	56.0
Jun 10	681			37			0	0	0	0	0	74.5	0.0	2.5	55.0
Jun 11	826			38			0	8	2	0	0	80.6	0.0	2.5	55.0
Jun 12	1,218			39			0	5	1	0	0	72.4	0.0	2.7	56.0
Jun 13	1,916			76			0	5	2	0	0	76.0	0.0	3.2	58.0
Jun 14		1,332		60			0	8	2	6	1	76.0	0.0	3.2	58.0
Jun 15		882		37			0	6	2	8	1	74.5	0.0	3.0	57.0
Jun 16		1,027		24			0	5	1	2	1	81.5	0.0	3.0	56.0
Jun 17		1,127		23			0	6	1	2	0	98.0	0.0	3.0	56.0
Jun 18		1,693		55			0	8	2	4	0	91.6	0.0	3.0	56.0
Jun 19		1,786		45			0	7	2	2	0	100.7	0.0	3.0	58.0
Jun 20		941		46			2	12	1	6	0	87.4	0.0	3.5	60.0
Jun 21		1,035		37			0	22	6	41	0	88.3	0.0	3.0	60.0
Jun 22		1,039		61			1	33	9	83	0	80.6	0.0	3.5	60.0
Jun 23		1,062		66			0	51	23	239	0	87.3	0.0	3.5	61.0
Jun 24		829		76			1	60	30	206	0	90.1	0.0	4.0	61.0
Jun 25		879		44			1	52	15	361	0	92.1	0.0	4.0	61.0
Jun 26		798		57			2	55	17	290	0	83.4	0.0	4.0	61.0
Jun 27		913		35			1	74	27	963	0	84.8	0.0	4.4	61.0
Jun 28		840		77			1	85	29	879	0	79.2	0.0	4.4	61.0
Jun 29		706		49			0	56	21	357	1	83.2	0.0	4.4	61.0
Jun 30		824		97			1	119	36	540	0	79.1	0.0	4.4	61.0
TOTAL	12,624	17,713		1,458			10	688	235	3,989	5				
AVG.	971	1042		49				23	8	133	0	93.2	1.4	3.2	57.9

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	76,304	1,537
SUMMER	17,713	889
TOTAL	94,017	2,426

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
10	5,760	2,342	3,989	5

TABLE 110

MONTHLY FISH PASSAGE SUMMARY REPORT | **LOWER MONUMENTAL PROJEC**

U.S. ARMY ENGINEER DISTRICT, PORTLAND | **JULY 2002**

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jul 1		748		94			0	122	42	647	0	66.4	0.0	4.0	61.0
Jul 2		584		42			1	124	43	1,105	0	60.3	0.0	4.0	62.0
Jul 3		440		28			2	146	43	1,227	0	50.6	0.0	4.0	63.0
Jul 4		499		35			5	174	49	1,079	0	50.7	0.0	4.0	63.0
Jul 5		427		52			4	176	59	1,489	0	48.8	0.0	4.0	64.0
Jul 6		282		40			0	117	39	1,727	1	43.6	0.0	4.0	65.0
Jul 7		222		38			1	121	46	3,168	0	40.1	0.0	4.0	65.0
Jul 8		276		47			0	166	67	2,699	1	38.3	0.0	4.0	65.0
Jul 9		239		42			0	188	64	3,964	1	42.9	0.0	4.0	65.0
Jul 10		214		38			1	184	71	2,980	1	39.8	0.0	4.0	65.0
Jul 11		131		37			0	164	50	4,248	0	43.8	0.0	5.0	66.0
Jul 12		176		12			7	209	74	4,689	1	42.6	0.0	5.0	66.0
Jul 13		102		11			1	142	45	3,644	0	42.0	0.0	5.0	67.0
Jul 14		217		9			1	389	127	2,894	0	37.3	0.0	5.0	67.0
Jul 15		230		5			2	423	147	4,497	0	36.4	0.0	5.0	67.0
Jul 16		136		10			0	389	143	3,116	0	36.4	0.0	5.0	68.0
Jul 17		132		12			2	379	165	2,754	0	38.0	0.0	4.5	68.0
Jul 18		77		23			0	460	157	1,662	3	37.1	0.0	4.5	68.0
Jul 19		93		16			1	401	138	1,270	2	32.8	0.0	4.5	69.0
Jul 20		102		25			0	508	187	861	5	32.1	0.0	4.5	69.0
Jul 21		70		17			2	436	151	971	1	32.2	0.0	4.5	70.0
Jul 22		18		7			0	289	133	496	2	34.5	0.0	4.5	69.0
Jul 23		21		7			1	255	114	383	4	30.3	0.0	4.5	70.0
Jul 24		55		11			1	612	223	297	0	33.7	0.0	4.5	70.0
Jul 25		49		20			0	727	250	757	1	31.7	0.0	*	*
Jul 26		46		14			0	653	276	166	1	32.2	0.0	4.5	70.0
Jul 27		52		7			0	947	362	170	5	24.6	0.0	4.5	70.0
Jul 28		44		18			0	691	279	183	4	31.3	0.0	4.5	70.0
Jul 29		24		1			1	621	233	205	4	29.1	0.0	4.5	70.0
Jul 30		28		4			0	343	132	156	7	28.4	0.0	4.5	70.0
Jul 31		30		10			0	345	118	125	7	31.3	0.0	4.5	70.0
TOTAL		5,764		732			33	10,901	4,027	53,629	51				
AVG.		186		24			1	352	130	1,730	2	38.7	0.0	4.4	67.1

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	76,304	1,537	43	16,661	6,369	57,618	56
SUMMER	23,477	1,621					
TOTAL	99,781	3,158					

*Data unavailable.

TABLE 111

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

LOWER MONUMENTAL PROJEC
AUGUST 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Aug 1		31		4	0		1	475	210	87	8
Aug 2		36		28	0		0	474	176	77	9
Aug 3		19		7	0		0	457	158	115	10
Aug 4		24		4	0		1	387	142	56	4
Aug 5		15		5	0		0	322	99	68	6
Aug 6		20		8	0		1	249	71	86	8
Aug 7		24		11	0		0	396	116	54	5
Aug 8		9		7	0		0	311	103	38	8
Aug 9		10		2	0		0	315	96	41	2
Aug 10		17		6	0		0	242	90	26	17
Aug 11		18		1	0		0	213	62	79	7
Aug 12		14		1	0		0	165	40	61	2
Aug 13		30		5	0		0	184	39	23	2
Aug 14			23	7	0		0	262	74	54	5
Aug 15			17	2	0		0	335	108	50	5
Aug 16			33	2	0		0	441	113	19	4
Aug 17			36	8	0		0	822	251	5	8
Aug 18			68	10	0		0	870	245	10	13
Aug 19			45	13	0		0	853	262	8	5
Aug 20			67	14	0		0	1,193	350	10	0
Aug 21			46	11	0		0	1,482	404	15	2
Aug 22			65	7	0		0	1,320	391	14	5
Aug 23			107	11	0		0	1,913	621	12	1
Aug 24			57	11	0		0	1,289	341	6	2
Aug 25			69	8	0		0	1,558	394	4	4
Aug 26			73	14	1		0	1,222	302	0	6
Aug 27			71	13	0		0	1,595	394	18	3
Aug 28			92	13	0		0	1,602	366	6	3
Aug 29			121	11	0		0	1,105	304	5	1
Aug 30			374	41	0		0	1,551	408	11	0
Aug 31			424	27	0		0	2,395	634	1	4
TOTAL		267	1788	312	1		3	25,998	7,364	1,059	159
AVG.		21	99	10			0	839	238	34	5

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Aug 1	25.8	0.0	4.2	71.0
Aug 2	28.2	0.0	4.2	70.0
Aug 3	26.0	0.0	4.2	70.0
Aug 4	25.8	0.0	4.2	70.0
Aug 5	27.6	0.0	4.0	70.0
Aug 6	31.2	0.0	4.0	69.0
Aug 7	27.5	0.0	4.0	69.0
Aug 8	26.1	0.0	4.0	68.0
Aug 9	28.9	0.0	4.0	68.0
Aug 10	30.2	0.0	4.0	68.0
Aug 11	31.1	0.0	4.0	69.0
Aug 12	31.1	0.0	4.0	69.0
Aug 13	29.1	0.0	4.0	69.0
Aug 14	36.0	0.0	4.0	69.0
Aug 15	32.6	0.0	4.0	69.0
Aug 16	38.9	0.0	4.0	69.0
Aug 17	30.8	0.0	4.0	69.0
Aug 18	34.5	0.0	4.0	68.0
Aug 19	26.3	0.0	4.0	67.0
Aug 20	29.3	0.0	4.0	67.0
Aug 21	27.4	0.0	4.0	67.0
Aug 22	27.2	0.0	4.5	68.0
Aug 23	40.1	0.0	4.5	67.0
Aug 24	33.7	0.0	4.5	69.0
Aug 25	28.8	0.0	4.5	68.0
Aug 26	29.1	0.0	4.5	68.0
Aug 27	31.6	0.0	4.5	69.0
Aug 28	28.8	0.0	4.5	69.0
Aug 29	30.7	0.0	4.5	69.0
Aug 30	29.5	0.0	4.5	69.0
Aug 31	30.2	0.0	4.5	69.0
AVG.	30.1	0.0	4.2	68.7

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	76,304	1,537	1	46	42,659	13,733	58,677	215
SUMMER	23,744	1,710						
FALL	1,788	223						
TOTAL	101,836	3,470						

TABLE 112

MONTHLY FISH PASSAGE SUMMARY REPORT — **LOWER MONUMENTAL PROJEC**

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **SEPTEMBER 2002**

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Sep 1			237	28	0			1,580	362		1	23.4	0.0	4.5	69.0
Sep 2			325	51	0			1,609	432		2	15.0	0.0	4.5	69.0
Sep 3			310	39	0			1,481	343		0	23.6	0.0	4.5	67.0
Sep 4			277	42	0			1,900	478		3	29.2	0.0	4.5	67.0
Sep 5			345	35	0			1,557	386		12	28.8	0.0	4.5	67.0
Sep 6			697	106	0			2,324	670		7	27.0	0.0	4.5	67.0
Sep 7			560	105	0			3,197	876		2	22.7	0.0	4.5	67.0
Sep 8			424	92	1			2,963	763		2	22.1	0.0	4.5	66.0
Sep 9			156	47	0			1,471	360		9	25.4	0.0	4.5	66.0
Sep 10			212	75	0			1,443	339		2	22.4	0.0	4.5	66.0
Sep 11			323	98	0			1,311	332		5	22.4	0.0	4.5	66.0
Sep 12			458	112	0			1,661	432		0	19.9	0.0	4.5	66.0
Sep 13			592	70	0			1,955	487		1	21.5	0.0	4.5	66.0
Sep 14			604	78	1			2,233	565		0	25.8	0.0	4.5	66.0
Sep 15			575	115	0			2,048	535		3	15.3	0.0	4.5	66.0
Sep 16			568	106	0			2,907	734		5	19.8	0.0	4.5	66.0
Sep 17			450	156	0			4,462	1,133		4	24.6	0.0	4.5	66.0
Sep 18			628	170	0			3,509	997		2	19.8	0.0	4.5	66.0
Sep 19			762	202	0			5,955	1,710		0	16.8	0.0	4.5	65.0
Sep 20			406	133	0			3,846	906		2	21.8	0.0	4.5	64.0
Sep 21			337	126	1			3,008	737		0	17.2	0.0	4.5	64.0
Sep 22			377	121	0			3,084	738		0	17.2	0.0	4.5	64.0
Sep 23			301	132	0			2,210	515		0	19.2	0.0	4.5	64.0
Sep 24			230	116	0			2,503	631		0	19.4	0.0	4.5	64.0
Sep 25			359	182	0			4,561	1,080		2	24.6	0.0	4.5	64.0
Sep 26			334	192	1			4,545	1,085		1	17.8	0.0	4.5	64.0
Sep 27			195	217	1			4,429	1,043		0	18.0	0.0	4.5	64.0
Sep 28			259	282	0			5,531	1,408		0	20.7	0.0	4.5	63.0
Sep 29			278	296	1			7,069	1,785		1	20.8	0.0	4.5	64.0
Sep 30			287	317	1			7,958	1,970		0	18.7	0.0	4.5	64.0
TOTAL			11,866	3,841	7			94,310	23,832		66				
AVG.			409	128	0			3,144	794		2	21.4	0.0	4.5	65.6

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	76,304	1,537	8	46	136,969	37,565	58,677	281
SUMMER	23,744	1,710						
FALL	13,654	4,064						
TOTAL	113,702	7,311						

TABLE 113

MONTHLY FISH PASSAGE SUMMARY REPORT | **LOWER MONUMENTAL PROJEC**

U.S. ARMY ENGINEER DISTRICT, PORTLAND | **OCTOBER 2002**

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Oct 1			98	120	1	0		4,892	1,166		0	25.7	0.0	4.5	62.0
Oct 2			138	158	8	0		3,279	744		1	18.8	0.0	4.5	61.0
Oct 3			92	162	4	0		4,346	945		0	20.7	0.0	4.5	61.0
Oct 4			115	146	7	0		3,198	794		0	20.2	0.0	4.5	61.0
Oct 5			200	175	7	0		6,145	1,395		1	19.7	0.0	4.5	61.0
Oct 6			178	17	6	0		5,093	1,240		0	22.7	0.0	4.5	61.0
Oct 7			98	110	6	0		3,663	784		0	14.0	0.0	4.5	61.0
Oct 8			65	106	0	0		2,402	619		0	18.4	0.0	4.5	61.0
Oct 9			83	130	7	2		4,138	1,016		0	20.4	0.0	4.5	61.0
Oct 10			101	160	13	1		5,509	1,333		0	19.8	0.0	4.5	61.0
Oct 11			30	85	6	0		4,005	991		0	21.2	0.0	4.5	61.0
Oct 12			30	61	5	0		3,286	783		0	17.5	0.0	4.5	60.0
Oct 13			20	90	6	0		3,356	817		0	14.3	0.0	4.5	60.0
Oct 14			23	54	6	0		2,471	587		0	14.3	0.0	*	60.0
Oct 15			9	57	5	1		1,757	402		0	14.7	0.0	4.2	60.0
Oct 16			17	39	4	1		1,551	343		0	14.9	0.0	*	59.0
Oct 17			26	62	1	0		1,820	429		1	16.1	0.0	4.2	59.0
Oct 18			22	61	2	0		1,915	454		0	15.8	0.0	4.2	59.0
Oct 19			14	39	0	0		1,724	425		0	14.4	0.0	4.2	59.0
Oct 20			14	51	2	0		1,213	313		0	17.6	0.0	4.2	58.0
Oct 21			8	46	8	0		770	166		0	15.1	0.0	4.2	58.0
Oct 22			12	33	2	0		1,051	265		0	16.2	0.0	4.2	58.0
Oct 23			16	40	0	1		887	216		0	15.1	0.0	4.2	58.0
Oct 24			14	20	2	0		859	219		0	16.8	0.0	4.2	58.0
Oct 25			20	21	1	1		1,091	273		0	17.3	0.0	4.2	57.0
Oct 26			25	21	6	1		955	267		0	16.3	0.0	4.2	56.0
Oct 27			18	23	2	0		1,153	324		0	14.2	0.0	4.2	56.0
Oct 28			20	9	4	2		719	188		0	14.7	0.0	4.2	56.0
Oct 29			17	11	4	0		786	205		0	17.8	0.0	4.2	55.0
Oct 30			10	10	2	0		1,024	283		0	18.5	0.0	4.2	54.0
Oct 31			6	4	3	1		612	177		0	16.0	0.0	*	*
TOTAL			1,539	2,121	130	11		75,670	18,163		3				
AVG.			50	68	4	0		2,441	586		0	17.4	0.0	4.3	59.1

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	76,304	1,537
SUMMER	23,744	1,710
FALL	15,193	6,185
TOTAL	115,241	9,432

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
138	11	46	212,639	55,728	58,677	284

*Data unavailable.

TABLE 114

DISCHARGE AND WATER QUALITY DATA
LOWER MONUMENTAL PROJECT - 2002

NOVEMBER					DECEMBER				
	DISCH	SPILL	TURBIDITY			DISCH	SPILL	TURBIDITY	
DATE	KCFS	KCFS	SECCHI*	DEG F*	DATE	KCFS	KCFS	SECCHI*	DEG F*
Nov 1	13.9	0.0			Dec 1	12.0	0.0		
Nov 2	15.0	0.0			Dec 2	21.1	0.0		
Nov 3	14.1	0.0			Dec 3	15.5	0.0		
Nov 4	14.7	0.0			Dec 4	14.2	0.0		
Nov 5	15.7	0.0			Dec 5	16.5	0.0		
Nov 6	14.3	0.0			Dec 6	15.7	0.0		
Nov 7	16.4	0.0			Dec 7	12.7	0.0		
Nov 8	17.5	0.0			Dec 8	15.4	0.0		
Nov 9	16.7	0.0			Dec 9	14.8	0.0		
Nov 10	17.6	0.0			Dec 10	19.1	0.0		
Nov 11	18.4	0.0			Dec 11	16.4	0.0		
Nov 12	17.5	0.0			Dec 12	14.5	0.0		
Nov 13	18.5	0.0			Dec 13	16.4	0.0		
Nov 14	16.8	0.0			Dec 14	16.4	0.0		
Nov 15	17.7	0.0			Dec 15	16.4	0.0		
Nov 16	16.7	0.0			Dec 16	19.8	0.0		
Nov 17	16.2	0.0			Dec 17	18.9	0.0		
Nov 18	19.3	0.0			Dec 18	18.6	0.0		
Nov 19	18.3	0.0			Dec 19	18.0	0.0		
Nov 20	15.9	0.0			Dec 20	12.9	0.0		
Nov 21	16.4	0.0			Dec 21	18.0	0.0		
Nov 22	17.6	0.0			Dec 22	16.4	0.0		
Nov 23	14.7	0.0			Dec 23	16.2	0.0		
Nov 24	15.6	0.0			Dec 24	17.7	0.0		
Nov 25	19.1	0.0			Dec 25	15.7	0.0		
Nov 26	20.7	0.0			Dec 26	19.4	0.0		
Nov 27	16.1	0.0			Dec 27	14.2	0.0		
Nov 28	14.0	0.0			Dec 28	14.6	0.0		
Nov 29	13.7	0.0			Dec 29	17.6	0.0		
Nov 30	13.4	0.0			Dec 30	20.4	0.0		
					Dec 31				
AVG.	16.4	0.0			AVG.	16.5	0.0		

***Unavailable.**

YEARLY TOTALS OF SALMONIDS COUNTED OVER LOWER MONUMENTAL DAM 1969 - 2002

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS
1969	86,700	71,436	1,127	6,466	165,729
1970	75,310	62,167	240	2,972	140,689
1971	68,885	70,114	808	2,171	141,978
1972	72,220	66,857	415	733	140,225
1973	80,557	39,530	206	1,333	121,626
1974	31,728	15,139	114	812	47,793
1975	33,013	17,363	146	572	51,094
1976	34,395	21,822	364	361	56,942
1977	49,301	47,749	293	122	97,465
1978	56,835	20,540	96	218	77,689
1979	11,288	17,794	31	194	29,307
1980	10,885	34,322	48	73	45,328
1981	19,991	35,923	136	63	56,113
1982	21,965	62,772	154	89	84,980
1983	19,082	80,562	118	110	99,872
1984	17,866	88,655	63	26	106,610
1985	42,437	109,718	68	24	152,247
1986	50,584	120,479	26	9	171,098
1987	42,434	62,586	16	6	105,042
1988	44,262	84,746	35	3	129,046
1989	25,590	129,618	9	17	155,234
1990	28,215	24,238	0	1	52,454
1991	18,210	98,315	6	5	116,536
1992	30,145	130,429	15	0	160,589
1993	34,195	70,992	18	0	105,205
1994	7,219	49,917	7	0	57,143
1995	7,883	90,157	4	4	98,048
1996	15,606	96,609	3	6	112,224
1997	51,556	85,602	16	30	137,204
1998	21,537	66,118	2	0	87,657
1999	20,271	72,842	15	88	93,216
2000	68,961	112,616	291	750	182,618
2001	225,322	252,923	32	957	479,234
2002	124,673	212,639	46	149	337,507
Total	1,549,121	2,623,289	4,968	18,364	4,195,742
10-Year Average	55,215	112,804	41	180	168,240

*Jacks included

TABLE 116

MONTHLY COUNT OF CHINOOK SALMON

LOWER MONUMENTAL DAM; 1969 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS*
1969			1	67	38,702	25,289	13,832	1,776	5,069	1,619	340	5	86,700
1970	1		1	9,194	32,623	15,818	9,369	1,720	5,178	1,281	122	3	75,310
1971				358	19,340	23,842	14,492	857	8,599	1,397			68,885
1972				6,838	36,448	6,989	15,501	1,835	3,737	872			72,220
1973				27,168	31,973	11,282	4,343	678	4,273	840			80,557
1974				327	15,796	4,904	7,241	602	1,972	886			31,728
1975				704	17,421	6,648	4,884	548	2,428	380			33,013
1976				1,995	19,292	7,731	3,172	175	1,609	421			34,395
1977				19,125	17,093	7,884	3,092	300	1,321	486			49,301
1978				12,324	30,067	8,941	3,853	831	536	283			56,835
1979				1,332	5,637	2,010	922	211	916	260			11,288
1980				1,008	5,198	2,318	1,315	319	405	322			10,885
1981				4,039	9,012	3,349	1,924	97	1,100	470			19,991
1982				372	11,319	5,031	2,773	264	1,631	575			21,965
1983				1,250	10,262	3,841	2,103	220	1,008	398			19,082
1984				513	7,186	6,297	2,549	205	789	327			17,866
1985				7,360	20,572	7,303	1,279	402	2,451	3,070			42,437
1986				10,893	25,454	7,436	1,821	123	2,786	2,071			50,584
1987				8,706	21,166	5,492	2,400	278	2,625	1,767			42,434
1988				11,451	19,823	7,851	1,832	607	1,752	946			44,262
1989				159	14,924	4,858	1,615	476	1,852	706			24,590
1990				6,830	12,127	5,197	1,594	181	1,205	1,081			28,215
1991				925	6,537	5,491	1,936	127	2,177	1,017			18,210
1992				10,529	10,822	5,001	1,220	188	1,729	656			30,145
1993				3,848	16,154	9,720	2,016	313	1,591	509	44		34,195
1994				574	2,448	1,287	322	156	1,308	1,124			7,219
1995				210	1,435	1,092	471	280	2,183	2,212			7,883
1996				62	5,836	4,442	1,407	395	2,547	917			15,606
1997				1,493	26,966	16,833	2,484	309	2,174	1,297			51,556
1998				2,325	6,626	5,095	1,222	272	3,418	2,579			21,537
1999				124	4,551	4,951	1,630	623	5,499	2,893			20,271
2000				10,018	30,132	11,068	2,469	1,367	8,950	4,957			68,961
2001				104,119	60,247	32,422	6,261	1,472	16,390	4,411			225,322
2002				3,881	60,767	31,795	6,496	2,367	15,707	3,660			124,673
Total	1		2	270,121	653,956	309,508	129,840	20,574	116,915	46,690	506	8	1,548,121
10-Year Average				12,471	20,544	11,246	2,363	704	5,591	2,292			55,215

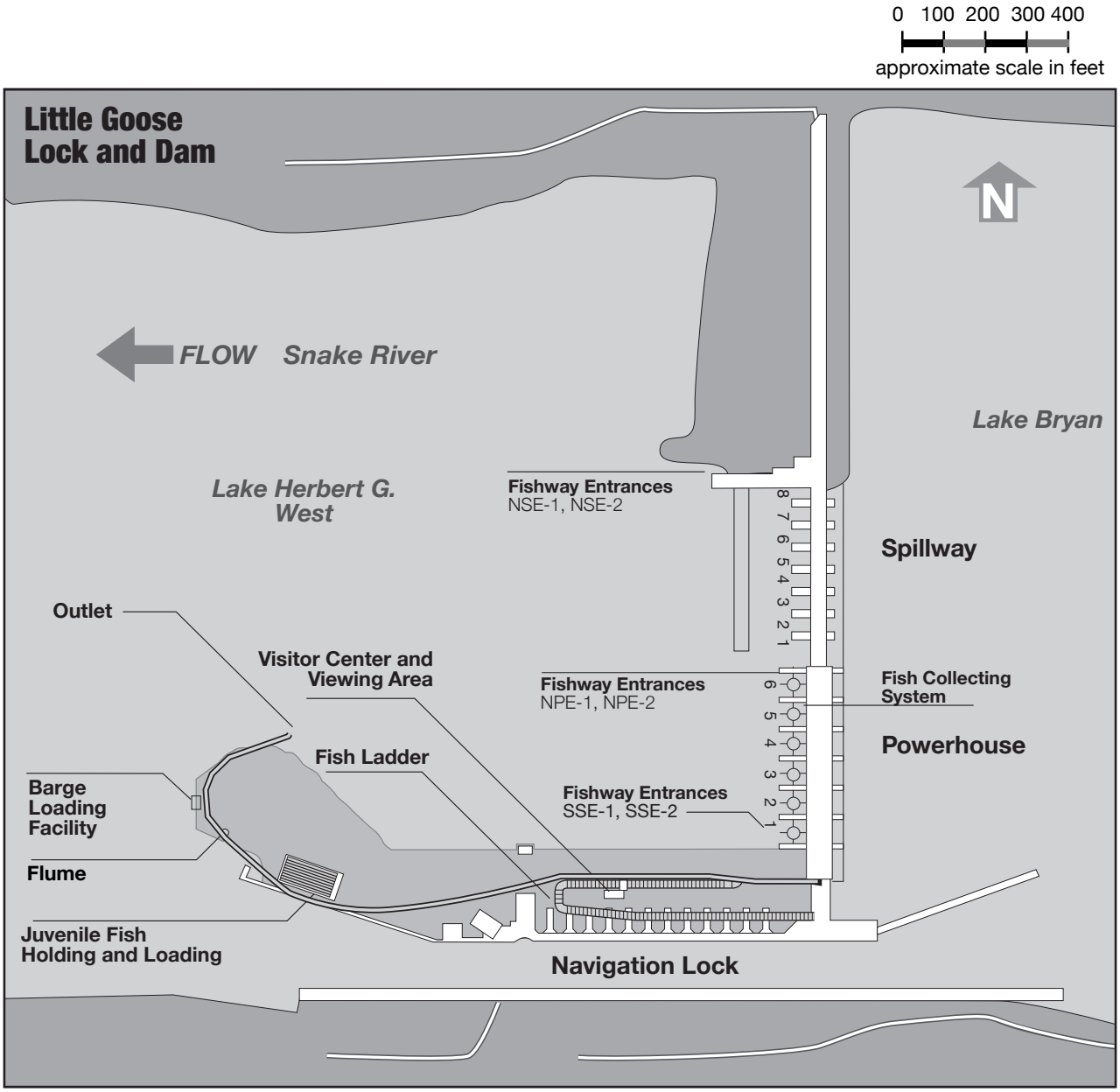
***Jacks included**

TABLE 117

MONTHLY COUNT OF STEELHEAD
LOWER MONUMENTAL DAM
1969 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
1969		5	1,525	9,235	5,475	248	2,141	6,410	26,647	15,195	4,189	366	71,436
1970	252	1,025	1,519	3,143	2,134	232	1,989	7,947	30,701	11,194	1,615	416	62,167
1971			422	2,404	1,510	131	2,199	2,992	42,438	18,018			70,114
1972				2,182	744	86	2,336	7,184	32,417	21,908			66,857
1973				2,061	658	82	2,060	3,505	21,241	9,923			39,530
1974				1,221	256	17	1,237	2,835	4,929	4,644			15,139
1975				745	444	24	873	4,417	7,437	3,423			17,363
1976				806	256	146	1,092	4,409	10,328	4,785			21,822
1977				849	192	127	3,026	2,991	22,494	18,070			47,749
1978				1,324	128	16	719	2,522	10,477	5,354			20,540
1979				643	118	28	1,314	1,937	4,898	8,856			17,794
1980				2,467	573	70	754	3,725	14,078	12,655			34,322
1981				996	321	75	1,783	1,632	12,416	18,700			35,923
1982				2,026	1,123	35	1,851	7,373	22,426	27,938			62,772
1983				1,021	131	14	3,027	10,101	40,004	26,264			80,562
1984				2,663	482	52	3,150	4,820	42,788	34,700			88,655
1985				6,889	548	189	1,888	10,086	63,734	26,384			109,718
1986				1,914	205	89	5,082	7,751	46,876	58,562			120,479
1987				2,483	264	142	2,531	4,692	20,766	31,708			62,586
1988				4,274	604	411	1,903	5,725	35,290	36,539			84,746
1989				1,067	389	304	6,364	8,093	63,026	50,375			129,618
1990				2,691	197	189	1,804	1,579	14,209	24,238			44,907
1991				2,211	288	70	2,275	1,497	41,894	50,080			98,315
1992				1,456	182	285	2,890	7,223	68,606	49,787			130,429
1993				7,752	277	564	5,367	8,197	16,146	30,228	2,461		70,992
1994				2,844	76	186	2,595	2,998	14,901	26,317			49,917
1995				1,072	162	138	4,074	10,424	38,890	35,397			90,157
1996				934	96	137	3,199	12,413	47,234	32,596			96,609
1997				1,044	162	177	3,422	9,326	34,521	36,950			85,602
1998				1,501	62	198	2,361	1,835	19,892	40,269			66,118
1999				559	59	98	2,652	11,170	37,899	20,405			72,842
2000				937	-26	546	5,741	9,045	61,072	35,301			112,616
2001				1,636	113	2,874	19,045	26,264	126,517	76,474			252,923
2002				4,876	196	688	10,901	25,998	94,310	75,670			212,639
Total	252	1,030	3,466	79,926	18,399	8,668	113,645	239,116	1,191,502	978,907	8,265	782	2,643,958
10-Yr. Average				2,237	124	536	5,659	11,354	50,908	41,763			112,804

Plate 8 Little Goose Lock and Dam



LITTLE GOOSE DAM

FISH COUNTING SCHEDULE

1 Jan – 31 Jan	No counting.
1 Feb – 31 Mar	Video counting daily 0800-1600 hours Pacific Standard Time.
1 Apr – 31 Oct	Visual counting daily 0400-2000 hours Pacific Standard Time.
1 Nov – 31 Dec	Video counting daily 0600-1600 hours Pacific Standard Time.

