



US Army Corps  
of Engineers®  
Portland District  
Walla Walla District

# Annual Fish Passage Report 2013

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**Columbia and Snake River Projects**

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**2013**

**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***

**NORTHWESTERN DIVISION  
U.S. ARMY CORPS OF ENGINEERS**

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

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### *Columbia River* **Corps of Engineers Projects**

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# Plate 1 Columbia and Snake River Projects

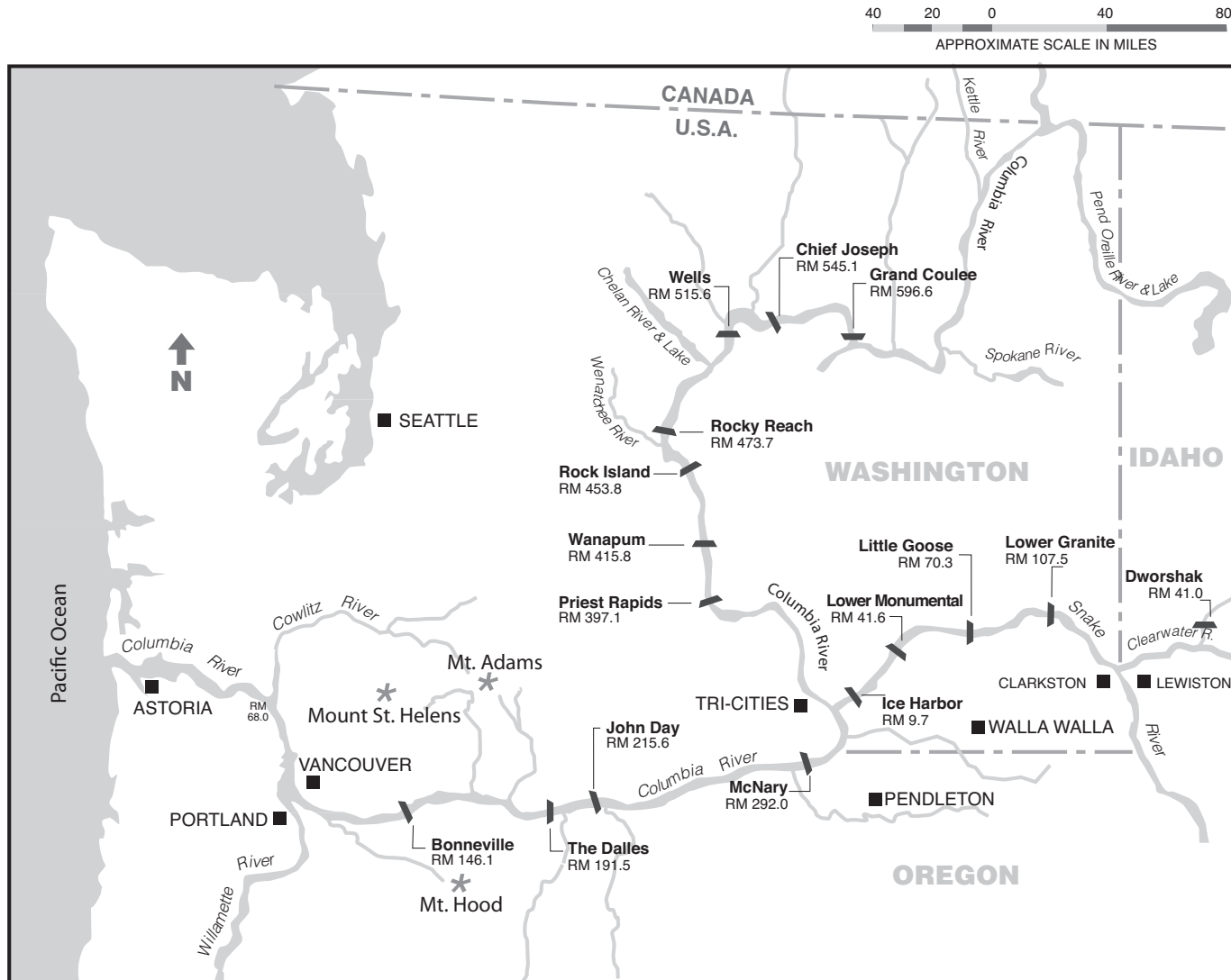


TABLE 1

## FISH ESCAPEMENT AT MAIN STEM DAMS ON THE COLUMBIA AND SNAKE RIVERS: 2009-2013

SPECIES	BONNEVILLE	THE DALLES	JOHN DAY	MCNARY	ICE HARBOR	LOWER MONUMENTAL	LITTLE GOOSE	LOWER GRANITE
2009								
CHINOOK*	698,993	525,837	451,974	358,505	180,349	183,451	163,562	168,032
Spring*	181,156	147,554	126,539	113,741	83,658	86,940	76,973	80,731
Summer*	119,352	107,794	99,136	78,319	33,256	35,086	31,547	30,849
Fall*	398,485	270,489	226,299	166,445	63,435	61,425	55,042	56,452
Jacks	218,841	175,120	164,110	126,411	76,234	70,983	67,460	88,716
STEELHEAD	603,264	515,111	581,645	408,157	328,105	317,275	305,436	323,527
SOCKEYE	177,823	155,591	157,402	121,672	867	1,162	1,061	1,219
COHO*	234,347	77,492	71,739	37,270	5,436	5,617	5,239	4,912
Adults	224,597	68,940	64,893	33,358	4,947	4,583	4,548	4,629
Jacks	9,750	8,552	6,846	3,912	489	1,034	691	283
SHAD	1,373,738	1,641,362	**	486,725	79,496	**	**	3,457
LAMPREY	8,622	2,318	2,044	676	57	58	34	12
2010								
CHINOOK*	902,121	618,699	534,247	463,000	199,092	200,817	189,451	189,394
Spring*	256,996	201,385	191,240	163,257	107,235	103,232	98,446	100,612
Summer*	113,207	93,820	83,430	74,589	33,086	39,459	36,378	34,072
Fall*	531,918	323,494	259,577	225,154	58,771	58,126	54,627	54,710
Jacks	92,609	75,458	69,502	44,681	21,780	25,668	20,912	24,598
STEELHEAD	412,760	333,033	283,812	262,513	206,959	213,811	193,891	206,333
SOCKEYE	386,524	325,132	324,128	278,799	1,302	1,652	1,658	2,201
COHO*	127,142	31,374	23,269	15,089	1,735	2,003	2,008	1,902
Adults	120,223	29,091	21,506	13,673	1,521	1,707	1,727	1,509
Jacks	6,919	2,283	1,763	1,416	214	296	281	393
SHAD	1,042,471	1,241,769	**	276,673	70,853	**	**	3,279
LAMPREY	6,237	1,726	1,662	833	114	44	29	14
2011								
CHINOOK*	862,920	591,869	497,771	440,427	177,586	178,281	197,424	179,498
Spring*	218,042	164,310	143,224	132,995	87,467	87,926	90,813	81,405
Summer*	159,730	120,968	110,919	102,786	39,136	44,906	60,425	53,189
Fall*	485,148	306,591	243,628	204,646	50,983	45,449	46,186	44,904
Jacks	185,968	151,007	138,591	102,370	50,117	49,679	58,970	58,141
STEELHEAD	366,554	299,007	257,345	246,069	198,805	187,272	175,328	183,522
SOCKEYE	185,796	138,293	143,605	113,952	1,141	1,395	1,436	1,502
COHO*	149,710	76,753	65,668	44,304	6,727	4,829	4,851	5,348
Adults	145,138	72,120	62,795	42,220	5,914	4,579	4,445	5,057
Jacks	4,572	4,633	2,873	2,084	813	250	406	291
SHAD	948,070	**	**	224,905	37,409	**	**	174
LAMPREY	18,305	4,997	3,566	868	269	99	80	48
2012								
CHINOOK*	733,762	537,804	444,136	403,809	150,625	144,661	142,119	141,449
Spring*	165,666	124,244	114,410	107,550	74,862	71,499	71,696	69,891
Summer*	93,898	79,614	71,229	69,532	15,663	16,761	16,361	14,880
Fall*	474,198	333,946	258,497	226,727	60,100	56,401	54,062	56,678
Jacks	143,941	125,599	108,693	63,146	25,940	27,385	24,281	27,232
STEELHEAD	233,002	197,839	162,083	146,753	105,269	101,523	98,278	110,675
SOCKEYE	515,673	410,099	394,166	364,147	453	486	453	470
COHO*	59,921	33,898	33,859	18,201	2,985	2,501	2,662	2,635
Adults	54,882	31,037	30,216	16,776	2,653	2,216	2,402	2,433
Jacks	5,039	2,861	3,643	1,425	332	285	260	202
SHAD	2,432,394	**	**	675,421	175,936	**	**	7,413
LAMPREY	29,223	6,241	4,587	970	484	135	88	48
2013								
CHINOOK*	1,300,360	898,418	707,545	674,356	151,836	151,421	149,442	149,926
Spring*	117,118	101,507	85,948	74,449	56,620	55,523	54,515	54,971
Summer*	119,283	106,389	94,962	90,549	18,233	19,493	17,752	15,995
Fall*	1,063,959	690,522	526,635	509,358	76,983	76,405	77,175	78,960
Jacks	171,020	141,021	137,790	91,454	44,065	49,787	49,060	49,531
STEELHEAD	232,660	190,671	150,955	144,130	109,293	106,649	95,871	107,805
SOCKEYE	185,505	161,896	155,498	134,202	895	1,014	996	757
COHO*	66,336	26,682	17,528	13,880	2,405	2,325	2,136	2,454
Adults	59,239	24,110	16,163	12,127	2,026	2,005	1,727	2,096
Jacks	7,097	2,572	1,365	1,753	379	320	409	358
SHAD	3,751,375	**	**	1,246,494	193,525	**	**	1,892
LAMPREY	23,968	8,737	6,673	1,570	328	108	33	19

## 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	1 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 - 31 OCT	14 AUG - 31 OCT	16 AUG - 31 OCT	18 AUG - 15 DEC

\*Includes Jack Counts.

TABLE 2

## FISH ESCAPEMENT AT MID COLUMBIA RIVER DAMS: 2009 - 2013

SPECIES	PRIEST RAPIDS	ROCK ISLAND	ROCKY REACH	WELLS
<b>2009</b>				
CHINOOK*	114,137	87,420	59,348	44,027
Spring*	16,379	24,027	8,707	8,174
Summer*	51,534	50,263	41,298	29,525
Fall*	46,224	13,130	9,343	6,328
Jacks	10,426	17,449	8,951	7,779
STEELHEAD	40,093	37,800	29,547	25,443
SOCKEYE	153,466	162,830	133,106	134,937
COHO*	11,293	21,905	5,937	3,014
Adults	10,884	19,805	5,611	2,985
Jacks	409	2,100	326	29
SHAD	295	**	**	**
LAMPREY	2,714	375	278	9
<b>2010</b>				
CHINOOK*	124,443	96,670	55,883	41,463
Spring*	31,471	33,063	9,489	8,257
Summer*	50,482	51,698	37,239	28,950
Fall*	42,490	11,909	9,155	4,256
Jacks	6,025	8,315	3,860	3,669
STEELHEAD	26,476	22,179	17,871	12,929
SOCKEYE	357,058	338,310	295,638	291,766
COHO*	2,655	7,695	2,691	1,234
Adults	2,389	6,209	2,181	1,224
Jacks	266	1,486	510	10
SHAD	1,815	**	**	**
LAMPREY	1,114	318	268	2
<b>2011</b>				
CHINOOK*	116,914	94,490	63,711	51,745
Spring*	21,276	23,916	11,304	8,122
Summer*	55,088	60,843	49,841	38,286
Fall*	40,550	9,731	2,566	5,337
Jacks	15,767	28,116	15,338	14,882
STEELHEAD	20,757	19,024	15,280	12,069
SOCKEYE	145,070	146,111	132,096	111,508
COHO*	23,392	31,045	7,951	5,796
Adults	22,098	30,341	7,812	5,784
Jacks	1,294	704	139	12
SHAD	271	**	**	**
LAMPREY	3,868	886	618	1
<b>2012</b>				
CHINOOK*	138,487	92,074	68,059	52,846
Spring*	20,510	21,889	7,011	6,011
Summer*	52,661	57,485	50,748	41,859
Fall*	65,316	12,700	10,300	4,976
Jacks	13,500	9,661	7,457	5,388
STEELHEAD	17,230	15,454	13,100	9,778
SOCKEYE	408,257	410,620	363,314	326,107
COHO*	9,957	8,277	2,440	2,042
Adults	8,380	8,115	2,397	2,035
Jacks	1,577	162	43	7
SHAD	1,939	**	**	**
LAMPREY	4,025	1,048	805	3
<b>2013</b>				
CHINOOK*	371,726	158,253	129,190	82,762
Spring*	15,023	22,010	10,717	10,113
Summer*	74,257	75,613	67,639	53,715
Fall*	282,446	60,630	50,834	18,934
Jacks	22,994	19,138	14,254	8,824
STEELHEAD	15,011	11,501	9,204	7,222
SOCKEYE	163,078	159,219	131,660	129,993
COHO*	4,021	2,613	534	577
Adults	3,543	2,361	486	568
Jacks	478	252	48	9
SHAD	21,586	**	**	**
LAMPREY	5,968	2,157	1,626	21

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

SPRING	15 APR - 13 JUN	14 APR - 23 JUN	14 APR - 23 JUN	1 MAY - 28 JUN
SUMMER	14 JUN 13 AUG	24 JUN - 1 SEP	24 JUN - 1 SEP	29 JUN - 28 AUG
FALL	14 AUG - 15 NOV	2 SEP - 15 NOV	2 SEP - 15 NOV	29 AUG - 15 NOV

\*Includes Jack counts.

TABLE 3 and TABLE 4

**STEELHEAD OVER COLUMBIA AND SNAKE RIVER DAMS 1953-2013**

**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 over wintering behavior of summer steelhead, especially Snake River stocks, which often have sizeable proportions of the run remaining below mainstem projects during the winter months. Migration 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 - 2013  
 BY RUN-YEAR (JUNE 1 - MAY 31)

RUN-YEAR	THE DALLES	JOHN DAY	M 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	298,042	270,031	269,281
2002-03	389,119	393,339	292,034	213,944	230,466	215,586	222,050
2003-04	281,586	298,452	242,677	189,143	181,005	170,582	172,487
2004-05	240,134	232,656	210,249	169,797	154,386	146,810	151,634
2005-06	244,295	231,858	224,369	158,099	155,682	145,202	158,511
2006-07	250,603	233,841	210,672	127,216	135,029	124,052	148,982
2007-08	244,996	234,667	215,873	154,512	155,817	135,730	154,534
2008-09	277,551	276,971	221,319	172,330	186,748	170,865	178,491
2009-10	516,214	581,067	408,091	328,107	316,665	303,183	323,378
2010-11	332,002	284,018	262,773	206,948	213,580	196,969	208,713
2011-12	299,396	256,475	248,202	198,131	187,003	173,052	180,285
2012-13	200,660	161,100	153,728	106,738	100,419	96,572	109,187
<b>Total</b>	<b>10,146,136</b>	<b>7,947,994</b>	<b>7,887,198</b>	<b>5,263,971</b>	<b>4,494,987</b>	<b>3,388,809</b>	<b>4,218,595</b>
<b>10-Year Average</b>	<b>288,744</b>	<b>279,111</b>	<b>239,795</b>	<b>181,102</b>	<b>178,633</b>	<b>166,302</b>	<b>178,620</b>

\*Partial year

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

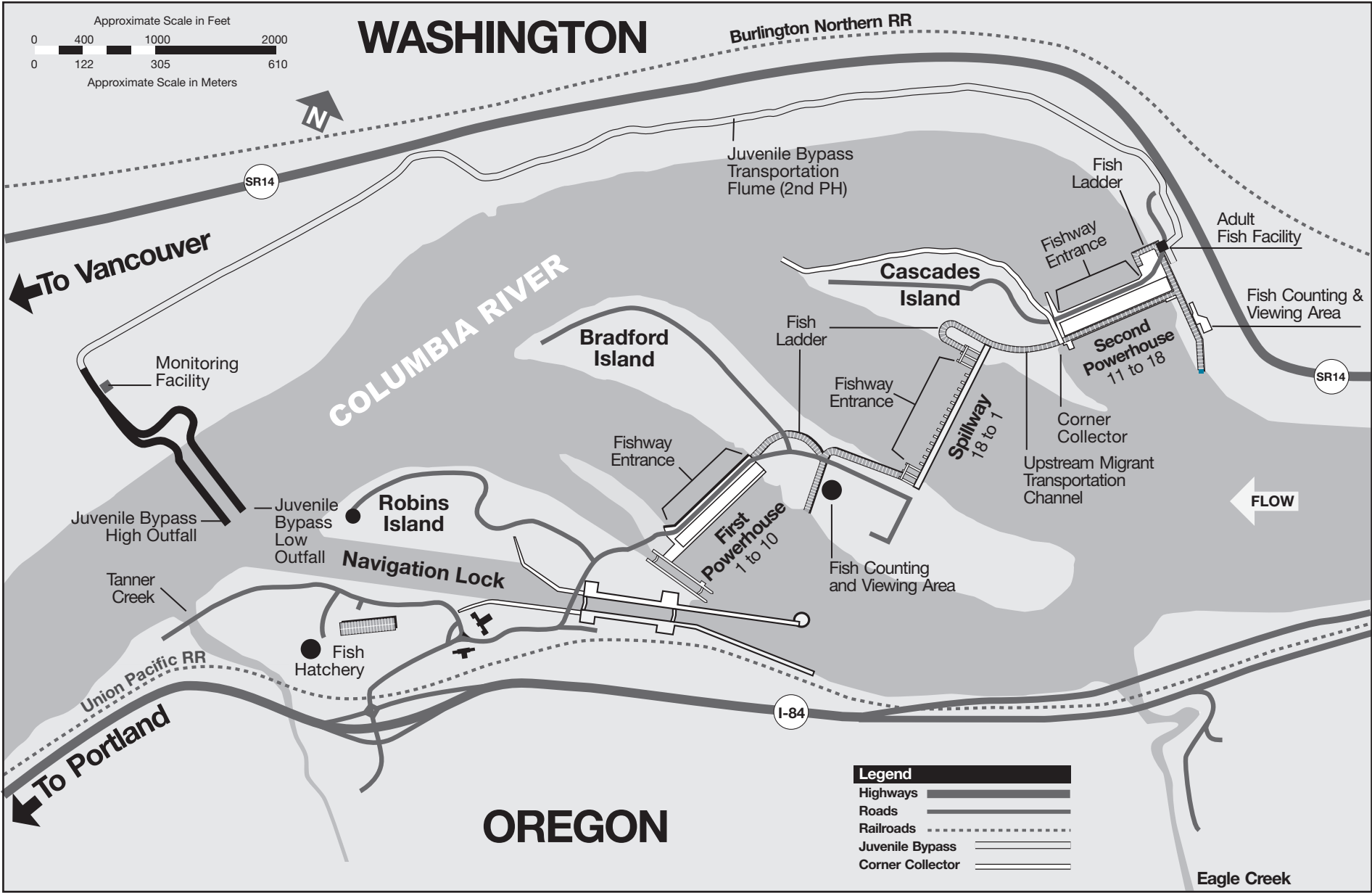
Note: Extended video counts from participating projects included for 1996 - 2008, 2012-13.