FISH LADDER OPERATING SCHEDULE

Project Ladder

1 Jan – 1 Jan	In service.
2 Jan – 22 Jan	Out of service for annual maintenance.
23 Jan – 31 Dec	In service.

FISHWAY ACTIVITIES

Adult chinook and steelhead were radio-tracked past the dam in 2002 as part of a broader, ongoing study to evaluate fish passage from below Bonneville Dam to above Lower Granite Dam. The floating orifices at Little Goose were closed for the season as part of this study.

Stowaway temperature probes were installed in several locations within the adult fishway during the 2002 fish passage season. Water temperature data were recorded on an hourly basis from April through October.

The Walla Walla District continued a hydraulic evaluation of the adult fishway in 2002. The purpose was to analyze existing operating conditions and investigate alternatives to improve fish passage.

The juvenile fish facility was operated for juvenile fish transport/bypass and adult fallbacks from 18 March to 18 December.

TABLE 118

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER LITTLE GOOSE DAM

2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				1,807	60,391	32,782	6,846	1,493	12,631	3,374			119,324
STEELHEAD				5,873	294	455	5,853	21,066	86,596	83,357			203,494
SOCKEYE						10	25	3					38
COHO									25	108			133
PINK													
TOTAL				7,680	60,685	33,247	12,724	22,562	99,252	86,839			322,989
SHAD						131	14,846	194					15,171
LAMPREY						0	36	234	65	30			365

***Jacks included**

TABLE 119

DISCHARGE AND WATER QUALITY DATA
LITTLE GOOSE PROEJCT 2002

	JANUARY			
	DISCH	SPILL	TURBIDITY	
DATE	KCFS	KCFS	SECCHI*	DEG F*
Jan 1	18.7	0.0		
Jan 2	17.8	0.0		
Jan 3	22.0	0.0		
Jan 4	26.6	0.0		
Jan 5	21.9	0.0		
Jan 6	28.6	0.0		
Jan 7	24.7	0.0		
Jan 8	32.0	0.0		
Jan 9	35.6	0.0		
Jan 10	38.5	0.0		
Jan 11	27.2	0.0		
Jan 12	29.9	0.0		
Jan 13	25.1	0.0		
Jan 14	19.4	0.0		
Jan 15	35.4	0.0		
Jan 16	26.7	0.0		
Jan 17	28.1	0.0		
Jan 18	29.5	0.0		
Jan 19	22.9	0.0		
Jan 20	18.8	0.0		
Jan 21	24.0	0.0		
Jan 22	29.7	0.0		
Jan 23	27.6	0.0		
Jan 24	30.2	0.0		
Jan 25	29.2	0.0		
Jan 26	26.4	0.0		
Jan 27	24.8	0.0		
Jan 28	23.9	0.0		
Jan 29	32.5	0.0		
Jan 30	27.7	0.0		
Jan 31	27.5	0.0		
AVG.	26.9	0.0		

	FEBRUARY			
	DISCH	SPILL	TURBIDITY	
DATE	KCFS	KCFS	SECCHI*	DEG F*
Feb 1	23.0	0.0		
Feb 2	30.7	0.0		
Feb 3	28.1	0.0		
Feb 4	32.9	0.0		
Feb 5	35.6	0.0		
Feb 6	38.9	0.0		
Feb 7	45.8	0.0		
Feb 8	37.8	0.0		
Feb 9	13.6	0.0		
Feb 10	19.1	0.0		
Feb 11	29.9	0.0		
Feb 12	30.6	0.0		
Feb 13	39.5	0.0		
Feb 14	40.0	0.0		
Feb 15	31.6	0.0		
Feb 16	17.4	0.0		
Feb 17	19.9	0.0		
Feb 18	24.1	0.0		
Feb 19	28.4	0.0		
Feb 20	32.8	0.0		
Feb 21	28.6	0.0		
Feb 22	27.1	0.0		
Feb 23	19.9	0.0		
Feb 24	32.1	0.0		
Feb 25	31.9	0.0		
Feb 26	30.7	0.0		
Feb 27	40.9	0.0		
Feb 28	34.1	0.0		
AVG.	30.2	0.0		

	MARCH		
	DISCH	SPILL	TURE
DATE	KCFS	KCFS	SECC
Mar 1	25.9	0.0	
Mar 2	21.5	0.0	
Mar 3	23.9	0.0	
Mar 4	24.1	0.0	
Mar 5	27.5	0.0	
Mar 6	27.5	0.0	
Mar 7	27.9	0.0	
Mar 8	28.6	0.0	
Mar 9	22.2	0.0	
Mar 10	20.2	0.0	
Mar 11	25.1	0.0	
Mar 12	48.8	0.0	
Mar 13	40.3	0.0	
Mar 14	40.7	0.4	
Mar 15	34.1	0.0	
Mar 16	32.6	0.0	
Mar 17	20.2	0.0	
Mar 18	30.8	0.0	
Mar 19	32.7	0.0	
Mar 20	29.5	0.0	
Mar 21	28.1	0.0	
Mar 22	25.5	0.0	
Mar 23	32.2	0.0	
Mar 24	33.2	0.0	
Mar 25	48.1	0.0	
Mar 26	55.6	0.0	
Mar 27	58.7	0.0	
Mar 28	63.6	0.0	
Mar 29	65.2	0.0	
Mar 30	60.7	0.0	
Mar 31	59.1	0.0	
AVG.	35.9	0.0	

***All water termperature and turbidity data are unavailable.**

TABLE 120

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

LITTLE GOOSE PROJECT
APRIL 2002

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCH	TURBIDITY DEG
Apr 1	1			0				371	112			73.6	0.0	2.6	43.0
Apr 2	2			0				340	76			73.2	0.0	2.6	44.0
Apr 3	1			0				416	110			61.1	0.0	2.6	44.0
Apr 4	6			0				355	97			51.4	0.0	2.6	44.0
Apr 5	4			0				256	88			52.5	12.0	2.6	44.0
Apr 6	1			0				137	58			63.6	47.3	2.6	44.0
Apr 7	1			0				254	91			67.0	45.7	2.6	45.0
Apr 8	2			0				289	110			67.0	46.0	2.7	46.0
Apr 9	2			0				236	89			69.3	43.9	2.7	46.0
Apr 10	1			0				367	143			74.0	39.7	2.8	46.0
Apr 11	2			0				365	120			75.2	38.5	2.9	46.0
Apr 12	2			0				359	146			69.1	35.8	3.0	47.0
Apr 13	32			0				330	138			76.0	30.5	2.8	47.0
Apr 14	64			0				281	144			89.6	33.1	2.7	47.0
Apr 15	132			0				289	131			120.1	33.6	2.3	48.0
Apr 16	54			0				160	71			112.0	36.2	2.1	47.0
Apr 17	22			1				124	59			97.5	43.9	2.3	47.0
Apr 18	24			0				120	58			85.6	48.3	2.3	47.0
Apr 19	5			0				73	8			81.6	48.2	1.3	46.0
Apr 20	4			0				89	25			74.5	44.3	1.3	46.0
Apr 21	16			0				107	50			69.2	42.1	1.3	46.0
Apr 22	2			0				80	41			63.2	38.3	1.8	46.0
Apr 23	25			1				95	47			74.4	33.1	2.0	47.0
Apr 24	179			2				92	61			70.3	33.5	2.0	47.0
Apr 25	84			0				56	32			62.0	32.1	2.4	47.0
Apr 26	174			2				64	47			59.0	28.6	2.4	47.0
Apr 27	365			2				48	26			59.5	28.3	2.6	48.0
Apr 28	186			0				26	20			57.0	29.4	3.2	48.0
Apr 29	240			1				59	43			60.6	29.9	3.2	49.0
Apr 30	164			1				35	30			48.9	26.3	3.4	50.0
TOTAL	1,797			10				5,873	2,271						
AVG.	60			0				196	76			71.9	31.6	2.5	46.3

TABLE 121

MONTHLY FISH PASSAGE SUMMARY REPORT | **LITTLE GOOSE PROJECT**

U.S. ARMY ENGINEER DISTRICT, PORTLAND | **MAY 2002**

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG
May 1	1,366			13				42	37			61.7	14.8	3.8	50.0
May 2	918			4				44	36			69.4	14.7	4.6	51.0
May 3	1,268			10				30	23			67.4	14.6	4.6	51.0
May 4	1,794			4				11	8			83.5	17.5	4.6	51.0
May 5	2,516			5				17	12			73.3	21.4	3.6	51.0
May 6	5,851			18				25	20			67.7	22.8	4.0	51.0
May 7	3,161			17				13	11			70.6	23.0	4.0	50.0
May 8	2,390			25				7	6			64.2	23.2	3.5	50.0
May 9	2,208			16				7	6			55.3	22.2	4.0	51.0
May 10	4,228			22				11	8			54.8	22.5	4.0	51.0
May 11	1,987			18				10	10			54.9	23.8	4.5	52.0
May 12	3,942			46				12	11			52.3	21.1	4.0	52.0
May 13	2,875			30				10	10			51.1	22.1	4.8	52.0
May 14	2,822			40				5	5			63.6	21.8	4.8	52.0
May 15	1,254			17				7	5			65.9	22.6	4.6	51.0
May 16	1,182			22				7	2			63.5	22.8	4.4	51.0
May 17	1,984			54				2	2			63.7	22.0	4.4	51.0
May 18	1,261			48				5	4			69.4	22.7	4.4	51.0
May 19	3,239			72				2	2			75.0	21.9	4.4	51.0
May 20	1,852			31				7	6			95.8	20.2	4.5	52.0
May 21	1,816			56				5	5			104.4	19.2	4.5	53.0
May 22	1,861			80				2	1			109.0	19.3	3.4	53.0
May 23	636			31				2	1			99.4	18.9	3.4	53.0
May 24	810			43				1	1			104.3	20.6	5.0	53.0
May 25	252			29				2	2			89.6	20.6	5.0	53.0
May 26	278			20				2	1			81.8	19.4	4.6	53.0
May 27	575			20				0	0			86.1	19.3	4.0	53.0
May 28	1,628			52				0	0			92.4	19.2	3.4	52.0
May 29	1,937			80				4	1			108.5	19.0	3.4	52.0
May 30	815			23				1	1			116.7	18.8	3.7	53.0
May 31	708			31				1	1			135.7	28.2	3.7	53.0
TOTAL	59,414			977				294	238						
AVG.	1,917			32				9	8			79.1	20.7	4.2	51.7

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	STEELHEAD	WILD STEELHEAD
SPRING	61,211	987	6,167	2,509

TABLE 122

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LITTLE GOOSE PROJECT

JUNE 2002

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCH	TURBIDITY DEG
Jun 1	650			28			0	1	1	0	0	130.9	28.1	4.0	53.0
Jun 2	251			10			0	4	2	0	0	126.3	64.1	4.0	53.0
Jun 3	967			50			0	4	2	0	0	130.6	38.0	2.6	54.0
Jun 4	934			47			0	0	0	0	0	114.3	39.4	2.3	55.0
Jun 5	1,410			59			0	0	0	0	0	110.2	63.6	2.3	55.0
Jun 6	1,021			56			0	0	0	0	0	103.0	64.1	2.5	55.0
Jun 7	1,262			46			0	2	2	0	0	102.5	40.9	2.7	55.0
Jun 8	599			65			0	1	1	0	0	98.3	28.5	2.7	55.0
Jun 9	1,099			53			0	2	1	0	0	86.8	24.3	2.7	55.0
Jun 10	1,338			43			0	2	1	0	0	72.4	19.4	3.5	55.0
Jun 11	842			48			0	1	0	0	0	76.0	19.0	3.0	56.0
Jun 12	996			65			0	7	7	0	0	71.3	17.5	3.2	56.0
Jun 13	1,322			67			0	14	12	0	0	72.9	15.8	3.0	57.0
Jun 14	1,844			96			0	5	2	0	0	74.4	13.5	3.3	57.0
Jun 15	1,486			95			0	7	2	0	0	73.7	16.0	5.7	56.0
Jun 16		676		59			0	8	1	0	0	80.9	12.0	5.7	56.0
Jun 17		1195		59			0	16	6	4	2	94.2	13.0	5.5	57.0
Jun 18		989		41			0	7	5	0	0	90.4	13.5	5.0	58.0
Jun 19		1374		68			0	12	2	5	-1	96.9	14.8	5.0	58.0
Jun 20		2018		112			0	23	12	1	0	84.5	7.4	5.0	60.0
Jun 21		841		54			2	14	10	1	0	85.0	3.2	5.1	60.0
Jun 22		1031		88			2	18	10	1	0	79.3	0.0	5.2	60.0
Jun 23		859		66			1	23	8	2	-1	85.1	0.0	5.2	60.0
Jun 24		1108		88			1	22	12	0	0	86.8	0.0	5.3	60.0
Jun 25		744		73			1	19	5	0	0	88.1	0.0	5.5	60.0
Jun 26		754		71			1	38	17	2	0	82.4	0.0	5.6	60.0
Jun 27		695		88			0	34	14	4	0	83.7	15.7	5.6	60.0
Jun 28		785		80			0	42	19	7	0	78.0	30.6	5.6	60.0
Jun 29		959		133			2	56	26	48	0	80.2	16.1	5.8	61.0
Jun 30		751		74			0	73	34	56	0	79.4	18.6	5.6	61.0
TOTAL	16,021	14,779		1,982			10	455	214	131	0				
AVG.	1,068	985		66			0	15	7	4	0	90.6	21.2	4.3	57.3

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	77,232	1,815
SUMMER	14,779	1154
TOTALS	92,011	2,969

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
10	6,622	2,723	131	0

TABLE 123

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

LITTLE GOOSE PROJECT
JULY 2002

FISH COUNTS / **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG
Jul 1		660		106			4	77	30	7	1	64.2	31.1	5.7	62.0
Jul 2		796		106			0	137	53	54	0	57.1	16.2	5.8	63.0
Jul 3		653		145			5	118	47	148	0	49.9	14.7	5.2	63.0
Jul 4		456		76			0	138	49	128	0	48.8	17.9	5.4	64.0
Jul 5		469		74			2	148	56	500	0	46.6	0.0	4.0	64.0
Jul 6		349		56			4	109	40	347	1	42.6	0.0	4.5	64.0
Jul 7		145		12			0	71	24	352	1	39.0	0.0	4.6	64.0
Jul 8		251		64			1	112	43	148	0	38.3	0.0	4.8	64.0
Jul 9		221		41			1	72	37	127	1	42.4	13.6	5.0	64.0
Jul 10		67		16			1	53	29	754	0	41.0	13.1	5.0	64.0
Jul 11		152		44			0	134	54	882	0	41.9	14.5	5.3	65.0
Jul 12		60		12			0	38	19	204	0	42.8	23.6	6.0	66.0
Jul 13		92		23			0	110	28	2,114	0	41.2	9.4	6.0	66.0
Jul 14		271		52			0	178	79	1,727	2	37.0	0.0	5.6	66.0
Jul 15		158		48			1	204	97	1,270	1	35.1	11.2	5.8	66.0
Jul 16		163		50			0	179	76	1,465	0	36.1	5.1	5.8	67.0
Jul 17		158		28			2	210	95	1,868	0	38.0	0.0	6.0	67.0
Jul 18		80		18			0	192	89	654	0	36.4	0.0	6.0	68.0
Jul 19		84		14			0	283	148	487	0	32.4	0.0	6.0	68.0
Jul 20		86		10			0	313	136	359	0	31.2	0.0	6.0	68.0
Jul 21		66		8			0	239	102	472	0	33.2	0.0	6.0	69.0
Jul 22		44		7			1	152	58	138	5	32.5	0.0	6.0	70.0
Jul 23		46		2			0	178	78	115	1	30.6	0.0	6.0	70.0
Jul 24		23		2			0	110	46	54	1	31.7	0.0	6.0	70.0
Jul 25		61		13			0	185	90	175	2	32.2	0.0	6.0	70.0
Jul 26		41		14			0	276	121	68	4	30.5	0.0	6.0	70.0
Jul 27		23		0			1	180	73	36	0	25.7	0.0	6.0	70.0
Jul 28		40		2			2	528	233	47	7	30.1	0.0	6.0	70.0
Jul 29		20		5			0	563	247	38	4	29.3	0.0	6.0	70.0
Jul 30		32		13			0	307	126	83	1	27.3	0.0	6.0	70.0
Jul 31		16		2			0	259	97	25	4	30.6	0.0	6.0	70.0
TOTAL		5,783		1,063			25	5,853	2,500	14,846	36				
AVG.		187		34			1	189	81	479	1	37.9	5.5	5.6	66.8

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	77,232	1,815
SUMMER	20,562	2217
TOTAL	97,794	4,032

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
35	12,475	5,223	14,977	36

TABLE 124

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

LITTLE GOOSE PROJECT
AUGUST 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Aug 1		23		4			1	220	78	29	29
Aug 2		22		1			1	242	108	37	17
Aug 3		13		2			0	314	125	10	6
Aug 4		34		5			1	305	116	20	6
Aug 5		13		0			0	307	116	16	4
Aug 6		23		0			0	308	128	13	5
Aug 7		28		1			0	226	80	10	2
Aug 8		16		1			0	234	73	7	2
Aug 9		13		0			0	334	97	8	7
Aug 10		25		2			0	248	70	5	10
Aug 11		19		4			0	311	94	4	10
Aug 12		12		2			0	196	67	11	8
Aug 13		17		0			0	336	96	2	2
Aug 14		18		13			0	398	125	12	6
Aug 15		16		2			0	497	172	4	7
Aug 16			23	7			0	649	211	5	2
Aug 17			32	2			0	580	210	0	4
Aug 18			31	1			0	624	229	0	10
Aug 19			7	0			0	282	79	0	6
Aug 20			60	7			0	578	169	0	6
Aug 21			48	0			0	854	323	0	6
Aug 22			29	0			0	469	163	0	22
Aug 23			79	4			0	1858	587	1	14
Aug 24			82	4			0	1356	397	0	4
Aug 25			74	11			0	1465	440	0	7
Aug 26			71	5			0	1752	463	0	2
Aug 27			52	5			0	1232	313	0	7
Aug 28			68	8			0	1253	331	0	2
Aug 29			54	4			0	1007	250	0	5
Aug 30			85	14			0	1243	317	0	4
Aug 31			287	10			0	1388	419	0	12
TOTAL		292	1,082	119			3	21,066	6,446	194	234
AVG.		19	68	4			0	680	208	6	8

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Aug 1	26.3	0.0	6.0	70.0
Aug 2	28.5	0.0	6.0	70.0
Aug 3	24.3	0.0	6.0	70.0
Aug 4	25.8	0.0	6.0	70.0
Aug 5	27.0	0.0	6.0	70.0
Aug 6	30.1	0.0	5.0	70.0
Aug 7	27.8	0.0	4.2	69.0
Aug 8	25.7	0.0	4.8	69.0
Aug 9	27.7	0.0	5.8	68.0
Aug 10	30.1	0.0	5.2	67.0
Aug 11	30.5	0.0	5.5	67.0
Aug 12	30.4	0.0	5.6	67.0
Aug 13	28.9	0.0	5.6	66.0
Aug 14	35.7	0.0	5.8	66.0
Aug 15	31.0	0.0	5.8	66.0
Aug 16	36.6	0.0	5.8	66.0
Aug 17	31.4	0.0	5.8	66.0
Aug 18	33.7	0.0	5.8	67.0
Aug 19	26.6	2.9	5.8	67.0
Aug 20	28.4	2.9	6.0	67.0
Aug 21	27.9	6.3	6.0	67.0
Aug 22	25.2	4.2	6.0	67.0
Aug 23	37.8	0.0	6.0	67.0
Aug 24	32.2	0.0	6.0	67.0
Aug 25	28.6	0.0	6.0	68.0
Aug 26	27.2	0.0	6.0	68.0
Aug 27	31.4	0.0	6.0	68.0
Aug 28	27.1	0.0	6.0	68.0
Aug 29	30.2	0.0	6.0	68.0
Aug 30	30.2	0.0	6.0	66.0
Aug 31	31.3	0.0	6.0	66.0
AVG.	29.5	0.5	5.8	67.7

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	77,232	1,815
SUMMER	20,854	2,254
FALL	1,082	82
TOTALS	99,168	4,151

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
38	33,541	11,669	15,171	270

TABLE 125

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

LITTLE GOOSE PROJECT
SEPTEMBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	RIVER CONDITIONS DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Sep 1			335	25	0	0		1,817	475		5	23.7	0.0	6.0	66.0
Sep 2			192	22	0	0		2,028	540		14	13.6	0.0	6.0	65.0
Sep 3			270	18	0	0		1,078	322		4	25.6	0.0	6.0	65.0
Sep 4			290	25	0	0		1,961	533		4	27.4	0.0	6.0	65.0
Sep 5			155	28	0	0		1,286	367		5	28.5	0.0	6.0	65.0
Sep 6			336	36	0	0		1,794	517		4	26.2	0.0	6.0	65.0
Sep 7			526	48	0	0		2,034	557		0	22.5	0.0	6.0	64.0
Sep 8			565	54	0	0		3,281	894		2	21.4	0.0	6.0	64.0
Sep 9			323	56	0	0		2,527	685		5	25.5	0.0	6.0	64.0
Sep 10			193	31	0	0		1,806	457		0	22.0	0.0	6.0	64.0
Sep 11			228	38	1	0		1,411	316		0	21.2	0.0	6.0	65.0
Sep 12			334	52	0	0		1,349	335		1	20.6	0.0	6.0	65.0
Sep 13			347	54	0	0		1,590	410		1	21.6	0.0	6.0	65.0
Sep 14			442	70	1	0		1,343	365		-2	24.7	0.0	6.0	65.0
Sep 15			371	64	1	0		1,690	439		2	16.1	0.0	6.0	65.0
Sep 16			428	78	0	0		1,458	397		2	19.0	0.0	6.0	65.0
Sep 17			584	139	4	0		3,726	1057		2	23.4	0.0	6.0	65.0
Sep 18			416	158	4	1		4,362	1126		4	18.8	0.0	6.0	65.0
Sep 19			474	138	0	0		4,111	1075		0	16.5	0.0	5.8	65.0
Sep 20			722	173	0	2		5,933	1562		1	20.8	0.0	5.8	65.0
Sep 21			312	100	0	0		3,520	910		1	17.5	0.0	5.8	64.0
Sep 22			360	121	1	0		3,067	730		2	16.4	0.0	5.8	64.0
Sep 23			310	78	1	0		2,566	646		2	18.6	0.0	6.0	65.0
Sep 24			232	100	2	1		3,050	756		2	17.6	0.0	6.0	65.0
Sep 25			206	83	1	0		3,053	734		-1	23.0	0.0	6.0	65.0
Sep 26			274	181	0	0		3,854	884		0	18.2	0.0	6.0	65.0
Sep 27			228	90	1	0		4,777	1204		1	18.2	0.0	6.0	64.0
Sep 28			218	152	2	0		4,970	1236		2	19.4	0.0	6.0	64.0
Sep 29			176	88	0	0		3,312	841		1	19.8	0.0	6.0	64.0
Sep 30			256	228	2	0		7,842	1866		1	19.3	0.0	6.0	64.0
TOTAL			10,103	2,528	21	4		86,596	22,236		65				
AVG.			337	84	1	0		2,887	741		2	20.9	0.0	6.0	64.7

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	77,232	1,815
SUMMER	20,854	2,254
FALL	11,185	2,610
TOTALS	109,271	6,679

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
21	4	38	120,137	33,905	15,171	335

TABLE 126

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LITTLE GOOSE PROJECT

OCTOBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Oct 1			271	197	1	0		6,736	1628		6
Oct 2			134	139	2	0		6,055	1345		6
Oct 3			113	104	5	0		3,676	782		0
Oct 4			84	64	2	0		2,660	682		0
Oct 5			139	101	0	2		5,412	1260		4
Oct 6			158	60	2	0		5,370	1226		4
Oct 7			132	68	1	0		5,646	1391		1
Oct 8			65	80	4	1		3,404	691		1
Oct 9			54	100	6	0		2,764	616		1
Oct 10			65	78	0	8		4,396	1055		0
Oct 11			66	64	6	1		4,832	1075		1
Oct 12			41	60	8	0		3,535	900		1
Oct 13			34	30	2	0		3,758	912		4
Oct 14			41	58	8	0		3,326	751		1
Oct 15			13	12	2	0		2,386	574		0
Oct 16			22	22	7	1		2,366	556		0
Oct 17			24	19	4	0		1,700	386		1
Oct 18			31	61	2	0		1,436	346		-2
Oct 19			29	28	0	0		1,691	368		0
Oct 20			26	36	1	1		1,816	496		0
Oct 21			22	43	0	0		1,266	263		0
Oct 22			25	32	4	0		1,040	268		0
Oct 23			18	35	6	0		1,212	266		0
Oct 24			22	32	0	0		506	134		0
Oct 25			10	25	2	0		1,250	283		1
Oct 26			7	17	0	2		1,262	324		0
Oct 27			16	12	1	0		948	252		0
Oct 28			13	22	1	0		918	258		0
Oct 29			12	12	4	0		600	154		0
Oct 30			23	24	1	4		560	146		0
Oct 31			10	19	6	0		830	191		0
TOTAL			1,720	1,654	88	20		83,357	19,579		30
AVG.			55	53	3	1		2,689	632		1

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Oct 1	23.9	0.0	6.0	63.0
Oct 2	18.6	0.0	6.0	63.0
Oct 3	19.8	0.0	6.0	63.0
Oct 4	19.5	0.0	6.0	63.0
Oct 5	18.7	0.0	6.0	63.0
Oct 6	20.7	0.0	6.0	63.0
Oct 7	14.1	0.0	6.0	63.0
Oct 8	18.6	0.0	6.0	62.0
Oct 9	19.9	0.0	6.0	62.0
Oct 10	19.0	0.0	6.0	62.0
Oct 11	20.3	0.0	6.0	62.0
Oct 12	17.4	0.0	6.0	62.0
Oct 13	13.1	0.0	6.0	62.0
Oct 14	14.1	0.0	6.0	62.0
Oct 15	14.5	0.0	6.0	61.0
Oct 16	15.2	0.0	6.0	61.0
Oct 17	15.2	0.0	6.0	60.0
Oct 18	15.8	0.0	5.2	60.0
Oct 19	14.1	0.0	5.5	60.0
Oct 20	16.2	0.0	6.0	60.0
Oct 21	15.0	0.0	6.0	60.0
Oct 22	15.0	0.0	6.0	59.0
Oct 23	15.4	0.0	6.0	59.0
Oct 24	16.0	0.0	6.0	59.0
Oct 25	16.1	0.0	6.0	59.0
Oct 26	15.7	0.0	6.0	59.0
Oct 27	14.2	0.0	6.0	59.0
Oct 28	14.4	0.0	6.0	58.0
Oct 29	16.9	0.0	6.0	57.0
Oct 30	16.2	0.0	6.0	56.0
Oct 31	16.5	0.0	6.0	56.0
AVG.	16.8	0.0	6.0	60.6

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	77,232	1,815
SUMMER	20,854	2,254
FALL	12,905	4,264
TOTALS	110,991	8,333

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
109	24	38	203,494	53,484	15,171	365

TABLE 127

DISCHARGE AND WATER QUALITY DATA

LITTLE GOOSE PROJECT 2002

NOVEMBER

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	TURBIDITY DEG F*
Nov 1	13.9	0.0		
Nov 2	15.0	0.0		
Nov 3	13.2	0.0		
Nov 4	14.8	0.0		
Nov 5	15.4	0.0		
Nov 6	13.4	0.0		
Nov 7	15.7	0.0		
Nov 8	16.7	0.0		
Nov 9	16.2	0.0		
Nov 10	17.2	0.0		
Nov 11	17.6	0.0		
Nov 12	17.0	0.0		
Nov 13	17.1	0.0		
Nov 14	16.5	0.0		
Nov 15	16.5	0.0		
Nov 16	15.8	0.0		
Nov 17	16.7	0.0		
Nov 18	18.1	0.0		
Nov 19	16.6	0.0		
Nov 20	15.3	0.0		
Nov 21	15.7	0.0		
Nov 22	17.0	0.0		
Nov 23	14.0	0.0		
Nov 24	15.6	0.0		
Nov 25	18.1	0.0		
Nov 26	19.6	0.0		
Nov 27	15.2	0.0		
Nov 28	13.7	0.0		
Nov 29	12.9	0.0		
Nov 30	13.1	0.0		
AVG.	15.8	0.0		

DECEMBER

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	TURBIDITY DEG F*
Dec 1	10.9	0.0		
Dec 2	20.5	0.0		
Dec 3	14.6	0.0		
Dec 4	13.2	0.0		
Dec 5	16.0	0.0		
Dec 6	15.3	0.0		
Dec 7	12.2	0.0		
Dec 8	14.7	0.0		
Dec 9	14.8	0.0		
Dec 10	17.1	0.0		
Dec 11	15.5	0.0		
Dec 12	13.2	0.5		
Dec 13	15.1	0.0		
Dec 14	15.3	0.0		
Dec 15	14.0	0.0		
Dec 16	19.5	0.0		
Dec 17	16.8	0.0		
Dec 18	17.0	0.0		
Dec 19	18.0	0.0		
Dec 20	12.9	0.0		
Dec 21	17.4	0.0		
Dec 22	15.7	0.0		
Dec 23	15.2	0.0		
Dec 24	15.4	0.0		
Dec 25	16.1	0.0		
Dec 26	18.1	0.0		
Dec 27	13.7	0.0		
Dec 28	12.8	0.0		
Dec 29	16.8	0.0		
Dec 30	20.1	0.0		
Dec 31	16.3	0.0		
AVG.	15.6	0.0		

***All water temperature and turbidity data are unavailable**

TABLE 128

YEARLY TOTALS OF SALMONIDS COUNTED COUNTED OVER
LITTLE GOOSE DAM
1970 - 1981, 1991 - 2002

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS
1970	72,971	59,640	163	2,480	135,254
1971	61,402	70,013	891	2,701	135,007
1972	64,211	63,638	408	799	129,056
1973	70,605	38,820	192	1,157	110,774
1974	26,787	14,784	124	532	42,227
1975	26,960	15,225	173	697	43,055
1976	32,359	20,894	644	733	54,630
1977	49,176	47,388	574	438	97,576
1978	56,069	24,927	168	307	81,471
1979	12,515	21,049	72	390	34,026
1980	10,605	38,627	88	124	49,444
1981 **	19,086	38,680	200	120	58,086
1991	13,737	96,830	10	1	110,578
1992	26,746	117,698	12	0	144,456
1993	32,384	59,740	16	0	92,140
1994	5,457	45,815	44	0	51,316
1995	5,061	77,744	17	9	82,831
1996	13,538	82,203	1	0	95,742
1997	49,664	74,219	10	59	123,952
1998	19,798	63,753	5	1	83,557
1999	17,235	65,471	16	89	82,811
2000	62,886	101,030	296	313	164,525
2001	214,368	232,669	72	540	447,649
2002	119,324	203,494	38	133	322,989
Total	1,082,944	1,674,351	4,234	11,623	2,773,152
1972-1981 10-Yr Avg	36,837	32,403	264	530	70,035
1992-2002 10-yr Avg	51,496	102,167	48	104	153,815

***Jacks included**
****1981 was the last year visual counts were made at Little Goose Project until 1991.**

TABLE 129

MONTHLY COUNT OF CHINOOK SALMON
LITTLE GOOSE DAM; 1970-1981, 1991-2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS*
1970				6,765	32,616	15,204	11,200	1,529	4,508	965	178	6	72,971
1971				133	16,012	24,096	14,473	707	5,319	606	55	1	61,402
1972				2,226	37,991	5,585	14,747	1,614	1,445	576	27		64,211
1973				17,490	34,570	10,661	4,344	520	2,472	528	19	1	70,605
1974				136	14,224	4,451	6,213	556	749	449	9		26,787
1975				152	14,161	6,487	4,182	540	1,143	295			26,960
1976				612	17,403	9,470	3,575	302	642	355			32,359
1977				16,973	19,936	6,707	4,181	182	842	355			49,176
1978				8,190	29,195	10,676	6,172	717	621	498			56,069
1979				947	4,436	4,396	1,391	254	802	289			12,515
1980				508	5,250	2,560	1,488	191	368	240			10,605
1981 **				2,798	9,399	3,214	2,217	108	724	626			19,086
1991				469	4,968	5,066	1,949	85	715	394	91		13,737
1992				8,000	11,108	4,932	1,217	94	959	331	105		26,746
1993				2,032	16,308	10,018	2,425	241	989	317	54		32,384
1994				294	2,307	1,281	282	98	540	610	45		5,457
1995				82	1,117	1,041	481	146	1,179	1,015			5,061
1996				57	4,872	4,695	1,450	280	1,572	612			13,538
1997				519	26,980	16,769	3,007	296	1,302	791			49,664
1998				1,327	6,787	5,655	1,422	207	2,020	2,380			19,798
1999				73	3,990	4,878	1,937	432	3,787	2,138			17,235
2000				7,510	31,034	11,091	2,680	749	5,148	4,674			62,886
2001				96,386	61,247	31,686	6,792	1,082	12,222	4,953			214,368
2002				1,807	60,391	32,782	6,846	1,493	12,631	3,374			119,324
Total				175,486	466,302	233,401	104,671	12,423	62,699	27,371	583	8	1,082,944
**1972-1981 10-Year Average				5,003	18,657	6,421	4,851	498	981	421			36,837
**1993-2004 10-Year Average				11,009	21,503	11,990	2,732	502	4,139	2,086			53,972

**1981 was the last year visual counts were made at Little Goose Project until 1991.
*Jacks included

TABLE 130

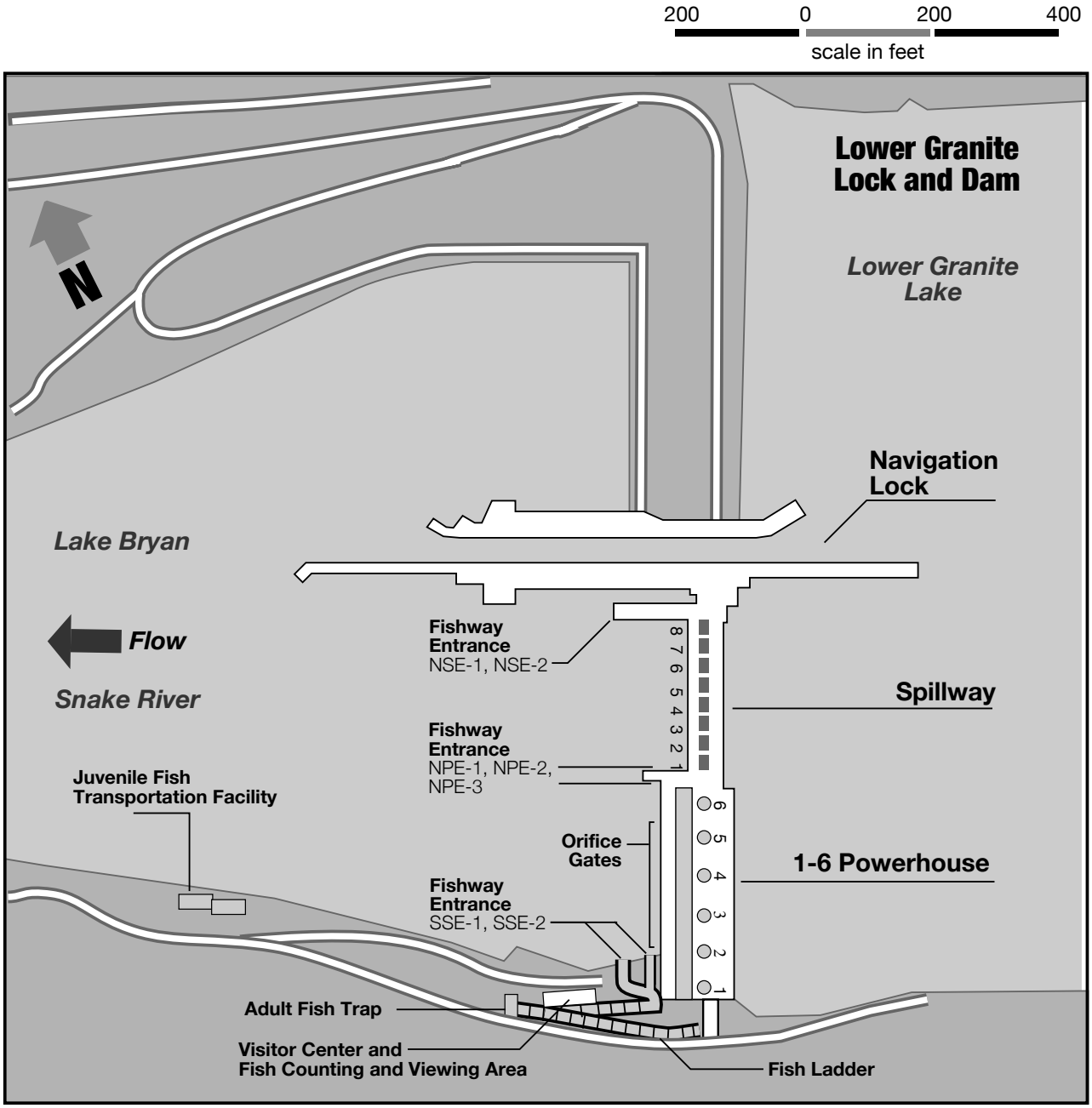
MONTHLY COUNT OF STEELHEAD
LITTLE GOOSE DAM

1970 - 1981, 1991 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1970			3,346	4,148	1,762	167	1,485	7,487	27,898	11,931	1,136	280	59,640
1971			586	1,968	1,319	85	1,286	3,337	38,988	19,674	2,161	609	70,013
1972	248	251	943	2,565	720	54	1,209	6,637	25,089	24,323	1,258	341	63,638
1973	133	80	1,029	2,051	829	65	1,249	2,856	16,650	12,420	1,129	319	38,810
1974	191	294	543	1,105	278	5	726	2,203	3,970	4,721	583	165	14,784
1975	96	75	70	732	472	16	390	3,433	6,230	3,711			15,225
1976				1,052	345	133	678	3,556	8,988	6,142			20,894
1977				1,340	272	155	1,951	2,738	18,753	22,179			47,388
1978				1,625	216	20	593	2,617	11,547	8,309			24,927
1979				742	222	16	1,614	2,326	5,278	10,851			21,049
1980				3,063	668	43	821	3,858	15,305	14,869			38,627
1981 **				1,360	424	119	1,740	2,024	11,559	21,454			38,680
1991				804	266	99	1,637	559	31,818	53,734	7,913		96,830
1992				472	189	141	997	2,652	54,585	48,870	9,792		117,698
1993				1,569	343	322	3,601	5,891	12,770	32,357	2,887		59,740
1994				771	148	162	1,522	2,239	8,828	25,830	6,315		45,815
1995				1,130	232	107	1,644	5,743	31,493	37,395			77,744
1996				936	99	105	1,489	7,560	40,468	31,546			82,203
1997				1,208	197	92	1,919	6,629	25,883	38,291			74,219
1998				1,924	107	139	1,090	912	12,939	46,642			63,753
1999				841	78	61	1,796	7,444	33,818	21,433			65,471
2000				841	112	384	3,355	5,361	54,244	36,733			101,030
2001				1,818	179	1,505	9,814	17,590	111,452	90,311			232,669
2002				5,873	294	455	5,853	21,066	86,596	83,357			203,494
Total	668	700	6,517	39,938	9,771	4,450	48,459	126,718	695,149	707,083	33,174	1,714	1,674,341
1972-1981 10-Yr Avg				1,564	445	63	1,097	3,225	12,337	12,898			32,402
1992-2002 Average 10-Yr Avg				1,580	180	316	3,007	7,553	43,007	44,797			102,167

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

Plate 9 Lower Granite Lock and Dam



LOWER GRANITE DAM

FISH COUNTING SCHEDULE

1 Jan – 28 Feb	No counting.
1 Mar – 31 Mar	Video counting daily 0800-1600 hours Pacific Standard Time.
1 Apr – 31 Oct	Visual counting daily 0400-2000 hours Pacific Standard Time.
1 Apr – 14 Jun	Video counting daily 2000-0400 hours Pacific Standard Time.
15 Jun – 31 Aug	Video counting 24 hours per day.
1 Sep – 31 Oct	Video counting daily 2000-0400 hours Pacific Standard Time.
1 Nov – 15 Dec	Video counting 24 hours per day.
16 Dec – 31 Dec	No counting.

FISH LADDER OPERATING SCHEDULE

Project Ladder

1 Jan – 6 Jan	In service.
7 Jan – 11 Feb	Out of service for annual maintenance.
12 Feb – 31 Dec	In service.

FISHWAY ACTIVITIES

Adult chinook and steelhead were radio-tracked past the dam in 2002 as part of a broader, ongoing study to evaluate fish passage from below Bonneville Dam to above Lower Granite Dam.

Stowaway temperature probes were installed in several locations within the adult fishway during the 2002 fish passage season. Water temperature data were recorded on an hourly basis from May through October.

The University of Idaho continued a study of adult fish passage through the transition pool of the fish ladder in 2002. Weirs in the lower end of the ladder were modified by installing removable panels prior to the 2001 fish passage season. In 2001, adult chinook and steelhead moved through the transition pool more quickly when the panels were lowered (treatment) versus raised (control). The results for 2002 are not yet available.

The Walla Walla District continued a hydraulic evaluation of the adult fishway in 2002. The purpose was to analyze existing operating conditions and investigate alternatives to improve fish passage.

The NMFS operated the adult fish trap from March 1 through December 12. The coded wire tag detector was turned off on November 22. During the season, fish were captured as part of the Juvenile Fish Transportation Program evaluation. Also, the sort-by-code PIT tag system was used to capture fish that were outfitted with DST tags by the University of Idaho.

The juvenile fish facility was operated for juvenile fish transport/bypass and adult fallbacks from 19 March to 17 December.

TABLE 131

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER LOWER GRANITE DAM
DAYTIME COUNTS FROM MARCH 1 THROUGH DECEMBER 15, 2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*			1	1,050	56,456	35,129	8,223	1,102	12,774	4,336	229	4	119,304
STEELHEAD			4,064	7,992	415	272	4,866	14,234	83,239	93,223	9,360	1,053	218,718
SOCKEYE						10	41	4					55
COHO*									94	275	26		395
PINK													
TOTAL			4,065	9,042	56,871	35,411	13,130	15,340	96,107	97,834	9,615	1,057	338,472
SHAD						2	3,088	29					3,119
LAMPREY						10	20	64	45	-1			138

***Jacks included**

These counts include the extended season videotaped counts that were made between 0600 and 1600 hours in November and December.

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER LOWER GRANITE DAM
NIGHTTIME VIDEO COUNTS FROM APRIL 1 THROUGH DECEMBER 15, 2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				11	348	873	206	18	128	398	146	4	2,132
STEELHEAD				740	19	22	98	249	3,209	6,165	2,497	525	13,524
SOCKEYE						7	3						10
COHO*									39	23	15		77
PINK													
TOTAL				751	367	902	307	267	3,376	6,586	2,658	529	15,743
SHAD						0	40	8					48
LAMPREY						0	31	440	304	14			789

***Jacks included**
Night video fish counting from April through October took place between 2000 and 0400 hours PST.
Night video counting for November and December took place between 1600 and 0600 hours PST.
To obtain total numbers for the year, add the video-taped nighttime counts to the daytime visual counts.

TABLE 132

DISCHARGE AND WATER QUALITY DATA

LOWER GRANITE PROJECT 2002

JANUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	TURBIDITY DEG F*
Jan 1	17.9	0.0		
Jan 2	17.5	0.0		
Jan 3	23.2	0.0		
Jan 4	25.6	0.0		
Jan 5	22.1	0.0		
Jan 6	27.8	0.0		
Jan 7	22.4	0.0		
Jan 8	33.4	0.0		
Jan 9	34.8	0.0		
Jan 10	38.9	0.0		
Jan 11	28.0	0.0		
Jan 12	30.4	0.0		
Jan 13	24.8	0.0		
Jan 14	19.1	0.0		
Jan 15	30.5	0.0		
Jan 16	25.6	0.0		
Jan 17	27.6	0.0		
Jan 18	29.5	0.0		
Jan 19	21.9	0.0		
Jan 20	19.5	0.0		
Jan 21	22.9	0.0		
Jan 22	28.6	0.0		
Jan 23	28.1	0.0		
Jan 24	26.9	0.0		
Jan 25	30.6	0.0		
Jan 26	25.3	0.0		
Jan 27	23.8	0.0		
Jan 28	23.5	0.0		
Jan 29	31.2	0.0		
Jan 30	27.7	0.0		
Jan 31	25.8	0.0		
AVG.	26.3	0.0		

FEBRUARY

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI*	TURBIDITY DEG F*
Feb 1	22.7	0.0		
Feb 2	30.2	0.0		
Feb 3	27.6	0.0		
Feb 4	31.0	0.0		
Feb 5	35.9	0.0		
Feb 6	33.8	0.0		
Feb 7	38.1	0.0		
Feb 8	34.2	4.2		
Feb 9	21.1	0.0		
Feb 10	23.0	0.0		
Feb 11	29.4	0.0		
Feb 12	32.0	0.0		
Feb 13	38.7	0.0		
Feb 14	40.0	0.0		
Feb 15	28.4	0.0		
Feb 16	18.7	0.0		
Feb 17	19.1	0.0		
Feb 18	24.4	0.0		
Feb 19	28.7	0.0		
Feb 20	32.9	0.0		
Feb 21	27.4	0.0		
Feb 22	27.2	0.0		
Feb 23	20.3	0.0		
Feb 24	32.7	0.0		
Feb 25	32.1	0.0		
Feb 26	37.4	0.0		
Feb 27	40.0	0.0		
Feb 28	32.1	0.0		
AVG.	30.0	0.2		

***All water temperature and turbidity data unavailable.**

TABLE 133

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

MARCH 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Mar 1	0							300	0			25.4	0.0	*	*
Mar 2	0							175	0			23.8	0.0	*	*
Mar 3	0							-27	0			22.4	0.0	*	*
Mar 4	0							21	1			23.3	0.0	*	*
Mar 5	0							49	0			26.9	0.0	*	*
Mar 6	0							20	1			26.0	0.0	*	45.0
Mar 7	0							27	4			26.4	0.0	*	45.0
Mar 8	0							23	0			26.6	0.0	*	45.0
Mar 9	0							17	1			22.9	0.0	*	45.0
Mar 10	0							84	6			20.1	0.0	*	45.0
Mar 11	0							36	2			24.2	0.0	*	46.0
Mar 12	0							93	6			48.5	0.0	*	46.0
Mar 13	0							205	14			39.9	0.0	*	46.0
Mar 14	0							168	16			39.9	0.0	*	46.0
Mar 15	0							343	26			31.6	0.0	*	47.0
Mar 16	0							492	44			31.6	0.0	*	47.0
Mar 17	0							336	8			21.5	0.0	*	47.0
Mar 18	0							168	5			28.9	0.0	*	45.0
Mar 19	0							136	3			32.4	0.0	*	45.0
Mar 20	1							92	3			29.9	0.0	3.1	47.0
Mar 21	0							75	3			27.0	0.0	3.1	47.0
Mar 22	0							100	6			24.8	0.0	3.1	47.0
Mar 23	0							56	3			32.9	0.0	3.1	47.0
Mar 24	0							108	2			35.0	0.0	3.1	47.0
Mar 25	0							107	12			46.4	0.0	2.7	48.0
Mar 26	0							98	3			54.9	0.0	3.7	48.0
Mar 27	0							0	0			57.2	0.0	3.0	50.0
Mar 28	0							0	0			62.5	0.0	2.0	*
Mar 29	0							348	19			67.0	0.0	2.0	*
Mar 30	0							252	27			57.1	0.0	2.3	*
Mar 31	0							162	20			56.9	0.0	3.0	*
TOTAL	1							4,064	235						
AVG.	0							131	8			35.3	0.0	2.9	46.4

*Data unavailable

TABLE 134

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

APRIL 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Apr 1	0			0				487	125			67.6	0.0	2.8	51.0
Apr 2	0			0				391	112			60.9	0.0	3.0	52.0
Apr 3	4			0				382	102			60.8	13.4	3.4	52.0
Apr 4	1			0				418	131			53.9	26.8	3.6	52.0
Apr 5	5			0				786	233			55.9	28.5	3.6	52.0
Apr 6	2			0				686	190			66.3	27.1	3.6	47.0
Apr 7	5			0				362	113			72.1	35.3	3.5	48.0
Apr 8	5			0				306	107			71.1	28.6	3.4	49.0
Apr 9	1			0				229	74			70.8	23.2	3.0	48.0
Apr 10	2			0				263	95			74.9	26.2	2.8	48.0
Apr 11	1			0				398	133			76.7	26.6	2.6	48.0
Apr 12	2			0				439	164			73.2	26.0	3.0	49.0
Apr 13	1			0				440	180			76.6	24.5	3.1	49.0
Apr 14	5			0				424	169			91.5	23.8	3.0	50.0
Apr 15	10			0				263	104			122.1	42.7	2.1	50.0
Apr 16	14			0				234	65			112.2	30.0	1.2	50.0
Apr 17	6			0				192	58			100.0	32.2	0.8	48.0
Apr 18	36			0				191	76			91.1	28.0	1.6	48.0
Apr 19	50			1				208	100			85.2	24.7	2.0	47.0
Apr 20	25			0				151	76			75.8	25.7	1.8	47.0
Apr 21	36			0				107	50			72.3	30.7	2.3	47.0
Apr 22	38			0				154	82			67.3	24.4	2.6	47.0
Apr 23	16			0				76	43			73.9	18.6	2.6	47.0
Apr 24	19			0				100	49			71.8	15.1	3.0	47.0
Apr 25	17			0				59	32			62.4	14.4	3.6	49.0
Apr 26	101			2				61	44			59.8	19.6	3.3	50.0
Apr 27	166			1				58	43			59.7	18.5	3.3	53.0
Apr 28	217			2				50	35			59.3	19.5	3.5	53.0
Apr 29	176			0				47	34			61.5	22.1	3.8	53.0
Apr 30	83			0				30	20			51.8	23.7	3.6	53.0
TOTAL	1,044			6				7,992	2,839						
AVG.	35			0				266	95			73.3	23.3	2.9	49.5

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	STEELHEAD	WILD STEELHEAD
	1,045	6	12,056	3,074

TABLE 135

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

LOWER GRANITE PROJECT
MAY 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
May 1	426			2				47	37		0	62.6	43.1	4.5	53.0
May 2	853			6				48	41		0	74.1	53.6	4.6	53.0
May 3	1,076			14				31	29		0	71.9	56.8	4.8	54.0
May 4	1,160			32				52	42		0	86.7	27.2	4.6	53.0
May 5	1,062			10				17	12		0	76.1	23.6	4.6	53.0
May 6	1,882			4				34	26		0	69.6	17.0	4.4	52.0
May 7	5,387			49				32	25		0	73.0	22.7	4.1	51.0
May 8	3,152			42				22	16		0	68.5	24.6	4.7	51.0
May 9	2,374			26				10	10		0	63.8	24.8	4.2	51.0
May 10	2,497			41				20	18		0	60.9	24.9	5.0	51.0
May 11	3,764			62				11	11		0	56.3	17.9	5.0	52.0
May 12	2,334			47				7	7		0	56.4	22.1	5.1	52.0
May 13	1,014			20				6	6		0	55.7	22.4	5.2	52.0
May 14	3,295			102				7	6		0	64.2	17.0	5.0	52.0
May 15	1,960			38				5	5		0	68.6	22.7	5.8	55.0
May 16	2,448			59				10	6		0	65.0	24.6	5.6	55.0
May 17	2,718			55				4	4		0	66.1	15.5	4.6	55.0
May 18	1,991			54				7	5		0	70.9	19.5	4.6	55.0
May 19	1,840			61				4	4		0	78.4	22.9	4.6	53.0
May 20	2,842			80				5	5		0	98.2	27.5	4.5	53.0
May 21	1,536			50				5	4		0	109.3	39.9	4.6	53.0
May 22	1,610			50				11	10		0	112.2	42.0	3.6	52.0
May 23	1,805			43				2	1		0	102.0	34.4	3.0	50.0
May 24	883			47				0	0		0	98.9	24.8	3.3	49.0
May 25	978			40				2	2		0	92.5	22.3	2.8	51.0
May 26	758			43				2	2		0	84.0	23.4	3.3	51.0
May 27	356			28				6	2		0	88.8	23.4	4.8	51.0
May 28	724			32				2	1		0	95.7	23.3	5.0	51.0
May 29	1,008			26				1	1		0	111.5	37.8	4.8	54.0
May 30	910			46				0	0		0	125.5	51.7	4.6	54.0
May 31	584			20				5	5		0	136.6	60.5	4.6	54.0
TOTAL	55,227			1,229				415	343		0				
AVG.	1782			40				13	11		0	82.1	29.5	4.5	52.5

TOTALS TO DATE		CHINOOK ADULT	CHINOOK JACK	STEELHEAD	WILD STEELHEAD	LAMPREY
	SPRING	56,272	1,235	12,471	3,417	0

TABLE 136

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

LOWER GRANITE PROJECT
JUNE 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jun 1	433			22			0	1	1	0	0	136.7	61.1	2.8	54.0
Jun 2	361			30			0	2	2	0	0	131.5	57.1	2.6	54.0
Jun 3	100			6			0	0	0	0	0	133.7	61.1	2.6	53.0
Jun 4	1,816			50			0	0	0	0	0	120.4	60.3	2.5	54.0
Jun 5	1,740			76			0	1	1	0	0	115.1	68.9	2.5	54.0
Jun 6	1,984			61			0	1	1	0	0	109.6	59.9	3.0	54.0
Jun 7	1,021			42			0	2	0	0	0	107.8	53.1	3.2	55.0
Jun 8	1,360			61			0	4	2	0	0	104.9	40.6	3.2	55.0
Jun 9	728			58			0	0	0	0	0	89.6	29.2	3.1	54.0
Jun 10	706			32			0	0	0	0	0	79.0	55.7	3.8	53.0
Jun 11	1,346			64			0	5	2	0	0	82.1	28.0	3.8	52.0
Jun 12	444			29			0	2	1	0	0	75.0	23.1	4.0	53.0
Jun 13	1,152			44			0	1	1	0	0	75.7	22.6	4.7	53.0
Jun 14	1,531			64			0	0	0	0	0	76.2	18.0	4.7	56.0
Jun 15	1,729			70			0	5	2	1	0	77.6	22.9	5.3	57.0
Jun 16	1,538			79			0	2	0	0	0	82.3	19.8	6.0	58.0
Jun 17	764			66			0	4	1	0	0	94.3	27.3	6.0	58.0
Jun 18		808		41			0	5	1	0	0	96.9	39.5	6.0	58.0
Jun 19		1260		60			0	8	5	0	0	99.4	40.5	5.2	58.0
Jun 20		1440		56			0	10	0	0	0	89.9	29.1	5.5	57.0
Jun 21		1632		67			0	6	4	0	0	85.9	20.4	6.0	57.0
Jun 22		1666		73			1	7	2	0	1	79.7	4.9	4.5	59.0
Jun 23		1214		85			1	16	7	0	1	87.1	11.3	5.5	58.0
Jun 24		658		34			2	13	6	0	2	89.5	25.4	4.5	58.0
Jun 25		1159		82			0	13	5	0	0	91.5	25.2	5.5	60.0
Jun 26		943		88			0	26	16	0	0	83.1	8.0	5.2	60.0
Jun 27		1019		70			0	22	10	0	0	85.5	29.0	6.0	61.0
Jun 28		978		70			1	30	13	0	1	84.4	36.3	6.0	62.0
Jun 29		895		68			4	37	18	1	4	81.7	19.5	5.5	64.0
Jun 30		978		78			1	49	22	0	1	80.2	21.5	5.5	62.0
TOTAL	18,753	14,650		1,726			10	272	123	2	10				
AVG.	1,103	1127		58			0	9	4	0	0	94.2	34.0	4.5	56.7

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	75,025	2,089
SUMMER	14,650	872
TOTAL	89,675	2,961