TABLE 4  
 STEELHEAD OVER MID COLUMBIA RIVER DAMS 1959 - 2013  
 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
1985-86	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	13,596	12,382	7,429	7,029
1993-94	5,405	4,689	2,738	2,359
1994-95	6,710	5,633	2,825	2,181
1995-96	4,357	4,168	1,777	951
1996-97	8,323	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	30,102	28,614	22,114	18,519
2002-03	15,867	15,243	11,718	9,430
2003-04	17,729	17,633	13,919	10,016
2004-05	18,655	19,448	14,624	9,306
2005-06	12,502	12,413	9,498	7,168
2006-07	10,415	9,371	8,141	6,691
2007-08	15,257	13,516	10,487	7,600
2008-09	16,658	16,119	13,798	9,733
2009-10	40,121	37,821	29,481	25,468
2010-11	26,431	22,129	18,091	12,957
2011-12	20,806	19,123	15,418	12,047
2012-13	17,192	15,387	12,529	9,741
<b>Total</b>	<b>670,363</b>	<b>466,958</b>	<b>342,798</b>	<b>297,897</b>
<b>10-Year Average</b>	<b>19,577</b>	<b>18,296</b>	<b>14,599</b>	<b>11,073</b>

\*Partial year

# Plate 2 Bonneville Lock and Dam



# BONNEVILLE DAM

## FISH COUNTING SCHEDULE

Mar 01 – Mar 31      Video 0400–2000 hours (PST)  
 Apr 01 – Oct 31      Visual 0500–2100 hours (DST)  
 Jun 15 – Sep 30      Night Video 2100–0500 hours (DST)  
 Nov 01 – Feb 28      Video 0400–2000 hours (PST)

1. In 2013, daylight saving time (DST) is in effect from March 10–November 3, and hours are adjusted forward one hour from Pacific Standard Time (PST). DST = PST+1.

## FISH FACILITIES OPERATION SCHEDULE

Fish Facility	OOS Date 2012	In Service Date 2013	OOS Date 2013	Reason for Outage
BI Lamprey Passage Structure	26 Nov 12	17 Apr 13	16 Oct 13	Winter maintenance
CI Lamprey Passage Structure	20 Sep 12	24 Jun 13	04 Oct 13	Winter maintenance; NOAA terminated early due to low passage.
WS Lamprey Passage Structure	11 Nov 12	06 May 13	16 Oct 13	Winter maintenance
Bradford Island Ladder	N/A	N/A	03 Dec 13	Winter maintenance
A-branch Ladder	N/A	N/A	03 Dec 13	Winter maintenance
B-branch Ladder	25 Sep 12	20 Feb 13	03 Dec 13	Winter maintenance
Cascades Island ladder	N/A	N/A	N/A	
Cascades Island Exit		13 Nov 12	12 Feb 13	Winter maintenance
UMT	13 Nov 12	12 Feb 13	N/A	Winter maintenance
WS Ladder	13 Nov 12	13 Mar 13	N/A	Winter maintenance
DSM 2	11 Nov 12	06 Mar 13	TBD: Jan 2014	Winter maintenance; closed 11 Oct – 31 Oct 2013 for NDE LFS construction.
B2CC	16 Sep 12	01 Mar 13	01 Sep 13	Reopened nightly from 11 Oct to 30 Oct 2013 due to NDE LFS construction; closed for winter.
AFF	07 Nov 12	19 Mar 13	28 Oct 13	
JMF	31 Oct 12	12 Mar 13	12 Oct 13	Early 2013 outage for NDE LFS construction; system in bypass for winter.



## **FISHWAY ACTIVITIES**

The following are fishway modifications for the 2012/2013 passage year:

- ITS gate removed for repairs, gate slot plated for fish passage during removal.
- Spillway erosion hole and ogee repair.
- Lamprey passage structure pumps relocated from forebay location to within the AWS to minimize debris buildup.
- Lamprey passage system extension into the forebay and conversion to volitional passage system.
- Modifications to the AFF to improve water velocity and sampling conditions.
- Replaced PIT antenna in WA Shore ladder serpentine section.
- Forebay dredging in front of the Fish Unit intakes.
- Repairs to the gates and guides on B-valves 3 and 4.
- Gantry 7 rehabilitation.
- Turbulence Reduction Device (TRD) testing in Unit 14 A slot.
- Alarm installed on the 2-way rotating gate at the SMF.
- Lamprey refuge boxes installed in the WA Shore ladder, near the UMT confluence.
- Construction of Lamprey Flume System and associated LPS at NDE on the north monolith.
- Picket lead modifications to insure 1½ inch spacing between leads and sill plate and prevent lead bending. Spacers installed.

## ***FISH REMOVAL***

Fish passage facilities and turbine units are taken out of service and dewatered to allow for inspection, preventative maintenance, repairs, and modifications. As facilities and turbine units are dewatered, project biologists, outside agency personnel, and other project personnel follow procedures outlined in the Fish Passage Plan and detailed in the Fish Salvage Plan to minimize impacts on fish. Fish recovered are typically released into the forebay above the new navigation lock. Salvaged sturgeon and juvenile salmonids, however, are released below the dam at Hamilton Island. The following is a summary of the number of fish that were removed during facility and turbine unit dewaterings. All fish were recovered in good condition unless otherwise noted.

Navigation Lock (03/02): 1 sculpin.

Unit 8 draft tube (04/02): 1 yearling Chinook Salmon.

Unit 16 draft tube (04/30): 20 juvenile salmonids.

Unit 8 tail logs (05/16): 1 Pacific Lamprey, 2 juvenile salmonids, and 50 sculpins.

Unit 3 head gates (05/28): 40 juvenile salmonids.

Unit 3 head gates (06/12): 15 juvenile salmonids.

AFF Recover Pool (06/18): ~1,500 American Shad & 63 Pacific Lamprey.

Between Cascade Island picket leads (06/26): ~50 Sockeye Salmon & ~30 Pacific Lamprey.

Unit 16 tail logs (06/26): 5 Pacific Lamprey & ~30 sculpin.

Unit 16 tail logs (07/18): 2 Pacific Lamprey & 12 sculpins.

Unit 13 draft tube (07/23): 10 White Sturgeon, 1 Bullhead, & 1 Pacific Lamprey.

Unit 1 draft tube (07/24): 8 White Sturgeon & 3 Pacific Lamprey.

Unit 17 draft tube (10/22): 33 White Sturgeon & 2 Channel Catfish.

Bradford Island Proper (12/03): 16 Pacific lamprey, 10 Steelhead Trout, 4 Chinook Salmon, 25 White Sturgeon, 2 American Shad, & 170 Peamouth.

B-Branch (12/04): 2 Steelhead Trout, 1 Chinook Salmon, & ~200 White Sturgeon.

A-Branch (12/04): 1 Chinook Salmon, 4 Steelhead Trout, & ~50 White Sturgeon.

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TABLE 5

MONTHLY TOTALS OF SALMONID, SHAD, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER BONNEVILLE DAM.  
2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*		6	282	30,709	86,168	79,375	39,908	233,202	752,978	74,597	3,452	34	1,300,711
STEELHEAD	208	224	1,234	964	764	4,010	57,616	118,382	42,232	7,356	797	260	234,047
SOCKEYE					60	114,293	70,593	554	5				185,505
COHO*								5,871	31,618	25,345	3,758	166	66,758
CHUM									1	5	154	7	167
PINK						1	5	38	451	13			508
<b>TOTAL</b>	<b>208</b>	<b>230</b>	<b>1,516</b>	<b>31,673</b>	<b>86,992</b>	<b>197,679</b>	<b>168,122</b>	<b>358,047</b>	<b>827,285</b>	<b>107,316</b>	<b>8,161</b>	<b>467</b>	<b>1,787,696</b>
SHAD					381,393	3,298,348	68,417	3,217					3,751,375
LAMPREY					1,294	6,329	11,095	3,795	1,352	102	1	3	23,971
STURGEON							1	1	6	42	2		52
BULL TROUT													0

\*Jacks included

note: Counts were taken from 0400-2000 PST Jan 1 - Dec 31. Visual counting occurred Apr 1 - Oct 31.

Video counting occurred Jan 1 - Mar 31 and Nov 1 - Dec 31.

TABLE 6  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT - FISH COUNTS													JANUARY 2013					
DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	unclipped				SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TEMP DEG F
	SPRING	SUMMER	FALL					STEELHEAD	STEELHEAD	PINK	CHUM							
Jan 1							9		2					187.1	1.1	7.0	43.0	
Jan 2							8		2					221.3	1.1	6.0	41.0	
Jan 3							11		7					190.5	1.1	7.0	41.0	
Jan 4							10		3					185.9	1.1	7.0	41.0	
Jan 5							10		6					183.1	1.1	7.0	41.0	
Jan 6							7		0					167.9	1.1	7.0	41.0	
Jan 7							19		4					160.9	1.1	7.0	41.0	
Jan 8							24		6					175.3	1.1	7.0	41.0	
Jan 9							13		4					209.3	1.1	7.0	41.0	
Jan 10							12		5					190.1	1.1	7.0	41.0	
Jan 11							12		6					188.7	1.1	7.0	41.0	
Jan 12							17		7					195.6	1.1	7.0	41.0	
Jan 13							9		2					191.9	1.1	7.0	41.0	
Jan 14							7		3					187.4	1.1	7.0	40.0	
Jan 15							6		3					199.8	1.1	7.0	40.0	
Jan 16							1		0					202.8	1.1	7.0	39.0	
Jan 17							2		0					206.2	1.1	6.0	40.0	
Jan 18							2		1					184.0	1.1	6.5	40.0	
Jan 19							8		4					169.0	1.1	6.7	39.0	
Jan 20							2		2					172.0	1.1	7.0	39.0	
Jan 21							3		1					188.4	1.1	7.0	39.0	
Jan 22							0		0					191.6	1.1	7.0	39.0	
Jan 23							0		0					192.4	1.1	6.5	39.0	
Jan 24							1		1					168.7	1.1	7.0	37.0	
Jan 25							3		0					181.8	1.1	7.0	38.0	
Jan 26							2		0					155.2	1.1	7.0	38.0	
Jan 27							0		0					146.5	1.1	7.0	38.0	
Jan 28							1		0					144.0	1.1	7.0	38.0	
Jan 29							2		0					140.1	1.1	6.5	38.0	
Jan 30							7		1					147.4	1.1	7.0	37.0	
Jan 31							0		0					174.3	1.1	7.0	38.0	
<b>TOTAL</b>							<b>208</b>		<b>70</b>									
<b>AVG</b>							<b>7</b>		<b>2</b>					<b>180.6</b>	<b>1.1</b>	<b>6.9</b>	<b>39.7</b>	

Note: January 1 to March 31 counts were from video tape. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST.

TABLE 7  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT - FISH COUNTS

FEBRUARY 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	unclipped						DISCH	SPILL	TURBIDITY				
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
Feb 1	0							13	5					146.2	1.1	7.0	38.0	
Feb 2	0							0	-1					147.3	1.1	7.0	38.0	
Feb 3	0							5	2					146.7	1.0	7.0	39.0	
Feb 4	0							0	-1					149.5	14.6	7.0	39.0	
Feb 5	0							-1	0					148.4	17.2	7.0	39.0	
Feb 6	0							0	1					148.3	25.3	7.0	40.0	
Feb 7	0							7	1					146.8	12.8	7.0	39.0	
Feb 8	0							4	2					146.5	13.7	7.0	40.0	
Feb 9	0							6	2					146.9	12.3	6.0	40.0	
Feb 10	0							8	2					147.5	12.5	5.5	40.0	
Feb 11	0							2	1					150.8	15.4	7.0	40.0	
Feb 12	0							9	4					150.9	16.5	7.0	40.0	
Feb 13	1							9	3					150.3	15.1	7.0	40.0	
Feb 14	0							8	2					150.3	15.8	6.0	40.0	
Feb 15	0							10	3					154.5	18.8	7.0	40.0	
Feb 16	0							3	0					153.3	13.7	7.0	41.0	
Feb 17	0							3	0					154.3	18.3	7.0	40.0	
Feb 18	0							3	2					154.4	23.3	7.0	40.0	
Feb 19	0							4	2					155.3	20.6	7.0	41.0	
Feb 20	1							4	0					151.4	17.5	7.0	41.0	
Feb 21	0							7	2					148.2	17.5	7.0	41.0	
Feb 22	0							32	5					140.2	11.7	7.0	41.0	
Feb 23	0							7	2					136.4	8.5	7.0	40.0	
Feb 24	1							8	1					134.6	8.2	7.0	41.0	
Feb 25	0							4	1					127.9	1.1	7.0	40.0	
Feb 26	0							11	0					129.0	11.4	7.0	40.0	
Feb 27	3							25	7					129.3	6.4	7.0	40.0	
Feb 28	0							33	7					128.8	7.0	6.0	41.0	
<b>TOTAL</b>	<b>6</b>							<b>224</b>	<b>55</b>									
AVG	0							8	2					145.5	12.8	6.8	40.0	

Note: January 1 to March 31 counts were from video tape. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST.

TABLE 8  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

**BONNEVILLE PROJECT - FISH COUNTS**

**MARCH 2013**

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	unclipped		PINK CHUM	SHAD	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL					STEELHEAD	STEELHEAD					KCFS	KCFS	SECCHI	DEG F
Mar 1	2			0				88	24					126.0	2.9	7.0	41.0
Mar 2	1			0				30	5					123.7	2.5	7.0	41.0
Mar 3	7			0				23	9					124.6	2.1	7.0	42.0
Mar 4	-1			0				37	11					131.1	6.9	7.0	42.0
Mar 5	1			0				17	5					131.7	1.3	7.0	42.0
Mar 6	2			0				10	2					130.6	1.3	3.0	42.0
Mar 7	1			0				13	3					131.1	2.8	7.0	41.0
Mar 8	1			0				12	-1					131.1	10.7	7.0	42.0
Mar 9	3			1				10	2					130.0	11.0	7.0	42.0
Mar 10	6			0				16	6					130.8	1.3	7.0	42.0
Mar 11	2			0				22	4					129.9	1.3	7.0	42.0
Mar 12	6			0				34	8					128.9	1.2	7.0	42.0
Mar 13	3			0				38	12					127.7	1.2	7.0	42.0
Mar 14	6			0				40	14					125.8	1.3	7.0	42.0
Mar 15	22			0				79	18					126.5	1.2	7.0	43.0
Mar 16	5			0				24	4					127.2	1.2	7.0	45.0
Mar 17	7			0				47	14					128.1	1.2	7.0	45.0
Mar 18	7			0				29	10					131.2	1.2	7.0	45.0
Mar 19	8			0				29	7					137.8	1.2	7.0	44.0
Mar 20	4			0				23	10					129.7	1.2	6.0	44.0
Mar 21	12			0				111	30					128.8	1.2	7.0	44.0
Mar 22	12			0				53	25					138.2	1.3	6.0	44.0
Mar 23	8			1				35	12					142.0	1.3	6.0	43.0
Mar 24	6			0				36	9					141.6	1.3	6.0	44.0
Mar 25	5			0				19	6					139.6	1.3	6.0	44.0
Mar 26	16			0				40	10					140.7	1.2	6.2	44.0
Mar 27	10			0				39	9					135.9	1.2	6.0	44.0
Mar 28	25			0				53	15					138.1	1.2	5.0	45.0
Mar 29	22			0				72	26					137.8	1.2	5.0	45.0
Mar 30	26			0				79	25					179.1	1.1	5.0	46.0
Mar 31	45			0				76	23					177.1	1.2	4.5	47.0
<b>TOTAL</b>	<b>280</b>			<b>2</b>				<b>1,234</b>	<b>357</b>								
AVG	9			0				40	12					134.9	2.2	6.4	43.3

Note: January 1 to March 31 counts were from video tape. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST. Visual counting started April 1. Official Spring Chinook run started March 15. January, February, and March 1-14 Chinook counts were not added to spring totals

TABLE 9  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT - FISH COUNTS													APRIL 2013					
DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	unclipped		PINK	CHUM	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TEMP DEG F
	SPRING	SUMMER	FALL					STEELHEAD	STEELHEAD									
Apr 1	45			1				94	31						182.5	1.2	5.0	47.0
Apr 2	71			2				81	30						169.1	1.2	5.5	47.0
Apr 3	91			1				59	29						171.2	1.4	4.5	47.0
Apr 4	70			1				39	13						196.6	1.5	5.0	48.0
Apr 5	55			0				73	25						222.4	1.4	4.5	48.0
Apr 6	40			0				37	8						219.9	1.3	4.0	48.0
Apr 7	61			0				44	23						251.4	17.7	4.0	48.0
Apr 8	145			0				54	24						247.0	33.8	5.0	48.0
Apr 9	177			1				52	22						286.5	75.0	4.0	49.0
Apr 10	153			1				45	11						287.1	100.0	4.0	49.0
Apr 11	120			2				39	15						284.3	99.7	4.0	50.0
Apr 12	173			3				27	9						306.2	100.1	4.0	49.0
Apr 13	105			0				22	13						256.9	99.9	4.0	49.0
Apr 14	80			1				21	9						262.4	100.0	4.0	49.0
Apr 15	107			5				16	7						283.2	100.8	4.0	49.0
Apr 16	124			1				13	2						292.6	100.4	4.0	49.0
Apr 17	91			4				11	1						261.7	100.0	3.0	49.0
Apr 18	262			8				9	-3						244.2	99.6	5.0	49.0
Apr 19	355			9				9	5						226.1	100.1	5.0	49.0
Apr 20	509			9				20	8						227.9	100.3	5.0	49.0
Apr 21	454			12				12	-1						235.0	100.4	6.0	49.0
Apr 22	836			29				16	6						258.8	100.4	5.0	49.0
Apr 23	1,027			36				16	1						233.8	99.9	5.0	50.0
Apr 24	2,227			66				21	5						211.9	99.7	5.0	51.0
Apr 25	2,541			61				24	7						215.6	97.6	5.0	50.0
Apr 26	5,346			297				26	6						211.6	94.8	6.0	51.0
Apr 27	4,551			381				22	8						223.7	92.8	5.5	51.0
Apr 28	4,181			352				30	12						229.2	89.6	5.0	52.0
Apr 29	2,461			255				13	1						219.4	96.1	5.0	52.0
Apr 30	2,350			363				19	4						239.2	99.7	5.5	52.0
<b>TOTAL</b>	<b>28,808</b>			<b>1,901</b>				<b>964</b>	<b>331</b>									
AVG	960			63				32	11						238.6	73.5	4.7	49.2
RUN YEAR		CHINOOK	CHINOOK						unclipped									
TOTALS TO DATE		ADULT	JACK					STEELHEAD	STEELHEAD									
SPRING		29,048	1,902					1,808	584									