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
10	12,743	3,540	2	10

TABLE 137

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

LOWER GRANITE PROJECT
JULY 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jul 1		781		65			1	44	13	0	0	68.7	36.9	5.5	63.0
Jul 2		612		84			2	90	41	2	0	59.0	20.5	5.7	63.0
Jul 3		866		95			1	68	19	0	0	53.3	14.4	5.5	63.0
Jul 4		796		119			1	109	50	1	0	52.3	18.7	5.8	63.0
Jul 5		452		56			1	84	34	4	0	46.1	0.0	6.0	63.0
Jul 6		538		72			6	108	46	12	0	40.1	0.0	6.0	64.0
Jul 7		392		40			2	84	32	67	0	39.1	0.0	6.0	64.0
Jul 8		156		26			0	85	38	44	0	38.2	0.0	6.0	64.0
Jul 9		178		28			1	64	23	32	1	43.0	13.8	6.0	64.0
Jul 10		282		54			2	140	61	36	0	40.6	7.6	6.0	64.0
Jul 11		172		20			0	90	34	49	0	42.9	10.9	6.0	66.0
Jul 12		101		19			0	40	19	43	0	43.8	27.5	6.0	68.0
Jul 13		84		11			0	64	35	186	0	42.1	9.7	6.0	68.0
Jul 14		202		22			5	74	40	132	0	38.0	0.0	6.0	68.0
Jul 15		221		67			4	152	73	287	0	37.1	13.8	6.0	68.0
Jul 16		215		49			6	126	44	487	0	37.2	5.4	6.0	68.0
Jul 17		168		40			0	149	65	384	0	36.4	0.0	6.0	68.0
Jul 18		236		34			4	157	71	408	0	36.5	0.0	6.0	68.0
Jul 19		174		16			2	228	114	312	1	32.2	0.0	6.0	68.0
Jul 20		97		12			0	202	98	65	0	30.9	0.0	6.0	68.0
Jul 21		73		12			1	175	92	202	0	33.2	0.0	6.0	69.0
Jul 22		31		8			0	80	36	65	1	30.6	0.0	6.0	69.0
Jul 23		5		1			0	19	8	78	1	31.4	0.0	6.0	68.0
Jul 24		11		0			1	12	2	49	0	31.5	0.0	6.0	68.0
Jul 25		14		4			0	53	32	18	2	31.4	0.0	6.0	68.0
Jul 26		86		29			0	220	124	22	0	30.2	0.0	6.0	67.0
Jul 27		64		10			0	396	235	24	2	27.0	0.0	6.0	68.0
Jul 28		77		19			1	548	250	11	1	29.0	0.0	6.0	68.0
Jul 29		48		5			0	416	180	24	1	28.3	0.0	6.0	68.0
Jul 30		34		6			0	349	158	14	4	26.1	0.0	6.0	68.0
Jul 31		29		5			0	440	206	30	6	31.6	0.0	6.0	67.0
TOTAL		7,195		1,028			41	4,866	2,273	3,088	20				
AVG.		232		33			1	157	73	100	1	38.3	5.8	6.0	66.5

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	75,025	2,089
SUMMER	21,845	1,900
TOTAL	96,870	3,989

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
51	17,609	5,813	3,090	30

TABLE 138

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

LOWER GRANITE PROJECT
AUGUST 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Aug 1		24		0			0	234	102	2	5	25.5	0.0	6.0	66.0
Aug 2		16		4			0	190	79	1	1	28.1	0.0	6.0	66.0
Aug 3		19		1			0	199	85	11	1	25.4	0.0	6.0	65.0
Aug 4		41		11			1	324	139	0	1	25.8	0.0	6.0	66.0
Aug 5		16		2			0	307	133	1	5	26.7	0.0	6.0	64.0
Aug 6		18		6			1	218	86	0	1	28.8	0.0	6.0	64.0
Aug 7		14		0			1	234	107	1	1	26.3	0.0	6.0	64.0
Aug 8		17		1			0	216	82	5	0	27.4	0.0	6.0	64.0
Aug 9		18		5			0	199	84	1	2	25.9	0.0	6.0	62.0
Aug 10		13		2			0	133	40	1	1	29.9	0.0	6.0	62.0
Aug 11		10		1			0	272	104	0	0	30.8	0.0	6.0	62.0
Aug 12		12		2			0	197	67	0	0	29.1	0.0	6.0	62.0
Aug 13		14		2			0	242	100	1	1	29.6	0.0	6.0	62.0
Aug 14		24		8			0	194	66	0	7	34.3	1.0	6.0	62.0
Aug 15		12		4			0	192	67	0	11	32.0	1.1	6.0	64.0
Aug 16		23		2			0	442	162	0	-1	35.5	0.0	6.0	64.0
Aug 17		23		2			0	350	136	0	0	32.2	0.0	6.0	64.0
Aug 18			18	1			0	438	152	0	4	32.4	0.0	6.0	64.0
Aug 19			11	0			1	311	112	2	5	26.7	0.0	6.0	65.0
Aug 20			42	5			0	499	191	0	-4	31.3	0.0	6.0	65.0
Aug 21			29	1			0	551	160	2	2	27.9	0.0	6.0	65.0
Aug 22			47	4			0	416	131	0	0	28.5	0.0	6.0	65.0
Aug 23			29	0			0	350	101	1	4	31.3	0.0	6.0	65.0
Aug 24			35	2			0	449	170	0	8	31.1	0.0	6.0	64.0
Aug 25			58	7			0	630	221	0	2	29.0	0.0	5.8	64.0
Aug 26			98	16			0	1,559	476	0	2	27.1	0.0	5.8	63.0
Aug 27			65	10			0	892	304	0	-3	31.7	0.0	6.0	63.0
Aug 28			28	0			0	390	126	0	-2	28.1	0.0	6.0	63.0
Aug 29			26	0			0	320	95	0	4	29.8	0.0	6.0	64.0
Aug 30			59	1			0	1,254	370	0	4	32.8	0.0	4.8	63.0
Aug 31			137	6			0	2,032	584	0	2	30.9	0.0	6.0	64.0
TOTAL		314	682	106			4	14,234	4,832	29	64				
AVG		18	49	3			0	459	156	1	2	29.4	0.1	5.9	63.9

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	75,025	2,089
SUMMER	22,159	1,953
FALL	682	53
TOTAL	97,866	4,095

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
55	31,843	10,645	3,119	94

TABLE 139

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

LOWER GRANITE PROJECT
SEPTEMBER 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Sep 1			264	14	0	0		1,693	486		6	24.0	0.0	6.0	63.0
Sep 2			317	26	0	0		1,888	542		14	23.6	2.2	6.0	63.0
Sep 3			251	22	0	0		1,997	571		5	26.3	0.0	6.0	64.0
Sep 4			217	31	0	0		2,150	584		0	28.0	0.0	6.0	64.0
Sep 5			197	43	0	0		1,050	283		2	27.6	0.0	6.0	64.0
Sep 6			259	22	0	0		949	282		0	27.1	0.0	6.0	64.0
Sep 7			340	49	0	0		1,621	428		2	23.5	0.0	6.0	65.0
Sep 8			296	34	0	0		1,675	527		1	21.5	0.0	6.0	65.0
Sep 9			604	70	0	0		1,782	557		1	24.4	0.0	6.0	65.0
Sep 10			268	43	0	0		1,578	491		1	23.8	0.0	5.5	64.0
Sep 11			290	25	0	0		1,778	500		1	20.8	0.0	5.0	64.0
Sep 12			127	23	0	0		1,111	295		1	21.2	0.0	4.5	64.0
Sep 13			179	44	0	0		1,134	295		1	22.0	0.0	4.5	64.0
Sep 14			260	77	0	0		1,494	395		1	23.5	0.0	4.5	63.0
Sep 15			287	85	0	0		1,271	332		0	18.1	0.0	5.0	63.0
Sep 16			595	158	4	0		2,174	626		1	18.9	0.0	6.0	63.0
Sep 17			401	103	0	4		2,582	635		1	21.7	0.0	6.0	63.0
Sep 18			415	118	0	0		3,146	900		1	18.5	0.0	6.0	63.0
Sep 19			458	200	2	2		4,427	1,196		0	18.4	0.0	6.0	65.0
Sep 20			736	208	5	2		7,108	1,757		0	20.1	0.0	5.5	65.0
Sep 21			616	156	4	5		4,484	1,183		0	19.0	0.0	6.0	65.0
Sep 22			306	104	0	4		3,722	1,042		0	16.6	0.0	6.0	65.0
Sep 23			288	125	2	4		3,197	794		0	17.8	0.0	6.0	65.0
Sep 24			290	158	4	6		3,043	812		0	19.8	0.0	6.0	65.0
Sep 25			256	176	5	8		2,844	661		1	21.2	0.0	6.0	66.0
Sep 26			251	186	1	5		3,564	860		0	20.0	0.0	6.0	66.0
Sep 27			199	173	4	1		3,014	714		0	17.9	0.0	6.0	66.0
Sep 28			359	197	4	4		5,645	1,460		2	19.7	0.0	6.0	65.0
Sep 29			212	176	2	1		5,018	1,292		2	20.3	0.0	6.0	65.0
Sep 30			228	162	7	4		6,100	1,543		1	19.5	0.0	6.0	65.0
TOTAL			9,766	3,008	44	50		83,239	22,043		45				
AVG.			326	100	1	2		2,775	735		2	21.5	0.1	5.8	64.4

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	75,025	2,089
SUMMER	22,159	1,953
FALL	10,448	3,061
TOTAL	107,632	7,103

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
44	50	55	115,082	32,688	3,119	139

TABLE 140

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

LOWER GRANITE PROJECT
OCTOBER 2002

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Oct 1			256	176	4	2		5,418	1,284		-2	24.1	0.0	6.0	64.0
Oct 2			164	154	4	1		5,335	1,321		-1	19.5	0.0	5.0	64.0
Oct 3			150	142	10	1		5,506	1,349		2	19.5	0.0	6.0	64.0
Oct 4			59	124	1	5		3,526	875		0	20.0	0.0	5.5	64.0
Oct 5			130	176	10	16		5,440	1,249		0	19.1	0.0	5.3	64.0
Oct 6			79	166	4	5		4,696	1,114		0	19.2	0.0	6.0	63.0
Oct 7			104	175	4	1		3,630	806		0	13.9	0.0	6.0	63.0
Oct 8			128	174	7	10		6,095	1,411		0	20.4	0.0	6.0	63.0
Oct 9			72	91	5	1		4,277	1,008		0	19.0	0.0	6.0	63.0
Oct 10			92	166	12	6		4,956	1,169		0	19.4	0.0	6.0	63.0
Oct 11			80	115	8	7		5,778	1,333		0	20.1	0.0	5.2	63.0
Oct 12			53	82	8	5		4,505	1,048		0	17.2	0.0	6.0	61.0
Oct 13			61	92	13	4		3,635	908		0	13.7	0.0	6.0	60.0
Oct 14			43	96	8	4		3,992	932		0	14.3	0.0	6.0	60.0
Oct 15			23	52	4	2		2,903	706		0	15.2	0.0	6.0	60.0
Oct 16			17	55	10	1		2,257	550		0	15.3	0.0	6.0	59.0
Oct 17			25	60	6	6		2,467	577		0	15.8	0.0	6.0	59.0
Oct 18			24	43	5	5		2,911	727		0	15.5	0.0	6.0	59.0
Oct 19			12	53	11	4		1,992	536		0	14.5	0.0	6.0	59.0
Oct 20			28	48	5	0		1,909	443		0	16.3	0.0	6.0	58.0
Oct 21			17	32	4	0		1,242	241		0	15.3	0.0	6.0	58.0
Oct 22			29	38	6	1		1,218	295		0	15.5	0.0	6.0	59.0
Oct 23			17	38	4	1		1,444	349		0	15.4	0.0	6.0	59.0
Oct 24			17	34	10	1		1,266	301		0	15.6	0.0	6.0	56.0
Oct 25			16	35	7	2		1,387	312		0	15.5	0.0	6.0	56.0
Oct 26			11	29	1	2		901	211		0	15.4	0.0	6.0	55.0
Oct 27			13	34	5	1		1,270	324		0	14.7	0.0	6.0	55.0
Oct 28			10	24	1	1		872	233		0	15.4	0.0	5.5	55.0
Oct 29			16	31	2	0		772	186		0	16.0	0.0	6.0	54.0
Oct 30			13	18	1	0		818	203		0	15.7	0.0	6.0	54.0
Oct 31			8	16	0	0		805	198		0	17.0	0.0	6.0	54.0
TOTAL			1,767	2,569	180	95		93,223	22,199		-1				
AVG.			57	83	6	3		3,007	716		(0)	16.9	0.0	5.9	59.6

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
SPRING	75,025	2,089	224	145	55	208,305	54,887	3,119	138
SUMMER	22,159	1,953							
FALL	12,215	5,630							
TOTAL	109,399	9,672							

TABLE 141

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

NOVEMBER 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Nov 1			8	9	1	1		755	143			14.6	0.0	6.0	53.0
Nov 2			9	11	0	1		688	168			15.0	0.0	6.0	53.0
Nov 3			7	7	3	0		548	130			13.2	0.0	*	*
Nov 4			3	10	2	0		366	99			15.3	0.0	*	*
Nov 5			7	6	2	1		435	85			14.7	0.0	6.0	53.0
Nov 6			5	9	0	0		489	94			14.1	0.0	6.0	53.0
Nov 7			8	8	2	0		283	51			15.7	0.0	6.0	53.0
Nov 8			7	3	1	0		379	88			17.3	0.0	6.0	50.0
Nov 9			8	4	1	0		462	124			16.0	0.0	6.0	51.0
Nov 10			1	6	0	0		327	86			16.8	0.0	6.0	48.0
Nov 11			7	1	2	0		242	49			18.0	0.0	6.0	48.0
Nov 12			6	0	1	0		182	31			17.4	0.0	6.0	47.0
Nov 13			7	3	1	0		112	27			16.2	0.0	6.0	47.0
Nov 14			4	3	1	0		97	27			16.9	0.0	6.0	47.0
Nov 15			4	1	0	0		225	56			16.5	0.0	6.0	47.0
Nov 16			4	4	0	1		306	82			16.5	0.0	6.0	47.0
Nov 17			2	4	0	0		369	76			15.9	0.0	6.0	47.0
Nov 18			6	2	1	0		208	52			16.6	0.0	6.0	47.0
Nov 19			6	0	1	0		369	79			17.3	0.0	6.0	47.0
Nov 20			2	1	0	0		273	64			16.2	0.0	6.0	47.0
Nov 21			2	1	1	0		197	48			15.4	0.0	6.0	48.0
Nov 22			1	0	0	0		247	52			16.7	0.0	6.0	47.0
Nov 23			0	0	1	0		105	27			14.6	0.0	6.0	47.0
Nov 24			5	0	0	0		344	86			17.1	0.0	*	*
Nov 25			2	1	0	0		93	27			18.1	0.0	6.0	47.0
Nov 26			2	0	0	0		182	35			18.0	2.1	6.0	47.0
Nov 27			3	1	0	0		241	60			16.5	0.6	6.0	47.0
Nov 28			3	0	0	0		486	124			12.7	0.0	*	*
Nov 29			2	1	0	0		244	64			13.4	0.0	6.0	46.0
Nov 30			2	0	1	0		106	38			12.8	0.0	*	*
TOTAL			133	96	22	4		9,360	2,172						
AVG.			4	3	1	0		312	72			15.9	0.1	6.0	48.6

*Data unavailable.

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	75,025	2,089
SUMMER	22,159	1,953
FALL	12,348	5,726
TOTAL	109,532	9,768

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
246	149	55	217,665	57,059	3,119	138

TABLE 142

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT

DECEMBER 2002

	FISH COUNTS											RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD			DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Dec 1			1	0				65	12			11.0	0.0	6.0	47.0
Dec 2			0	0				70	14			23.1	0.0	6.0	46.0
Dec 3			0	0				64	15			12.4	0.0	6.0	46.0
Dec 4			2	0				102	27			13.7	0.0	6.0	46.0
Dec 5			0	0				80	19			15.3	0.0	6.0	45.0
Dec 6			0	0				49	9			15.8	0.0	6.0	44.0
Dec 7			0	0				31	6			12.2	0.0	6.0	44.0
Dec 8			0	0				82	19			14.6	0.0	6.0	44.0
Dec 9			0	0				40	0			15.3	0.0	*	*
Dec 10			0	0				28	9			16.6	0.0	6.0	43.0
Dec 11			0	0				28	6			15.0	0.0	6.0	43.0
Dec 12			0	0				54	9			13.9	0.0	6.0	43.0
Dec 13			0	1				102	24			15.7	0.0	6.0	43.0
Dec 14			0	0				154	40			16.2	0.0	*	*
Dec 15			0	0				104	23			13.8	0.0	*	*
Dec 16												18.4	0.0	*	*
Dec 17												19.0	0.0	*	*
Dec 18												15.6	0.0	*	*
Dec 19												19.6	0.0	*	*
Dec 20												13.1	0.0	*	*
Dec 21												16.7	0.0	*	*
Dec 22												16.5	0.0	*	*
Dec 23												14.9	0.0	*	*
Dec 24												15.7	0.0	*	*
Dec 25												15.8	0.0	*	*
Dec 26												16.5	0.0	*	*
Dec 27												13.6	0.0	*	*
Dec 28												13.7	0.0	*	*
Dec 29												16.7	0.0	*	*
Dec 30												19.7	0.0	*	*
Dec 31												16.1	0.0	*	*
TOTAL			3	1				1,053	232						
AVG.								70	15			15.2	0.0	6.0	44.5

*Data unavailable.

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	75,025	2,089
SUMMER	22,159	1,953
FALL	12,351	5,727
TOTAL	109,535	9,769

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
246	149	55	218,718	57,291	3,119	138

TABLE 143

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

NIGHT VIDEO FISH COUNTS @ LOWER GRANI
April 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Apr 1	0							84	8		
Apr 2	0							61	9		
Apr 3	0							40	4		
Apr 4	0							25	1		
Apr 5	0							49	4		
Apr 6	0							17	1		
Apr 7	0							29	2		
Apr 8	0							46	14		
Apr 9	0							35	7		
Apr 10	0							33	6		
Apr 11	0							59	21		
Apr 12	0							43	5		
Apr 13	0							47	10		
Apr 14	0							38	8		
Apr 15	0							27	2		
Apr 16	0							5	0		
Apr 17	0							16	3		
Apr 18	0							4	1		
Apr 19	0							8	3		
Apr 20	0							6	2		
Apr 21	1							11	5		
Apr 22	1							19	8		
Apr 23	0							6	3		
Apr 24	0							6	2		
Apr 25	2							4	2		
Apr 26	2							10	4		
Apr 27	1							7	4		
Apr 28	0							0	0		
Apr 29	4							3	1		
Apr 30	0							2	0		
TOTAL	11							740	140		
AVG.	1							14	3		

TOTALS TO DATE	CHINOOK ADULT
SPRING	11
TOTAL	11

STEELHEAD	WILD STEELHEAD
740	140

Night video fish counting took place between 2000 and 0400 hours PST.

TABLE 144

MONTHLY FISH PASSAGE SUMMARY REPORT **NIGHT VIDEO FISH COUNTS @ LOWER GRANI**

U.S. ARMY ENGINEER DISTRICT, PORTLAND **May 2002**

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
May 1	3			0				3	3		
May 2	11			0				3	2		
May 3	9			0				3	3		
May 4	0			0				0	0		
May 5	8			1				0	0		
May 6	58			0				0	0		
May 7	8			0				4	2		
May 8	5			0				1	0		
May 9	11			0				0	0		
May 10	18			0				0	0		
May 11	1			0				0	0		
May 12	3			0				0	0		
May 13	14			0				0	0		
May 14	3			0				0	0		
May 15	6			0				0	0		
May 16	20			0				0	0		
May 17	7			0				0	0		
May 18	2			0				0	0		
May 19	15			0				0	0		
May 20	12			0				0	0		
May 21	18			0				0	0		
May 22	3			1				0	0		
May 23	1			0				1	0		
May 24	0			0				0	0		
May 25	12			0				1	1		
May 26	2			0				0	0		
May 27	9			0				0	0		
May 28	10			0				0	0		
May 29	17			0				1	1		
May 30	23			0				0	0		
May 31	37			0				2	2		
TOTAL	346			2				19	14		
AVG.	11			0				1	0		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	357	2
TOTAL	357	2

STEELHEAD	WILD STEELHEAD
759	154

Night video fish counting took place between 2000 and 0400 hours PST.

TABLE 145

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

NIGHT VIDEO FISH COUNTS @ LOWER GRANI
June 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Jun 1	3			0			0	0	0		
Jun 2	6			0			0	0	0		
Jun 3	4			0			0	0	0		
Jun 4	50			1			0	0	0		
Jun 5	8			0			0	0	0		
Jun 6	15			0			0	0	0		
Jun 7	28			1			0	0	0		
Jun 8	11			1			0	0	0		
Jun 9	16			0			0	0	0		
Jun 10	34			2			0	0	0		
Jun 11	33			0			0	0	0		
Jun 12	31			0			0	0	0		
Jun 13	30			0			0	0	0		
[1]Jun 14	24			0			0	0	0		
Jun 15	10			0			0	0	0		
Jun 16	13			1			1	0	0		
Jun 17	9			0			0	1	0		
Jun 18		82		0			0	1	1		
Jun 19		27		0			0	1	0		
Jun 20		143		0			0	1	0		
Jun 21		140		1			0	0	0		
Jun 22		15		4			1	1	0		
Jun 23		9		0			0	0	0		
Jun 24		25		2			1	0	0		
Jun 25		35		2			1	1	1		
Jun 26		4		0			0	2	0		
Jun 27		13		5			0	3	1		
Jun 28		6		4			1	7	0		
Jun 29		6		5			2	2	1		
Jun 30		12		2			0	2	1		
TOTAL	325	517		31			7	22	5		
AVG.	19	40		1			0	1	0		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	682	8
SUMMER	517	25
TOTAL	1,199	33

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
7	781	159	0	0

Night video fish counting took place between 2000 and 0400 hours PST.

TABLE 146

MONTHLY FISH PASSAGE SUMMARY REPORT **NIGHT VIDEO FISH COUNTS @ LOWER GRANI**

U.S. ARMY ENGINEER DISTRICT, PORTLAND **July 2002**

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Jul 1		10		0			0	2	0	0	0
Jul 2		27		3			0	3	0	-1	0
Jul 3		18		0			0	1	0	0	0
Jul 4		25		1			0	10	2	0	0
Jul 5		13		7			0	1	0	0	0
Jul 6		6		4			0	4	0	0	0
Jul 7		0		0			2	4	1	2	0
Jul 8		1		1			0	2	1	5	0
Jul 9		12		1			0	2	0	0	0
Jul 10		4		0			0	3	2	3	1
Jul 11		6		0			0	0	0	1	0
Jul 12		9		1			0	1	0	0	0
Jul 13		4		0			0	3	1	1	2
Jul 14		12		5			1	5	0	4	0
Jul 15		7		1			0	2	2	0	0
Jul 16		4		1			0	3	3	1	0
Jul 17		3		2			0	3	2	2	1
Jul 18		2		0			0	3	1	1	0
Jul 19		2		0			0	8	6	7	0
Jul 20		0		1			0	7	3	1	1
Jul 21		1		0			0	2	1	1	0
Jul 22		0		0			0	0	-2	0	0
Jul 23		0		0			0	2	1	0	1
Jul 24		1		0			0	0	0	2	0
Jul 25		2		0			0	-2	0	5	3
Jul 26		4		0			0	5	1	0	1
Jul 27		1		1			0	3	0	3	4
Jul 28		1		0			0	4	2	0	5
Jul 29		0		0			0	6	1	1	3
Jul 30		0		0			0	7	2	0	6
Jul 31		2		0			0	4	2	1	3
TOTAL		177		29			3	98	32	40	31
AVG.		6		1			0	3	1	1	1

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	682	8
SUMMER	694	54
TOTAL	1,376	62

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
10	879	191	40	31

Night video fish counting took place between 2000 and 0400 hours PST.

TABLE 147

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

NIGHT VIDEO FISH COUNTS @ LOWER GRANI
August 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Aug 1		1		0				3	1	0	5
Aug 2		1		0				4	2	1	2
Aug 3		0		0				-5	-2	0	10
Aug 4		3		0				9	2	0	14
Aug 5		0		0				1	0	0	11
Aug 6		0		0				2	1	1	5
Aug 7		1		0				2	-2	0	5
Aug 8		0		0				1	0	4	4
Aug 9		1		0				2	1	0	3
Aug 10		0		0				2	0	2	8
Aug 11		0		0				5	2	0	6
Aug 12		0		0				0	0	0	9
Aug 13		0		0				4	0	0	23
Aug 14		0		0				1	0	0	23
Aug 15		1		0				8	5	0	16
Aug 16		1		0				8	3	0	13
Aug 17		1		0				25	6	0	17
Aug 18			1	1				4	2	0	14
Aug 19			0	0				9	2	0	6
Aug 20			0	0				23	7	0	26
Aug 21			1	0				7	4	0	18
Aug 22			3	0				3	0	0	23
Aug 23			0	0				5	1	0	11
Aug 24			0	0				8	3	0	9
Aug 25			0	0				6	3	0	25
Aug 26			-1	0				38	11	0	33
Aug 27			0	0				5	2	0	18
Aug 28			3	0				12	5	0	7
Aug 29			0	0				10	5	0	16
Aug 30			0	0				17	6	0	29
Aug 31			0	0				30	9	0	31
TOTAL		10	7	1				249	79	8	440
AVG.		1	1	0				8	3	0	14

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	682	8
SUMMER	704	54
FALL	7	1
TOTAL	1,393	63

SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
10	1,128	270	48	471

Night video fish counting took place between 2000 and 0400 hours PST.

TABLE 148

MONTHLY FISH PASSAGE SUMMARY REPORT **NIGHT VIDEO FISH COUNTS @ LOWER GRANI**

U.S. ARMY ENGINEER DISTRICT, PORTLAND **September 2002**

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Sep 1			2	0	0	0		18	9		38
Sep 2			0	0	0	0		14	4		31
Sep 3			0	0	0	0		17	6		33
Sep 4			1	0	0	0		33	7		9
Sep 5			2	0	0	0		35	7		12
Sep 6			0	0	0	0		26	8		17
Sep 7			1	1	0	0		50	17		7
Sep 8			-1	0	0	0		41	15		22
Sep 9			1	0	0	0		36	8		15
Sep 10			0	1	0	0		44	15		9
Sep 11			0	0	0	0		50	16		13
Sep 12			1	0	0	0		16	5		4
Sep 13			3	0	0	0		8	2		9
Sep 14			1	0	0	0		17	5		7
Sep 15			2	1	0	0		21	6		10
Sep 16			2	0	0	0		42	6		6
Sep 17			1	0	0	0		25	8		5
Sep 18			2	2	2	1		113	34		5
Sep 19			4	1	0	2		347	105		4
Sep 20			6	3	2	3		270	70		5
Sep 21			4	2	0	0		208	54		3
Sep 22			1	4	5	2		218	57		7
Sep 23			2	6	3	1		160	34		5
Sep 24			4	9	4	4		147	34		5
Sep 25			4	3	1	1		120	28		1
Sep 26			8	8	2	0		160	39		6
Sep 27			9	6	0	2		283	74		8
Sep 28			2	4	1	1		153	41		2
Sep 29			3	1	1	0		244	50		3
Sep 30			6	5	1	0		293	79		3
TOTAL			71	57	22	17		3,209	843		304
AVG.			2	2	1	1		107	28		10

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	682	8
SUMMER	704	54
FALL	78	58
TOTAL	1,464	120

COHO ADULTS	COHO JACKS	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
22	17	10	4,337	1,113	48	775

Night video fish counting took place between 2000 and 0400 hours PST.

TABLE 149

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

NIGHT VIDEO FISH COUNTS @ LOWER GRANI
October 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Oct 1			6	11	0	1		519	90		4
Oct 2			4	13	0	2		198	36		7
Oct 3			4	5	0	0		378	78		0
Oct 4			6	3	2	2		234	43		0
Oct 5			2	8	0	0		302	38		1
Oct 6			2	8	0	0		239	35		0
Oct 7			4	8	0	0		482	71		0
Oct 8			3	4	0	0		125	14		0
Oct 9			2	7	1	0		407	69		1
Oct 10			7	13	1	0		263	35		0
Oct 11			6	9	0	0		335	52		0
Oct 12			3	11	1	1		254	34		0
Oct 13			4	9	1	1		356	59		0
Oct 14			3	7	0	0		176	25		0
Oct 15			6	11	1	0		249	41		0
Oct 16			2	7	1	0		173	25		0
Oct 17			8	6	1	0		192	24		0
Oct 18			7	17	1	0		139	23		1
Oct 19			10	10	1	0		155	25		0
Oct 20			3	8	0	0		100	21		0
Oct 21			1	12	0	0		70	9		0
Oct 22			6	11	0	0		51	5		0
Oct 23			6	4	1	0		71	14		0
Oct 24			3	5	0	0		61	14		0
Oct 25			9	8	1	0		41	8		0
Oct 26			6	12	1	0		101	26		0
Oct 27			4	5	0	0		104	24		0
Oct 28			5	5	1	0		109	22		0
Oct 29			3	4	1	0		93	17		0
Oct 30			2	4	0	0		98	22		0
Oct 31			11	5	0	0		90	18		0
TOTAL			148	250	16	7		6,165	1,017		14
AVG.			5	8	1	0		199	33		0

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	682	8
SUMMER	704	54
FALL	226	308
TOTAL	1,612	370

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
38	24	10	10,502	2,130	48	789

Night video fish counting took place between 2000 and 0400 hours PST.

TABLE 150

MONTHLY FISH PASSAGE SUMMARY REPORT **NIGHT VIDEO FISH COUNTS @ LOWER GRANI**

U.S. ARMY ENGINEER DISTRICT, PORTLAND **November 2002**

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Nov 1			11	4	0	1		213	42		
Nov 2			3	6	0	0		193	42		
Nov 3			7	4	1	0		96	19		
Nov 4			2	7	4	0		113	20		
Nov 5			8	8	2	0		112	18		
Nov 6			5	14	0	0		101	19		
Nov 7			4	4	0	0		58	9		
Nov 8			2	2	0	0		111	43		
Nov 9			5	1	2	0		49	14		
Nov 10			5	0	0	0		47	12		
Nov 11			3	2	0	0		68	15		
Nov 12			5	0	0	0		60	15		
Nov 13			5	2	0	0		21	-1		
Nov 14			1	2	0	0		53	14		
Nov 15			3	1	1	0		42	6		
Nov 16			0	1	0	0		84	21		
Nov 17			2	1	0	0		108	21		
Nov 18			4	0	0	0		119	21		
Nov 19			2	0	2	0		99	23		
Nov 20			0	2	1	0		79	12		
Nov 21			1	1	0	0		60	15		
Nov 22			0	0	0	0		42	13		
Nov 23			0	0	0	0		40	9		
Nov 24			2	0	0	0		121	37		
Nov 25			1	0	0	0		44	5		
Nov 26			0	0	0	0		115	22		
Nov 27			1	1	1	0		76	18		
Nov 28			0	0	0	0		85	21		
Nov 29			1	0	0	0		57	11		
Nov 30			0	0	0	0		31	5		
TOTAL			83	63	14	1		2,497	541		
AVG.			3	2	0	0		83	18		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	682	8
SUMMER	704	54
FALL	309	371
TOTAL	1,695	433

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
52	25	10	12,999	2,671	48	789

Night video fish counting took place between 1600 and 0600 hours PST.

TABLE 151

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

NIGHT VIDEO FISH COUNTS @ LOWER GRANI
December 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
Dec 1			1	0				32	6		
Dec 2			1	0				73	17		
Dec 3			1	0				39	12		
Dec 4			0	0				34	5		
Dec 5			0	0				27	2		
Dec 6			0	0				33	8		
Dec 7			0	0				29	7		
Dec 8			0	0				28	7		
Dec 9			0	0				16	4		
Dec 10			0	0				21	3		
Dec 11			0	0				52	12		
Dec 12			0	0				37	10		
Dec 13			0	1				33	8		
Dec 14			0	0				46	6		
Dec 15			0	0				25	4		
TOTAL			3	1				525	111		
AVG.			0	0				35	7		

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	682	8
SUMMER	704	54
FALL	312	372
TOTAL	1,698	434

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	SHAD	LAMPREY
52	25	10	13,524	2,782	48	789

Night video fish counting took place between 1600 and 0600 hours PST.

TABLE 152

YEARLY TOTALS OF SALMONIDS COUNTED OVER LOWER GRANITE DAM 1975 - 2002

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS
1975	28,460	17,311	209	921	46,901
1976	31,667	23,017	531	900	56,115
1977	49,123	53,037	458	268	102,886
1978	54,246	30,068	123	152	84,589
1979	12,548	25,046	25	158	37,777
1980	10,986	40,454	96	43	51,579
1981	19,198	40,234	218	17	59,667
1982	19,476	72,840	211	59	92,586
1983	16,200	86,234	122	51	102,607
1984	16,517	98,923	49	0	115,489
1985	36,567	118,463	35	2	155,067
1986	43,023	134,519	15	1	177,558
1987	37,677	70,151	29	0	107,857
1988	37,882	87,040	23	0	124,945
1989	19,557	132,579	2	0	152,138
1990	23,345	56,859	0	0	80,204
1991	13,618	100,381	8	0	114,007
1992	26,193	121,459	15	0	147,667
1993	30,446	66,699	12	0	97,157
1994	5,077	47,550	5	0	52,632
1995	3,702	80,853	3	0	84,558
1996	11,129	86,072	3	0	97,204
1997	46,727	85,917	11	92	132,747
1998	18,557	72,017	2	12	90,588
1999	15,884	74,370	14	262	90,530
2000	62,659	113,211	299	925	177,094
2001	210,381	262,568	36	1,087	474,072
2002	119,304	218,718	55	395	338,472
Total	1,020,149	2,416,590	2,609	5,345	3,444,693
10-Year Average	52,387	110,798	44	277	163,505

*Jacks included

TABLE 153

MONTHLY COUNT OF CHINOOK SALMON
LOWER GRANITE DAM
1975 -2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS*
1975				1	11,693	8,722	4,854	1,183	1,462	474	71		28,460
1976				149	14,358	10,438	5,074	428	605	535	80		31,667
1977				12,824	22,892	6,718	4,622	203	961	776	125	2	49,123
1978				3,329	29,983	11,464	6,976	1,234	698	519	42	1	54,246
1979				234	4,461	4,455	1,794	256	1,003	302	43		12,548
1980				328	5,227	2,558	1,916	241	345	343	28		10,986
1981				1,380	10,730	2,713	2,561	92	1,008	677	37		19,198
1982				42	9,121	4,650	3,217	329	1,399	650	62	6	19,476
1983				113	7,676	3,551	3,167	234	828	552	79		16,200
1984				134	4,915	5,602	4,274	303	719	522	48		16,517
1985				1,429	20,384	10,466	1,971	281	1,285	697	53	1	36,567
1986				3,623	26,434	7,472	2,796	137	1,250	1,136	172	3	43,023
1987			1	4,836	22,217	5,578	3,532	216	664	508	116	9	37,677
1988				4,722	20,615	8,771	2,654	212	429	371	104	4	37,882
1989				577	10,597	5,771	1,511	225	478	338	60		19,557
1990				2,808	12,925	4,902	2,094	64	248	264	40		23,345
1991				250	4,698	5,177	2,397	72	524	465	35		13,618
1992				6,205	12,170	4,783	1,998	110	576	288	63		26,193
1993				638	15,627	9,728	3,095	281	736	300	41		30,446
1994				99	2,283	1,180	436	73	422	539	45		5,077
1995				22	870	936	438	113	757	539	27		3,702
1996				38	3,415	4,260	1,557	210	1,133	471	45		11,129
1997				222	22,323	18,376	3,690	274	1,159	631	52		46,727
1998			1	942	6,330	5,398	1,877	175	1,495	2,200	138	1	18,557
1999				36	3,358	4,886	2,214	396	3,017	1,832	143	2	15,884
2000				5,984	30,609	12,074	3,032	564	5,719	4,435	240	2	62,659
2001				90,165	63,007	31,721	7,392	760	11,596	5,319	414	7	210,381
2002			1	1,050	56,456	35,129	8,223	1,102	12,774	4,336	229	4	119,304
Total			3	142,180	455,374	237,479	89,362	9,768	53,290	30,019	2,632	42	1,020,149
10-Year Average				9,920	20,428	12,369	3,195	395	3,881	2,060	137		52,387

*Jacks included

TABLE 154

MONTHLY COUNT OF STEELHEAD

LOWER GRANITE DAM
1975 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1975				1,724	1,065	104	102	3,337	6,396	3,584	703	296	17,311
1976	173	21	181	1,120	575	120	527	3,816	8,720	6,837	860	67	23,017
1977		9	142	1,235	229	59	1,538	2,652	16,296	27,492	2,950	435	53,037
1978	354	716	2,276	2,009	252	9	478	2,721	10,829	9,528	788	108	30,068
1979	12	44	802	962	192	16	1,197	2,602	5,143	11,323	2,487	266	25,046
1980			1,149	3,403	1,172	36	517	3,378	13,291	15,455	2,053		40,454
1981			1,052	1,610	604	98	1,422	1,609	9,391	20,714	3,096	638	40,234
1982			1,778	2,202	1,472	66	817	9,118	20,219	32,850	3,945	373	72,840
1983			3,336	1,416	244	7	1,676	8,899	32,063	34,028	4,425	140	86,234
1984			2,647	3,914	961	40	1,886	3,458	34,709	46,445	4,841	22	98,923
1985			2,474	9,686	856	146	706	5,027	63,074	33,137	3,230	127	118,463
1986			8,179	2,358	163	62	3,031	2,323	39,780	71,426	6,671	526	134,519
1987			2,962	2,951	251	51	783	2,342	16,644	34,235	8,809	1,123	70,151
1988			2,108	4,562	623	173	768	1,806	27,071	43,066	6,307	556	87,040
1989			2,172	4,789	429	99	2,026	4,199	49,256	55,766	13,308	535	132,579
1990			2,728	3,329	174	27	444	364	8,250	26,117	13,872	1,554	56,859
1991			2,422	3,530	285	43	1,009	454	24,610	58,803	7,892	1,333	100,381
1992			1,925	2,789	194	76	725	2,009	47,058	56,284	9,709	690	121,459
1993			3,232	8,118	364	191	2,621	5,298	10,374	32,618	3,702	181	66,699
1994			1,644	3,007	132	97	888	1,693	7,089	25,913	6,772	315	47,550
1995			3,176	1,166	193	33	1,216	3,540	27,585	37,260	5,176	1,508	80,853
1996			1,720	1,017	71	52	1,068	4,218	38,109	34,267	4,607	943	86,072
1997			2,043	1,408	183	65	1,423	5,975	22,424	42,544	9,305	547	85,917
1998			2,390	1,837	107	94	1,001	731	10,295	46,326	7,071	2,165	72,017
1999			2,091	855	92	35	1,333	5,577	35,954	23,694	4,044	695	74,370
2000			1,453	932	94	275	2,907	5,081	57,412	39,501	5,217	339	113,211
2001			3,200	2,365	193	1,087	6,772	11,315	101,289	105,685	24,287	6,375	262,568
2002			4,064	7,992	415	272	4,866	14,234	83,239	93,223	9,360	1,053	218,718
Total	539	790	63,346	82,286	11,585	3,433	43,747	117,776	826,570	1,068,121	175,487	22,910	2,416,590
10-Yr Average			2,501	2,870	184	220	2,410	5,766	39,377	48,103	7,954	1,412	110,798

PRIEST RAPIDS AND WANAPUM DAMS

FISH COUNTING SCHEDULE – PRIEST RAPIDS DAM

Jan 1 – Apr 14	No adult fish counting.
Apr 12	Fish Counter orientation and training
Apr 15 – Nov 15	Counting daily 0000-2400 hours PST.
Nov 16 – Dec 31	No adult fish counting.

FISH COUNTING SCHEDULE – WANAPUM DAM

Jan 1 – Dec 31 No adult fish counting.

FISH LADDER OPERATING AND MAINTENANCE SCHEDULE – PRIEST RAPIDS DAM

Left Bank Ladder

Jan 1 to Jan 30 – Out of service for annual inspection, maintenance, Gravity Intake Gate, fish trapping facility and water supply valve repairs. Removed fish/irrigation pump from ladder.

Jan 31 to Dec 1 – In service.

Dec 2 to Dec 31 – Out of service for annual inspection, maintenance, and repairs. Initiated removal of PR Hatchery ladder trapping facility. Began installation of test adult PIT tag detector and adult video count equipment.

Right Bank Ladder

Jan 1 to Jan 24 – In service.

Jan 25 to Mar 15 – Out of service for annual inspection, maintenance and valve repairs. Began installation of test adult PIT tag detector and adult video count equipment.

Mar 16 to Dec 31 – In service.

FISH LADDER OPERATING AND MAINTENANCE SCHEDULE – WANAPUM DAM

Left Bank Ladder

Jan 1 to Jan 14 – Out of service for annual inspection, maintenance and control system repairs.

Jan 15 to Dec 31 – In service.

Right Bank Ladder

Jan 1 to Jan 19 – In service.

Jan 20 to Mar 14 – Out of service for annual inspection, maintenance and supply valve inspection and repairs.

Mar 30 to Dec 1 – In service.

Dec 2 to Dec 31 – Out of service for annual inspection, maintenance and supply valve repair.

Note: Out of service dates provided above reflect those periods of time when the fishway was out of operating criteria. Upstream passage is possible for one to several days before and after the indicated date that the fishway went out of or back into criteria.

FISHWAY ACTIVITIES

The Public Utility District No. 2 of Grant County conducted 24-hour fish counts at Priest Rapids Dam, using three 8-hour shifts from 15 April through 15 November 2002. Counts were made at both ladders using visual observations at the count boards each day of the week. No adult counts are taken at Wanapum Dam although the PUD is testing a video counting system at the hydro project.

The adult fishway automation project at Priest Rapids Dam has been completed and the Wanapum Dam project will require several more years to complete.

The Mid-Columbia Coordination Committee approved to permanently close all collection channel orifice gates at Wanapum and Priest Rapids Dams in 2001.

With agency support, the PUD is installing an adult video count and adult PIT tag detector system at Priest Rapids Dam. The goal is to have them functional for the 2003 season.

Steelhead, chinook and lamprey passage was monitored at the adult fishway exits by the University Of Idaho for the Corps of Engineers' studies.

Washington Department of Fish And Wildlife trapped, examined and radio tagged steelhead at the Priest Rapids Dam coded wire tag trapping facility from 18 July through 14 November. The trap was operated 8 hours a day every Tuesday and Thursday. During this operation, the Yakama Indian Nation trapped and radio tagged coho at the trapping facility. Radio telemetry information was provided for Priest Rapids and Wanapum Dams.

Adult lamprey were dip netted and radio tagged at Priest Rapids Dam during the period 23 Jul to 07 Sep by LGL Limited. Radio telemetry monitoring occurred at Priest Rapids and Wanapum Dams.

The Priest Rapids Hatchery did not trap broodstock at Priest Rapids Dam. At fish agency request, removal of the left bank trapping facility began late in 2002.

TABLE 155

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER PRIEST RAPIDS DAM
2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				1,415	31,662	23,042	66,364	16,789	18,447	2,679	1,109		161,507
STEELHEAD				22	15	134	3,225	7,442	4,101	874	82		15,895
SOCKEYE						3,439	44,019	422	2		1		47,883
COHO*							16	66	657	708	108		1,555
PINK													
TOTAL				1,437	31,677	26,615	113,624	24,719	23,207	4,261	1,300		226,840
SHAD					6	1,204	3,539	107	-11	-9			4,836
LAMPREY					11	31	371	2,448	1,053	92	1		4,007

*Jacks included

TABLE 156

MONTHLY FISH PASSAGE SUMMARY REPORT | **PRIEST RAPIDS PROJECT**

U.S. ARMY ENGINEER DISTRICT, PORTLAND | **APRIL 2002**

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO					DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG
Apr 1	BEGIN COUNTING APRIL 15										53.3	0.0		
Apr 2											53.5	0.0		
Apr 3											58.8	0.0		
Apr 4											64.7	0.0		
Apr 5											67.2	0.0		
Apr 6											54.3	0.0		
Apr 7											53.8	0.0		
Apr 8											54.3	0.0		
Apr 9											60.0	0.0		
Apr 10											83.5	0.0		
Apr 11											77.0	0.0		
Apr 12											139.2	0.0		
Apr 13											115.6	0.0		
Apr 14											110.1	9.8		
Apr 15	11			0				3			150.4	26.5		
Apr 16	15			0				2			189.4	56.3		
Apr 17	34			0				1			201.0	89.5		
Apr 18	18			0				0			219.6	135.6		
Apr 19	36			0				3			182.2	113.6		
Apr 20	19			0				4			196.6	120.6		
Apr 21	26			0				1			177.9	109.1		
Apr 22	57			0				5			205.8	125.5		
Apr 23	16			0				0			192.0	117.9		
Apr 24	71			0				2			171.1	104.7		
Apr 25	130			0				0			173.2	106.2		
Apr 26	206			0				0			165.5	101.2		
Apr 27	204			0				0			119.4	72.7		
Apr 28	79			1				1			121.4	74.8		
Apr 29	255			0				0			157.6	96.2		
Apr 30	237			0				0			176.3	95.5		
TOTAL	1,414			1				22						
AVG.	94			0				1			128.2	51.9		

Most water temperature and turbidity not available.

TABLE 157

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT

MAY 2002

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG
May 1	772			0			0	0	0	0	143.1	88.5		
May 2	402			0			0	0	0	0	148.4	90.2		
May 3	499			0			0	1	0	0	154.1	94.7		
May 4	1,007			0			0	0	0	0	154.4	94.2		
May 5	2,111			0			0	1	0	0	103.3	63.0		
May 6	2,099			2			0	0	0	0	171.9	103.9		
May 7	1,566			2			0	0	0	0	173.4	105.6		
May 8	1,270			1			0	0	0	0	147.9	77.4		
May 9	1,551			0			0	1	0	0	148.6	60.9		
May 10	2,647			2			0	0	0	0	154.8	61.2		
May 11	2,669			0			0	0	0	0	129.2	61.2		
May 12	4,136			3			0	0	0	1	121.4	61.2		
May 13	1,087			1			0	0	0	0	166.4	63.3		
May 14	2,416			10			0	1	0	0	145.0	60.7		
May 15	236			2			0	0	1	0	127.6	71.9		
May 16	403			4			0	0	0	0	142.9	86.9		
May 17	1,751			6			0	0	0	0	143.0	87.4		
May 18	965			17			0	1	2	0	126.6	77.5		
May 19	710			9			0	1	0	1	135.4	83.0		
May 20	874			12			0	1	0	1	146.7	90.1		
May 21	535			7			0	0	0	0	148.1	91.5		
May 22	274			7			0	0	0	0	141.7	86.8		
May 23	164			3			0	0	0	0	169.3	103.6		
May 24	111			11			0	0	0	0	160.8	97.6		
May 25	261			9			0	1	0	1	147.8	89.9		
May 26	270			20			0	2	1	2	139.4	85.0		
May 27	210			10			0	1	0	1	177.6	111.5		
May 28	191			5			0	1	1	0	184.3	111.9		
May 29	163			11			0	2	0	2	162.2	99.8		
May 30	52			4			0	1	1	0	183.9	112.4		
May 31	97			5			0	0	0	1	170.7	105.2		
TOTAL	31,499			163			0	15	6	11				
AVG.	1016			5			0	0	0	0	150.6	86.4		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	32,913	164

SOCKEYE	STEELHEAD	SHAD	LAMPREY
0	37	6	11

Water temperature and turbidity not available.

TABLE 158

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT

JUNE 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO					DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG
Jun 1	137			6			0	1	0	0	197.6	125.2		
Jun 2	89			4			0	0	0	0	143.3	88.5		
Jun 3	63			4			0	0	0	4	202.5	133.2		
Jun 4	71			5			1	3	0	4	257.7	191.5		
Jun 5	87			1			1	1	0	0	258.6	183.4		
Jun 6	62			2			0	0	0	3	245.1	162.8		
Jun 7	86			2			0	1	0	2	255.7	169.3		
Jun 8	45			0			0	0	1	1	261.5	177.1		
Jun 9	96			1			0	1	0	0	214.9	133.1		
Jun 10	54			0			0	1	1	0	239.8	154.7		
Jun 11	102			4			0	2	0	0	227.9	144.4		
Jun 12	113			1			0	2	0	0	238.2	149.7		
Jun 13	165			2			5	1	0	1	203.0	123.6		
Jun 14		273		2			1	3	0	0	205.6	128.4		
Jun 15		227		2			2	4	0	1	214.1	126.8		
Jun 16		384		1			2	0	1	1	197.7	109.3		
Jun 17		392		4			1	4	5	0	209.0	118.7		
Jun 18		172		0			4	3	6	1	227.6	135.0		
Jun 19		189		2			13	2	12	0	257.5	152.3		
Jun 20		275		1			6	6	4	1	272.4	157.7		
Jun 21		2,479		6			79	6	35	0	256.0	143.1		
Jun 22		519		4			38	5	5	0	220.8	121.7		
Jun 23		1,396		8			24	8	28	0	213.8	115.3		
Jun 24		2,511		21			87	8	53	0	192.2	102.3		
Jun 25		1,640		16			158	10	59	3	198.4	110.3		
Jun 26		3,646		6			304	8	112	2	223.7	127.7		
Jun 27		2,272		54			582	16	172	2	252.4	147.9		
Jun 28		1,640		16			623	6	144	2	268.6	159.8		
Jun 29		890		20			608	14	177	0	246.2	154.5		
Jun 30		2,740		32			900	18	389	3	208.6	116.4		
TOTAL	1,170	21,645		227			3,439	134	1,204	31				
AVG.	90	1273		8			115	4	40	1	227.0	138.8		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	34,083	196
SUMMER	21,645	195
TOTAL	55,728	391

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY
0	0	3,439	171	1,210	42

Water temperature and turbidity not available.

TABLE 159

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

PRIEST RAPIDS PROJECT
JULY 2002

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG
Jul 1		1,786		48	0	0	815	14	187	0	258.6	156.1		
Jul 2		1,529		11	0	0	570	21	132	2	273.1	160.0		
Jul 3		2,703		36	0	0	1,436	33	293	2	265.8	152.1		
Jul 4		1,880		21	0	0	1,415	23	189	0	239.6	136.5		
Jul 5		4,028		73	0	0	1,736	36	105	0	200.2	111.3		
Jul 6		3,024		39	0	0	2,720	43	104	1	203.2	113.0		
Jul 7		3,992		69	0	0	3,687	49	63	5	211.7	112.7		
Jul 8		3,096		27	0	0	3,328	40	265	3	189.6	101.5		
Jul 9		2,035		27	0	0	3,109	65	120	2	137.4	73.3		
Jul 10		2,842		16	0	0	2,844	70	232	2	193.2	108.4		
Jul 11		2,391		24	0	0	1,864	62	170	1	235.9	128.0		
Jul 12		2,074		19	0	0	2,466	59	240	0	205.5	111.8		
Jul 13		2,332		74	0	0	2,984	89	271	2	225.1	132.3		
Jul 14		2,240		20	0	0	1,940	65	146	1	208.7	112.1		
Jul 15		2,134		35	0	0	2,033	74	106	3	158.9	84.5		
Jul 16		4,139		61	0	0	2,460	112	149	12	208.2	111.4		
Jul 17		2,488		37	0	0	1,074	75	108	3	227.6	122.2		
Jul 18		2,366		22	0	0	1,231	118	69	12	173.0	93.0		
Jul 19		1,818		33	0	0	1,304	133	128	8	204.3	109.6		
Jul 20		3,224		34	0	0	1,077	122	102	10	194.4	105.3		
Jul 21		2,171		33	0	0	725	101	71	6	193.8	96.8		
Jul 22		1,904		20	0	0	713	154	32	11	158.3	85.2		
Jul 23		867		17	0	0	546	167	22	26	187.0	100.2		
Jul 24		1,506		39	0	0	511	225	41	19	163.3	87.7		
Jul 25		1,186		30	1	0	377	178	44	24	163.5	86.8		
Jul 26		902		24	11	0	297	178	39	18	132.0	64.1		
Jul 27		1,514		26	1	0	204	155	20	24	106.6	55.6		
Jul 28		973		12	0	0	192	138	29	31	115.4	61.0		
Jul 29		857		9	1	0	143	173	23	30	153.9	74.3		
Jul 30		783		17	0	0	138	238	13	77	140.8	73.1		
Jul 31		613		14	1	1	80	215	26	36	161.6	87.4		
TOTAL		65,397		967	15	1	44,019	3,225	3,539	371				
AVG.		2,110		31	0	0	1,420	104	114	12	190.0	103.5		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	34,083	196
SUMMER	87,042	1,162
TOTAL	121,125	1,358

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY
15	1	47,458	3,396	4,749	413

Water temperature and turbidity not available.

TABLE 160

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

PRIEST RAPIDS PROJECT
AUGUST 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY
Aug 1		2,054		30	0	0	80	296	5	52
Aug 2		1,155		16	2	0	58	347	10	83
Aug 3		568		11	0	0	53	200	9	26
Aug 4		1,293		19	1	0	68	337	9	81
Aug 5		557		30	2	0	17	195	6	122
Aug 6		975		28	1	1	41	247	2	125
Aug 7		582		29	0	0	11	180	5	73
Aug 8		617		16	0	0	21	145	2	114
Aug 9		271		20	2	1	8	136	8	73
Aug 10		279		21	9	0	16	178	8	72
Aug 11		399		21	1	2	6	232	5	83
Aug 12		286		30	2	1	4	179	2	100
Aug 13		248		22	1	0	8	173	6	93
Aug 14			445	24	1	2	14	238	1	114
Aug 15			247	24	5	1	2	185	5	89
Aug 16			204	18	0	0	4	241	2	80
Aug 17			231	19	0	0	3	232	2	107
Aug 18			528	29	0	0	2	306	1	105
Aug 19			630	23	0	0	5	277	0	100
Aug 20			365	35	0	0	0	327	0	108
Aug 21			272	18	0	0	0	313	0	55
Aug 22			82	6	0	0	0	93	1	61
Aug 23			404	18	1	0	0	316	1	54
Aug 24			462	23	0	0	0	274	8	39
Aug 25			287	21	0	0	0	261	2	44
Aug 26			223	29	0	0	0	232	5	64
Aug 27			219	19	0	0	1	265	0	51
Aug 28			103	12	0	0	0	231	1	66
Aug 29			501	25	1	2	0	277	1	71
Aug 30			654	34	6	6	0	249	0	66
Aug 31			948	30	4	11	0	280	0	77
TOTAL		9,284	6,805	700	39	27	422	7,442	107	2448
AVG.		714	378	23	1	1	14	240	3	79

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG
Aug 1	135.4	68.5		
Aug 2	152.3	70.2		
Aug 3	125.2	65.7		
Aug 4	97.7	49.4		
Aug 5	130.2	69.3		
Aug 6	111.9	61.8		
Aug 7	150.5	81.7		
Aug 8	159.0	84.5		
Aug 9	132.9	71.0		
Aug 10	132.7	71.2		
Aug 11	108.8	58.9		
Aug 12	110.4	59.2		
Aug 13	129.2	69.0		
Aug 14	127.9	69.4		
Aug 15	131.7	70.2		
Aug 16	110.5	22.1		
Aug 17	78.8	0.9		
Aug 18	83.7	1.1		
Aug 19	121.0	0.9		
Aug 20	123.7	0.8		
Aug 21	116.9	0.9		
Aug 22	125.2	1.1		
Aug 23	132.7	1.1		
Aug 24	109.7	0.9		
Aug 25	79.6	0.7		
Aug 26	100.5	0.8		
Aug 27	125.2	0.8		
Aug 28	114.5	0.8		
Aug 29	119.2	1.1		
Aug 30	89.8	4.7		
Aug 31	113.3	7.0		
AVG.	118.7	34.4		

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	34,083	196
SUMMER	96,326	1,455
FALL	6,805	407
TOTAL	137,214	2,058

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY
54	28	47,880	10,838	4,856	2,861

Water temperature and turbidity not available.

TABLE 161

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

PRIEST RAPIDS PROJECT
SEPTEMBER 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO					DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG
Sep 1			1,383	81	12	0	0	346	-1	60	56.8	1.1		
Sep 2			592	20	2	1	1	112	0	70	67.6	1.0		
Sep 3			1,176	56	17	4	0	314	0	77	91.3	1.0		
Sep 4			293	21	5	10	1	84	0	66	76.1	0.9		
Sep 5			584	36	6	6	0	132	0	66	86.7	1.0		
Sep 6			766	48	1	8	0	125	0	73	69.1	1.0		
Sep 7			628	36	5	2	0	157	-1	58	62.2	1.0		
Sep 8			1,080	73	2	2	0	166	-2	68	47.2	0.7		
Sep 9			818	81	0	0	0	200	-1	93	82.6	0.9		
Sep 10			313	34	4	0	0	134	0	38	84.3	0.8		
Sep 11			407	68	14	0	0	145	0	29	67.2	0.8		
Sep 12			327	63	9	1	0	136	0	23	67.1	1.0		
Sep 13			577	53	6	2	0	96	0	25	69.7	1.3		
Sep 14			825	76	20	0	0	121	-1	23	79.0	4.4		
Sep 15			1,451	122	32	11	0	181	0	26	51.4	0.6		
Sep 16			888	59	72	16	0	118	-1	30	60.9	0.9		
Sep 17			666	46	63	4	0	98	0	46	81.9	0.9		
Sep 18			308	47	55	21	0	99	0	31	66.9	0.9		
Sep 19			274	39	25	2	0	92	-1	17	101.7	1.0		
Sep 20			343	58	13	12	0	218	0	23	96.6	1.1		
Sep 21			419	74	4	5	0	145	-5	15	100.0	1.2		
Sep 22			374	103	10	2	0	120	0	12	84.0	1.0		
Sep 23			321	64	5	7	0	90	2	10	91.2	0.9		
Sep 24			417	86	2	0	0	115	0	15	99.5	1.0		
Sep 25			293	53	12	5	0	91	0	10	107.9	0.9		
Sep 26			256	63	7	12	0	100	0	9	99.6	0.9		
Sep 27			193	50	8	11	0	69	0	10	66.6	0.9		
Sep 28			139	41	7	17	0	85	0	8	56.4	0.8		
Sep 29			226	52	33	11	0	113	0	10	55.9	1.0		
Sep 30			354	53	20	14	0	99	0	12	68.8	0.9		
TOTAL			16,691	1,756	471	186	2	4,101	-11	1,053				
AVG.			556	59	16	6	0	137	0	35	76.5	1.1		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	34,083	196
SUMMER	96,326	1,455
FALL	23,496	2,163
TOTAL	153,905	3,814

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY
525	214	47,882	14,939	4,845	3,914

Water temperature and turbidity not available.