TABLE 10

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

BONNEVILLE PROJECT - FISH COUNTS

MAY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	unclipped					SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F	
	SPRING	SUMMER	FALL				SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM								
May 1	2,123			410			0	20	0			0	0		251.7	99.5	4.5	52.0	
May 2	4,663			1,134			0	17	4			0	0		231.1	99.6	5.4	52.0	
May 3	7,311			2,387			0	28	6			0	0		241.7	99.5	5.5	52.0	
May 4	1,834			519			0	14	-1			6	0		225.8	99.9	6.0	52.0	
May 5	4,202			2,165			0	22	0			1	0		231.6	98.7	6.0	54.0	
May 6	3,915			2,768			0	22	5			4	0		227.1	97.4	6.0	54.0	
May 7	2,901			2,633			0	18	0			28	0		242.6	96.0	6.0	54.0	
May 8	2,104			1,928			0	14	0			170	0		266.6	94.7	5.5	55.0	
May 9	2,226			2,185			0	25	4			305	2		274.6	97.0	4.5	56.0	
May 10	1,417			1,666			0	7	-1			1,569	8		305.3	105.6	4.5	56.0	
May 11	1,582			1,353			0	13	-1			2,332	98		347.7	140.5	6.0	57.0	
May 12	957			916			0	21	3			3,446	79		348.2	142.8	4.5	57.0	
May 13	1,018			1,206			0	16	4			3,105	62		335.3	129.7	4.0	57.0	
May 14	1,367			1,364			0	41	2			3,630	20		338.7	143.6	4.0	58.0	
May 15	1,308			1,199			0	6	-3			3,156	72		351.9	145.8	4.5	58.0	
May 16	999			984			0	17	0			8,086	54		344.3	136.7	4.5	58.0	
May 17	1,280			996			0	21	0			5,623	33		309.2	106.5	4.0	58.0	
May 18	1,270			677			0	31	4			3,585	51		328.9	120.0	4.5	58.0	
May 19	1,102			645			0	17	-2			3,630	95		328.9	120.0	5.0	57.0	
May 20	1,105			690			0	22	4			5,019	84		317.3	110.0	4.0	58.0	
May 21	955			552			0	37	1			9,950	78		300.5	99.4	5.0	58.0	
May 22	908			493			0	23	2			12,727	35		279.0	98.6	5.0	58.0	
May 23	782			405			0	30	0			11,598	43		316.2	103.3	5.5	57.0	
May 24	1,013			480			0	39	8			11,722	58		307.9	98.8	4.0	57.0	
May 25	822			423			1	25	4			20,957	80		292.4	97.3	5.0	57.0	
May 26	869			342			4	31	11			69,263	87		307.7	95.5	4.5	57.0	
May 27	915			327			5	24	8			52,553	52		303.0	94.7	5.1	57.0	
May 28	807			225			11	28	6			38,713	24		300.3	93.1	6.0	57.0	
May 29	787			253			13	36	12			36,634	28		287.3	90.4	6.0	57.0	
May 30	837			309			9	38	10			30,651	60		260.1	93.1	4.0	57.0	
May 31	872			283			17	61	8			42,930	91		273.4	98.4	6.0	57.0	
<b>TOTAL</b>	<b>54,251</b>			<b>31,917</b>			<b>60</b>	<b>764</b>	<b>98</b>			<b>381,393</b>	<b>1,294</b>						

AVG	1,750			1030			2	25	3			12,303	42		292.8	107.9	5.0	56.2
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE	83,299	33,819

	unclipped	
	SOCKEYE	STEELHEAD
TOTALS TO DATE	60	2,572

	SHAD	LAMPREY
TOTALS TO DATE	381,393	1,294



TABLE 11

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

BONNEVILLE PROJECT - FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	unclipped				SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
	SPRING	SUMMER				FALL	STEELHEAD	STEELHEAD	PINK							
Jun 1		843		321		25	66	12	0	86,667	125		254.1	99.2	6.0	58.0
Jun 2		892		315		15	44	10	0	42,902	135		216.9	98.0	5.0	58.0
Jun 3		1,606		629		49	39	11	0	94,426	116		264.6	98.1	5.0	58.0
Jun 4		1,902		554		99	50	9	0	128,775	173		245.4	99.5	6.0	59.0
Jun 5		2,042		575		180	68	14	0	159,906	166		256.3	98.6	6.5	60.0
Jun 6		2,231		617		328	87	18	0	212,172	216		261.9	96.4	5.0	60.0
Jun 7		2,744		699		567	67	6	0	187,575	249		243.3	95.3	6.5	61.0
Jun 8		2,278		658		1,008	81	14	0	124,686	161		245.5	94.8	5.0	61.0
Jun 9		1,910		578		1,162	59	16	0	140,292	187		246.3	96.3	5.5	61.0
Jun 10		2,063		566		1,699	70	18	0	195,547	203		258.0	98.3	6.0	62.0
Jun 11		2,080		642		1,964	58	20	0	205,024	240		222.4	99.6	6.5	62.0
Jun 12		2,182		666		2,038	75	25	0	222,119	218		244.9	99.4	7.0	62.0
Jun 13		2,244		781		2,636	61	21	0	220,628	231		257.1	99.6	7.0	63.0
Jun 14		2,204		652		3,328	82	17	0	212,685	222		245.0	99.8	6.0	63.0
Jun 15		2,368		722		3,980	94	25	0	220,108	379		243.5	99.7	7.0	63.0
Jun 16		2,721		742		4,794	110	30	0	157,481	404		214.8	96.1	6.0	64.0
Jun 17		2,550		769		5,275	117	36	0	146,178	322		213.8	95.1	7.0	64.0
Jun 18		3,147		863		6,575	166	34	0	161,216	242		221.8	90.7	7.0	64.0
Jun 19		2,544		692		6,467	179	54	0	80,303	242		205.4	95.8	7.0	64.0
Jun 20		1,923		607		5,610	179	51	0	34,824	216		220.0	99.6	6.0	64.0
Jun 21		1,916		670		5,278	186	45	0	37,933	218		226.6	94.2	6.0	63.0
Jun 22		2,482		795		6,880	185	62	0	77,046	168		256.4	90.2	5.5	62.0
Jun 23		2,143		734		7,216	206	68	0	64,897	343		260.8	95.7	5.5	63.0
Jun 24		1,406		551		6,115	193	45	1	16,285	119		254.1	99.6	5.5	63.0
Jun 25		2,023		561		6,817	215	74	0	14,387	138		271.6	94.5	6.5	64.0
Jun 26		1,946		489		9,001	234	88	0	18,969	111		267.0	90.5	6.5	64.0
Jun 27		1,458		466		6,503	259	98	0	13,561	118		275.6	95.5	5.5	64.0
Jun 28		1,617		480		7,628	272	109	0	7,757	188		270.4	99.3	6.0	64.0
Jun 29		1,931		467		6,348	288	118	0	5,165	237		286.2	96.2	6.0	64.0
Jun 30		1,625		493		4,708	220	84	0	8,834	242		277.2	104.4	5.0	64.0
<b>TOTAL</b>		<b>61,021</b>		<b>18,354</b>		<b>114,293</b>	<b>4,010</b>	<b>1,232</b>	<b>1</b>	<b>3,298,348</b>	<b>6,329</b>					
AVG		2,034		612		3,810	134	41	0	109,945	211		247.6	97.0	6.0	62.2

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	unclipped				SHAD	LAMPREY
			TOTALS TO DATE	SOCKEYE	STEELHEAD	STEELHEAD PINK		
SPRING	83,299	33,819	114,353	6,582	1,914	1	3,679,741	7,623
SUMMER	61,021	18,354						
<b>TOTAL</b>	<b>144,320</b>	<b>52,173</b>						

TABLE 12

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

BONNEVILLE PROJECT - FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK COHO			unclipped					DISCH SPILL TURBIDITY						
	SPRING	SUMMER	FALL	JACK	ADULT	COHO	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
Jul 1	2,337			680			7,397	293	132	0		10,884	222	0	275.7	94.3	5.0	65.0
Jul 2	2,125			678			5,150	368	158	0		3,518	198	0	280.6	99.5	6.0	66.0
Jul 3	1,821			598			5,411	347	142	0		1,846	312	0	275.4	100.9	5.5	66.0
Jul 4	1,890			503			5,623	422	176	0		5,295	366	1	268.2	90.8	6.0	66.0
Jul 5	1,399			446			5,280	501	260	0		3,894	404	0	270.6	95.1	5.0	66.0
Jul 6	1,079			324			4,249	422	243	0		3,819	281	0	271.3	99.3	6.5	66.0
Jul 7	1,412			390			4,164	573	312	0		6,507	320	0	256.9	94.5	4.5	67.0
Jul 8	1,543			360			4,946	696	401	0		4,326	344	0	247.8	89.7	4.5	67.0
Jul 9	1,354			320			4,557	701	429	0		3,517	373	0	225.7	94.4	6.0	67.0
Jul 10	1,212			284			2,768	755	449	0		2,962	685	0	202.0	100.0	5.0	68.0
Jul 11	1,162			206			3,091	804	474	0		1,457	428	0	207.5	95.6	6.5	68.0
Jul 12	1,222			304			3,427	1,054	643	1		1,669	318	0	190.1	89.8	7.0	69.0
Jul 13	1,081			223			2,480	1,126	670	0		2,014	365	0	213.3	94.8	6.0	68.0
Jul 14	819			199			1,940	1,010	570	0		2,646	365	0	202.9	100.8	7.0	68.0
Jul 15	983			191			1,847	1,414	833	0		1,477	364	0	214.9	96.0	6.0	69.0
Jul 16	1,064			203			1,911	2,119	1,314	0		2,653	333	0	202.0	90.5	6.0	69.0
Jul 17	684			148			1,065	1,828	1,174	0		1,163	318	0	190.8	95.4	6.5	69.0
Jul 18	605			107			823	2,122	1,337	0		988	357	0	189.5	99.8	7.0	69.0
Jul 19	813			117			782	2,415	1,524	0		1,115	370	0	182.9	95.4	5.0	69.0
Jul 20	634			108			846	2,294	1,444	0		919	290	0	197.4	90.1	6.0	70.0
Jul 21	618			106			438	2,024	1,274	0		885	323	0	183.6	87.0	5.5	70.0
Jul 22	564			126			363	2,374	1,453	0		606	307	0	196.9	87.2	6.0	70.0
Jul 23	474			135			329	2,874	1,813	0		723	221	0	173.1	87.1	6.5	71.0
Jul 24	530			98			296	3,485	2,161	1		473	351	0	155.3	86.9	7.0	71.0
Jul 25	568			114			298	3,697	2,230	0		497	464	0	160.1	87.5	7.0	71.0
Jul 26	650			133			294	3,582	2,128	1		543	591	0	186.7	87.1	7.0	71.0
Jul 27	829			195			266	3,238	1,910	1		542	352	0	153.8	87.4	7.0	71.0
Jul 28	738			170			200	4,022	2,435	0		331	287	0	148.3	87.9	6.0	71.0
Jul 29	715			152			157	4,191	2,505	0		302	312	0	155.9	87.7	7.0	71.0
Jul 30	675			129			102	3,516	1,913	1		291	438	0	167.4	87.2	7.0	71.0
Jul 31	476			85			93	3,349	1,721	0		555	436	0	175.2	86.8	7.0	71.0
<b>TOTAL</b>	<b>32,076</b>			<b>7,832</b>			<b>70,593</b>	<b>57,616</b>	<b>34,228</b>	<b>5</b>		<b>68,417</b>	<b>11,095</b>	<b>1</b>				
AVG	1,035			253			2,277	1,859	1,104	0		2,207	358	0	207.1	92.5	6.1	68.7

RUN YEAR	CHINOOK		unclipped				SHAD LAMPREY STURGEON		
	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	SHAD	LAMPREY	STURGEON
TOTALS TO DATE	83,299	33,819	184,946	64,198	36,142	6	3,748,158	18,718	1
SPRING	83,299	33,819							
SUMMER	93,097	26,186							
TOTAL	176,396	60,005							

TABLE 13

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

BONNEVILLE PROJECT - FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped					SHAD	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM			KCFS	KCFS	SECCHI	DEG F		
Aug 1			456	63	1	0	87	3,400	1,799	0			397	332	0	179.4	89.2	7.0	71.0
Aug 2			556	117	0	0	84	3,503	1,799	2			413	297	0	167.6	89.6	7.0	71.0
Aug 3			461	132	0	0	55	3,840	2,007	0			235	190	0	172.4	89.4	7.0	71.0
Aug 4			648	139	-1	0	59	4,783	2,491	0			148	291	0	161.7	89.3	7.0	71.0
Aug 5			1,062	201	-2	0	48	6,244	3,060	2			175	269	0	160.7	89.3	7.0	71.0
Aug 6			1,623	321	1	0	33	8,258	3,860	0			139	203	0	170.9	89.2	7.0	72.0
Aug 7			1,441	226	2	0	35	9,114	3,899	0			177	141	0	171.9	88.7	6.0	72.0
Aug 8			1,774	299	12	0	18	8,935	3,527	0			157	280	0	153.6	88.5	7.0	72.0
Aug 9			1,310	174	20	1	29	7,513	2,746	0			178	208	1	147.8	88.9	7.0	73.0
Aug 10			1,345	192	11	2	13	5,755	2,083	1			231	94	0	152.8	89.2	7.0	72.0
Aug 11			1,464	155	21	2	15	4,676	1,669	0			123	95	0	134.7	88.5	7.0	72.0
Aug 12			1,102	154	10	1	10	3,394	1,277	0			100	39	0	141.2	88.8	5.0	72.0
Aug 13			1,250	224	7	1	12	2,692	1,085	0			108	78	0	165.8	88.9	7.0	72.0
Aug 14			2,222	338	13	5	8	2,454	1,002	0			68	71	0	172.4	89.1	7.0	72.0
Aug 15			4,009	476	45	5	17	3,079	1,317	0			141	74	0	149.6	89.9	7.0	73.0
Aug 16			2,816	450	49	1	6	3,052	1,204	1			68	72	0	153.5	91.4	7.0	73.0
Aug 17			1,326	337	29	2	6	3,394	1,198	0			83	177	0	152.5	91.8	6.5	73.0
Aug 18			2,130	349	20	4	4	2,548	922	0			39	86	0	140.6	91.8	7.0	73.0
Aug 19			4,060	687	35	13	3	2,125	747	0			35	69	0	145.6	91.6	7.0	73.0
Aug 20			3,255	626	32	6	2	2,584	944	1			32	31	0	151.3	91.7	7.0	73.0
Aug 21			7,650	960	100	14	3	2,596	833	1			27	55	0	147.5	91.8	7.0	73.0
Aug 22			6,857	894	124	23	1	2,718	916	2			24	54	0	152.4	91.2	7.0	73.0
Aug 23			9,622	1,380	273	18	0	3,174	1,092	0			13	49	0	139.4	91.2	7.0	73.0
Aug 24			9,038	1,499	378	52	0	2,625	849	2			20	64	0	130.1	84.4	7.0	72.0
Aug 25			8,431	1,364	287	25	0	2,450	746	1			14	30	0	119.8	75.5	6.0	73.0
Aug 26			8,023	1,532	312	42	3	2,341	748	0			8	45	0	122.7	79.2	7.0	73.0
Aug 27			13,312	1,760	501	69	0	2,465	868	1			26	37	0	129.6	85.9	7.0	72.0
Aug 28			21,720	2,497	675	60	1	2,328	752	6			9	54	0	131.1	87.6	7.0	72.0
Aug 29			29,308	2,918	659	62	1	2,249	740	5			15	93	0	137.3	91.3	7.0	73.0
Aug 30			33,819	2,870	1,015	87	1	2,042	631	7			11	114	0	138.4	91.4	7.0	72.0
Aug 31			25,199	2,579	651	96	0	2,051	662	6			3	103	0	140.2	90.9	7.0	73.0
<b>TOTAL</b>			207,289	25,913	5,280	591	554	118,382	47,473	38			3,217	3,795	1				
AVG			6,687	836	170	19	18	3,819	1,531				104	122	0	149.5	88.9	6.9	72.3
RUN YEAR			CHINOOK	CHINOOK	COHO	COHO													
TOTALS TO DATE			ADULT	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON					
SPRING			83,299	33,819	5,280	591	185,500	182,580	83,615	44	0	3,751,375	22,513	2					
SUMMER			93,097	26,186															
FALL			207,289	25,913															
TOTAL			383,685	85,918															

TABLE 14

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

BONNEVILLE PROJECT - FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT		CHINOOK COHO		COHO		unclipped					SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TEMP DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM							
Sep 1		14,086	1,858	358	76	1	1,692	485	2	0		162	0	105.6	1.6	7.0	73.0	
Sep 2		26,807	2,876	416	86	1	1,746	577	5	0		184	0	100.3	1.3	7.0	73.0	
Sep 3		12,593	1,968	281	112	0	1,956	570	7	0		68	0	100.3	1.3	7.0	73.0	
Sep 4		13,045	1,919	228	82	1	1,506	429	6	0		99	0	102.1	1.4	7.0	73.0	
Sep 5		20,216	2,147	237	63	0	1,030	336	6	0		84	0	96.9	1.4	7.0	73.0	
Sep 6		25,956	2,370	471	89	1	1,286	429	8	0		39	0	98.8	1.4	6.0	72.0	
Sep 7		48,710	3,979	1,085	148	0	1,377	473	23	0		-1	0	96.3	1.3	7.0	72.0	
Sep 8		42,445	3,314	1,676	172	0	1,931	603	15	0		70	0	85.7	1.4	7.0	72.0	
Sep 9		63,870	4,961	4,101	312	0	3,430	980	16	0		62	1	88.0	1.3	7.0	72.0	
Sep 10		56,044	4,608	3,314	242	0	2,639	808	29	0		100	0	122.1	1.3	7.0	72.0	
Sep 11		42,506	3,812	1,963	205	1	2,356	628	28	0		108	1	131.0	1.4	7.0	72.0	
Sep 12		27,964	2,656	763	145	0	1,643	458	21	0		48	0	118.4	1.3	7.0	72.0	
Sep 13		24,175	2,745	307	83	0	1,447	412	27	0		83	1	125.5	1.4	7.0	73.0	
Sep 14		22,755	2,652	233	90	0	1,148	332	18	0		29	0	108.5	1.4	7.0	73.0	
Sep 15		28,761	2,982	261	84	-1	1,198	347	18	0		29	0	90.0	1.4	7.0	73.0	
Sep 16		21,370	3,022	219	98	0	1,015	295	17	0		24	0	93.1	1.3	7.0	73.0	
Sep 17		18,896	2,099	211	45	0	846	237	20	1		15	0	115.0	1.3	7.0	73.0	
Sep 18		23,268	2,865	342	81	0	854	255	18	0		11	0	97.4	1.3	7.0	72.0	
Sep 19		21,118	3,127	680	132	0	1,184	331	28	0		-2	0	104.5	1.2	7.0	71.0	
Sep 20		18,390	2,534	952	231	0	1,299	400	27	0		4	0	111.9	1.2	7.0	71.0	
Sep 21		13,789	1,780	919	142	0	1,371	396	28	0		19	0	84.9	1.3	7.0	70.0	
Sep 22		9,725	989	653	107	0	899	271	9	0		11	0	80.3	1.2	7.0	70.0	
Sep 23		14,803	2,029	767	140	1	1,104	337	26	0		6	0	105.8	1.3	7.0	69.0	
Sep 24		11,596	1,884	560	121	0	997	274	8	0		17	0	95.3	1.3	7.0	69.0	
Sep 25		13,906	2,174	592	110	0	1,305	369	9	0		2	0	102.0	1.2	7.0	69.0	
Sep 26		10,857	1,953	768	114	0	1,343	362	9	0		7	2	105.6	1.2	7.0	69.0	
Sep 27		6,901	1,180	888	130	0	775	227	7	0		14	1	97.5	1.1	7.0	68.0	
Sep 28		7,041	1,174	818	84	0	815	274	5	0		5	-1	103.3	1.2	7.0	68.0	
Sep 29		5,286	1,033	1,249	152	0	1,063	398	4	0		18	0	106.4	1.3	7.0	67.0	
Sep 30		11,556	1,853	2,436	194	0	977	309	7	0		37	1	103.0	1.3	5.0	66.0	
<b>TOTAL</b>		<b>678,435</b>	<b>74,543</b>	<b>27,748</b>	<b>3,870</b>	<b>5</b>	<b>42,232</b>	<b>12,602</b>	<b>451</b>	<b>1</b>		<b>1,352</b>	<b>6</b>					
<b>AVG</b>		<b>22,615</b>	<b>2,485</b>	<b>925</b>	<b>129</b>	<b>0</b>	<b>1,408</b>	<b>420</b>	<b>15</b>	<b>0</b>		<b>45</b>	<b>0</b>	<b>102.5</b>	<b>1.3</b>	<b>6.9</b>	<b>71.1</b>	
<b>RUN YEAR</b>	<b>CHINOOK</b>	<b>CHINOOK</b>	<b>COHO</b>		<b>COHO</b>		<b>unclipped</b>											
<b>TOTALS TO DATE</b>	<b>ADULT</b>	<b>JACK</b>	<b>ADULT</b>	<b>JACK</b>	<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>STEELHEAD</b>	<b>PINK</b>	<b>CHUM</b>	<b>SHAD</b>	<b>LAMPREY</b>	<b>STURGEON</b>						
SPRING	83,299	33,819	33,028	4,461	185,505	224,812	96,217	495	1	3,751,375	23,865	8						
SUMMER	93,097	26,186																
FALL	885,724	100,456																
<b>TOTAL</b>	<b>1,062,120</b>	<b>160,461</b>																