TABLE 162

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

PRIEST RAPIDS PROJECT
OCTOBER 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO					DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG
Oct 1			83	20	28	6		38	0	10	90.3	1.0		
Oct 2			79	19	12	8		76	0	9	88.4	0.9		
Oct 3			48	16	20	6		51	0	10	84.2	0.9		
Oct 4			150	43	29	17		57	0	4	75.7	1.0		
Oct 5			170	22	47	15		64	-1	6	51.6	0.9		
Oct 6			90	23	16	7		40	0	3	62.3	1.1		
Oct 7			72	13	6	2		47	1	3	84.4	1.1		
Oct 8			66	17	13	5		33	0	2	93.6	1.3		
Oct 9			47	14	16	6		38	0	7	126.3	1.6		
Oct 10			141	15	27	18		53	2	6	89.3	1.6		
Oct 11			59	15	5	11		46	0	0	73.6	1.6		
Oct 12			36	6	5	5		34	-1	2	73.1	1.6		
Oct 13			49	13	5	7		33	-1	5	55.4	1.6		
Oct 14			51	17	15	5		31	0	4	93.7	1.6		
Oct 15			102	21	9	10		22	-2	4	80.4	1.6		
Oct 16			63	15	23	2		22	-4	2	64.6	1.2		
Oct 17			101	10	15	11		26	0	3	89.4	0.8		
Oct 18			121	21	24	3		25	0	1	65.5	0.7		
Oct 19			69	9	6	0		17	0	2	55.8	0.6		
Oct 20			94	10	5	4		14	0	2	49.5	1.0		
Oct 21			44	9	17	4		16	-1	0	73.8	0.6		
Oct 22			48	9	1	0		16	-1	1	85.3	0.7		
Oct 23			43	8	14	1		8	0	0	80.5	0.4		
Oct 24			22	6	12	2		12	0	1	74.3	0.7		
Oct 25			19	6	6	2		2	0	0	105.4	1.1		
Oct 26			19	0	8	5		15	0	2	104.1	1.0		
Oct 27			40	2	17	5		6	0	2	96.6	0.9		
Oct 28			96	3	36	6		7	0	0	73.8	0.8		
Oct 29			94	5	40	2		10	0	1	96.3	0.8		
Oct 30			67	1	44	1		14	-1	0	107.8	0.7		
Oct 31			100	8	8	3		1	0	0	112.7	0.8		
TOTALS			2,283	396	529	179		874	-9	92				
AVG.			74	13	17	6		28	0	3	82.5	1.0		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY
SPRING	34,083	196	1,054	393	47,882	15,813	4,836	4,006
SUMMER	96,326	1,455						
FALL	25,779	2,559						
TOTAL	156,188	4,210						

Water temperature and turbidity not available.

TABLE 163

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

PRIEST RAPIDS PROJECT
NOVEMBER 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO					DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG
Nov 1			168	5	8	4	0	2		0	113.5	0.9		
Nov 2			157	8	10	2	0	6		1	104.0	0.8		
Nov 3			125	4	15	2	0	13		0	96.5	0.8		
Nov 4			201	1	9	2	0	12		0	82.7	0.7		
Nov 5			117	12	13	0	0	5		0	93.0	0.8		
Nov 6			98	13	15	2	0	3		0	107.9	0.9		
Nov 7			41	2	1	0	0	3		0	118.2	0.9		
Nov 8			50	9	12	0	0	4		0	101.2	0.8		
Nov 9			29	2	1	4	0	8		0	97.5	0.7		
Nov 10			14	3	2	0	0	6		0	91.6	0.8		
Nov 11			12	2	1	0	0	7		0	106.7	0.7		
Nov 12			10	1	1	1	0	7		0	93.3	0.6		
Nov 13			5	1	0	0	0	3		0	80.7	0.8		
Nov 14			1	3	1	2	0	3		0	84.5	0.8		
Nov 15			12	3	0	0	1	0		0	93.4	0.8		
Nov 16											98.5	0.9		
Nov 17											111.2	1.0		
Nov 18											95.9	0.1		
Nov 19											67.1	0.0		
Nov 20											114.2	0.0		
Nov 21											116.5	0.0		
Nov 22											98.8	0.0		
Nov 23											119.7	0.0		
Nov 24											95.9	0.0		
Nov 25											120.2	0.0		
Nov 26											132.2	0.0		
Nov 27											106.8	0.0		
Nov 28											95.2	0.0		
Nov 29											85.9	0.0		
Nov 30											91.2	0.0		
TOTALS			1,040	69	89	19	1	82		1				
AVG.			69	5	6	1	0	5		0	100.5	0.5		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	34,083	196
SUMMER	96,326	1,455
FALL	26,819	2,628
TOTAL	157,228	4,279

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY
1,143	412	47,883	15,895	4,836	4,007

Water temperature and turbidity not available.

TABLE 164

YEARLY TOTALS OF SALMONIDS COUNTED OVER PRIEST RAPIDS DAM
1982 - 2002

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTALS
1982	32,051	11,160	40,461	1,810	85,482
1983	31,008	31,809	90,008	502	153,327
1984	41,425	26,213	114,761	173	182,572
1985	62,164	34,589	118,542	219	215,514
1986	68,703	22,401	43,084	83	134,271
1987	73,214	14,011	76,578	108	163,911
1988	53,963	10,208	51,135	68	115,374
1989	49,246	10,730	45,301	32	105,309
1990	36,257	7,830	46,331	31	90,449
1991	31,482	13,939	71,245	22	116,688
1992	37,752	13,733	80,857	1	132,343
1993	58,528	5,468	86,626	1	150,623
1994	32,890	6,706	12,385	0	51,981
1995	30,542	4,962	9,216	11	44,731
1996	26,836	8,355	29,457	6	64,654
1997	33,036	8,948	45,412	26	87,422
1998	29,415	5,837	10,769	30	46,051
1999	57,054	8,277	16,432	55	81,818
2000	91,223	11,331	89,547	378	192,479
2001	139,930	30,092	111,326	11,189	292,537
2002	161,507	15,895	47,883	1,555	226,840
Totals	1,016,719	286,599	1,189,473	14,745	2,507,536
10-Year Average	53,721	10,371	49,203	1,170	114,464

*Jacks included

TABLE 165

MONTHLY COUNT OF STEELHEAD
PRIEST RAPIDS DAM: 1960 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1960				159	651	25	318	2,255	3,190	1,229			7,827
1961				52	208	43	381	1,480	4,650	1,753			8,567
1962				133	530	74	329	2,027	4,925	1,306			9,324
1963				183	564	109	336	2,922	3,344	1,816			9,274
1964				85	196	44	261	1,986	2,649	770			5,991
1965				129	298	91	649	2,498	3,868	1,508			9,041
1966				189	252	296	1,194	2,775	5,549	2,751			13,006
1967				213	381	62	411	1,686	2,109	2,492			7,354
1968				530	1,112	24	185	1,954	4,950	1,769			10,524
1969				120	670	105	566	1,598	2,544	1,047			6,650
1970				85	195	27	197	1,129	3,053	872			5,558
1971				46	440	61	185	2,043	6,241	2,086			11,102
1972				163	552	42	318	1,992	2,190	1,172			6,429
1973				132	160	56	788	1,738	3,254	871			6,999
1974				45	129	229	504	845	945	392			3,089
1975				3	37	99	214	670	1,187	252			2,462
1976				3	133	246	531	1,873	5,462	1,000			9,248
1977				178	200	209	1,029	1,963	4,519	1,706			9,804
1978				72	134	214	532	1,143	1,869	581			4,545
1979				13	127	30	585	3,082	3,174	1,398			8,409
1980				232	203	17	179	1,815	4,721	1,263	94		8,524
1981				75	144	105	445	2,414	4,127	1,545	133	24	9,012
1982	5	32	70	136	86	46	331	3,126	5,345	1,805	163	15	11,160
1983	5	9	52	40	11	12	599	8,660	18,272	3,534	602	13	31,809
1984	28	4	92	142	145	224	2,534	8,840	11,907	2,030	256	11	26,213
1985	2	11	74	351	326	856	5,319	11,063	14,693	1,659	235		34,589
1986				82	100	262	3,637	10,584	5,647	1,856	233		22,401
1987				42	71	124	1,954	5,741	4,311	1,495	273		14,011
1988				48	108	239	1,234	3,119	4,016	1,176	268		10,208
1989				36	50	133	1,361	3,499	4,581	872	198		10,730
1990				24	52	130	1,282	2,616	3,060	551	115		7,830
1991				31	73	66	1,406	4,041	6,301	1,768	253		13,939
1992				60	152	313	2,328	3,261	6,265	1,227	127		13,733
1993				31	41	130	992	1,770	2,016	472	41		5,468
1994				7	13	78	902	1,286	3,087	1,269	64		6,706
1995				4	19	32	540	1,316	2,062	363	21		4,962
1996				9	14	36	552	3,217	3,872	627	49		8,355
1997				5	17	39	574	2,822	4,176	1,224	91		8,948
1998				7	9	40	806	935	2,976	1,005	59		5,837
1999				6	19	72	588	3,361	3,543	633	55		8,277
2000				2	13	155	1,895	3,786	4,825	598	57		11,331
2001				14	11	326	4,428	10,368	12,136	2,607	202		30,092
2002				22	15	134	3,225	7,442	4,101	874	82		15,895
TOTAL	40	56	288	3,939	8,661	5,655	46,624	142,741	205,712	57,224	3,671	63	475,233
10-Year Average				15	29	123	1,530	3,597	4,460	991	77		10,873

*Yearly totals for 1993, 1995, and 1996 were updated. Updated monthly totals, however, were unavailable.

ROCK ISLAND DAM

FISH COUNTING SCHEDULE

Jan 1 – Apr 15	No counting
Apr 15 – Nov 15	Video counting 24 hours per day.
Nov 15 – Dec 31	No counting

FISH LADDER OPERATING SCHEDULE

Left Bank Ladder

Jan 1 – Feb 5	Fishway in service
Feb 5 – Mar 1	Fishway out of service for annual maintenance
Mar 1 – Dec 16	Fishway in service
Dec 16 – Dec 23	Fishway out of service for PIT tag coil installation
Dec 23 – Dec 31	Fishway in service

Middle Ladder

Jan 1 – Jan 4	Fishway out of service for annual maintenance
Jan 4– Dec 31	Fishway in service

Right Bank Ladder

Jan 1 – Jan 4	Fishway in service
Jan 4 – Jan 31	Fishway out of service for annual maintenance
Jan 31 – Dec 31	Fishway in service

FISHWAY ACTIVITIES

The Rock Island Bypass Trap was operated from April 1 through August 31. Juvenile fish were sampled daily during this time period.

Noise monitoring was conducted in all three adult fishways in preparation for the installation of adult PIT tag coils. Four coils were installed in the left bank adult fishway; additional coils will be added to the middle and right bank fishways in the future.
Chelan County PUD conducted a bull trout tracking study in 2002. Adult bull trout were captured in the left bank adult fishway and tagged with radio tags and released. The tagging portion of the study was completed in 2002.

TABLE 166

MONTHLY TOTALS OF SALMONIDS AND LAMPREY COUNTED OVER ROCK ISLAND DAM
2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				179	21,169	12,642	70,076	14,614	8,989	2,145	677		130,491
STEELHEAD				53	20	85	2,327	6,374	5,144	1,200	79		15,282
SOCKEYE					1	546	42,865	899	9	0			44,320
COHO					1		2	8	495	1,113	132		1,751
PINK													
TOTAL				232	21,191	13,273	115,270	21,895	14,637	4,458	888		191,844
LAMPREY					1	20	93	2,872	1,729	162	1		4,878

***Jacks included**

TABLE 167

MONTHLY FISH PASSAGE SUMMARY REPORT — **ROCK ISLAND P**

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **APRIL 200**

FISH COUNTS — **RIVER CO**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TU SI
Apr 1	BEGIN COUNTING 14 APR										60.2	0.0	
Apr 2											69.7	0.0	
Apr 3											65.0	0.0	
Apr 4											54.9	0.0	
Apr 5											58.9	0.0	
Apr 6											43.1	0.0	
Apr 7											40.2	0.0	
Apr 8											59.6	0.0	
Apr 9											64.6	0.0	
Apr 10											55.1	0.0	
Apr 11											104.8	0.0	
Apr 12											126.7	0.0	
Apr 13											106.6	0.0	
Apr 14											119.7	12.2	
Apr 15	2			0				7	5		146.3	22.5	
Apr 16	0			0				6	2		175.4	34.3	
Apr 17	2			2				5	4		187.1	35.1	
Apr 18	3			0				2	2		188.8	35.4	
Apr 19	2			0				2	2		187.4	36.6	
Apr 20	9			0				2	0		183.5	32.6	
Apr 21	13			0				0	0		160.0	30.0	
Apr 22	28			0				4	3		187.0	36.3	
Apr 23	13			0				3	3		168.4	37.0	
Apr 24	11			0				3	1		162.1	38.8	
Apr 25	2			0				1	0		159.0	38.2	
Apr 26	8			0				6	5		147.9	31.0	
Apr 27	7			0				2	1		126.3	25.6	
Apr 28	25			1				4	2		116.0	23.1	
Apr 29	36			0				4	3		152.9	31.5	
Apr 30	15			0				2	0		148.0	33.8	
TOTAL	176			3				53	33				
AVG.	11			0				3	2		120.8	17.8	

Water temperature and turbidity for April not available.

TABLE 168

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCK ISLAND PROJECT

MAY 2002

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
May 1	109			8	0		0	2	2	0	131.9	32.7		
May 2	89			1	0		0	1	1	0	135.6	26.6		
May 3	52			3	0		0	0	0	0	135.6	25.4		
May 4	224			44	0		0	2	2	0	129.1	25.8		
May 5	627			0	0		0	1	1	0	114.0	24.1		
May 6	303			9	0		0	1	1	0	157.0	32.9		
May 7	688			10	0		0	1	1	0	157.8	32.3		
May 8	836			26	0		1	1	1	0	128.7	32.1		
May 9	675			54	0		0	1	1	0	151.7	28.1		
May 10	675			28	0		0	0	0	0	138.5	29.0		
May 11	900			91	0		0	0	0	0	114.4	27.2		
May 12	1,275			23	0		0	0	0	0	104.8	23.2		
May 13	1,413			81	0		0	1	1	0	141.6	31.1		
May 14	2,369			45	0		0	0	0	0	140.2	31.2		
May 15	1,509			31	0		0	0	0	0	134.4	29.0		
May 16	633			7	0		0	0	0	0	146.3	27.2		
May 17	422			2	0		0	0	0	0	136.2	26.8		
May 18	1,195			26	0		0	0	0	0	124.8	26.8		
May 19	1,034			45	0		0	0	0	0	124.7	24.3		
May 20	1,547			26	0		0	0	0	0	144.4	29.2		
May 21	976			28	0		0	1	0	0	132.6	27.6		
May 22	309			13	0		0	0	0	0	148.8	28.8		
May 23	268			8	0		0	2	1	0	156.9	28.9		
May 24	322			13	0		0	0	0	0	155.6	27.6		
May 25	379			9	0		0	0	0	0	131.2	24.2		
May 26	96			7	0		0	0	0	1	148.8	21.4		
May 27	65			8	0		0	2	2	0	169.9	24.7		
May 28	243			14	1		0	0	0	0	166.7	33.3		
May 29	570			19	0		0	0	0	0	172.3	34.6		
May 30	274			14	0		0	2	2	0	174.4	35.7		
May 31	386			13	0		0	2	2	0	172.3	31.3		
TOTAL	20,463			706	1		1	20	18	1				
AVG.	660			23	0		0	1	1	0	142.6	28.5		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	20,639	709	1	1	73	51	1

Water temperature and turbidity for May not available.

TABLE 169

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

ROCK ISLAND PROJECT
JUNE 2002

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG I
Jun 1	448			14	0		0	0	0	0	158.4	29.7		
Jun 2	543			16	0		0	0	0	0	164.2	29.9		
Jun 3	442			18	0		0	1	1	0	198.3	34.1		
Jun 4	232			3	0		0	0	0	2	241.6	42.3		
Jun 5	146			10	0		0	0	0	0	242.1	35.5		
Jun 6	174			4	0		0	0	0	0	228.2	36.1		
Jun 7	129			1	0		0	0	0	0	241.5	47.7		
Jun 8	120			7	0		0	0	0	0	238.0	37.6		
Jun 9	95			9	0		0	2	1	0	206.6	29.9		
Jun 10	87			1	0		0	0	0	0	228.9	36.3		
Jun 11	164			5	0		0	2	2	0	209.1	27.3		
Jun 12	95			5	0		0	1	1	1	217.1	14.9		
Jun 13	105			4	0		0	0	0	0	198.2	13.5		
Jun 14	105			12	0		0	1	1	0	203.9	19.6		
Jun 15	154			3	0		0	3	3	3	198.5	27.4		
Jun 16	188			5	0		0	1	1	0	183.2	32.7		
Jun 17	151			1	0		0	1	1	0	199.5	41.1		
Jun 18		132		4	0		0	3	3	2	215.4	46.9		
Jun 19		132		2	0		1	3	3	4	236.5	45.7		
Jun 20		140		1	0		1	4	4	0	251.1	41.7		
Jun 21		114		1	0		0	1	1	0	236.0	36.3		
Jun 22		181		3	0		2	2	1	1	200.6	31.4		
Jun 23		332		7	0		7	5	4	1	171.8	24.2		
Jun 24		563		15	0		6	7	4	0	181.1	40.4		
Jun 25		844		16	0		9	5	5	0	215.8	45.2		
Jun 26		1,209		25	0		32	7	6	1	211.6	42.3		
Jun 27		861		19	0		57	11	10	3	239.4	43.1		
Jun 28		1,020		19	0		58	6	6	2	248.9	44.6		
Jun 29		1,501		49	0		112	10	10	0	227.1	37.9		
Jun 30		1,916		40	0		261	9	9	0	202.1	33.5		
TOTAL	3,378	8,945		319	0		546	85	77	20				
AVG.	199	688		11	0		18	3	3	1	213.1	34.9		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	24,017	827	1	547	158	128	21
SUMMER	8,945	201					
TOTALS	32,962	1,028					

Water temperature and turbidity for June not available.

TABLE 170

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

ROCK ISLAND PROJECT
JULY 2002

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG I
	FISH COUNTS										RIVER CONDITIONS			
Jul 1		1,544		27	0		348	16	15	0	241.9	43.2		
Jul 2		1,494		24	0		333	10	9	2	249.6	37.5		
Jul 3		2,425		71	0		419	10	9	0	249.6	45.8		
Jul 4		1,764		70	0		560	24	23	0	217.7	36.6		
Jul 5		2,719		51	0		601	11	9	1	191.2	25.5		
Jul 6		2,437		62	0		1,019	20	17	2	188.1	37.2		
Jul 7		3,579		108	0		1,460	19	17	0	162.8	32.6		
Jul 8		3,037		140	0		1,544	45	39	0	144.0	44.0		
Jul 9		3,469		88	0		1,809	28	27	2	176.7	35.9		
Jul 10		3,554		124	0		2,126	41	30	0	206.5	36.8		
Jul 11		1,825		47	0		3,151	62	52	1	205.0	40.0		
Jul 12		3,128		68	0		2,861	37	33	0	210.5	33.7		
Jul 13		2,582		79	0		2,975	59	49	2	204.7	35.7		
Jul 14		1,897		60	0		2,478	55	42	2	167.7	33.5		
Jul 15		2,731		180	2		3,717	55	45	4	160.6	38.3		
Jul 16		1,945		72	0		2,685	81	61	2	210.3	39.7		
Jul 17		2,506		133	0		2,482	73	55	1	185.2	36.3		
Jul 18		3,554		171	0		1,957	61	52	3	178.9	38.3		
Jul 19		2,063		125	0		1,902	55	44	4	200.3	40.5		
Jul 20		2,919		97	0		1,695	107	88	5	181.7	38.2		
Jul 21		1,945		80	0		1,268	78	50	5	164.1	34.6		
Jul 22		2,338		77	0		1,107	106	80	14	168.6	38.5		
Jul 23		1,757		70	0		1,060	98	77	4	169.8	37.5		
Jul 24		1,817		107	0		701	115	96	5	156.1	36.5		
Jul 25		1,042		49	0		550	54	34	4	145.2	36.6		
Jul 26		1,668		53	0		637	155	126	2	125.4	31.1		
Jul 27		1,010		57	0		441	149	113	5	102.5	29.5		
Jul 28		1,151		48	0		315	118	96	5	107.9	24.0		
Jul 29		1,556		44	0		261	180	136	6	127.1	32.9		
Jul 30		1,118		42	0		208	195	142	7	141.9	32.3		
Jul 31		1,044		34	0		195	210	157	5	147.9	33.2		
TOTAL		67,618		2,458	2		42,865	2,327	1,823	93	177.1	36.0		
AVG.		2,181		79	0		1,383	75	59	3				

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	24,017	827	3	43,412	2,485	1,951	114
SUMMER	76,563	2659					
TOTALS	100,580	3,486					

Water temperature and turbidity for July not available.

TABLE 171

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

ROCK ISLAND PROJECT
AUGUST 2002

FISH COUNTS / **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG I
Aug 1		691		24	0		143	165	122	13	137.8	26.6		
Aug 2		552		18	0		107	126	86	12	144.1	25.7		
Aug 3		1,818		48	0		93	178	140	10	120.4	24.5		
Aug 4		877		21	0		64	173	123	19	93.4	22.1		
Aug 5		511		37	0		56	165	120	15	118.2	30.1		
Aug 6		614		26	0		45	221	169	50	118.9	29.2		
Aug 7		627		51	0		48	148	101	42	141.3	29.7		
Aug 8		475		46	0		30	183	143	37	149.2	28.6		
Aug 9		777		46	0		27	182	138	33	134.1	29.0		
Aug 10		535		21	0		56	174	134	37	121.0	23.8		
Aug 11		544		39	0		35	147	105	50	97.3	20.5		
Aug 12		362		29	0		10	125	90	94	123.9	26.7		
Aug 13		325		25	0		20	160	103	120	126.5	29.5		
Aug 14		294		30	0		15	233	165	133	126.1	27.1		
Aug 15		440		32	0		25	203	125	107	125.1	25.9		
Aug 16		326		29	0		20	183	131	85	103.8	21.5		
Aug 17		494		35	0		15	198	153	80	77.3	19.8		
Aug 18			265	33	0		9	226	154	84	83.9	20.2		
Aug 19			242	26	0		9	206	138	92	116.9	25.0		
Aug 20			366	36	0		16	284	183	108	116.0	22.8		
Aug 21			578	41	0		15	293	169	109	114.3	19.6		
Aug 22			331	21	0		7	294	221	148	127.7	23.1		
Aug 23			185	22	0		11	243	136	121	122.2	22.8		
Aug 24			138	13	3		5	235	161	104	96.0	19.2		
Aug 25			239	23	0		4	202	118	95	71.4	21.4		
Aug 26			245	26	2		2	222	136	199	113.9	0.1		
Aug 27			230	18	0		8	284	198	207	111.7	0.0		
Aug 28			142	33	0		2	243	152	119	119.3	0.0		
Aug 29			139	20	0		1	227	130	178	113.1	0.0		
Aug 30			126	15	2		1	233	154	219	106.4	0.0		
Aug 31			227	15	1		0	218	153	152	96.9	0.0		
TOTAL		10,262	3,453	899	8		899	6,374	4,351	2,872	115.1	19.8		
AVG.		604	247	29	0		29	206	140	93				

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	24,017	827	11	44,311	8,859	6,302	2,986
SUMMER	86,825	3,216					
FALL	3,453	342					
TOTALS	114,295	4,385					

Water temperature and turbidity for August not available.

TABLE 172

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

ROCK ISLAND PROJECT
SEPTEMBER 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO					DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	KCFS	KCFS	SECCHI	DEG I
Sep 1			332	20	0		1	180	113	103	51.6	0.0		
Sep 2			507	23	2		1	271	192	117	66.4	0.0		
Sep 3			379	15	1		1	261	162	128	93.2	0.0		
Sep 4			479	23	1		0	261	176	93	68.2	0.0		
Sep 5			295	24	1		1	187	115	82	72.3	0.0		
Sep 6			211	15	1		0	163	81	33	71.3	0.0		
Sep 7			258	11	4		1	153	83	41	54.5	0.0		
Sep 8			347	18	2		1	189	110	58	50.9	0.0		
Sep 9			237	14	5		0	162	119	109	93.7	0.0		
Sep 10			277	13	6		0	188	107	67	72.4	0.0		
Sep 11			312	22	10		0	158	102	21	64.6	0.0		
Sep 12			256	12	7		1	158	104	89	77.9	0.0		
Sep 13			231	12	11		0	186	108	109	76.9	0.0		
Sep 14			169	13	7		1	185	127	47	53.8	0.0		
Sep 15			188	13	12		0	137	97	43	45.8	0.0		
Sep 16			222	21	10		0	207	127	57	79.1	0.0		
Sep 17			475	24	5		0	219	154	35	74.9	0.0		
Sep 18			669	35	12		0	226	139	79	75.8	0.0		
Sep 19			342	18	11		0	161	93	64	96.3	0.0		
Sep 20			325	29	15		0	197	117	86	95.6	0.0		
Sep 21			212	21	31		0	133	71	27	88.4	0.0		
Sep 22			166	13	34		0	119	87	23	73.5	0.0		
Sep 23			190	15	34		1	170	102	49	99.1	0.0		
Sep 24			257	22	39		0	181	106	43	99.5	0.0		
Sep 25			207	18	28		0	138	97	33	96.6	0.0		
Sep 26			184	32	21		0	118	66	18	90.3	0.0		
Sep 27			233	33	32		0	116	78	10	58.8	0.0		
Sep 28			144	10	39		0	69	46	41	64.7	0.0		
Sep 29			141	25	59		0	120	73	10	41.1	0.0		
Sep 30			159	21	55		0	131	88	14	86.1	0.0		
TOTAL			8,404	585	495		9	5,144	3,240	1,729	74.4	0.0		
AVG.			280	20	17		0	171	108	58				

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	24,017	827	506	44,320	14,003	9,542	4,715
SUMMER	86,825	3,216					
FALL	11,857	927					
TOTALS	122,699	4,970					

Water temperature and turbidity for September not available.

TABLE 173

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

ROCK ISLAND PROJECT
OCTOBER 2002

FISH COUNTS / **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG I
Oct 1			147	20	49	0		128	89	8	80.0	0.0		
Oct 2			126	15	33	0		107	67	28	83.5	0.0		
Oct 3			104	6	47	0		50	30	17	75.3	0.0		
Oct 4			82	16	44	0		62	31	1	62.1	0.0		
Oct 5			54	0	33	0		49	39	6	59.0	0.0		
Oct 6			83	4	65	0		56	32	6	61.3	0.0		
Oct 7			107	7	70	0		80	49	3	89.0	0.0		
Oct 8			87	4	56	0		56	33	29	109.1	0.0		
Oct 9			80	5	47	0		77	51	7	75.9	0.0		
Oct 10			65	8	55	0		65	39	3	76.7	0.0		
Oct 11			70	8	46	0		45	36	4	69.4	0.0		
Oct 12			83	10	22	0		38	24	3	61.4	0.0		
Oct 13			61	3	45	0		24	18	0	61.7	0.0		
Oct 14			43	4	44	0		38	28	5	87.8	0.0		
Oct 15			35	3	35	0		50	24	1	83.2	0.0		
Oct 16			55	4	27	0		32	20	2	74.9	0.0		
Oct 17			41	5	45	0		31	21	1	69.0	0.0		
Oct 18			31	6	33	0		25	16	0	64.7	0.0		
Oct 19			47	3	33	0		25	13	1	47.7	0.0		
Oct 20			52	1	39	0		18	9	6	53.9	0.0		
Oct 21			40	0	18	0		21	12	0	81.9	0.0		
Oct 22			64	2	31	0		15	8	0	84.7	0.0		
Oct 23			51	3	21	0		20	12	0	88.3	0.0		
Oct 24			45	3	18	0		16	13	8	102.9	0.0		
Oct 25			41	5	27	0		19	16	9	113.5	0.0		
Oct 26			56	4	23	0		12	10	10	90.8	0.0		
Oct 27			41	0	28	0		5	2	2	56.3	0.0		
Oct 28			11	1	19	0		11	5	0	87.8	0.0		
Oct 29			28	1	10	0		10	7	0	106.1	0.0		
Oct 30			73	1	23	0		8	4	1	116.3	0.0		
Oct 31			88	2	27	0		7	5	1	110.1	0.0		
TOTAL			1,991	154	1,113	0		1,200	763	162				
AVG.			64	5	36	0		39	25	5				
											80.1	0.0		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	24,017	827	1,619	0	44,320	15,203	10,305	4,877
SUMMER	86,825	3,216						
FALL	13,848	1,081						
TOTALS	124,690	5,124						

Water temperature and turbidity for October not available.

TABLE 174

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

ROCK ISLAND PROJECT
NOVEMBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
Nov 1			61	0	17	0		3	1	0
Nov 2			61	1	17	0		7	4	0
Nov 3			55	0	16	0		9	6	0
Nov 4			71	2	13	0		6	3	0
Nov 5			76	1	9	0		7	6	0
Nov 6			64	1	11	0		6	4	0
Nov 7			103	2	13	0		1	0	0
Nov 8			63	1	8	0		4	2	0
Nov 9			27	0	8	0		6	3	1
Nov 10			30	0	4	0		4	3	0
Nov 11			23	0	4	0		2	2	0
Nov 12			15	1	6	0		7	2	0
Nov 13			17	0	5	0		15	9	0
Nov 14			0	2	0	1		2	0	0
Nov 15										
Nov 16										
Nov 17										
Nov 18										
Nov 19										
Nov 20										
Nov 21										
Nov 22										
Nov 23										
Nov 24										
Nov 25										
Nov 26										
Nov 27										
Nov 28										
Nov 29										
Nov 30										
TOTAL			666	11	131	1		79	45	1
AVG.			48	1	9	0		6	3	0

RIVER CONDITIONS

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG I
Nov 1	96.9	0.0		
Nov 2	89.9	0.0		
Nov 3	85.3	0.0		
Nov 4	99.8	0.0		
Nov 5	107.4	0.0		
Nov 6	116.5	0.0		
Nov 7	114.2	0.0		
Nov 8	102.9	0.0		
Nov 9	89.8	0.0		
Nov 10	71.2	0.0		
Nov 11	80.7	0.0		
Nov 12	91.2	0.0		
Nov 13	88.9	0.0		
Nov 14	96.4	0.0		
Nov 15	109.4	0.0		
Nov 16	92.43	0.0		
Nov 17	62.85	0.0		
Nov 18	96.68	0.0		
Nov 19	114.59	0.0		
Nov 20	101.33	0.0		
Nov 21	110.39	0.0		
Nov 22	115.03	0.0		
Nov 23	106.3	0.0		
Nov 24	85.43	0.0		
Nov 25	127.82	0.0		
Nov 26	115.93	0.0		
Nov 27	109.28	0.0		
Nov 28	71.88	0.0		
Nov 29	88.89	0.0		
Nov 30	93.5	0.0		
TOTAL	96.0	0.0		

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	24,017	827
SUMMER	86,825	3,216
FALL	14,514	1,092
TOTALS	125,356	5,135

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
1,750	1	44,320	15,282	10,350	4,878

Water temperature and turbidity for Novembernot available.

TABLE 175

MONTHLY COUNT OF STEELHEAD

ROCK ISLAND DAM 1981 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1981						30	282	1,886	2,338	2,493	347		7,376
1982				118	113	8	157	2,246	4,260	2,785	192		9,879
1983				53	36	18	579	5,811	16,942	5,619	608		29,666
1984				88	220	180	1,962	7,925	10,507	3,687	527		25,096
1985				106	393	729	4,886	6,588	16,089	2,889	319		31,999
1986				145	168	192	3,383	10,036	5,883	2,731	347		22,885
1987				100	94	112	1,242	4,900	4,095	1,842	347		12,732
1988				193	156	173	737	2,813	3,446	1,523	200		9,241
1989				135	73	66	847	2,685	3,999	1,355	191		9,351
1990				55	46	99	953	2,385	2,577	736	93		6,944
1991				30	51	45	916	3,322	4,194	2,165	204		10,927
1992				86	193	315	1,603	2,821	5,714	1,599	145		12,476
1993				97	88	87	1,427	546	1,930	597	57		4,829
1994				29	16	50	631	1,151	2,181	1,437	125		5,620
1995				23	35	44	421	951	2,153	510	38		4,175
1996				17	34	27	303	2,224	3,701	920	79		7,305
1997				19	22	7	300	2,343	3,461	1,466	108		7,726
1998				20	13	29	449	726	2,486	1,141	98		4,962
1999				17	22	37	377	2,429	2,900	540	40		6,362
2000				18	5	74	1,356	3,299	4,974	727	63		10,516
2001				49	23	185	3,094	9,380	12,129	3,461	292		28,613
2002				53	20	85	2,327	6,374	5,144	1,200	79		15,282
Total				1,451	1,821	2,592	28,232	82,841	121,103	41,423	4,499		283,962
10-Year Average				39	43	85	1,117	2,931	4,252	1,236	102		9,806

ROCKY REACH DAM

FISH COUNTING SCHEDULE

Jan 1 - Apr 13	No counting.
Apr 14 - Nov 14	Video recording 24 hours per day/7 days a week. Video counting daily 0700 - 1530 hours Pacific Standard Time.
Nov 15 - Dec 31	No counting.

FISH LADDER OPERATING SCHEDULE

Jan 2 to Feb 28	Fishway out of service for annual maintenance.
Mar 1 to Jan 1	Fishway in service

FISHWAY ACTIVITIES

The juvenile fish bypass system was operated for fish passage from April 1 to August 26, 2002. Juvenile fish sampling began on April 1 and ended on July 25. The annual bypass evaluation included PIT and acoustic tag releases and collection of data on species composition and fish condition. Chelan County PUD began construction of the new juvenile fish bypass (production) system on August 27. The system will be completed by April 1, 2003.

Chelan County PUD was involved in a joint radio telemetry study with Douglas County PUD and Grant County PUD to determine passage times, fallback rates and fates, tributary use and spawning areas for adult summer steelhead. The fish were monitored as they passed the five Mid-Columbia River projects on their downstream post-spawning migration (April – July 2002). A second adult steelhead radio telemetry study was started on August 20 and continued through November. The objective of the second study was to monitor adult passage during bypass construction and to verify that construction activities were not affecting migration behavior.

TABLE 176

MONTHLY TOTALS OF SALMONIDS AND LAMPREY COUNTED OVER ROCKY REACH DAM
2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				43	8,363	5,745	58,166	16,876	6,151	2,728	684		98,756
STEELHEAD				152	33	49	1,441	4,631	4,103	1,332	112		11,853
SOCKEYE					2	152	11,509	696	12	1			12,372
COHO					9	5	4	5	58	347	53		481
PINK													
TOTAL				195	8,407	5,951	71,120	22,208	10,324	4,408	849		123,462
LAMPREY				7			40	867	866	62			1,842

***Jacks included**

TABLE 177

MONTHLY FISH PASSAGE SUMMARY REPORT — **ROCKY REACH PROJECT**

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **APRIL 2002**

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO					DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Apr 1	BEGIN COUNTING 14 APRIL										58.5	0.0		
Apr 2											67.5	0.0		
Apr 3											61.6	0.0		
Apr 4											51.7	0.0		
Apr 5											58.3	0.0		
Apr 6											39.9	0.0		
Apr 7											37.8	0.0		
Apr 8											56.8	0.0		
Apr 9											61.5	0.0		
Apr 10											46.4	0.0		
Apr 11											106.6	11.3		
Apr 12											120.2	19.3		
Apr 13											100.2	16.2		
Apr 14	0			0				11	3	0	109.1	14.1		
Apr 15	1			0				19	12	0	141.1	25.7		
Apr 16	2			0				16	7	0	173.1	41.7		
Apr 17	0			0				9	4	0	186.7	43.4		
Apr 18	1			0				11	1	0	184.8	48.3		
Apr 19	0			0				4	2	7	185.6	34.6		
Apr 20	4			0				13	5	0	180.1	35.9		
Apr 21	0			0				14	2	0	154.1	24.6		
Apr 22	0			0				9	4	0	187.0	27.5		
Apr 23	1			0				8	4	0	164.2	28.0		
Apr 24	4			0				10	4	0	160.2	28.0		
Apr 25	0			0				6	5	0	157.2	26.1		
Apr 26	1			0				6	2	0	145.1	24.5		
Apr 27	2			0				3	3	0	125.4	19.6		
Apr 28	3			0				3	1	0	110.1	17.3		
Apr 29	14			0				3	1	0	152.6	25.7		
Apr 30	10			0				7	2	0	153.6	40.6		
TOTAL	43			0				152	62	7				
AVG.	3			0				9	4	0	117.9	18.4		

Water temperature and turbidity for April not available.

TABLE 178

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

ROCKY REACH PROJECT
MAY 2002

FISH COUNTS | **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
May 1	9			0	0		0	2	1		129.6	39.7		
May 2	12			0	0		0	7	2		134.2	33.8		
May 3	44			0	0		0	2	1		133.0	32.4		
May 4	19			0	0		0	1	1		123.9	28.8		
May 5	54			0	0		0	3	3		109.9	26.4		
May 6	201			0	0		0	1	1		159.8	39.2		
May 7	107			0	0		0	2	2		159.6	38.7		
May 8	87			0	0		0	0	0		128.5	39.9		
May 9	392			0	0		0	4	2		148.0	34.8		
May 10	158			1	0		1	1	1		134.6	34.5		
May 11	407			0	0		0	0	0		112.0	32.7		
May 12	349			0	0		0	3	2		103.0	26.9		
May 13	694			0	0		0	0	0		136.5	32.5		
May 14	609			0	0		0	2	2		136.8	34.4		
May 15	764			4	0		0	0	0		131.5	33.5		
May 16	620			3	1		0	0	0		142.3	27.9		
May 17	305			3	0		0	2	2		131.1	32.6		
May 18	115			0	0		0	1	0		120.2	27.7		
May 19	693			2	0		1	0	0		117.0	17.9		
May 20	402			2	0		0	0	0		135.8	21.5		
May 21	705			5	0		0	0	0		125.5	20.5		
May 22	368			5	4		0	0	0		139.6	21.4		
May 23	218			5	0		0	0	0		148.7	21.2		
May 24	92			0	0		0	1	1		147.5	19.7		
May 25	198			4	0		0	0	0		124.0	18.2		
May 26	170			0	0		0	0	0		140.9	16.3		
May 27	96			6	2		0	1	1		158.6	23.8		
May 28	34			0	0		0	0	0		155.3	25.2		
May 29	14			3	1		0	0	0		158.9	25.8		
May 30	89			9	1		0	0	0		155.9	25.2		
May 31	270			16	0		0	0	0		161.3	29.8		
TOTAL	8,295			68	9		2	33	22					
AVG.	268			2	0		0	1	1		136.9	28.5		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	8,338	68	9	2	185	84	7

Water temperature and turbidity for May not available.

TABLE 179

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

ROCKY REACH PROJECT
JUNE 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO					DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jun 1	145			4	0		0	0	0		142.4	29.8		
Jun 2	172			10	0		0	0	0		154.2	23.3		
Jun 3	144			3	0		0	0	0		191.9	40.7		
Jun 4	81			9	0		0	0	0		234.5	74.7		
Jun 5	12			5	1		0	0	0		235.9	74.2		
Jun 6	128			6	2		0	0	0		218.5	57.8		
Jun 7	28			4	0		0	0	0		237.6	75.5		
Jun 8	230			10	1		0	0	0		229.2	68.3		
Jun 9	86			5	0		0	1	0		202.4	43.1		
Jun 10	13			6	0		0	0	0		226.7	64.1		
Jun 11	49			4	0		0	0	0		202.8	43.2		
Jun 12	13			2	0		0	1	1		209.4	57.9		
Jun 13	28			4	0		3	0	0		185.9	34.0		
Jun 14	74			4	0		1	0	0		194.4	42.7		
Jun 15	198			8	0		0	1	0		181.5	34.4		
Jun 16	90			2	0		0	0	0		172.6	29.8		
Jun 17	44			5	0		0	0	0		190.6	39.4		
Jun 18	75			0	0		0	1	1		212.8	53.6		
Jun 19	51			2	0		0	3	3		233.3	75.8		
Jun 20		44		2	1		2	0	0		254.2	99.3		
Jun 21		40		2	0		0	0	0		234.6	80.9		
Jun 22		35		5	0		2	2	2		194.8	44.1		
Jun 23		113		5	0		6	1	1		157.8	1.4		
Jun 24		206		2	0		0	3	2		176.7	13.3		
Jun 25		172		6	0		5	3	1		214.9	49.7		
Jun 26		495		6	0		10	8	6		207.3	51.0		
Jun 27		672		10	0		15	8	8		235.5	88.2		
Jun 28		369		12	0		13	3	3		244.9	103.1		
Jun 29		655		23	0		59	4	4		219.2	84.6		
Jun 30		1080		37	0		36	10	10		194.3	46.2		
TOTAL	1,661	3,881		203	5		152	49	42					
AVG.	87	353		7	0		5	2	1		206.4	54.1		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULTS	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	9,999	161	14	154	234	126	7
SUMMER	3,881	110					
TOTALS	13,880	271					

Water temperature and turbidity for June not available.

TABLE 180

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

ROCKY REACH PROJECT
JULY 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO					DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jul 1		1,287		59	1		59	4	4	0	242.8	93.2		
Jul 2		1,122		49	0		105	11	11	0	250.9	101.4		
Jul 3		1,056		22	0		138	6	5	0	248.4	96.9		
Jul 4		2,236		29	0		145	11	11	0	218.4	59.0		
Jul 5		1,610		25	0		152	11	9	0	188.5	42.2		
Jul 6		2,281		18	0		178	15	15	0	189.1	39.0		
Jul 7		1,795		40	0		191	9	8	0	159.5	26.3		
Jul 8		1,989		31	0		151	11	9	0	142.6	21.6		
Jul 9		1,713		37	0		288	19	17	0	174.8	26.3		
Jul 10		2,496		149	0		328	20	15	1	205.6	44.0		
Jul 11		3,184		77	0		532	24	18	0	204.3	42.3		
Jul 12		1,371		55	0		464	33	27	0	212.9	51.8		
Jul 13		3,240		50	0		716	44	34	0	203.8	46.9		
Jul 14		2,031		100	2		792	42	40	0	160.8	28.8		
Jul 15		729		34	0		325	26	18	1	162.1	28.4		
Jul 16		2,413		80	0		728	47	41	1	211.0	44.8		
Jul 17		2,049		129	0		909	50	33	1	184.4	30.0		
Jul 18		2,322		151	0		693	54	37	2	179.1	27.6		
Jul 19		2,858		109	1		660	53	40	1	200.3	36.9		
Jul 20		1,920		104	0		561	45	33	2	181.3	28.6		
Jul 21		2,320		80	0		569	48	32	0	160.2	22.0		
Jul 22		1,640		70	0		545	70	45	3	169.4	28.3		
Jul 23		2,081		63	0		427	62	45	5	169.6	26.2		
Jul 24		1,177		55	0		376	74	48	2	155.9	24.0		
Jul 25		2,229		82	0		342	65	52	2	144.9	24.5		
Jul 26		1,365		53	0		332	108	72	0	122.2	20.5		
Jul 27		1,493		62	0		253	91	68	3	103.0	19.1		
Jul 28		777		37	0		189	78	41	6	107.0	17.4		
Jul 29		1,072		35	0		131	81	55	2	129.0	19.9		
Jul 30		1,348		39	0		126	92	67	5	143.2	22.3		
Jul 31		1,006		32	0		104	137	87	3	149.2	25.3		
TOTALS		56,210		1,956	4		11,509	1,441	1,037	40				
AVG.		1813		63	0		371	46	33	1				
TOTALS TO DATE		CHINOOK ADULT	CHINOOK JACK		COHO ADULTS		SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	176.6	37.6		
	SPRING	9,999	161		18		11,663	1,675	1,163	47				
	SUMMER	60,091	2,066											
	TOTAL	70,090	2,227											

Water temperature and turbidity for July not available.

TABLE 181

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

ROCKY REACH PROJECT
AUGUST 2002

FISH COUNTS / **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Aug 1		1,266		31	0		88	117	75	4	138.5	20.3		
Aug 2		763		61	0		71	98	62	8	146.1	17.8		
Aug 3		883		32	0		86	114	82	3	117.5	16.4		
Aug 4		1,667		81	0		66	112	73	4	92.4	15.8		
Aug 5		969		34	0		52	131	87	0	116.2	22.4		
Aug 6		727		30	1		29	102	68	4	120.8	19.9		
Aug 7		305		31	1		32	126	77	7	143.1	19.2		
Aug 8		484		46	0		17	96	60	9	147.7	20.7		
Aug 9		503		54	0		23	95	67	11	132.8	22.7		
Aug 10		1,137		50	0		23	180	134	21	117.5	16.7		
Aug 11		527		40	0		24	111	71	17	95.3	14.1		
Aug 12		310		21	1		23	94	64	15	124.4	19.5		
Aug 13		96		9	1		12	61	38	23	125.4	19.3		
Aug 14		1,377		44	0		21	184	117	31	124.8	18.8		
Aug 15		239		32	0		18	165	106	35	122.5	17.7		
Aug 16		431		30	0		13	125	80	33	104.9	16.8		
Aug 17		405		30	0		13	139	77	18	75.4	14.3		
Aug 18		561		40	0		11	107	57	19	81.6	14.9		
Aug 19		363		45	0		14	150	95	16	118.1	17.9		
Aug 20			343	44	0		10	158	93	10	114.5	15.6		
Aug 21			168	25	1		10	184	107	22	110.9	0.0		
Aug 22			258	28	0		9	296	150	35	125.3	0.0		
Aug 23			380	32	0		5	189	113	40	116.5	0.0		
Aug 24			349	38	0		3	233	134	53	95.8	0.0		
Aug 25			127	14	0		7	130	56	30	69.1	0.0		
Aug 26			378	23	0		4	229	131	4	112.5	0.0		
Aug 27			100	23	0		1	139	77	15	109.1	0.0		
Aug 28			239	15	0		5	181	92	35	116.3	0.0		
Aug 29			245	23	0		1	240	131	131	108.8	0.0		
Aug 30			168	22	0		4	181	92	168	105.7	0.0		
Aug 31			66	14	0		1	164	96	46	92.7	0.0		
TOTAL		13,013	2,821	1,042	5		696	4,631	2,762	867				
AVG.		685	235	34	0		22	149	89	28	113.6	11.6		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULTS	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	9,999	161	23	12,359	6,306	3,925	914
SUMMER	73,104	2,807					
FALL	2,821	301					
TOTALS	85,924	3,269					

Water temperature and turbidity for August not available.

TABLE 182

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

ROCKY REACH PROJECT
SEPTEMBER 2002

FISH COUNTS / RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Sep 1			133	24	0		2	112	64	72	49.3	0.0		
Sep 2			173	19	0		2	73	41	38	65.3	0.0		
Sep 3			661	43	1		0	282	170	67	91.5	0.0		
Sep 4			129	15	0		1	138	71	76	65.9	0.0		
Sep 5			125	19	2		0	178	104	25	70.7	0.0		
Sep 6			369	22	1		2	120	58	13	70.3	0.0		
Sep 7			73	15	0		1	106	59	30	53.0	0.0		
Sep 8			176	20	1		0	126	71	24	51.5	0.0		
Sep 9			215	19	0		0	130	62	7	89.5	0.0		
Sep 10			204	26	2		0	106	68	32	72.3	0.0		
Sep 11			154	28	1		0	152	80	45	62.9	0.0		
Sep 12			118	12	1		0	134	71	29	76.4	0.0		
Sep 13			267	20	6		0	216	123	31	77.2	1.5		
Sep 14			197	24	3		0	118	51	41	50.2	0.2		
Sep 15			146	14	0		0	145	78	42	44.1	0.0		
Sep 16			26	15	0		1	39	20	38	79.0	0.0		
Sep 17			7	8	1		1	74	37	24	71.5	0.0		
Sep 18			464	46	0		0	366	210	9	76.2	0.0		
Sep 19			284	28	2		1	156	91	35	95.7	0.0		
Sep 20			195	25	0		0	173	88	16	91.9	1.3		
Sep 21			169	35	2		0	148	80	24	85.3	0.0		
Sep 22			100	18	2		0	176	105	33	71.5	0.0		
Sep 23			119	21	1		0	119	59	15	97.8	0.0		
Sep 24			150	31	2		1	130	72	12	97.8	0.0		
Sep 25			124	28	7		0	133	76	11	95.0	0.0		
Sep 26			43	21	2		0	73	37	31	87.6	0.0		
Sep 27			130	21	6		0	100	52	15	57.5	0.0		
Sep 28			186	18	1		0	107	58	7	62.9	0.0		
Sep 29			121	21	3		0	90	47	5	41.8	0.0		
Sep 30			210	27	11		0	83	52	19	84.3	0.0		
TOTAL			5,468	683	58		12	4,103	2,255	866				
AVG.			182	23	2		0	137	75	29	72.8	0.1		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	9,999	161
SUMMER	73,104	2,807
FALL	8,289	984
TOTALS	91,392	3,952

COHO ADULTS	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
81	12,371	10,409	6,180	1,780

Water temperature and turbidity for September not available.

TABLE 183

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

ROCKY REACH PROJECT
OCTOBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	RIVER CONDITIONS DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Oct 1			89	16	7		0	78	43	3	78.6	0.0		
Oct 2			47	17	25		0	106	58	10	81.5	0.0		
Oct 3			49	11	16		0	60	35	1	73.5	0.0		
Oct 4			134	10	9		0	117	72	1	59.7	0.0		
Oct 5			46	9	10		0	80	43	3	57.8	0.0		
Oct 6			49	11	3		0	43	21	7	60.8	0.0		
Oct 7			115	12	21		0	95	67	8	87.5	0.0		
Oct 8			46	8	14		0	55	29	3	106.5	0.0		
Oct 9			63	16	9		0	67	35	7	73.9	0.0		
Oct 10			68	5	13		0	47	25	3	75.1	0.0		
Oct 11			45	5	23		0	73	44	1	69.6	0.0		
Oct 12			57	9	7		0	52	22	2	61.0	0.0		
Oct 13			47	12	13		0	45	26	3	59.2	0.0		
Oct 14			93	7	15		0	27	14	1	87.4	0.0		
Oct 15			59	10	17		0	33	20	1	81.4	0.0		
Oct 16			60	9	9		0	46	23	2	73.2	0.0		
Oct 17			51	9	17		0	37	20	0	68.1	0.0		
Oct 18			98	7	14		0	30	17	0	63.9	0.0		
Oct 19			72	11	9		0	19	10	2	46.5	0.0		
Oct 20			82	7	7		0	34	21	2	53.0	0.0		
Oct 21			109	6	13		0	22	14	0	80.6	0.0		
Oct 22			192	13	8		0	25	13	0	83.7	0.0		
Oct 23			51	5	9		0	13	8	0	86.7	0.0		
Oct 24			50	15	10		0	24	12	0	101.3	0.0		
Oct 25			124	10	13		1	20	11	0	112.7	0.0		
Oct 26			93	13	9		0	20	10	0	89.0	0.0		
Oct 27			109	8	7		0	24	18	0	53.5	0.0		
Oct 28			123	6	5		0	10	6	0	87.9	0.0		
Oct 29			69	3	5		0	8	6	2	104.9	0.0		
Oct 30			68	7	7		0	10	7	0	114.2	0.0		
Oct 31			77	6	3		0	12	8	0	107.6	0.0		
TOTAL			2,435	293	347		1	1,332	758	62				
AVG.			79	9	11		0	43	24	2				
TOTALS TO DATE											78.7	0.0		

	CHINOOK ADULT	CHINOOK JACK	COHO ADULTS	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	9,999	161	428	12,372	11,741	6,938	1,842
SUMMER	73,104	2,807					
FALL	10,724	1277					
TOTALS	93,827	4,245					

Water temperature for October not available.

TABLE 184

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

ROCKY REACH PROJECT
NOVEMBER 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
Nov 1			104	6	5			16	14	
Nov 2			65	3	3			11	9	
Nov 3			56	2	7			0	11	
Nov 4			87	2	3			4	2	
Nov 5			48	4	4			14	10	
Nov 6			59	0	0			8	4	
Nov 7			46	3	3			7	6	
Nov 8			55	0	5			4	3	
Nov 9			58	3	6			7	4	
Nov 10			24	0	7			5	3	
Nov 11			17	0	1			8	5	
Nov 12			11	11	0			5	4	
Nov 13			10	1	4			8	5	
Nov 14			8	1	5			15	10	
Nov 15										
Nov 16										
Nov 17										
Nov 18										
Nov 19										
Nov 20										
Nov 21										
Nov 22										
Nov 23										
Nov 24										
Nov 25										
Nov 26										
Nov 27										
Nov 28										
Nov 29										
Nov 30										
TOTAL			648	36	53			112	90	
AVG.			46	3	4			8	6	

RIVER CONDITIONS

DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
95.4	0.0		
87.2	0.0		
82.3	0.0		
101.3	0.0		
104.5	0.0		
113.6	0.0		
111.4	0.0		
100.9	0.0		
87.8	0.0		
69.1	0.0		
81.1	0.0		
89.4	0.0		
88.7	0.2		
94.6	0.0		
107.1	0.0		
91.4	0.0		
59.0	0.0		
96.6	0.0		
113.1	0.0		
97.5	0.0		
109.5	0.0		
110.9	0.0		
104.9	0.0		
85.2	0.0		
123.6	0.0		
112.9	0.0		
106.6	0.0		
68.7	0.0		
88.9	0.0		
93.3	0.0		
95.9	0.0		

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	9,999	161
SUMMER	73,104	2,807
FALL	11,372	1,313
TOTALS	94,475	4,281

COHO ADULTS	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
481	12,372	11,853	7,028	1,842

Water temperature and turbidity for November not available.

TABLE 185

MONTHLY COUNT OF STEELHEAD

ROCKY REACH DAM: 1981 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1981						14	173	1,309	1,827	1,691	300		5,314
1982				137	116	5	73	1,192	2,863	1,735	120		6,241
1983				31	18	2	334	3,525	11,329	4,048	411		19,698
1984				41	174	127	1,032	5,564	7,263	2,589	438		17,228
1985				63	273	523	3,547	4,152	11,133	2,646	381		22,718
1986				61	178	160	2,003	6,072	4,225	2,222	236		15,157
1987				67	75	80	567	2,574	2,361	1,210	244		7,178
1988				99	108	108	493	1,498	2,439	820	112		5,677
1989				62	41	30	458	1,442	2,721	1,134	151		6,039
1990				24	31	33	534	1,809	1,889	646	67		5,033
1991				19	26	63	584	2,346	2,996	1,473	138		7,645
1992				50	138	203	1,026	1,861	3,051	1,093	94		7,516
1993				49	52	24	346	869	1,066	379	31		2,816
1994				12	11	30	301	578	1,002	821	63		2,818
1995				18	12	9	147	398	827	315	32		1,758
1996				23	26	12	179	1,585	2,868	969	112		5,774
1997				40	15	1	192	1,789	2,901	1,576	208		6,722
1998				71	18	23	281	671	2,025	1,127	226		4,442
1999				35	16	46	198	1,518	2,361	557	84		4,815
2000				62	22	34	679	2,276	4,289	835	78		8,275
2001				83	33	83	1,861	6,843	9,827	3,025	290		22,045
2002				152	33	49	1,441	4,631	4,103	1,332	112		11,853
Total				1,199	1,416	1,659	16,449	54,502	85,366	32,243	3,928		196,762
10-Year Average				54	34	47	605	2,093	3,120	1,094	121		7,167

WELLS DAM

FISH COUNTING SCHEDULE

Adult counting schedules at Wells are from May 1 through November 15. Fish passage is assessed by reviewing a videotape record made the previous day. Passage by species and ladder is made for each hour of the day. Counts between 1967 and 1997 were reported for 16 hours (0500 – 2100 PST). Starting in 1998, as per the request of the Wells Coordinating Committee, counts were reported in a 24 hour (0000 – 2400) format. Either format is available upon request from Douglas PUD. Chinook are separated into three populations based upon date of passage through the ladders. Spring Chinook pass from May 1 through June 28, Summer Chinook between June 29 and August 28, and Fall Chinook from August 29 through November 15.

DESCRIPTION OF THE ADULT PASSAGE FACILITIES

The two fish ladders at Wells Dam are conventional staircase type fish ladders with 73 pools. The ladders are located at the east and west endwall of the dam. The lower 56 pools discharge a constant 48 cfs dropping one foot at each pool into the attraction chamber in the lower ladder. Discharge from one pool to another is over a seven foot wide overflow section in the wall between pools with additional flow through two 18 inch by 15 inch submerged orifices. Pools 67 and 68 have adult PIT tag detection weirs that interrogate passage of all adults just prior to the ladder exit. Information on PIT tag detection of adults using both east and west ladders is found on the PTAGIS web page (http://www.pittag.org/web/Adult/index.html). Pool No. 64 of both fishways contain facilities for counting fish. The main features of this facility are a counting room with an observation window into the fish ladder, a telescoping gate and light panel to guide the fish to swim close to the observation window. At Pool No. 40 of the ladders are provisions for sorting and trapping various species of fish. The fisheries agencies and tribes develop broodstock collection protocol at the beginning of each season for collection of spring and summer chinook, sockeye salmon and summer steelhead. These plans are submitted annually to the Wells Coordinating Committee.