TABLE 15

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT - FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped						DISCH	SPILL	TURBIDITY				
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
Oct 1			5,335	870	1,492	204		904	304	5	0		24	1	127.1	1.2	6.0	64.0
Oct 2			2,803	501	1,316	116		574	143	2	0		27	0	131.6	1.3	3.5	64.0
Oct 3			3,649	557	1,673	128		521	164	0	1		26	0	114.2	1.2	7.0	64.0
Oct 4			2,965	531	1,312	108		419	108	1	0		1	0	116.8	1.2	7.0	64.0
Oct 5			2,272	542	1,183	110		385	114	0	0		8	2	92.3	1.1	7.0	64.0
Oct 6			2,102	375	865	102		421	110	0	0		7	0	89.8	1.1	7.0	63.0
Oct 7			2,515	644	807	116		494	149	0	0		2	0	88.6	0.9	7.0	63.0
Oct 8			4,364	570	860	107		442	132	0	0		1	0	93.6	0.7	7.0	63.0
Oct 9			5,785	911	1,310	160		351	98	0	0		1	4	102.3	1.2	7.0	62.0
Oct 10			4,907	670	956	98		331	96	0	0		0	5	105.9	1.3	7.0	61.0
Oct 11			4,729	498	928	50		367	130	0	0		1	3	113.3	1.2	7.0	61.0
Oct 12			2,759	349	700	63		292	101	1	0		0	4	116.8	1.2	7.0	61.0
Oct 13			2,713	390	837	87		220	94	0	0		2	5	115.2	1.2	7.0	60.0
Oct 14			3,175	362	1,307	118		259	78	1	0		2	4	122.4	1.1	7.0	60.0
Oct 15			1,649	269	769	114		182	55	0	0		0	3	113.3	1.2	7.0	60.0
Oct 16			1,428	249	768	36		126	48	0	0		-1	0	114.0	1.1	7.0	59.0
Oct 17			2,152	434	999	70		193	53	1	1		0	0	132.1	5.7	7.0	59.0
Oct 18			1,956	270	731	96		121	32	0	0		0	0	145.5	1.1	7.0	59.0
Oct 19			999	179	698	57		86	29	0	2		0	0	117.5	2.1	7.0	59.0
Oct 20			893	141	574	69		59	15	0	0		1	5	105.9	1.2	7.0	59.0
Oct 21			744	127	460	36		66	25	0	0		0	0	119.8	1.2	7.0	58.0
Oct 22			792	129	453	39		77	27	0	0		0	1	121.2	1.1	7.0	59.0
Oct 23			646	116	401	50		76	10	1	0		0	3	114.5	1.1	6.0	58.0
Oct 24			576	99	374	59		82	30	0	0		0	2	111.4	1.1	7.0	58.0
Oct 25			544	98	309	17		48	17	0	0		0	0	104.2	1.1	7.0	58.0
Oct 26			513	94	235	15		73	29	0	0		0	0	109.2	1.2	7.0	58.0
Oct 27			309	58	161	16		56	16	0	0		0	0	94.3	1.1	7.0	58.0
Oct 28			359	71	152	20		22	-2	1	0		0	0	102.7	1.2	7.0	58.0
Oct 29			300	51	178	27		27	8	0	0		0	0	117.5	1.1	7.0	58.0
Oct 30			212	27	118	12		32	9	0	0		0	0	105.4	1.1	7.0	57.0
Oct 31			218	52	94	25		50	16	0	1		0	0	96.0	1.0	7.0	57.0
<b>TOTAL</b>			<b>64,363</b>	<b>10,234</b>	<b>23,020</b>	<b>2,325</b>		<b>7,356</b>	<b>2,238</b>	<b>13</b>	<b>5</b>		<b>102</b>	<b>42</b>				

AVG			2,076	330	743	75		237	72	0	0		3	1	111.4	1.3	6.8	60.2
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RUN YEAR	CHINOOK		COHO	COHO	unclipped							
	ADULT	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON
TOTALS TO DATE												
SPRING	83,299	33,819	56,048	6,786	185,505	232,168	98,455	508	6	3,751,375	23,967	50
SUMMER	93,097	26,186										
FALL	950,087	110,690										
TOTAL	1,126,483	170,695										

TABLE 16

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

BONNEVILLE PROJECT - FISH COUNTS

NOVEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped						DISCH	SPILL	TURBIDITY				
	SPRING	SUMMER	JACK	ADULT		JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM				SHAD	LAMPREY	STURGEON	KCFS
Nov 1			526	73	545	38		41	24		4		0	0	87.0	1.0	7.0	57.0
Nov 2			316	49	684	51		42	16		2		0	0	88.9	1.0	7.0	56.0
Nov 3			374	27	352	41		24	10		5		0	0	100.4	1.0	6.5	56.0
Nov 4			190	31	170	32		24	8		1		0	0	124.1	1.0	7.0	55.0
Nov 5			182	17	176	18		33	15		6		0	0	121.3	1.0	7.0	55.0
Nov 6			263	34	177	26		52	24		3		0	0	134.4	1.0	7.0	55.0
Nov 7			143	11	187	14		22	3		10		0	0	115.2	1.0	6.0	55.0
Nov 8			197	18	280	24		46	18		7		0	1	114.9	1.0	7.0	54.0
Nov 9			145	12	149	9		26	9		7		0	1	120.4	1.0	7.0	54.0
Nov 10			99	2	96	11		28	14		6		0	0	122.5	1.0	7.0	54.0
Nov 11			96	23	112	18		44	21		8		1	0	128.1	1.0	7.0	54.0
Nov 12			89	12	100	13		30	14		8		0	0	122.7	1.0	7.0	54.0
Nov 13			104	13	73	7		35	14		3		0	0	120.4	1.0	7.0	54.0
Nov 14			67	0	58	4		22	7		10		0	0	120.0	1.0	7.0	54.0
Nov 15			66	3	32	5		23	9		1		0	0	117.1	1.0	7.0	54.0
Nov 16			40	6	21	5		15	6		9		-1	0	112.6	1.0	7.0	53.0
Nov 17			13	4	26	3		20	5		13		0	0	114.8	1.0	7.0	52.0
Nov 18			32	4	18	2		23	7		3		0	0	115.5	1.0	7.0	52.0
Nov 19			24	2	17	8		15	9		8		0	0	112.9	1.0	7.0	52.0
Nov 20			24	3	55	6		22	12		8		0	0	121.0	1.0	7.0	52.0
Nov 21			27	2	16	6		10	5		4		0	0	134.4	1.0	7.0	51.0
Nov 22			14	0	15	2		18	9		1		0	0	140.6	1.0	6.0	49.0
Nov 23			12	1	19	1		22	13		6		0	0	137.3	1.0	7.0	49.0
Nov 24			8	0	3	1		31	13		3		0	0	130.2	0.6	7.0	48.0
Nov 25			8	0	7	2		19	9		2		1	0	129.4	1.0	7.0	48.0
Nov 26			15	0	9	2		35	13		6		0	0	129.1	1.0	7.0	48.0
Nov 27			12	0	1	0		34	18		2		0	0	129.5	1.0	7.0	48.0
Nov 28			8	2	4	2		5	3		4		0	0	126.9	1.1	7.0	47.0
Nov 29			0	0	4	-1		21	8		3		0	0	124.0	1.0	7.0	46.0
Nov 30			9	0	2	0		15	7		1		0	0	127.0	1.0	7.0	47.0
<b>TOTAL</b>			<b>3,103</b>	<b>349</b>	<b>3,408</b>	<b>350</b>		<b>797</b>	<b>343</b>		<b>154</b>		<b>1</b>	<b>2</b>				
<b>AVG</b>			<b>103</b>	<b>12</b>	<b>114</b>	<b>12</b>		<b>27</b>	<b>11</b>		<b>5</b>		<b>0</b>	<b>0</b>	<b>120.7</b>	<b>1.0</b>	<b>6.9</b>	<b>52.1</b>

RUN YEAR	CHINOOK		COHO	COHO	unclipped								
	TOTALS TO DATE	ADULT	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON
SPRING	83,299	33,819		59,239	7,097	185,505	232,660	98,661	508	160	3,751,375	23,968	52
SUMMER	93,097	26,186											
FALL	952,944	111,015											
<b>TOTAL</b>	<b>1,129,340</b>	<b>171,020</b>											

Note: November 1 to December 31 counts were from video tape. The counts are 16-hour counts and occurred between 0400-2000 PST. Visual counting ended October 31. Official Fall Chinook run ended November 15. Counts on November 16-30 are not included in fall totals. Pink, chum, and sturgeon counts are totals for the entire calendar year.

TABLE 17

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

BONNEVILLE PROJECT - FISH COUNTS

DECEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped							DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
Dec 1			6	0	10	0		23	9		2		0		116.8	0.5	7.0	46.0
Dec 2			6	1	75	6		33	25		2		0		126.9	0.5	5.0	47.0
Dec 3			3	-1	41	4		24	7		0		3		144.2	2.4	5.0	46.0
Dec 4			4	0	13	2		9	3		1		0		147.9	2.1	4.0	45.0
Dec 5			4	0	6	-1		11	3		0		0		144.9	0.5	7.0	45.0
Dec 6			0	0	3	0		16	10		0		0		147.5	0.5	6.0	43.0
Dec 7			0	1	0	0		19	6		1		0		150.2	0.5	7.0	43.0
Dec 8			0	0	0	-1		2	1		1		0		153.5	0.5	7.0	42.0
Dec 9			-1	1	1	1		17	6		0		0		148.9	0.5	7.0	41.0
Dec 10			1	-1	0	0		10	8		0		0		148.9	0.5	7.0	41.0
Dec 11			1	0	2	1		16	8		0		0		152.3	0.5	7.0	41.0
Dec 12			0	0	0	-2		2	1		0		0		136.0	0.4	7.0	41.0
Dec 13			0	0	0	1		17	8		0		0		125.1	0.5	7.0	41.0
Dec 14			0	0	2	0		6	4		0		0		125.4	0.5	7.0	41.0
Dec 15			4	0	-3	0		10	2		0		0		124.7	0.5	7.0	41.0
Dec 16			1	0	0	2		10	4		0		0		125.2	0.5	7.0	41.0
Dec 17			2	1	0	1		4	1		0		0		125.8	0.5	7.0	41.0
Dec 18			0	0	-1	-1		3	2		0		0		129.9	0.5	7.0	41.0
Dec 19			0	0	5	1		-2	0		0		0		135.4	0.5	7.0	40.0
Dec 20			0	0	0	1		4	3		0		0		126.9	0.5	7.0	40.0
Dec 21			0	0	0	-2		3	2		0		0		126.5	0.5	7.0	40.0
Dec 22			1	0	-1	0		2	0		0		0		125.8	0.5	7.0	40.0
Dec 23			0	0	4	1		1	1		0		0		126.5	0.5	7.0	41.0
Dec 24			0	0	1	-2		2	1		0		0		126.4	0.5	7.0	41.0
Dec 25			0	0	1	2		6	1		0		0		128.6	0.5	7.0	41.0
Dec 26			-1	0	-2	-1		-1	0		0		0		129.2	0.5	7.0	41.0
Dec 27			0	0	-2	0		4	2		0		0		127.6	0.5	7.0	40.0
Dec 28			0	0	1	0		7	2		0		0		125.6	0.5	7.0	38.0
Dec 29			1	0	-1	-1		3	2		0		0		125.4	0.5	7.0	40.0
Dec 30			0	0	0	1		-1	0		0		0		123.2	0.5	7.0	40.0
Dec 31			0	0	-1	-1		0	-1		0		0		120.7	0.5	7.0	40.0
<b>TOTAL</b>			32	2	154	12		260	121		7		3					
AVG			1	0	5	0		8	4				0		133.0	0.6	6.7	41.6

RUN YEAR	CHINOOK		COHO	COHO	unclipped								
	TOTALS TO DATE	ADULT	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON
SPRING	83,299	33,819		59,239	7,097	185,505	232,660	98,661	508	167	3,751,375	23,968	52
SUMMER	93,097	26,186											
FALL	952,944	111,015											
<b>TOTAL</b>	<b>1,129,340</b>	<b>171,020</b>											

Note: November 1 to December 31 counts were from video tape. The counts are 16-hour counts and occurred between 0400-2000 PST. Visual counting ended October 31. Official Fall Chinook run ended November 15. December counts were not added to fall totals. Pink, chum, and sturgeon counts are totals for the entire calendar year

TABLE 18

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

BONNEVILLE PROJECT - NIGHT FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped			PINK	CHUM	SHAD	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD				
Jun 1												
Jun 2												
Jun 3												
Jun 4												
Jun 5												
Jun 6												
Jun 7												
Jun 8												
Jun 9												
Jun 10												
Jun 11												
Jun 12												
Jun 13												
Jun 14		11		2		22	0	-1			1,653	115
Jun 15		62		1		151	2	0			6,745	441
Jun 16		126		19		196	10	2			2,632	236
Jun 17		87		25		203	16	4			2,611	186
Jun 18		75		17		275	8	6			2,011	146
Jun 19		76		16		244	16	9			1,215	426
Jun 20		67		2		207	15	2			912	359
Jun 21		62		19		219	8	1			1,205	372
Jun 22		80		13		196	6	1			1,090	382
Jun 23		41		11		275	15	4			673	436
Jun 24		56		10		198	6	3			569	317
Jun 25		41		5		303	-2	3			454	317
Jun 26		39		14		256	19	6			1,160	295
Jun 27		64		5		267	12	5			362	-70
Jun 28		57		7		354	3	-1			461	283
Jun 29		57		9		347	13	3			641	330
Jun 30		108		29		632	13	4			870	361
<b>TOTAL</b>		<b>1,109</b>		<b>204</b>		<b>4,345</b>	<b>160</b>	<b>51</b>			<b>25,264</b>	<b>4,932</b>
AVG		65		12		256	9	3			1,486	290



TABLE 19

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

## BONNEVILLE PROJECT - NIGHT FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped			PINK	CHUM	SHAD	LAMPREY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD					STEELHEAD
Jul 1		87		25			486	4	-1	0		494	238
Jul 2		55		7			399	22	9	0		270	351
Jul 3		68		15			596	17	8	0		325	397
Jul 4		46		10			595	18	5	0		618	527
Jul 5		58		23			592	10	2	0		615	333
Jul 6		48		20			544	29	14	0		743	415
Jul 7		45		16			519	13	10	0		485	294
Jul 8		49		7			502	30	13	0		597	431
Jul 9		58		15			427	38	18	0		827	449
Jul 10		28		7			302	32	16	0		409	766
Jul 11		53		15			631	24	14	0		301	569
Jul 12		67		25			523	36	27	0		414	358
Jul 13		55		6			331	31	17	0		231	565
Jul 14		19		9			156	21	15	0		397	422
Jul 15		17		6			311	40	29	0		397	469
Jul 16		18		7			174	26	15	0		228	303
Jul 17		30		7			167	60	36	0		250	36
Jul 18		10		3			99	74	39	0		113	404
Jul 19		13		3			82	43	34	0		207	608
Jul 20		11		3			86	50	48	0		132	204
Jul 21		11		1			52	24	22	0		144	368
Jul 22		14		0			46	51	44	1		103	400
Jul 23		9		5			42	82	56	0		79	416
Jul 24		15		0			61	80	53	0		89	347
Jul 25		19		1			36	68	42	0		47	-307
Jul 26		12		5			53	33	23	0		68	532
Jul 27		15		2			14	44	38	0		48	325
Jul 28		26		6			17	66	49	0		43	417
Jul 29		15		-2			24	82	58	0		38	392
Jul 30		12		-1			38	22	28	0		40	417
Jul 31		6		1			11	48	26	0		16	267
<b>TOTAL</b>		<b>989</b>		<b>247</b>			<b>7,916</b>	<b>1,218</b>	<b>807</b>	<b>1</b>		<b>8,768</b>	<b>11,713</b>
<b>AVG</b>		<b>32</b>		<b>8</b>			<b>255</b>	<b>39</b>	<b>26</b>	<b>0</b>		<b>283</b>	<b>378</b>

TABLE 20

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## BONNEVILLE PROJECT - NIGHT FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	unclipped			PINK	CHUM	SHAD	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD				
Aug 1		8	0	0	0	9	51	35			7	153	
Aug 2		10	0	0	0	6	41	23			9	355	
Aug 3		7	2	0	0	6	47	28			10	409	
Aug 4		20	3	0	0	7	47	39			11	473	
Aug 5		48	2	0	0	7	133	96			19	475	
Aug 6		59	2	0	0	21	132	72			15	471	
Aug 7		17	-2	0	0	-1	67	61			-3	423	
Aug 8		13	1	0	0	1	74	56			-4	147	
Aug 9		28	-2	0	0	0	75	46			5	308	
Aug 10		18	0	0	0	1	28	25			3	196	
Aug 11		11	-5	0	0	1	23	12			2	267	
Aug 12		36	4	0	0	0	21	12			0	221	
Aug 13		52	16	0	0	0	29	20			3	235	
Aug 14		63	3	0	0	0	29	21			0	169	
Aug 15		87	-1	0	0	0	57	26			3	58	
Aug 16		46	6	0	0	0	53	19			0	203	
Aug 17		32	5	0	0	0	8	11			6	340	
Aug 18		121	9	0	0	0	45	30			2	300	
Aug 19		149	12	0	0	0	44	20			0	151	
Aug 20		228	9	0	0	0	21	12			0	136	
Aug 21		201	11	4	0	0	96	47			2	60	
Aug 22		252	12	0	0	0	61	46			-2	82	
Aug 23		233	21	8	0	0	55	32			1	195	
Aug 24		263	15	12	1	0	67	34			1	122	
Aug 25		398	54	33	0	0	117	51			1	150	
Aug 26		646	86	39	2	1	209	80			0	179	
Aug 27		449	21	60	-1	0	106	35			-1	226	
Aug 28		657	41	24	3	0	69	44			2	171	
Aug 29		634	53	67	16	0	109	41			3	120	
Aug 30		871	57	95	7	0	130	52			0	92	
Aug 31		423	46	97	3	0	77	26			0	155	
<b>TOTAL</b>		<b>6,080</b>	<b>481</b>	<b>439</b>	<b>31</b>	<b>59</b>	<b>2,121</b>	<b>1,152</b>			<b>95</b>	<b>7,042</b>	
<b>AVG</b>		<b>196</b>	<b>16</b>	<b>14</b>	<b>1</b>	<b>2</b>	<b>68</b>	<b>37</b>			<b>3</b>	<b>227</b>	

TABLE 21

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## BONNEVILLE PROJECT - NIGHT FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	unclipped			PINK	CHUM	SHAD	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD				
Sep 1			667	29	34	0	0	65	20	0			203
Sep 2			1,088	4	78	13	0	151	82	1			81
Sep 3			205	1	10	2	0	73	26	0			203
Sep 4			139	-4	12	4	0	20	28	0			185
Sep 5			822	24	41	4	0	90	41	0			442
Sep 6			2,962	70	60	19	0	83	31	0			123
Sep 7			2,660	596	103	3	0	149	41	0			173
Sep 8			1,631	138	103	12	0	225	95	0			309
Sep 9			976	66	144	25	0	241	96	4			209
Sep 10			827	65	83	12	0	159	48	0			150
Sep 11			646	61	25	6	0	100	33	1			353
Sep 12			664	77	16	7	0	77	28	1			-34
Sep 13			442	76	4	5	0	70	26	1			-2
Sep 14			575	50	27	8	1	96	28	0			36
Sep 15			643	71	18	4	0	88	38	1			20
Sep 16			344	34	15	1	0	35	11	2			54
Sep 17			243	10	12	0	0	31	13	0			73
Sep 18			298	11	39	17	0	70	26	0			22
Sep 19			210	9	38	9	0	67	26	0			52
Sep 20			74	14	16	9	0	64	19	0			24
Sep 21			64	5	14	6	0	44	12	-1			36
Sep 22			62	12	37	7	0	68	18	0			10
Sep 23			39	9	26	8	0	56	12	0			8
Sep 24			106	-1	22	10	0	77	21	1			20
Sep 25			75	1	38	5	0	96	23	0			-13
Sep 26			2	6	34	6	0	59	18	0			-4
Sep 27			21	7	14	1	0	58	25	0			15
Sep 28			17	2	61	6	0	92	41	0			1
Sep 29			29	0	72	4	0	48	23	0			11
Sep 30			-6	-6	14	0	0	12	5	0			10
<b>TOTAL</b>			16,525	1,437	1,210	213	1	2,564	954	11			2,770
<b>AVG</b>			551	48	40	7	0	85	32	0			92

TABLE 22a

## YEARLY TOTALS OF SALMONIDS COUNTED OVER BONNEVILLE DAM

1938 - 2013

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	401,998	151,800	55,464	12,402	1,865	11	623,540
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

TABLE 22a  
(continued)

YEARLY TOTALS OF SALMONIDS COUNTED OVER BONNEVILLE DAM

1981 - 2013

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	CHUM	PINK	TOTAL SALMONID
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	244,320	163,124	13,154	22,794	26	5	443,423
1995	245,250	209,071	9,135	12,572	30	36	476,094
1996	299,962	212,475	31,093	19,077	22	1	562,630
1997	399,784	274,536	48,342	27,919	47	64	750,692
1998	290,292	197,501	13,613	49,488	21	13	550,928
1999	347,486	212,118	18,304	45,805	43	28	623,784
2000	501,012	282,935	97,541	99,660	17	0	981,165
2001	1,037,440	676,793	123,416	277,934	29	-4	2,115,608
2002	965,356	510,680	51,200	100,835	72	0	1,628,143
2003	996,660	365,821	39,291	133,874	411	637	1,536,694
2004	906,197	313,378	123,291	119,851	80	1	1,462,798
2005	600,415	315,650	72,971	88,791	139	22	1,077,988
2006	526,538	339,301	37,066	110,054	165	6	1,013,130
2007	359,867	325,450	24,376	100,725	142	27	810,587
2008	587,428	357,845	213,607	146,059	75	60	1,305,074
2009	699,121	604,970	177,823	234,669	109	95	1,716,787
2010	902,439	416,603	386,524	127,644	124	4	1,833,338
2011	863,201	369,365	185,796	149,883	50	3,828	1,572,123
2012	733,930	235,303	515,673	60,023	65	1	1,544,995
2013	1,327,783	240,110	197,826	68,651	167	520	1,835,057
<b>Total</b>	<b>33,028,092</b>	<b>16,090,182</b>	<b>7,326,351</b>	<b>3,752,395</b>	<b>40,628</b>	<b>7,464</b>	<b>60,245,112</b>
<b>10-Year Average</b>	<b>750,692</b>	<b>351,798</b>	<b>193,495</b>	<b>120,635</b>	<b>112</b>	<b>456</b>	<b>1,417,188</b>

\*Jacks included

Note: Totals from 1994 - 2003 include nighttime video and 24-hour video as described in the footnotes of the monthly count tables. Totals for 2013 include nighttime video counts.

TABLE 22b

YEARLY TOTALS OF SALMONIDS COUNTED OVER BONNEVILLE DAM -- DAYTIME COUNTS  
1938 - 2013

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	401,998	151,800	55,464	12,402	1,865	11	623,540
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

TABLE 22b  
(continued)

YEARLY TOTALS OF SALMONIDS COUNTED OVER BONNEVILLE DAM -- DAYTIME COUNTS  
1938 - 2013

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	CHUM	PINK	TOTAL SALMONID
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	924,679	480,309	49,610	94,901	72	0	1,549,571
2003	996,660	365,821	39,291	133,874	411	637	1,536,694
2004	906,197	313,378	123,291	119,851	80	1	1,462,798
2005	600,415	315,650	72,971	88,791	139	22	1,077,988
2006	526,538	339,301	37,066	110,054	165	6	1,013,130
2007	359,867	325,450	24,376	100,725	142	27	810,587
2008	587,428	357,845	213,607	146,059	75	60	1,305,074
2009	699,121	604,970	177,823	234,669	109	95	1,716,787
2010	902,439	416,603	386,524	127,644	124	4	1,833,338
2011	863,201	369,365	185,796	149,883	50	3,828	1,572,123
2012	733,930	235,303	515,673	60,023	65	1	1,544,995
2013	1,300,711	234,047	185,505	66,758	167	508	1,787,696
<b>Total</b>	<b>32,849,164</b>	<b>15,953,052</b>	<b>7,295,981</b>	<b>3,728,579</b>	<b>40,628</b>	<b>7,452</b>	<b>59,874,856</b>
<b>10-Year Average</b>	<b>747,985</b>	<b>351,191</b>	<b>192,263</b>	<b>120,446</b>	<b>112</b>	<b>455</b>	<b>1,412,452</b>

\*Jacks included

Note: These totals are for daytime counts and do not include night counting or 24 hour video counts.

TABLE 23

MONTHLY COUNT OF CHINOOK SALMON													SPRING			SUMMER			FALL		
BONNEVILLE DAM - 1938 - 2013													Jan 1 - May 31			Jun 1 - Jul 31			Aug 1 - Dec 31		
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*								
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	303,995	4,485	639	190	401,998	40,471	24,637	336,890					
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					
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					



TABLE 23

(Continued)

MONTHLY COUNT OF CHINOOK SALMON													SPRING	SUMMER	FALL	
BONNEVILLE DAM - 1938-2013													Jan 1- May 31	Jun 1- Jul 31	Aug 1- Dec 31	
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*			
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	9,743	10,458	47,787	145,801	9,669	296		244,320	20,566	20,201	203,553
1995			206	7,144	5,511	8,565	9,226	47,145	150,990	15,614	835	14	245,250	12,861	17,791	214,598
1996	4		110	20,923	35,571	11,136	7,768	58,909	154,420	10,451	647	23	299,962	56,608	18,904	224,450
1997			466	67,577	49,921	20,162	10,943	82,123	158,589	9,488	516	-1	399,784	117,964	31,105	250,715
1998	0	1	695	24,549	14,587	14,500	10,396	58,135	155,716	11,308	398	7	290,292	39,832	24,896	225,564
1999		2	251	19,016	28,831	14,830	16,121	66,546	186,880	14,624	378	7	347,486	48,100	30,951	268,435
2000		4	3,166	130,193	71,222	25,864	19,209	100,658	139,073	11,380	227	16	501,012	204,585	45,073	251,354
2001	0	25	16,653	324,800	98,080	53,860	45,825	116,981	351,892	25,875	3,379	70	1,037,440	439,558	99,685	498,197
2002	74	207	4,160	156,379	128,894	91,120	47,111	152,200	358,941	20,509	5,506	255	965,356	289,714	138,231	537,411
2003	6	93	19,283	120,626	70,020	81,333	46,833	90,884	533,913	30,440	2,827	402	996,660	210,028	128,166	658,466
2004		17	593	104,978	73,605	69,622	35,410	111,550	473,727	34,858	1,760	77	906,197	179,193	105,032	621,972
2005	-1	2	43	31,504	46,793	52,917	30,786	47,880	363,426	25,199	1,855	11	600,415	78,341	83,703	438,371
2006	0	1	35	7,030	92,300	71,473	30,401	55,410	236,605	28,653	4,536	94	526,538	99,366	101,874	325,298
2007	1	1	75	31,919	51,256	39,619	21,949	53,174	136,977	23,968	893	35	359,867	83,252	61,568	215,047
2008		3	170	40,547	102,419	67,117	22,775	115,815	222,385	15,479	710	8	587,428	143,139	89,892	354,397
2009	-5	0	164	23,526	157,489	88,523	30,829	148,358	231,702	17,823	697	15	699,121	181,174	119,352	398,595
2010	3	2	482	134,447	122,101	82,577	30,630	102,676	395,450	32,845	1,184	42	902,439	257,035	113,207	532,197
2011	0	13	161	35,139	182,779	107,352	52,378	68,563	372,184	43,169	1,408	55	863,201	218,092	159,730	485,379
2012	2	-1	39	23,702	141,939	62,450	31,448	86,278	355,800	31,073	1,169	31	733,930	165,681	93,898	474,351
2013		6	282	30,709	86,168	79,375	39,908	233,202	752,978	74,597	3,452	34	1,300,711	117,165	119,283	1,064,263
<b>TOTAL</b>	<b>124</b>	<b>421</b>	<b>101,542</b>	<b>4,327,897</b>	<b>3,731,004</b>	<b>2,718,579</b>	<b>1,841,083</b>	<b>3,956,439</b>	<b>15,367,211</b>	<b>902,441</b>	<b>52,539</b>	<b>1,740</b>	<b>33,001,020</b>	<b>8,160,988</b>	<b>4,559,662</b>	<b>20,280,370</b>
<b>10-Year Average</b>			<b>204</b>	<b>46,350</b>	<b>105,685</b>	<b>72,103</b>	<b>32,651</b>	<b>102,291</b>	<b>354,123</b>	<b>32,766</b>	<b>1,766</b>		<b>747,985</b>	<b>152,244</b>	<b>104,754</b>	<b>490,987</b>

\*Jacks included

1994 counts include nighttime video counts during the hours of 2100-0500 PST June 1 through August 16.

1995 counts include nighttime video counts during the hours of 2000 and 0400 PST April 1 through November 15. 24 hour counts November 16 through December 31.

1996 - 2002 counts include 24 hour video counts January 1 through March 15 and November 16 through Dec 31.

From March 16 through November 15, video counts took place between 2000 and 0400 hours PST.

2003 - 2013 counts include 16 hour video counts between 0400-2000 PST January 1 through March 31 and November 1 through December 31.

TABLE 24

MONTHLY COUNT OF SOCKEYE SALMON  
BONNEVILLE DAM 1938 - 2013

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
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

TABLE 24

(Continued)

**MONTHLY COUNT OF SOCKEYE SALMON  
BONNEVILLE DAM 1938 - 2013**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
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	9,835	3,306	11					13,154	
1995					1	5,924	3,151	59					9,135	
1996					3	23,005	8,044	41					31,093	
1997					9	23,559	24,392	381	1				48,342	
1998					1	7,796	5,723	93					13,613	
1999						8,613	9,629	61	1				18,304	
2000					146	83,479	13,847	69	0				97,541	
2001					32	102,570	20,496	317	1				123,416	
2002					3	32,760	18,349	85	3				51,200	
2003					2	26,432	12,714	139	4				39,291	
2004					134	100,702	22,253	194	3		5		123,291	
2005					16	47,093	25,724	118	20				72,971	
2006					9	27,398	9,518	129	12				37,066	
2007					36	18,742	5,487	107	4				24,376	
2008					53	188,756	24,735	46	17				213,607	
2009					57	141,543	36,117	104	2				177,823	
2010				1	169	297,778	88,415	156	5				386,524	
2011				1	8	87,794	97,798	195					185,796	
2012					80	382,529	132,889	170	5				515,673	
2013					60	114,293	70,593	554	5				185,505	
<b>TOTAL</b>				<b>76</b>	<b>543</b>	<b>8,743</b>	<b>3,677,626</b>	<b>3,578,500</b>	<b>45,663</b>	<b>2,704</b>	<b>137</b>	<b>37</b>	<b>1</b>	<b>7,314,030</b>
<b>10-Year Average</b>					<b>62</b>	<b>140,663</b>	<b>51,353</b>	<b>177</b>	<b>8</b>					<b>192,263</b>

1994 counts include nighttime video counts during the hours of 2100-0500 PST June 1 through August 16.

1995 counts include nighttime video counts during the hours of 2000 and 0400 PST April 1 through November 15.

24 hour counts November 16 through December 31.

1996 - 2002 counts include 24 hour video counts January 1 through March 15 and November 16 through Dec 31.

From March 16 through November 15, video counts took place between 2000 and 0400 hours PST.

2003-2013 counts include video counts which took place between 0400-2000 PST January 1 through March 31 and November 1 through December 31.

TABLE 25

MONTHLY COUNT OF COHO SALMON  
BONNEVILLE DAM 1938 - 2013

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
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

TABLE 25

(Continued)

**MONTHLY COUNT OF COHO SALMON  
BONNEVILLE DAM 1938 - 2013**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	JACKS
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							118	978	7,049	3,969	458		12,572	1,639
1996							66	431	10,413	7,775	392		19,077	3,010
1997							22	1,441	19,412	6,755	289		27,919	3,206
1998							13	896	35,245	13,047	282	5	49,488	3,630
1999		19				1	3	951	34,901	9,673	252	5	45,805	4,468
2000							3	13,348	55,550	29,698	949	112	99,660	11,383
2001	15					2	145	34,112	205,352	34,401	3,907		277,934	6,781
2002							6	4,742	54,917	38,184	2,803	183	100,835	6,817
2003							10	11,389	86,621	35,516	334	4	133,874	8,127
2004	1						0	11,171	78,512	29,544	622	1	119,851	4,809
2005							0	3,487	64,253	20,414	637	0	88,791	5,486
2006							1	12,771	58,048	35,014	4,192	28	110,054	7,943
2007	-2						6	8,888	55,968	32,607	3,200	58	100,725	12,531
2008	-1						2	8,335	84,639	51,771	1,309	4	146,059	68,486
2009	-4						7	37,438	104,294	89,979	2,936	19	234,669	9,776
2010	-11	0					1	7,365	53,947	62,961	3,255	126	127,644	6,933
2011		0					6	12,870	108,156	28,202	644	5	149,883	4,572
2012							3	6,162	37,556	15,345	951	6	60,023	5,039
2013							0	5,871	31,618	25,345	3,758	166	66,758	7,097
<b>TOTAL</b>	<b>19</b>	<b>31</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>179</b>	<b>5,543</b>	<b>341,701</b>	<b>2,552,510</b>	<b>782,536</b>	<b>67,188</b>	<b>788</b>	<b>3,750,502</b>	<b>693,154</b>
10 Year Average							3	11,436	67,699	39,118	2,150		120,446	13,267

\*Jacks included

## Notes:

1995 counts include nighttime video counts during the hours of 2000 and 0400 PST April 1 through November 15.

24 hour counts November 16 through December 31.

1996 - 2002 counts include 24 hour video counts January 1 through March 15 and November 16 through Dec 31.

From March 16 through November 15, video counts took place between 2000 and 0400 hours PST.

2003-13 counts include 16 hour video counts between 0400-2000 PST January 1 through March 31 and November 1 through December 31.

TABLE 26

**MONTHLY COUNT OF STEELHEAD  
BONNEVILLE DAM 1938-2013**

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

TABLE 26

(Continued)

MONTHLY COUNT OF STEELHEAD  
BONNEVILLE DAM 1938 - 2013

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	Jan 1-	Aug 26-
														Aug 25	Dec 31
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	7,511	27,202	59,157	54,856	8,079	789		163,124	83,968	79,156
1995			333	863	1,257	6,419	29,305	112,812	48,781	6,691	1,104	1,506	209,071	126,537	82,534
1996	793	57	1,862	1,776	2,424	6,912	40,813	102,200	48,397	6,143	761	337	212,475	141,999	70,476
1997	342	426	1,966	1,950	2,485	7,696	57,472	127,882	53,571	18,428	2,234	84	274,536	185,381	89,155
1998	161	239	984	883	1,655	7,236	36,437	60,403	76,293	12,136	489	585	197,501	89,413	108,088
1999	15	287	699	833	1,308	5,157	48,278	101,610	46,200	6,509	637	585	212,118	141,245	70,873
2000	340	420	1,495	1,235	2,006	13,864	80,259	106,918	68,407	7,306	510	175	282,935	189,821	93,114
2001	333	239	2,196	2,043	3,331	24,076	199,969	263,518	152,434	21,542	4,343	2,769	676,793	455,422	221,371
2002	1,311	833	1,770	2,918	2,752	19,918	119,923	180,381	151,807	24,004	4,140	923	510,680	294,743	215,937
2003	724	1,728	2,264	1,474	1,714	10,966	95,185	139,612	95,759	12,467	3,115	813	365,821	231,717	134,104
2004	236	646	1,799	1,815	2,947	16,183	66,621	111,886	94,482	15,024	972	767	313,378	178,653	134,725
2005	149	62	103	1,064	1,517	9,286	84,968	110,487	83,450	21,694	2,598	272	315,650	191,275	124,375
2006	1,587	446	944	1,174	1,537	7,172	46,912	154,325	104,659	13,400	5,750	1,395	339,301	180,418	158,883
2007	601	387	1,514	1,020	1,666	6,789	58,362	185,281	54,543	13,096	1,433	758	325,450	232,586	92,864
2008	145	119	780	1,427	1,896	12,509	122,870	102,636	107,693	6,053	1,325	392	357,845	223,943	133,902
2009	167	43	677	1,547	2,395	9,942	119,486	353,478	97,236	17,535	1,620	844	604,970	426,264	178,706
2010	803	685	2,529	2,567	3,388	23,314	157,387	139,354	75,509	8,898	1,318	851	416,603	306,420	110,183
2011	805	264	1,267	1,385	1,558	6,807	96,220	172,287	78,963	7,651	1,294	864	369,365	263,861	105,504
2012	280	669	1,940	1,312	1,703	7,943	72,994	86,419	49,966	10,478	1,128	471	235,303	160,509	74,794
2013	208	224	1,234	964	764	4,010	57,616	118,382	42,232	7,356	797	260	234,047	169,926	64,121
<b>TOTAL</b>	<b>10,565</b>	<b>10,260</b>	<b>80,554</b>	<b>200,235</b>	<b>183,611</b>	<b>553,771</b>	<b>4,589,046</b>	<b>5,890,581</b>	<b>4,068,947</b>	<b>415,344</b>	<b>64,263</b>	<b>16,942</b>	<b>16,084,119</b>	<b>10,473,221</b>	<b>5,613,950</b>
<b>10-Year Average</b>			<b>1,279</b>	<b>1,428</b>	<b>1,937</b>	<b>10,396</b>	<b>88,344</b>	<b>153,454</b>	<b>78,873</b>	<b>12,119</b>	<b>1,824</b>		<b>351,191</b>	<b>233,386</b>	<b>117,806</b>

1994 counts include nighttime video counts during the hours of 2100-0500 PST June 1 through August 16  
1995 counts include nighttime video counts during the hours of 2000 and 0400 PST April 1 through November 15.  
24 hour counts November 16 through December 31.  
1996 - 2002 counts includes 24 hour video counts January 1 through March 15 and November 16 through Dec 31.  
From March 16 through November 15, video counts took place between 2000 and 0400 hours PST.  
2003 - 2013 counts include 16 hour video counts between 0400-2000 PST January 1 through March 31  
and November 1 through December 31.