At the bottom of the fish ladder, projecting downstream from the line of the hydrocombine is the portion of the endwall structure, which incorporates the functions of fish attraction and collection. Two-turbine pumps deliver attraction flow to the water supply chamber located adjacent to the ladder. The total flow from the turbine pump(s) plus the 48 cfs coming down the ladder from the reservoir is discharged to tailwater through a single fish attraction opening per ladder. These openings are eight-foot wide vertical slot openings with vertical miter gates. Originally an additional set of side gates were provided. Ladder entrances were designed to have the side gate be open at 2 – 4' and the end gate would automatically adjust its width to maintain a one foot differential in the collection chamber. Since July 1970, the side gate has been set at a four foot opening with the end gate fixed at six feet. A 1.5 foot differential is maintained as the two turbine pumps adjust output. On June 29, 2000, the joint fisheries parties agreed to

have the side entrances closed. This decision was based upon several years of radio telemetry studies with various species of anadromous fish that showed improved passage times with the side gates closed.

FISH LADDER OPERATING SCHEDULE

Annual maintenance is performed on the ladders at Wells to clean the ladder of debris and service the attraction flow pumps. During this time the ladders are taken out of service and de-watered. The dates of this work in 2002 are as follows:

West Ladder
February 11 to February 25 – For inspection.
December 2 to December 31 – For inspection.

East Ladder
January 1 to January 23 – For maintenance and inspection.

JUVENILE PASSAGE FACILITIES

The juvenile Bypass at Wells Dam uses the hydrocombine design of the dam by modifying five of the eleven spill bays. The even number spillbays are partially constricted with barriers that improve the attraction flow from the forebay into the spill bay area. Up to 11,000 cfs of water is made available for bypass flow during the juvenile migration.

The status of the juvenile migration is monitored with four hydroacoustic transducers evenly spaced across the forebay. An index of juvenile activity is relayed daily to the members of the bypass team who decide the starting and ending date of bypass operations.

Hydroacoustic sampling started at Wells on March 15 to collect background data prior to the start of the spring migration. Initial levels were low and climbed after April until the bypass was initiated on April 10. The spring bypass operated until June 14 for a total of 66 days and with a total discharge of 1.3 MAF, or 6.3% of total project discharge. During the spring bypass operation, there were forced spill during 28% of the hours.

When the hydroacoustics indicate a pause between the spring and summer migrations, the bypass is suspended temporarily. The bypass team could not discern this phenomenon in 2002.

Summer bypass started on June 15 at 0000h and ran until August 25, for a total of 72 days. There was 1.4 MAF or 6.1% of the total discharge dedicated to summer bypass. During the summer operation, there were 515 hours (30%) that had forced spill.

FISH PASSAGE ACTIVITIES

In 2001, the mid-Columbia PUD's radio tagged 397 adult steelhead to help assess passage times through the five mid-Columbia projects. Antenna and receiving units were

installed at Wells Dam as well as in neighboring tributaries. Information on steelhead ascending the project in 2002 and information on the 2002 kelt outmigration continued to be collected through June 2002.

In 2001 and 2002, a total of 80 adult bull trout were radio-tagged at the three uppermost Mid-Columbia River hydroelectric projects. The radio-telemetry systems installed in both fish ladders continuously monitored the movement of bull trout during 2002. Bull trout monitoring is expected to continue through June 2003.
Additional studies included the tagging of coho and lamprey at Priest Rapids Dam. As these fish approach the project they are automatically included into the radio-telemetry database for Wells Dam.

2002 was the fifth highest total passage of salmonids that ascended Wells Dam since the completion of the dam in 1967, based upon the historical 16-hour count format of salmon and steelhead that went over Wells. It was a record year for summer chinook with over 10 times the average value.

TABLE 186

MONTHLY TOTALS OF SALMONIDS COUNTED OVER WELLS DAM
2002

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*					4,928	3,461	46,864	16,014	3,351	2,169	318		77,105
STEELHEAD					66	33	957	3,630	3,388	1,244	157		9,475
SOCKEYE						13	9,348	1,194	29	2			10,586
COHO								1	10	94	27		132
TOTAL					4,994	3,507	57,169	20,839	6,778	3,509	502		97,298
LAMPREY						5	3	66	236	27	1		338

***Jacks included**

TABLE 187

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

WELLS PROJECT
MAY 2002

FISH COUNTS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	RIVER CONDITIONS DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
May 1	1			0				4	2		124.0	8.9		43.2
May 2	0			0				5	5		133.0	8.2		43.2
May 3	3			1				5	5		128.5	8.5		43.2
May 4	4			0				1	1		120.4	7.7		43.2
May 5	5			0				4	3		111.3	7.8		43.2
May 6	6			0				2	1		157.6	9.4		43.2
May 7	13			0				0	0		155.7	9.4		43.2
May 8	75			0				4	4		128.0	9.5		46.7
May 9	58			0				3	2		144.7	9.2		47.0
May 10	116			0				3	1		130.5	9.1		47.5
May 11	69			1				5	4		106.6	7.8		48.2
May 12	83			0				6	4		101.2	7.3		48.8
May 13	182			0				4	2		136.7	8.0		48.7
May 14	286			0				1	0		134.4	9.2		49.0
May 15	513			0				3	3		131.3	10.0		49.5
May 16	381			0				1	0		140.5	9.0		49.9
May 17	295			0				5	4		129.0	8.6		50.0
May 18	356			0				2	1		119.2	8.1		49.8
May 19	272			0				2	2		116.8	8.5		50.1
May 20	72			0				0	0		130.4	7.9		50.6
May 21	582			0				0	0		125.0	7.4		50.3
May 22	297			0				2	2		136.2	8.4		50.1
May 23	493			0				0	0		147.2	9.0		50.0
May 24	193			0				0	0		145.5	9.1		50.3
May 25	139			1				0	0		124.4	8.3		50.1
May 26	67			1				1	1		144.3	10.3		50.9
May 27	88			0				0	0		156.5	14.9		51.9
May 28	45			0				1	1		154.6	16.2		52.1
May 29	42			0				2	2		159.8	14.9		51.7
May 30	135			2				0	0		151.2	10.8		52.1
May 31	50			1				0	0		162.0	17.5		52.2
TOTAL	4,921			7				66	50					
AVG.	159			0				2	2		135.0	9.6		48.4

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	STEELHEAD	WILD STEELHEAD
SPRING	4,921	7	66	50

Water turbidity for May is not available.

TABLE 188

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

WELLS PROJECT
JUNE 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD		DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jun 1	18			1			0	0	0	0	132.3	21.4		52.2
Jun 2	344			3			0	1	0	0	161.2	16.9		52.5
Jun 3	180			0			0	1	1	0	194.0	41.9		52.7
Jun 4	103			2			0	0	0	0	237.8	75.6		53.1
Jun 5	84			1			0	0	0	0	232.6	75.2		53.1
Jun 6	196			0			0	2	1	0	219.5	66.6		53.3
Jun 7	41			1			0	0	0	0	235.1	76.5		52.2
Jun 8	44			0			0	0	0	0	221.4	73.6		51.7
Jun 9	123			1			0	0	0	0	207.7	33.1		52.5
Jun 10	95			1			0	0	0	0	230.4	65.5		53.5
Jun 11	89			3			0	1	0	0	203.5	30.6		54.4
Jun 12	56			0			0	1	1	0	208.6	61.6		55.0
Jun 13	39			4			0	2	0	0	189.2	53.9		55.4
Jun 14	59			2			0	0	0	0	199.2	47.3		55.4
Jun 15	52			3			0	0	0	0	176.3	19.1		55.7
Jun 16	47			0			0	0	0	0	169.7	12.2		55.2
Jun 17	68			0			0	0	0	0	192.8	31.6		55.5
Jun 18	80			0			0	0	0	0	213.8	52.2		55.2
Jun 19	36			1			0	0	0	0	230.8	69.5		55.7
Jun 20	20			0			0	0	0	0	248.3	101.2		55.3
Jun 21	89			1			0	0	0	0	229.4	76.0		56.5
Jun 22	39			3			0	0	2	0	185.3	27.9		57.0
Jun 23	41			1			1	5	2	2	147.4	13.2		56.9
Jun 24	68			3			1	3	2	0	185.6	14.0		57.1
Jun 25	28			0			0	5	0	1	216.0	37.7		57.4
Jun 26	87			1			0	3	2	1	208.8	50.6		57.9
Jun 27	223			1			4	5	2	0	232.6	94.5		57.8
Jun 28	315			1			2	0	0	0	245.2	105.7		57.6
Jun 29		335		2			1	1	1	1	217.9	90.8		57.4
Jun 30		424		2			4	3	3	0	197.0	50.8		57.4
TOTAL	2,664	759		38			13	33	17	5				
AVG.	95	380		1			0	1	1	0	205.6	52.9		55.1

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	7,585	41
SUMMER	759	4
TOTAL	8,344	45

SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
13	99	67	5

Water turbidity for June is not available.

TABLE 189

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

WELLS PROJECT
JULY 2002

	FISH COUNTS									RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD		DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jul 1		670		3			4	5	4	0	241.0	118.3		57.3
Jul 2		481		4			21	3	2	0	250.7	139.5		57.1
Jul 3		828		9			42	2	2	0	249.3	121.2		
Jul 4		870		11			45	5	5	0	219.1	50.2		58.0
Jul 5		1,813		12			104	8	8	0	186.8	22.3		58.9
Jul 6		1,785		10			103	4	3	0	190.4	20.7		58.7
Jul 7		1,112		11			116	14	13	1	143.2	10.9		58.5
Jul 8		749		4			107	4	4	0	151.9	10.0		58.8
Jul 9		3,230		5			290	8	8	0	184.4	16.9		59.5
Jul 10		956		2			194	13	13	0	206.7	29.8		59.8
Jul 11		2,205		19			185	18	14	0	203.8	25.1		60.4
Jul 12		2,289		15			271	15	11	1	217.9	37.3		60.9
Jul 13		2,126		10			269	20	13	0	199.9	31.5		60.9
Jul 14		2,139		5			359	18	14	0	142.4	11.3		62.1
Jul 15		1,209		2			384	33	28	0	175.2	32.7		61.8
Jul 16		655		2			502	23	18	0	208.0	57.8		61.2
Jul 17		1,793		25			556	35	28	0	184.9	30.4		61.9
Jul 18		2,576		9			603	44	37	1	182.9	10.5		62.6
Jul 19		2,978		14			717	48	40	0	199.1	12.5		62.3
Jul 20		2,771		1			692	38	22	0	180.3	14.1		62.4
Jul 21		1,722		4			716	39	35	0	156.2	9.7		62.4
Jul 22		1,677		5			407	45	39	0	175.5	10.0		62.1
Jul 23		1,258		10			401	27	25	0	173.2	10.0		62.2
Jul 24		982		3			443	28	18	0	153.8	10.0		62.9
Jul 25		872		4			334	37	30	0	138.6	10.0		63.0
Jul 26		2,342		2			367	69	42	0	119.3	8.9		63.5
Jul 27		1,046		13			304	78	53	0	103.5	7.9		63.8
Jul 28		1,301		7			333	79	52	0	105.7	7.8		63.7
Jul 29		818		2			200	81	52	0	129.2	13.0		63.6
Jul 30		730		1			164	73	48	0	147.7	16.4		63.3
Jul 31		654		3			115	43	29	0	151.7	16.3		62.7
TOTAL		46,637		227			9,348	957	710	3				
AVG.		1504		7			302	31	23	0	176.5	29.8		61.2

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	7,585	41
SUMMER	47,396	231
TOTAL	54,981	272

SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
9,361	1,056	777	8

Water turbidity for July is not available.

TABLE 190

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

WELLS PROJECT
AUGUST 2002

FISH COUNTS

RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Aug 1		1,285		7	0		176	63	42	0	137.1	8.9		62.7
Aug 2		1,069		6	0		119	85	65	2	145.4	9.0		62.6
Aug 3		261		5	0		111	73	47	0	116.1	8.1		62.6
Aug 4		789		10	0		66	102	66	0	93.5	7.0		63.3
Aug 5		1,691		5	0		118	57	18	0	114.0	7.8		63.2
Aug 6		1,208		11	0		104	61	39	1	123.1	8.2		63.0
Aug 7		281		6	0		71	47	34	0	144.2	8.8		63.7
Aug 8		527		2	0		29	137	90	0	147.3	10.4		64.4
Aug 9		507		2	0		21	111	70	0	137.6	8.4		64.6
Aug 10		363		0	0		35	107	63	3	116.2	8.4		65.0
Aug 11		261		3	0		30	62	42	0	98.3	7.0		65.3
Aug 12		523		3	0		31	94	56	1	125.3	8.5		65.3
Aug 13		985		5	0		56	137	86	2	131.1	8.1		65.3
Aug 14		245		3	0		20	90	59	0	126.1	8.0		64.9
Aug 15		427		6	0		12	90	56	0	123.4	8.1		65.3
Aug 16		587		8	0		21	94	50	2	98.3	7.6		65.2
Aug 17		438		7	0		14	143	95	3	81.4	6.6		65.3
Aug 18		463		1	0		21	127	80	0	81.3	6.5		65.5
Aug 19		551		4	0		30	103	52	3	121.4	7.4		
Aug 20		290		6	0		16	32	18	5	117.6	7.6		65.2
Aug 21		167		7	1		14	90	52	1	116.8	7.8		65.6
Aug 22		356		5	0		14	120	65	3	131.5	8.2		65.9
Aug 23		192		10	0		7	147	104	3	119.5	7.8		66.1
Aug 24		432		18	0		12	174	97	3	96.8	7.4		66.2
Aug 25		402		6	0		11	137	90	3	73.5	5.5		66.5
Aug 26		566		13	0		10	202	108	4	116.3	4.0		66.5
Aug 27		160		12	0		3	129	81	9	109.7	0.0		66.5
Aug 28		173		10	0		11	221	121	1	118.3	0.0		66.5
Aug 29			191	11	0		4	219	131	6	107.4	0.0		66.5
Aug 30			233	3	0		4	215	113	7	111.0	0.0		66.5
Aug 31			191	5	0		3	161	89	4	89.5	0.0		66.5
TOTAL		15,199	615	200	1		1,194	3,630	2,179	66				
AVG.		543	205	6	0		39	117	70	2	115.1	6.5		65.1

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	7,585	41	1	10,555	4,686	2,956	74
SUMMER	62,595	412					
FALL	615	19					
TOTAL	70,795	472					

Water turbidity for August is not available.

TABLE 191

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

WELLS PROJECT
SEPTEMBER 2002
RIVER CONDITIONS

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Sep 1			134	4	0		5	154	86	3	46.1	0.0		66.9
Sep 2			111	3	1		4	123	78	10	64.9	0.0		67.0
Sep 3			185	14	1		4	93	62	9	92.5	0.0		66.9
Sep 4			113	4	0		1	57	37	9	68.1	0.0		66.9
Sep 5			221	15	0		1	158	103	18	69.9	0.0		66.4
Sep 6			173	10	2		1	149	93	17	67.4	0.0		66.0
Sep 7			181	11	0		0	141	88	11	54.8	0.0		65.6
Sep 8			203	5	0		1	118	61	14	52.5	0.0		65.5
Sep 9			65	2	0		1	117	58	9	86.8	0.0		65.2
Sep 10			108	4	0		0	143	68	10	73.5	0.0		65.7
Sep 11			138	4	0		3	102	64	6	62.6	0.0		65.9
Sep 12			123	3	0		3	159	100	11	78.8	0.0		66.1
Sep 13			148	14	2		1	90	48	13	77.8	0.0		65.9
Sep 14			97	5	1		0	99	62	8	46.4	0.0		66.0
Sep 15			91	10	2		1	85	55	6	46.7	0.0		66.2
Sep 16			87	3	0		3	127	82	6	80.3	0.0		66.1
Sep 17			36	6	0		0	85	53	6	71.0	0.0		
Sep 18			71	3	0		0	119	62	5	82.5	0.0		
Sep 19			32	2	0		0	104	59	6	99.5	2.9		
Sep 20			277	7	0		0	190	112	9	94.2	1.6		
Sep 21			81	2	0		0	155	100	4	81.0	0.5		
Sep 22			63	1	0		0	96	57	4	73.5	0.0		
Sep 23			93	6	0		0	117	64	2	100.2	0.0		
Sep 24			43	0	0		0	84	61	8	101.4	0.0		
Sep 25			22	3	0		0	82	47	6	97.0	0.0		
Sep 26			41	0	0		0	115	71	4	85.1	0.0		
Sep 27			75	3	1		0	120	72	7	61.6	0.0		
Sep 28			45	7	0		0	65	37	9	65.2	0.0		
Sep 29			52	7	0		0	71	48	4	43.3	0.0		
Sep 30			83	1	0		0	70	49	2	85.7	0.0		
TOTAL			3,192	159	10		29	3,388	2,037	236				
AVG.			106	5	0		1	113	68	8	73.7	0.2		66.1

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULTS	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	7,585	41	11	10,584	8,074	4,993	310
SUMMER	62,595	412					
FALL	3,807	178					
TOTAL	73,987	631					

Water turbidity for September is not available.

TABLE 192

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

WELLS PROJECT
OCTOBER 2002

FISH COUNTS / **RIVER CONDITIONS**

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
Oct 1			42	0	2		0	39	27	5	80.9	0.0		
Oct 2			28	0	1		0	37	20	4	79.5	0.0		
Oct 3			36	1	1		0	69	42	1	73.9	0.0		
Oct 4			37	2	0		0	69	42	6	61.9	0.0		
Oct 5			78	3	0		0	81	47	2	58.7	0.0		
Oct 6			70	2	1		0	72	49	3	63.4	0.0		
Oct 7			93	1	3		0	54	34	1	87.6	0.0		
Oct 8			74	0	3		2	73	43	0	104.1	0.0		
Oct 9			24	0	0		0	48	29	0	75.9	0.0		
Oct 10			42	0	4		0	60	45	1	75.7	0.0		
Oct 11			23	4	6		0	43	23	0	67.5	0.0		
Oct 12			43	0	2		0	57	37	2	63.6	0.0		
Oct 13			62	0	0		0	32	25	0	58.9	0.0		
Oct 14			80	0	2		0	77	52	0	88.3	0.0		
Oct 15			56	2	2		0	37	22	2	83.6	0.0		
Oct 16			128	1	9		0	25	11	0	71.6	0.0		
Oct 17			117	0	7		0	40	31	0	68.9	0.0		
Oct 18			96	3	2		0	37	24	0	63.7	0.0		
Oct 19			205	2	8		0	26	18	0	46.7	0.0		
Oct 20			132	3	5		0	25	17	0	52.7	0.0		
Oct 21			59	0	3		0	35	27	0	83.5	0.0		
Oct 22			49	4	5		0	34	22	0	84.4	0.0		
Oct 23			51	0	6		0	23	14	0	86.8	0.0		
Oct 24			96	1	4		0	19	11	0	102.8	0.0		
Oct 25			68	2	6		0	34	17	0	116.1	0.0		
Oct 26			76	3	2		0	25	12	0	86.0	0.0		
Oct 27			79	1	5		0	12	8	0	55.2	0.0		
Oct 28			57	2	3		0	9	5	0	90.1	0.0		
Oct 29			32	1	0		0	10	10	0	107.4	0.0		
Oct 30			46	5	1		0	15	5	0	111.5	0.0		
Oct 31			47	0	1		0	27	11	0	109.0	0.0		
TOTAL			2,126	43	94		2	1,244	780	27				
AVG.			69	1	3		0	40	25	1	79.4	0.0		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	7,585	41
SUMMER	62,595	412
FALL	5,933	221
TOTAL	76,113	674

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
105	0	10,586	9,318	5,773	337

Water temperature and turbidity are not available for October.

TABLE 193

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

WELLS PROJECT
NOVEMBER 2002

	FISH COUNTS										RIVER CONDITIONS			
	CHINOOK ADULT			CHINOOK	COHO	COHO			WILD		DISCH	SPILL	TURBIDITY	
DATE	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Nov 1			26	0	5	0		18	9	0	94.5	0.0		
Nov 2			32	1	8	0		14	6	0	89.5	0.0		
Nov 3			16	0	1	0		7	1	0	80.9	0.0		
Nov 4			53	2	1	0		16	9	0	109.3	0.0		
Nov 5			25	0	4	0		5	5	0	105.0	0.0		
Nov 6			22	1	0	0		7	4	0	114.1	0.0		
Nov 7			20	1	2	0		16	9	0	109.9	0.0		
Nov 8			28	0	1	0		11	9	1	101.5	0.0		
Nov 9			22	0	0	0		5	3	0	88.4	0.0		
Nov 10			9	3	1	0		8	6	0	65.7	0.0		
Nov 11			21	1	0	0		11	2	0	82.0	0.0		
Nov 12			6	0	3	0		5	2	0	89.9	0.0		
Nov 13			9	1	0	0		14	8	0	91.5	0.0		
Nov 14			10	0	0	0		6	5	0	94.4	0.0		
Nov 15			9	0	1	0		14	6	0	106.6	0.0		
Nov 16											93.9	0.0		
Nov 17											55.7	0.0		
Nov 18											102.5	0.0		
Nov 19											110.6	0.0		
Nov 20											98.3	0.0		
Nov 21											109.6	0.0		
Nov 22											115.0	0.0		
Nov 23											102.9	0.0		
Nov 24											89.6	0.0		
Nov 25											121.3	0.0		
Nov 26											114.5	0.0		
Nov 27											105.7	0.0		
Nov 28											68.8	0.0		
Nov 29											92.9	0.0		
Nov 30											93.5	0.0		
TOTALS			308	10	27	0		157	84	1				
AVG.			21	1	2	0		10	6	0	94.9	0.0		

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	LAMPREY
SPRING	7,585	41	132	0	10,586	9,475	5,857	338
SUMMER	62,595	412						
FALL	6,241	231						
TOTAL	76,421	684						

Water temperature and turbidity are not available for November.

TABLE 194

MONTHLY COUNT OF STEELHEAD
WELLS DAM: 1976 - 2002

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1976					44	37	56	530	1964	1856	156		4643
1977					37	22	38	1,034	818	2,849	526		5,324
1978					177	32	12	399	432	528			1,580
1979					72	2	22	1,212	938	1,040	355		3,641
1980					202	24	15	382	1,032	1,358	413		3,426
1981					139	23	107	212	1,702	1,401	513		4,097
1982					149	7	67	814	2,428	3,733	730		7,928
1983					26	2	145	1,891	10,728	5,294	1,327		19,413
1984					153	32	766	5,024	6,545	3,298	778		16,596
1985					220	401	2,675	3,387	9,822	2,821	541		19,867
1986					65	102	1,515	4,994	3,833	2,391	403		13,303
1987					13	29	413	1,897	1,668	1,236	237		5,493
1988					85	103	357	1,273	1,797	785			4,400
1989					43	11	351	1,168	2,223	804			4,600
1990					20	16	283	1,093	1,630	702	104		3,848
1991					14	8	361	2,054	3,078	1,923	313		7,751
1992					86	168	892	1,448	2,946	1,346	181		7,067
1993					48	10	240	706	883	490	23		2,400
1994					7	8	240	442	670	695	121		2,183
1995					5	6	77	160	509	188	**		945
1996					11	7	79	764	2,099	921	246		4,127
1997					38	6	82	868	1,758	1,199	156		4,107
1998					5	3	161	363	1,031	995	110		2,668
1999					13	33	106	903	1,941	446	62		3,504
2000					23	6	309	1,338	3,661	857	86		6,280
2001					30	34	947	5,404	8,326	3,339	403		18,483
2002					66	33	957	3,630	3,388	1,244	157		9,475
TOTAL					1,791	1,165	11,273	43,390	77,850	43,739	7,941		187,149
10-Year Average					30	29	372	1,457	2,474	1,065	155		5,567

****Wells Dam did not count in November of 1995.**

ADDENDUM

Corrections to previous reports

Report year	Table	Corrections
1999	**32, 33, and 34**	**See pages 241-243**

TABLE 32

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **Video Counts @ Bonnevi**

OCTOBER 1999

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
1			5	-1	9	-1	0	1	23	0
2			0	3	-1	0	0	2	23	0
3			8	0	1	0	0	1	18	0
4			1	0	2	0	0	2	17	0
5			13	0	6	4	0	5	24	0
6			8	0	12	0	0	0	20	0
7			1	0	6	2	0	2	37	0
8			-6	0	2	-1	0	0	4	0
9			9	0	10	1	0	-2	0	0
10			15	0	11	-3	0	3	-3	0
11			1	0	2	0	0	1	-2	0
12			5	0	3	-1	0	-1	3	0
13			6	0	6	0	0	2	9	0
14			5	0	16	0	0	-2	-6	0
15			7	0	29	1	0	1	3	0
16			4	0	12	0	0	-1	0	0
17			6	0	11	3	0	0	2	0
18			0	0	1	3	0	0	0	0
19			0	0	5	0	0	-1	1	0
20			-2	0	14	3	0	-2	-8	0
21			1	0	1	-2	0	2	-2	0
22			0	0	0	0	0	0	4	0
23			5	0	7	-2	0	0	1	0
24			9	0	5	0	0	0	-2	0
25			19	0	2	-1	0	1	1	0
26			8	0	19	0	0	0	-2	0
27			20	0	10	0	0	0	5	0
28			10	0	20	3	0	4	2	0
29			3	0	14	-1	0	-2	-5	0
30			0	0	0	4	0	-9	-14	0
			8	0	4	0	0	-3	-8	0
TOTAL			169	2	239	12	0	4	145	0
AVG			5	0	8			0	5	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	733	7
SUMMER	756	4
FALL	2,642	69
TOTAL	4,131	80

COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
601	1	427	796	4,800	0

Video counting took place between 2000 and 0400 hours PST.

TABLE 33

U.S. ARMY ENGINEER DISTRICT, PORTLAND — **Video Counts @ Bonneville**

NOVEMBER 1999

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
1			20	2	9	1		7	36	0
2			22	2	8	1		11	32	0
3			18	-1	7	0		9	24	0
4			20	0	8	-1		2	33	1
5			28	3	4	1		8	42	2
6			24	0	1	0		-2	12	2
7			11	0	7	0		-1	15	1
8			20	3	7	0		-1	20	0
9			23	0	2	0		1	12	1
10			5	0	2	0		2	21	1
11			11	0	5	0		0	34	8
12			1	1	4	0		-1	15	0
13			6	0	6	0		1	28	3
14			7	0	4	0		0	23	0
15			6	0	2	0		1	11	3
16			8	1	8	0		0	14	5
17			1	0	0	0		5	14	3
18			9	3	3	1		4	29	4
19			7	0	1	0		3	26	7
20			8	0	1	0		1	38	9
21			10	0	0	0		2	31	3
22			4	0	0	0		1	24	5
23			0	0	0	0		0	9	11
24			1	0	0	0		1	39	4
25			0	0	10	0		-1	50	11
26			1	0	0	0		0	17	0
27			1	0	0	0		0	18	0
28			0	0	1	0		0	49	0
29			3	0	0	0		5	71	4
30			2	0	0	0		5	39	0
TOTAL			277	14	100	3		63	826	88
AVG			9		3			2	28	3

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
SPRING	733	7	701	4	427	859	5,626	88
SUMMER	756	4						
FALL	2,919	83						
TOTAL	4,408	94						

Video counting took place between 2000 and 0400 hours PST 1 through 15 Nov and 24 hours per day 16 through 30 Nov.

TABLE 34

U.S. ARMY ENGINEER DISTRICT, PORTLAND

Video Counts @ Bonneville

DECEMBER 1999

DATE	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
1			0		0			12	60	2
2			2		0			14	79	0
3			1		0			9	66	0
4			0		0			2	57	0
5			0		0			7	53	0
6			0		0			2	31	2
7			0		-1			8	25	0
8			0		0			1	8	0
9			0		0			1	12	0
10			0		0			7	24	0
11			0		0			5	14	0
12			0		0			-1	16	0
13			0		0			5	10	0
14			0		0			9	25	0
15			0		0			0	16	0
16			0		0			7	12	0
17			0		0			4	24	0
18			0		0			2	10	0
19			0		0			-1	12	0
20			0		0			7	35	0
21			0		0			4	24	0
22			0		0			5	20	0
23			0		0			8	35	0
24			0		0			4	34	0
25			0		0			10	25	0
26			0		10			5	36	0
27			0		0			13	46	0
28			0		0			10	41	0
29			0		0			10	77	0
30			0		0			15	65	0
31			0		0			17	49	0
TOTAL			3		9			201	1,041	4
AVG									34	

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK
SPRING	733	7
SUMMER	756	4
FALL	2,922	83
TOTAL	4,411	94

COHO ADULT	COHO JACK	SOCKEYE	WILD STEELHEAD	STEELHEAD	CHUM
710	4	427	1,060	6,667	92

Video counts were made 24 hours per day.