TABLE 27

MONTHLY COUNT OF SHAD at  
BONNEVILLE DAM 1938 - 2013

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
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



TABLE 27  
(Continued)  
MONTHLY COUNT OF SHAD at  
BONNEVILLE DAM 1938 - 2013

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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
2003					420,265	4,025,864	108,226	4,195					4,558,550
2004					662,249	4,544,400	142,236	6,792					5,355,677
2005					288,233	3,768,400	182,603	2,893					4,242,129
2006					205,664	3,555,887	197,303	6,400					3,965,254
2007				56	695,605	1,763,670	112,508	3,438					2,575,277
2008					67,013	1,856,442	217,538	3,763					2,144,756
2009					313,849	1,028,718	30,571	600					1,373,738
2010					45,038	943,332	53,049	1,052					1,042,471
2011					1,857	766,135	177,334	2,744					948,070
2012					18,446	2,331,533	79,282	3,133					2,432,394
2013					381,393	3,298,348	68,417	3,217					3,751,375
<b>TOTAL</b>			14	457	7,939,745	62,313,251	8,386,543	153,973	4,136	593	36		78,798,748
<b>10 Year - Average</b>					267,935	2,385,687	126,084	3,403					2,783,114

TABLE 28

**MONTHLY COUNT OF LAMPREY at  
BONNEVILLE DAM 1939<sup>1</sup> - 1969, 1997 - 2013**

The counts in the following table represent an approximation of trends, only. Lamprey are difficult to count. They move back and forth in the count window, spend long periods of time resting and are more likely to pass at night than salmonids. 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 auxiliary water supply.

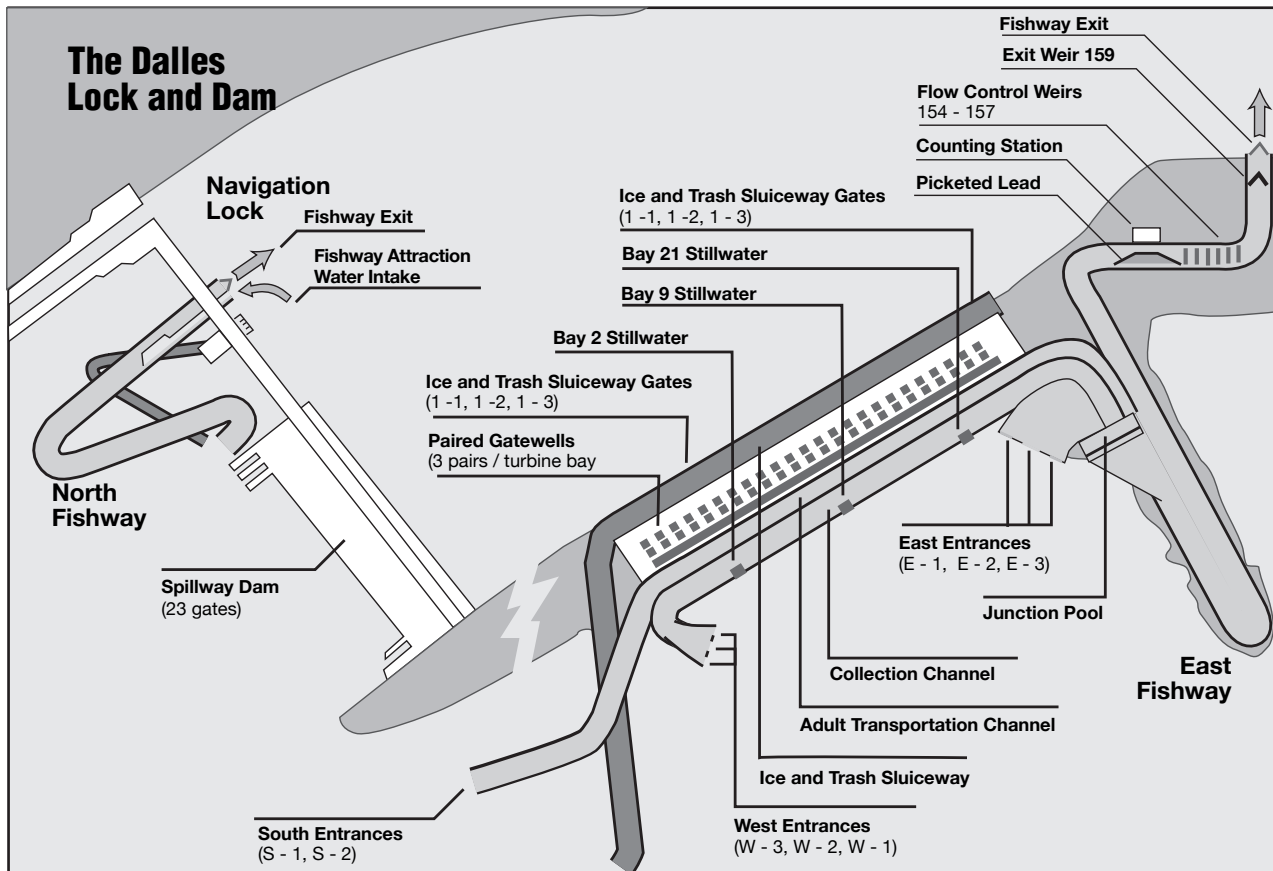
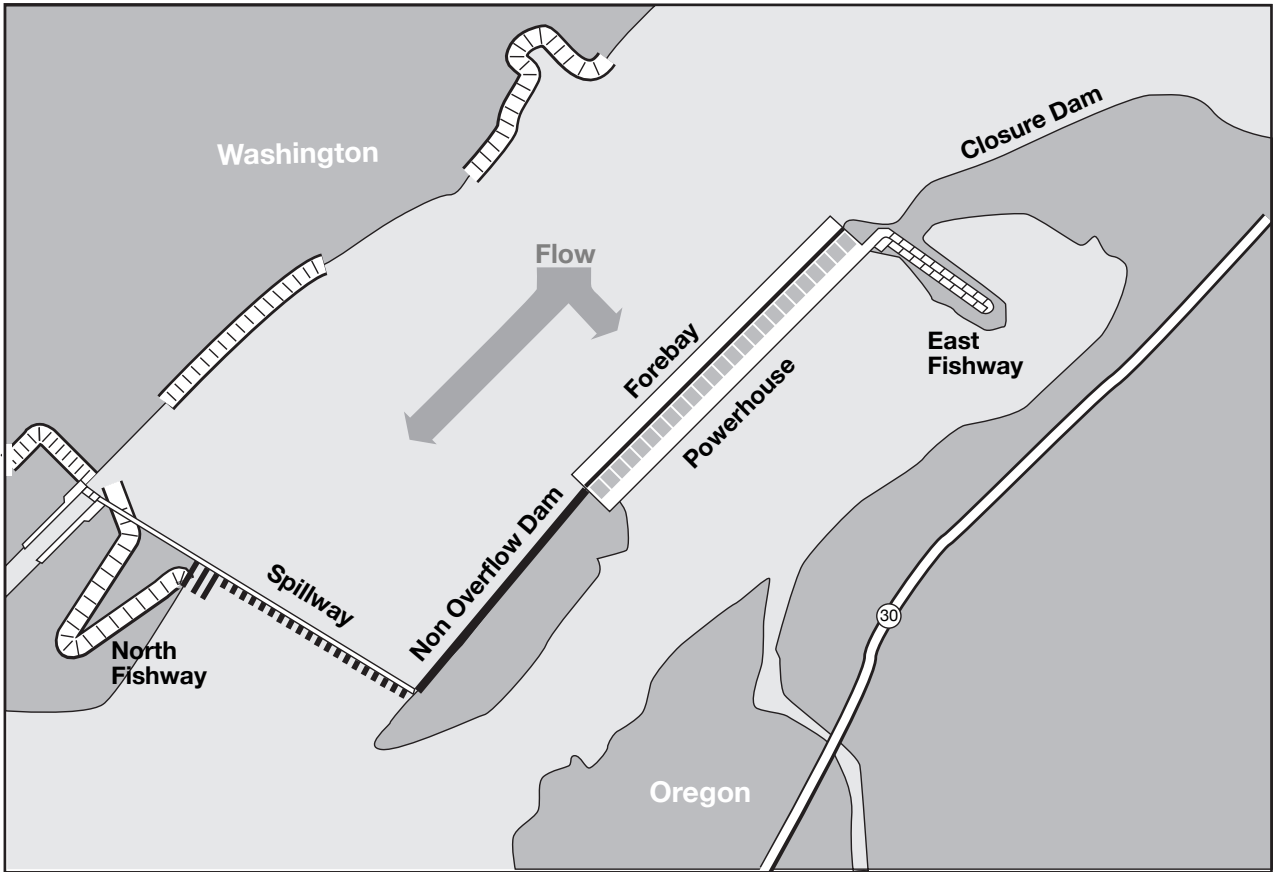
Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1939				732	9,027	95,814	103,726	14,403	3,349	71	0		227,122
1940				338	24,551	40,642	67,760	20,554	2,217	40	0		156,102
1941				1,428	7,449	6,960	34,952	12,801	1,305	57	2		64,954
1942				13	1,302	3,457	28,641	16,270	2,619	40	19		52,361
1943				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
<sup>2</sup> 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	<sup>3</sup> #####	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
2003				6	2,874	50,875	45,863	13,230	3,843	336			117,027
2004				0	1,670	27,515	23,607	6,644	2,170	174			61,780
2005				-1	774	10,706	12,271	2,320	498	96			26,664
2006				1	446	8,874	18,603	6,868	4,013	122	13		38,940
2007				0	297	2,397	12,948	2,884	818	-26	-9		19,309
2008				0	444	3,942	6,276	3,159	680	59	2		14,562
2009				0	818	2,740	3,819	1,057	203	-14	2	-3	8,622
2010				0	11	1,285	2,793	1,646	460	44	-6	1	6,234
2011	1				281	1,210	9,408	5,987	1,314	112	-5	7	18,315
2012				20	1,141	8,073	10,780	6,555	2,583	81	-10	1	29,224
2013					1,294	6,329	11,095	3,795	1,352	102	1	3	23,971
<b>TOTAL</b>	<b>3</b>	<b>4,105</b>	<b>168,916</b>	<b>788,365</b>	<b>1,808,501</b>	<b>890,573</b>	<b>150,013</b>	<b>12,370</b>	<b>1,246</b>	<b>1,246</b>	<b>1,246</b>	<b>1,246</b>	<b>3,824,121</b>
<b>10-Year Average</b>	<b>3</b>	<b>718</b>	<b>7,307</b>	<b>11,160</b>	<b>4,092</b>	<b>1,409</b>	<b>75</b>	<b>75</b>	<b>75</b>	<b>75</b>	<b>75</b>	<b>75</b>	<b>24,762</b>

<sup>1</sup>No data are available for 1938.

<sup>2</sup>Because of changes in the Washington shore counting station, lamprey counts from 1939-1949 cannot be compared with counts from 1950 on.

<sup>3</sup>Because of the heavy shad run, fish counters were not asked to count lamprey from June 1 through July 27.

# Plate 3 The Dalles Lock and Dam



# THE DALLES DAM

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## FISH COUNTING SCHEDULE

Jan 1 – Feb 28	Video counting daily 0400-2000 hours Pacific Standard Time.
Apr 1 – Oct 31	Visual counting daily 0400-2000 hours Pacific Standard Time.

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## FISHWAY OPERATING SCHEDULE

The following information includes fishway operation for calendar year 2013. Total length of time for annual fishway outages can be determined by referring to previous years' annual reports.

### *East Adult Fishway*

Jan 1 – Jan 21	Dewatered for winter maintenance
Jan 22 – Dec 3	In full operation with attraction water
Aug 6	Attraction water off half day for required ROV grating inspection
Dec 2 – Dec 31	Dewatered for winter maintenance

### *North Adult Fishway*

Jan 1- Jan 27	In full operation with attraction water
Jan 28 – Feb 28	Dewatered for winter maintenance
Mar 1 – Dec 30	In full operation with attraction water
Aug 6	Attraction water off half day for required ROV grating inspection

### *Ice/Trash Sluiceway (Juvenile)*

Jan 1- Feb 28	OOS, end gate closed
Mar 1 – Mar 30	In service with 4 sluice gates open
Apr 1 – Nov 30	In service with 6 sluice gates open
Dec 1 – Dec 15	In service with 4 sluice gates open
Dec 16 – Dec 31	OOS, end gate closed

### *Spillway*

Jan 1 – April 10	Closed, all gates on seal
April 10 – Aug 31	Spill 40%, 24/7 for juvenile passage
Sept 1 – Dec 31	Closed, all gates on seal

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## FISHWAY ACTIVITIES

### *FISHWAY DEWATERING PROCEDURES*

Dewatering fishways provides the best opportunity for maintenance and inspection. To dewater the fishladders, exit bulkheads are installed and the ladder is allowed to drain. Entrance bulkheads are installed and dewatering pumps operated to dewater all areas of fishways below tailwater

elevation. Fisheries personnel enter these areas to salvage trapped fish when water levels allow entry. Fish are pushed toward tailwater or captured. Captured fish are transported to forebay or tailwater, depending on location, fish species, age class and stress levels. A follow up inspection is made to capture any missed fish. Efforts are made to provide continual water supply during the entire operation to reduce fish stranding and stress. Fishway areas that cannot be dewatered are inspected by ROV underwater camera.

### **Fish Ladder Dewatering Results**

Key: adult=a, juvenile=j, carp=cp, catfish=ca, sculpin=sp, shad=sh, small mouth bass=smb, crappie=cr, pikeminnow=pm, whitefish=wf

ate	Event	Chinook	Steelhead	Shad	Sturgeon	Lamprey	Coho	Morts
2/4/13	N. upper	10j	1a,7j	0	0	7	0	0
12/3/13	E. upper	1+3j	9j	179	0	3	0	shad
12/5/13	E. lower	1	0	0	21	47	2	0

### **TURBINE DEWATERING PROCEDURES**

Turbines are dewatered for routine overall maintenance or occasional forced outages. These usually entrap low numbers of fish, due in part to unit operational guidelines, which include running unit at full load and immediate tail log installation after unit shut down. If a turbine unit fails, dewatering guidelines cannot always be followed, which can result in higher numbers of fish entrapment. Fish removal 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 (sc) and draft tubes (dt) by fish bags. If numbers of fish require more than three bags, transport tanks are placed in the draft tube gallery for transport by crane. Fish are released to tailwater as soon as possible.

### **Turbine Dewatering Results**

Key: adult=a, juvenile=j, scroll case=sc, draft tube=dt, catfish=ca, sculpin=sp, crappie=cr, small mouth bass=smb

Date	Event	Steelhead	Lamprey	Sturgeon	Other	Comments	Morts
2/12/13	MU 2 sc	0	0	0	0	1.)	4
2/12/13	MU 2 dt	0	0	0	0	None	0
3/13/13	MU 4 sc	0	0	0	0	None	0
3/14/13	MU 4 dt	0	0	0	0	None	0
4/30/13	MU21sc	0	0	0	0	None	0
4/30/13	MU21dt	1j	0	0	0	None	0
6/27/13	MU19sc	0	0	4	0	2)	0
6/27/13	MU19dt	0	1a	3	1ca	3)	0
7/15/13	MU5sc	0	0	1	0	4)	0
7/16/13	MU5dt	0	0	1	0	5)	0
9/17/13	MU15 sc	0	0	0	0	0	0
9/18/13	MU15dt	0	0	7	1ca	0	0

- 1) Four adult shad, and one western grebe morts. Returned to tailwater.
- 2) Four sturgeon released to tailrace.
- 3) Three sturgeon and one channel catfish release to tailrace; one adult lamprey release to forebay.
- 4) One sturgeon ~ 3' released to tailrace.
- 5) One sturgeon ~ 4' released to tailrace.

## Navigation Lock Dewatering

Key; adult=a, juvenile=j, catfish=ca, sculpin=sp, crappie=cr, small mouth bass=smb

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Date	Event	Chinook	Steelhead	Sockeye	Coho	Lamprey	Shad	Sturgeon	Comments	Morts
3/9/2013	Navlock	0	0	0	0	0	0	0	None	0

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### Water Velocity

Fishway channel water velocities were measured three times weekly during Adult Fish Passage Season (Mar1 – Dec 1). Wood floats were timed through all fishway channels that are supplemented by auxiliary water and results were provided in the project weekly fishway status report. Criteria velocities of 1.5 to 4 fps were maintained throughout the fish passage season. Velocities were not always taken at unit 22 due to turbulence preventing float tracking. Velocity is generally slower from junction pool to unit 21. Past University of Idaho analysis did not reveal passage problems in this area.

### Water Quality

Water clarity was read by secchi dish at the count stations. Water clarity data is not included in this report due to its questionable accuracy. This data was collected per regional request to maintain historical data base. Temperature monitoring with data loggers in each fishway is provided biweekly in the fishway status reports. The following graph is a compilation of weekly readings collected by data loggers in the east and north fishladders, immediately upstream of the count stations.

### *PIKEMINNOW ABATEMENT*

Washington Dept Fish and Wildlife gained access to The Dalles Dam and the Boat Restricted Zone (BRZ) for the purpose of hook and line dam-angling in support of the on-going BPA funded Columbia River Predator Control Program. Dam angling occurred from May through Sept, in conjunction with ODFW and PSMFC.

### *ZEBRA/QUAGGA MUSSEL MONITORING*

Zebra mussel veliger sampling was conducted from June to August (Three samples total) via plankton tow. Samples were sent to Portland State University's Center for Lakes and Reservoirs for analysis. No mussels found to date. Program will continue in 2014.

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## RESEARCH

The following are a list of fish related research and contract personnel that were on site during the 2013 passage season.

University of Idaho – Downloading half-duplex PIT receivers and installing and maintaining radio telemetry equipment. Evaluated the effects of the extended spillwall and the resulting spill pattern on passage metrics of sockeye salmon and spring-summer Chinook salmon (adult and jack); monitored the movements of adult Pacific lampreys outfitted with half-duplex PIT tags and acoustic-tags (JSATS).

Oregon Dept of Fish and Wildlife – Ongoing BPA-funded research associated with the Northern Pikeminnow Management Program. The pikeminnow sampler worked closely with the

WDFW/PSMFC northern pikeminnow angling crew that fished The Dalles tailrace in order to collect diet sampling and biological data from harvested pikeminnow.

Oregon Department of Fish and Wildlife and Fish Passage Center – Continued to provide once monthly fishway inspections of adult and juvenile systems.

Washington Department of Fish and Wildlife – Performed dam angling from various locations on the dam to remove northern pikeminnow.

Normandeau Environmental Consultants – Continued to perform fish counting at the north and east fishways via count stations.

Pacific States Marine Fish Commission – Sampled North Wasco PUD turbine juvenile bypass system per FERC requirement.

Pacific States Marine Fisheries Commission - Participated in the Northern Pikeminnow Management Program (NPMP) dam angling fishery. Angling activities in support of study included hook and line capture, holding, PIT-tagging, examination, and gastric lavage.

Fisheries Field Unit – Provided over site and standardization to the piscivorous bird monitoring program at the project.

Fisheries Field Unit – Second and final year evaluating interaction between overwintering bald eagles and the avian line array.

U.S. Dept of Agriculture – Provided avian hazing April 16 to July 31 via pyrotechnics during juvenile passage season.

U. S. Geological Survey – Partially removed old research equipment from the powerhouse and spillway intake deck from past telemetry studies. To be continued 2014.

Biomark/Pacific States Marine Fisheries Commission PTAGIS Information System – Installed and monitored Thin Wall PIT Tag detection system in The Dalles east and north count stations.

Confederated Tribes of the Umatilla Indian Reservation – Captured adult Pacific lamprey as part of the on-going project to restore lamprey to various tributaries. CTUIR worked with the Nez Perce and Warm Springs Tribes, and Yakama Nation help with lamprey collection efforts.

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TABLE 29

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

2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*	4	2		18,841	79,731	70,063	37,731	99,513	513,045	79,494			898,424
STEELHEAD	6	73		560	220	1,723	32,103	41,629	93,711	20,725			190,750
SOCKEYE				1	24	89,464	71,889	514	4				161,896
COHO*								840	17,205	8,637			26,682
CHUM									2	2			4
PINK								7	71	9			87
<b>TOTAL</b>	<b>10</b>	<b>75</b>		<b>19,402</b>	<b>79,975</b>	<b>161,250</b>	<b>141,723</b>	<b>142,503</b>	<b>624,038</b>	<b>108,867</b>			<b>1,277,843</b>
LAMPREY						845	4,937	2,092	843	20			8,737
STURGEON					1	8	29	15	6	1			60
BULL TROUT													0

\*Jacks included

Shad no longer counted at The Dalles Dam.



TABLE 30

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

THE DALLES PROJECT - FISH COUNTS

JANUARY 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL		unclipped				DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM			LAMPREY	STURGEON	SECCHI
Jan 1	0			0				0	0				180.3	0.0	5.0	42.2
Jan 2	0			0				0	0				197.0	0.0	5.0	42.0
Jan 3	0			0				2	1				186.1	0.0	5.0	41.5
Jan 4	0			-1				0	0				174.2	0.0	5.0	41.2
Jan 5	0			0				1	1				171.4	0.0	5.0	40.9
Jan 6	0			0				1	1				158.4	0.0	5.0	40.9
Jan 7	0			0				0	0				145.6	0.0	5.0	40.9
Jan 8	0			0				0	0				167.3	0.0	5.0	41.1
Jan 9	1			0				0	0				195.0	0.0	5.0	41.0
Jan 10	0			0				-2	-2				174.4	0.0	5.0	40.8
Jan 11	0			1				2	1				172.7	0.0	5.0	40.6
Jan 12	0			0				1	0				180.4	0.0	5.0	40.3
Jan 13	1			0				0	0				170.1	0.0	5.0	40.1
Jan 14	1			0				0	0				182.1	0.0	5.0	39.9
Jan 15	-1			0				-1	-1				191.2	0.0	5.0	39.8
Jan 16	1			0				1	0				194.7	0.0	5.0	39.7
Jan 17	0			0				1	1				182.1	0.0	5.0	39.5
Jan 18	0			0				0	0				170.5	0.0	5.0	39.2
Jan 19	0			0				0	0				175.0	0.0	5.0	39.0
Jan 20	0			0				1	0				156.8	0.0	5.0	38.6
Jan 21	0			0				0	0				181.7	0.0	5.0	38.2
Jan 22	0			0				0	0				189.2	0.0	7.0	37.9
Jan 23	0			0				0	0				174.2	0.0	5.0	37.6
Jan 24	0			0				0	0				161.3	0.0	5.0	37.4
Jan 25	0			0				0	0				171.7	0.0	5.0	37.5
Jan 26	0			0				0	0				141.8	0.0	5.0	37.5
Jan 27	1			0				0	0				136.3	0.0	5.0	37.5
Jan 28	0			0				0	0				141.0	0.0	5.0	37.5
Jan 29	0			0				0	0				124.4	0.0	5.0	37.6
Jan 30	0			0				0	0				138.3	0.0	5.0	38.0
Jan 31	0			0				-1	-1				156.6	0.0	5.0	38.3
<b>TOTAL</b>	<b>4</b>			<b>0</b>				<b>6</b>	<b>1</b>							
<b>AVG.</b>	<b>0</b>			<b>0</b>				<b>0</b>	<b>0</b>				<b>169.1</b>	<b>0.0</b>	<b>5.1</b>	<b>39.5</b>

TABLE 31

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

THE DALLES PROJECT - FISH COUNTS

FEBRUARY 2013

DATE	CHINOOK ADULT		CHINOOK FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER						STEELHEAD	unclipped					KCFS	KCFS	SECCHI	DEG F
Feb 1	0							-2	0					132.8	0.0	5.0	38.4
Feb 2	0							-1	0					127.6	0.0	5.0	38.4
Feb 3	0							1	0					134.1	0.0	5.0	38.6
Feb 4														144.1	0.0	5.0	38.7
Feb 5														125.5	0.0	5.0	38.9
Feb 6														140.0	0.0	5.0	39.1
Feb 7														139.2	0.0	5.0	39.3
Feb 8														139.7	0.0	5.0	39.3
Feb 9														141.5	0.0	5.0	39.3
Feb 10														129.9	0.0	5.0	39.2
Feb 11														138.2	0.0	5.0	39.4
Feb 12	0							6	4					144.7	0.0	5.0	40.2
Feb 13	0							6	1					132.1	0.0	5.0	40.4
Feb 14	0							9	2					132.8	0.0	5.0	40.2
Feb 15	0							4	2					145.3	0.0	5.0	40.2
Feb 16	0							3	1					140.2	0.0	5.0	40.1
Feb 17	0							4	1					141.9	0.0	5.0	40.1
Feb 18	1							4	2					145.1	0.0	5.0	40.0
Feb 19	0							3	1					141.5	0.0	5.0	40.0
Feb 20	0							3	1					146.0	0.0	5.0	40.0
Feb 21	0							3	1					135.7	0.0	5.0	40.0
Feb 22	0							2	1					129.0	0.0	5.0	40.0
Feb 23	0							4	2					121.7	0.0	5.0	40.0
Feb 24	0							6	5					122.2	0.0	5.0	40.1
Feb 25	1							3	3					110.8	0.0	5.0	40.3
Feb 26	0							4	4					121.7	0.0	5.0	40.5
Feb 27	0							3	1					112.7	0.0	5.0	40.6
Feb 28	0							8	4					125.4	0.0	5.0	40.8
<b>TOTAL</b>	<b>2</b>							<b>73</b>	<b>36</b>								
<b>AVG.</b>	<b>0</b>							<b>4</b>	<b>2</b>					<b>133.6</b>	<b>0.0</b>	<b>5.0</b>	<b>39.7</b>

Note: From January 1-February 28, counts were from video tape. The counts are 16-hour counts and occurred between 0400-2000 PST. Video disruption occurred resulting in a loss of 8 days of count data.

TABLE 32

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

THE DALLES PROJECT - FISH COUNTS

MARCH 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL		unclipped	PINK	CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD					STEELHEAD	KCFS	KCFS	SECCHI
Mar 1													104.1	0.0	5.0	41.0
Mar 2													118.9	0.0	5.0	41.2
Mar 3													106.9	0.0	5.5	41.2
Mar 4													118.1	0.0	5.5	41.0
Mar 5													112.5	0.0	5.5	40.9
Mar 6													120.1	0.0	6.0	41.0
Mar 7													107.3	0.0	6.0	41.1
Mar 8													109.1	0.0	6.0	41.3
Mar 9													131.1	0.0	6.0	41.5
Mar 10													105.5	0.0	5.0	41.7
Mar 11													118.6	0.0	5.0	42.0
Mar 12													120.2	0.0	5.0	42.3
Mar 13													113.4	0.0	5.0	42.6
Mar 14													108.6	0.0	5.0	42.9
Mar 15													114.8	0.0	5.0	43.2
Mar 16													105.7	0.0	5.0	43.7
Mar 17													107.2	0.0	6.0	43.7
Mar 18													135.1	0.0	5.0	43.6
Mar 19													127.1	0.0	5.0	43.8
Mar 20													102.4	0.0	5.0	43.8
Mar 21													123.9	0.0	5.0	43.9
Mar 22													126.2	0.0	5.0	43.6
Mar 23													121.2	0.0	5.0	43.7
Mar 24													120.8	0.0	5.0	43.8
Mar 25													129.4	0.0	3.5	44.0
Mar 26													117.0	0.0	4.0	44.3
Mar 27													140.9	0.0	5.0	44.7
Mar 28													120.6	0.0	4.5	45.1
Mar 29													122.2	0.0	3.0	45.6
Mar 30													156.2	0.0	4.0	45.9
Mar 31													162.5	0.0	5.0	46.1

**TOTAL**

AVG.

120.2	0.0	5.0	43.0
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Video discontinued for the month of March no fish count data provided.  
Official Spring Chinook run started April 1. February Chinook counts were not added to spring totals.

TABLE 33

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

THE DALLES PROJECT - FISH COUNTS													APRIL 2013			
DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL		unclipped				DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	KCFS	KCFS	SECCHI
Apr 1	13			1			0	32	15				158.0	0.0	5.0	46.7
Apr 2	42			1			0	35	23				158.3	0.0	4.5	47.3
Apr 3	14			0			0	25	9				169.4	0.0	3.5	47.5
Apr 4	34			0			0	29	13				182.7	0.0	4.0	47.8
Apr 5	26			2			0	19	8				206.4	0.0	4.0	48.0
Apr 6	48			2			0	27	12				211.4	0.0	4.3	48.3
Apr 7	44			0			0	20	9				226.0	0.0	4.0	48.8
Apr 8	82			0			0	22	10				226.1	23.3	4.0	48.8
Apr 9	29			0			0	15	7				269.1	95.7	4.0	48.7
Apr 10	46			0			0	24	8				248.0	100.2	4.0	49.1
Apr 11	106			1			0	41	27				271.8	108.4	4.0	49.2
Apr 12	48			1			0	34	23				284.8	113.7	4.0	49.1
Apr 13	37			1			0	26	15				223.3	89.3	4.8	49.0
Apr 14	59			-1			0	18	5				248.1	98.9	5.0	48.9
Apr 15	60			4			0	29	17				265.9	106.5	4.0	48.8
Apr 16	78			5			0	22	10				266.5	106.4	5.0	48.5
Apr 17	73			1			0	18	7				233.1	93.0	5.0	48.3
Apr 18	144			8			0	12	6				230.1	91.8	4.5	48.3
Apr 19	116			1			0	9	3				195.2	78.0	4.5	48.5
Apr 20	200			14			0	13	5				211.7	84.4	5.0	48.6
Apr 21	236			5			1	7	6				217.5	86.9	5.0	48.7
Apr 22	259			10			0	8	1				231.9	92.9	5.0	48.9
Apr 23	379			12			0	3	1				201.4	80.3	5.0	49.1
Apr 24	578			18			0	11	5				198.2	79.5	5.0	49.3
Apr 25	954			32			0	10	4				195.5	78.1	5.0	49.8
Apr 26	1,752			62			0	8	7				203.3	76.1	4.0	50.5
Apr 27	2,238			91			0	12	6				206.6	76.2	4.0	51.1
Apr 28	3,703			281			0	12	4				202.5	80.7	4.0	51.0
Apr 29	3,406			364			0	11	2				203.6	81.2	3.5	51.4
Apr 30	2,841			280			0	8	4				210.1	83.1	4.0	51.3
<b>TOTAL</b>	<b>17,645</b>			<b>1,196</b>			<b>1</b>	<b>560</b>	<b>272</b>				<b>218.6</b>	<b>66.8</b>	<b>4.4</b>	<b>49.0</b>
<b>AVG.</b>	<b>588</b>			<b>40</b>			<b>0</b>	<b>19</b>	<b>9</b>							

Note: Visual counts occurred April 1 through October 31. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST. Shad counting discontinued.

TABLE 34

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

THE DALLES PROJECT - FISH COUNTS

MAY 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL			unclipped				DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
May 1	2,360			263			0	5	0				0	227.5	91.0	5.5	51.5
May 2	1,841			296			0	2	0				0	210.2	84.1	4.0	51.8
May 3	1,497			352			0	8	2				0	227.9	90.4	4.0	52.2
May 4	3,925			1,169			0	11	6				0	213.5	84.9	5.5	52.7
May 5	5,862			2,267			0	4	1				0	195.8	78.6	5.0	53.1
May 6	1,766			583			0	2	1				0	205.3	82.1	5.0	53.6
May 7	3,471			2,167			0	13	4				0	222.7	89.0	5.0	54.3
May 8	3,073			2,658			0	9	2				0	245.1	93.0	7.0	54.6
May 9	2,023			2,230			0	12	4				0	255.8	98.5	4.5	55.1
May 10	2,572			2,288			-1	2	0				0	305.5	112.0	4.5	55.7
May 11	1,934			2,025			0	8	1				0	338.3	119.6	4.0	56.6
May 12	1,922			2,103			0	8	4				0	326.7	105.7	3.0	57.2
May 13	1,115			1,105			0	4	2				0	301.2	104.5	4.0	57.2
May 14	978			1,078			0	5	1				0	325.6	130.7	4.5	57.2
May 15	958			1,060			0	6	2				0	326.4	125.7	4.5	57.3
May 16	862			1,005			0	6	2			1	322.7	111.4	4.5	57.3	
May 17	906			956			0	11	1			0	286.0	111.3	4.5	57.1	
May 18	848			970			0	0	0			0	318.9	114.2	4.5	57.0	
May 19	902			689			0	4	2			0	306.0	117.0	3.0	56.7	
May 20	1,063			750			0	6	1			0	294.2	117.0	4.0	57.0	
May 21	1,121			626			0	7	1			0	270.4	108.9	4.5	57.0	
May 22	852			569			0	0	0			0	264.2	105.3	4.5	56.4	
May 23	977			606			0	10	0			0	296.9	118.9	4.5	56.3	
May 24	795			462			0	10	0			0	277.1	110.7	4.5	56.3	
May 25	767			387			0	7	-1			0	273.8	110.1	4.5	56.1	
May 26	998			317			0	8	1			0	282.5	112.9	4.0	56.3	
May 27	791			311			1	5	1			0	281.3	112.1	5.0	56.1	
May 28	585			293			2	9	1			0	276.1	109.4	5.0	56.1	
May 29	901			294			5	11	4			0	257.8	102.9	4.0	56.5	
May 30	891			205			7	12	0			0	238.9	95.7	4.5	56.7	
May 31	848			243			10	15	4			0	240.6	96.1	5.0	56.7	
<b>TOTAL</b>	<b>49,404</b>			<b>30,327</b>			<b>24</b>	<b>220</b>	<b>47</b>			<b>1</b>					
<b>AVG.</b>	<b>1,594</b>			<b>978</b>			<b>1</b>	<b>7</b>	<b>2</b>			<b>0</b>	<b>271.4</b>	<b>104.6</b>	<b>4.5</b>	<b>55.7</b>	
<b>RUN YEAR</b>		<b>CHINOOK</b>	<b>CHINOOK</b>					<b>TOTAL</b>	<b>unclipped</b>								
<b>TOTALS TO DATE</b>		<b>ADULT</b>	<b>JACK</b>				<b>SOCKEYE</b>	<b>STEELHEAD</b>	<b>STEELHEAD</b>				<b>STURGEON</b>				
<b>SPRING</b>		<b>67,049</b>	<b>31,523</b>				<b>25</b>	<b>780</b>	<b>319</b>				<b>1</b>				

TABLE 35

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT - FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL					DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TEMP DEG F		
	SPRING	SUMMER	FALL				SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM					LAMPREY	STURGEON
Jun 1	715			302			12	15	11			0	0	233.3	93.2	4.3	57.1
Jun 2	839			239			20	7	6			0	0	194.4	77.8	4.5	57.6
Jun 3	593			247			18	12	12			0	0	253.2	100.8	5.0	57.9
Jun 4		1,166		357			31	16	13			0	2	221.8	88.5	5.0	58.4
Jun 5		1,271		346			64	14	12			1	0	235.3	93.8	4.5	59.1
Jun 6		1,624		358			87	24	17			2	1	247.2	95.1	3.5	59.5
Jun 7		2,335		543			218	27	21			2	0	216.4	86.2	4.0	60.0
Jun 8		2,170		456			294	18	16			13	0	232.1	91.8	5.0	60.6
Jun 9		2,459		614			627	39	30			28	0	225.7	90.1	4.0	61.3
Jun 10		1,852		522			758	34	26			23	0	232.4	93.0	4.0	61.6
Jun 11		2,431		699			1,248	25	19			41	0	197.5	79.2	5.0	61.9
Jun 12		1,299		454			999	32	27			33	0	237.1	95.0	5.0	62.0
Jun 13		2,211		593			1,813	26	18			39	0	241.0	96.3	5.0	62.2
Jun 14		2,130		491			1,961	37	23			31	0	223.9	89.6	5.0	62.4
Jun 15		2,556		691			2,575	35	27			53	2	226.6	90.6	5.0	62.8
Jun 16		2,634		626			3,494	29	22			36	0	191.0	76.7	4.0	63.0
Jun 17		2,309		498			3,491	39	31			46	0	189.8	76.2	4.0	63.1
Jun 18		1,923		517			3,517	42	32			69	0	204.4	81.6	5.0	62.9
Jun 19		2,142		623			5,239	78	60			71	0	195.1	77.9	5.0	62.7
Jun 20		2,357		601			5,170	75	61			31	0	197.2	79.0	5.0	62.6
Jun 21		1,818		491			4,466	85	60			41	1	207.4	82.9	5.0	62.8
Jun 22		1,874		689			5,053	96	66			35	0	248.7	99.2	5.0	62.9
Jun 23		2,360		493			5,577	100	72			44	1	242.8	97.0	4.0	63.1
Jun 24		2,412		748			6,203	113	68			37	0	235.3	94.1	5.0	62.8
Jun 25		1,598		546			4,324	76	50			27	0	249.7	100.0	5.0	62.6
Jun 26		1,300		357			5,403	92	68			38	1	250.8	99.6	5.0	62.4
Jun 27		1,735		439			6,093	90	58			13	0	250.7	98.4	5.0	62.8
Jun 28		2,071		343			8,246	151	100			34	0	247.6	98.0	5.0	63.2
Jun 29		1,479		473			6,188	156	102			23	0	282.8	104.3	5.0	63.6
Jun 30		1,761		283			6,275	140	92			34	0	245.6	96.4	4.0	63.6
<b>TOTAL</b>	<b>2,147</b>	<b>53,277</b>		<b>14,639</b>			<b>89,464</b>	<b>1,723</b>	<b>1,220</b>			<b>845</b>	<b>8</b>				
<b>AVG.</b>	<b>716</b>	<b>1973</b>		<b>488</b>			<b>2,982</b>	<b>57</b>	<b>41</b>			<b>28</b>	<b>0</b>	<b>228.6</b>	<b>90.7</b>	<b>4.7</b>	<b>61.6</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	69,196	32,311
SUMMER	53,277	13,851
<b>TOTAL</b>	<b>122,473</b>	<b>46,162</b>

	TOTAL SOCKEYE	unclipped STEELHEAD
	89,489	2,503
		1,539

	LAMPREY	STURGEON
	845	9

TABLE 36

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

THE DALLES PROJECT - FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL unclipped			CHUM	LAMPREY	STURGEON	DISCH SPILL TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD				STEELHEAD	PINK	KCFS	KCFS
Jul 1		1,987		508		6,099	196	87		60	0	261.8	98.0	5.0	64.1
Jul 2		1,665		366		5,638	184	87		113	0	263.7	97.0	4.0	64.6
Jul 3		1,561		579		5,107	157	67		93	1	256.2	98.7	5.0	64.9
Jul 4		2,302		442		5,282	250	119		123	0	254.8	97.3	4.0	65.2
Jul 5		2,162		348		5,557	255	104		272	1	236.2	97.2	4.5	65.5
Jul 6		1,645		306		4,517	278	102		150	3	244.4	97.8	4.0	66.1
Jul 7		1,461		419		4,090	245	102		100	1	237.3	94.8	5.0	66.8
Jul 8		1,335		294		4,243	310	167		179	2	232.9	92.6	5.0	67.0
Jul 9		963		310		4,102	306	150		105	2	200.5	80.3	5.0	67.5
Jul 10		1,249		202		4,629	474	285		153	1	188.9	75.5	5.0	68.0
Jul 11		949		264		3,146	541	326		129	2	183.1	73.1	5.0	67.7
Jul 12		1,206		231		2,476	429	222		273	0	187.3	74.8	5.0	67.6
Jul 13		1,071		210		3,192	563	340		89	1	193.6	77.0	5.0	67.8
Jul 14		1,164		264		2,342	595	288		180	0	188.5	75.1	5.0	68.3
Jul 15		927		172		2,073	806	506		77	3	196.3	78.4	5.0	68.5
Jul 16		512		115		1,368	628	320		110	1	181.5	72.9	5.0	68.8
Jul 17		1,007		127		1,933	899	551		232	1	173.6	69.6	5.0	69.1
Jul 18		640		150		1,216	1,174	670		203	0	176.2	70.1	5.0	69.4
Jul 19		680		99		1,048	1,425	918		211	1	176.9	70.6	5.0	69.6
Jul 20		615		113		669	1,568	973		295	1	187.2	74.8	5.0	69.5
Jul 21		692		90		764	1,638	1,030		223	2	160.9	64.4	4.5	69.5
Jul 22		532		93		424	1,648	1,036		182	1	181.8	72.4	4.5	69.3
Jul 23		335		67		313	1,269	768		190	0	151.3	60.4	5.0	69.6
Jul 24		419		92		311	1,289	787		127	0	137.0	54.8	5.0	70.1
Jul 25		452		80		246	2,116	1,313		158	0	154.8	61.8	5.0	70.3
Jul 26		619		105		274	2,350	1,563		161	0	174.5	69.8	5.0	70.4
Jul 27		520		93		251	1,675	1,047		211	2	135.3	54.1	4.3	70.7
Jul 28		624		116		191	1,914	1,203		128	0	131.7	52.8	5.0	70.2
Jul 29		710		127		151	2,237	1,416		160	0	147.5	59.0	5.0	70.2
Jul 30		590		130		137	2,465	1,528		103	2	152.2	60.8	5.0	70.7
Jul 31		502		123		100	2,219	1,363		147	1	164.5	65.7	5.0	70.9
<b>TOTAL</b>		<b>31,096</b>		<b>6,635</b>		<b>71,889</b>	<b>32,103</b>	<b>19,438</b>		<b>4,937</b>	<b>29</b>				
AVG		1,003		214		2,319	1,036	627		159	1	190.7	75.5	4.8	68.3

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	69,196	32,311
SUMMER	84,373	20,486
<b>TOTAL</b>	<b>153,569</b>	<b>52,797</b>

TOTAL SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD
161,378	34,606	20,977

LAMPREY	STURGEON
5,782	38

TABLE 37

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

THE DALLES PROJECT - FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL unclipped			PINK	CHUM	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD								
Aug 1		486		104	0	0	78	1,855	1,089	0		166	2	163.4	65.6	4.5	70.8
Aug 2		317		65	0	0	66	1,590	894	0		191	0	147.4	58.8	5.0	70.3
Aug 3		463		95	0	0	54	1,588	909	0		144	1	152.9	61.3	5.0	70.2
Aug 4			402	102	0	0	48	1,802	979	0		120	2	157.5	62.6	5.0	71.1
Aug 5			447	89	0	0	51	1,945	1,093	0		144	0	142.7	56.9	5.0	71.8
Aug 6			532	99	0	0	34	1,949	1,098	0		83	0	165.1	65.9	5.0	71.8
Aug 7			742	177	0	0	25	1,992	1,110	0		83	1	143.7	57.2	5.0	71.4
Aug 8			938	159	0	0	24	1,805	1,004	0		120	1	142.7	56.8	5.0	71.1
Aug 9			908	159	0	0	14	1,610	822	0		63	0	142.7	56.9	5.0	71.3
Aug 10			1,249	232	0	0	22	2,424	1,222	0		68	0	136.0	54.4	5.0	71.5
Aug 11			823	130	0	0	7	1,607	790	0		74	0	101.2	40.8	5.0	71.5
Aug 12			848	149	4	0	13	1,366	648	0		59	2	139.9	55.8	5.0	71.4
Aug 13			961	152	1	0	14	1,216	519	0		66	1	156.4	62.4	5.0	71.5
Aug 14			891	202	0	0	9	1,141	499	0		66	0	153.8	61.5	5.0	71.6
Aug 15			1,048	168	0	0	12	700	339	0		69	0	130.7	52.4	5.0	71.8
Aug 16			1,204	155	0	0	2	612	306	0		56	0	147.1	59.0	5.0	71.9
Aug 17			2,196	287	0	0	9	653	316	0		66	1	141.6	56.8	5.0	72.0
Aug 18			1,353	303	0	-1	8	783	343	0		35	1	124.5	49.5	5.0	71.9
Aug 19			906	259	1	0	4	848	373	0		34	0	128.5	51.1	5.5	71.8
Aug 20			1,742	336	7	0	5	898	387	1		30	0	136.0	54.4	5.5	71.7
Aug 21			2,028	444	8	1	2	1,274	548	1		54	0	132.2	52.8	5.0	71.9
Aug 22			3,552	582	8	2	0	1,304	529	0		40	2	128.3	51.1	5.0	72.1
Aug 23			3,426	729	23	16	4	1,107	387	0		39	0	125.2	50.3	5.5	72.1
Aug 24			4,609	872	23	5	0	1,148	400	1		46	0	117.6	47.3	5.5	71.9
Aug 25			5,451	1064	38	14	2	1,140	446	2		21	0	99.9	39.8	5.5	72.2
Aug 26			3,966	880	36	6	2	707	277	0		19	0	122.8	49.3	5.0	72.4
Aug 27			5,136	1124	43	15	0	1,095	392	0		22	0	113.7	45.6	5.0	72.1
Aug 28			4,159	1067	42	7	1	1,233	434	0		36	0	119.9	48.1	5.0	72.1
Aug 29			6,449	1086	54	12	0	1,231	399	0		28	1	122.8	49.5	5.0	72.1
Aug 30			9,366	1387	139	19	3	1,116	400	1		31	0	125.8	50.2	5.0	72.2
Aug 31			17,511	2747	296	21	1	1,890	632	1		19	0	122.1	48.8	5.0	71.8
<b>TOTAL</b>		1,266	82,843	15,404	723	117	514	41,629	19,584	7		2,092	15				
AVG.		422	2,959	497	23	4	17	1343	632	0		67	0	135.0	54.0	5.1	71.7

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	69,196	32,311
SUMMER	85,639	20,750
FALL	82,843	15,140
<b>TOTAL</b>	<b>237,678</b>	<b>68,201</b>

COHO ADULTS	COHO JACKS	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK
723	117	161,892	76,235	40,561	7

LAMPREY	STURGEON
7,874	53



TABLE 38

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT - FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL unclipped						DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
Sep 1			13,289	1,662	162	21	0	1,617	544	0	0	29	0	97.4	0.0	5.0	72.1
Sep 2			9,223	2,222	199	16	0	2,245	763	0	0	28	0	87.1	0.0	5.5	72.2
Sep 3			8,383	1,440	78	12	1	1,780	613	1	0	23	0	92.6	0.0	5.5	72.0
Sep 4			8,031	1,974	160	50	0	1,513	505	1	0	26	0	93.3	0.0	5.5	71.7
Sep 5			6,074	2,091	174	25	1	2,375	768	1	0	30	0	91.4	0.0	5.5	71.6
Sep 6			9,954	1,592	120	48	0	2,626	856	1	0	18	0	90.1	0.0	5.5	71.4
Sep 7			13,612	1,946	170	20	1	3,906	1,506	0	0	30	0	91.8	0.0	5.5	71.3
Sep 8			25,628	2,690	370	62	1	10,109	3,178	2	0	285	0	72.3	0.0	5.0	71.4
Sep 9			26,225	2,787	360	44	0	3,449	1,116	2	0	61	0	79.7	0.0	5.0	72.0
Sep 10			26,710	3,630	719	68	0	2,070	658	4	0	37	1	113.9	0.0	5.0	72.1
Sep 11			25,140	2,716	478	59	0	1,828	585	0	0	36	0	124.5	0.0	5.0	72.2
Sep 12			24,071	2,893	423	39	0	2,486	783	1	0	31	0	106.8	0.0	5.0	72.5
Sep 13			18,441	2,172	519	63	0	1,816	508	1	0	25	0	117.4	0.0	5.0	72.6
Sep 14			20,037	3,820	655	88	0	4,051	1,474	0	0	21	1	100.4	0.9	5.0	72.4
Sep 15			21,239	1,453	240	33	0	3,819	1,361	1	0	28	0	72.6	0.9	5.0	72.2
Sep 16			12,402	1,588	282	19	0	2,506	838	0	0	25	1	83.9	0.9	5.0	71.8
Sep 17			15,951	2,666	433	13	0	2,210	694	1	0	12	0	112.7	0.0	5.5	70.8
Sep 18			20,357	2,107	126	26	0	1,701	557	5	0	12	1	84.0	0.0	5.5	70.1
Sep 19			22,700	2,665	195	20	0	2,005	618	1	0	7	0	98.2	0.0	5.5	69.8
Sep 20			21,544	1,670	261	29	0	2,457	781	8	0	15	0	105.9	0.0	5.5	69.9
Sep 21			16,993	4,399	651	58	0	3,406	1,080	6	0	9	1	72.4	0.0	5.0	70.2
Sep 22			13,030	1,649	412	65	0	3,205	1,190	5	0	15	0	73.5	0.0	5.0	69.9
Sep 23			9,735	2,284	539	42	0	2,246	758	8	0	14	0	95.5	0.0	5.0	69.2
Sep 24			11,150	921	530	67	0	5,737	1,987	6	0	10	0	84.4	0.0	5.0	68.6
Sep 25			10,534	1,736	644	60	0	3,500	1,074	2	0	5	1	96.3	0.0	7.0	68.1
Sep 26			10,501	1,077	329	39	0	2,042	623	2	0	2	0	95.5	0.0	5.5	67.2
Sep 27			10,474	1,021	653	54	0	1,888	593	5	1	1	0	94.3	0.0	5.0	66.7
Sep 28			8,055	1,093	344	37	0	2,270	708	0	0	0	0	95.5	0.0	5.0	66.6
Sep 29			6,760	730	1,051	72	0	5,365	2,213	1	1	4	0	85.7	0.0	5.0	66.2
Sep 30			5,269	839	4,321	358	0	7,483	3,415	6	0	4	0	83.4	0.0	5.0	65.6
<b>TOTAL</b>			<b>451,512</b>	<b>61,533</b>	<b>15,598</b>	<b>1,607</b>	<b>4</b>	<b>93,711</b>	<b>32,347</b>	<b>71</b>	<b>2</b>	<b>843</b>	<b>6</b>				
<b>AVG.</b>			<b>15,050</b>	<b>2,051</b>	<b>520</b>	<b>54</b>	<b>0</b>	<b>3,124</b>	<b>1,078</b>	<b>2</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>93.1</b>	<b>0.1</b>	<b>5.3</b>	<b>70.3</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	69,196	32,311
SUMMER	85,639	20,750
FALL	534,355	76,673
<b>TOTAL</b>	<b>689,190</b>	<b>129,734</b>

COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY	STURGEON
16,321	1,724	161,896	169,946	72,908	78	2	8,717	59

TABLE 39

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

THE DALLES PROJECT - FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL						DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	ADULT	JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY			STURGEON	KCFS	KCFS	SECCHI
Oct 1			2,881	860	2,337	267		4,367	1,870	1	0	7	1	111.0	0.0	5.0	64.8
Oct 2			5,461	744	1,450	120		3,024	1,329	4	1	4	0	123.4	0.0	5.0	64.4
Oct 3			6,943	1133	895	119		2,150	827	1	0	1	0	102.3	0.0	5.0	63.9
Oct 4			3,944	510	355	30		1,593	632	1	0	0	0	100.6	0.0	5.0	63.2
Oct 5			3,197	707	340	43		1,001	353	0	0	0	0	81.0	0.0	5.0	62.9
Oct 6			2,491	420	297	36		797	308	0	0	0	0	77.1	0.0	5.0	62.6
Oct 7			2,156	431	177	16		783	273	0	0	0	0	76.7	0.0	5.0	62.4
Oct 8			1,736	356	144	13		765	325	1	0	0	0	93.6	0.0	5.0	61.9
Oct 9			2,428	409	116	13		663	233	0	0	1	0	95.2	0.0	5.0	60.6
Oct 10			3,748	550	136	5		614	226	0	0	0	0	97.9	0.0	5.0	60.3
Oct 11			4,726	626	165	26		621	225	0	0	0	0	109.2	0.0	5.0	59.9
Oct 12			3,716	947	244	23		590	206	0	0	0	0	102.0	0.0	5.0	59.7
Oct 13			3,375	375	90	29		467	160	0	0	0	0	100.6	0.0	5.5	59.7
Oct 14			2,581	506	114	12		427	156	0	0	0	0	107.9	0.0	5.5	59.7
Oct 15			2,558	312	51	8		327	109	0	0	0	0	99.1	0.0	5.5	59.7
Oct 16			2,664	470	144	10		346	105	1	0	1	0	111.8	0.0	6.0	59.3
Oct 17			1,669	218	46	4		251	83	-1	0	0	0	124.3	0.0	5.5	59.0
Oct 18			1,653	194	69	12		253	81	0	0	0	0	117.2	0.0	5.5	58.6
Oct 19			1,774	289	62	4		249	100	0	0	0	0	104.8	0.0	5.5	58.3
Oct 20			1,641	188	60	8		192	72	0	0	0	0	99.2	0.0	6.0	58.3
Oct 21			1,083	138	42	2		137	52	0	0	0	0	115.0	0.0	5.5	58.6
Oct 22			813	185	88	8		158	56	0	0	0	0	106.8	0.0	5.5	58.7
Oct 23			805	116	106	7		149	54	1	0	0	0	114.1	0.0	6.0	58.7
Oct 24			653	112	48	5		124	48	0	0	1	0	99.4	0.0	5.5	58.5
Oct 25			567	64	41	6		130	32	0	0	0	0	96.2	0.0	5.5	58.3
Oct 26			660	108	22	6		96	32	0	0	0	0	93.3	0.0	5.5	58.2
Oct 27			649	66	24	6		85	25	0	0	0	0	83.5	0.0	5.0	58.0
Oct 28			415	62	30	4		109	37	0	0	0	0	104.5	0.0	5.0	57.6
Oct 29			464	66	34	2		92	45	0	1	1	0	102.4	0.0	5.0	57.0
Oct 30			446	52	23	4		90	36	0	0	0	0	93.4	0.0	5.0	56.6
Oct 31			310	73	39	0		75	28	0	0	4	0	94.8	0.0	5.0	56.3
<b>TOTAL</b>			<b>68,207</b>	<b>11,287</b>	<b>7,789</b>	<b>848</b>		<b>20,725</b>	<b>8,118</b>	<b>9</b>	<b>2</b>	<b>20</b>	<b>1</b>				
<b>AVG.</b>			<b>2,200</b>	<b>364</b>	<b>251</b>	<b>27</b>		<b>669</b>	<b>262</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>101.2</b>	<b>0.0</b>	<b>5.3</b>	<b>59.9</b>

RUN YEAR	CHINOOK	CHINOOK
	ADULT	JACK
TOTALS TO DATE		
SPRING	69,196	32,311
SUMMER	85,639	20,750
FALL	602,562	87,960
<b>TOTAL</b>	<b>757,397</b>	<b>141,021</b>

COHO	COHO	SOCKEYE	TOTAL	unclipped	PINK	CHUM	LAMPREY	STURGEON
ADULT	JACK		STEELHEAD	STEELHEAD				
24,110	2,572	161,896	190,671	81,026	87	4	8,737	60

Note: Visual counts ended October 31.

TABLE 40

**DISCHARGE AND WATER QUALITY DATA  
THE DALLES PROJECT 2013**

NOVEMBER					DECEMBER				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY		DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F				SECCH	DEG F
Nov 1	87.3	0.0	5.0	56.8	Dec 1	119.4	0.0	5.5	56.6
Nov 2	87.4	0.0	5.0	56.2	Dec 2	108.4	0.0	5.5	46.7
Nov 3	85.4	0.0	5.0	56.1	Dec 3	94.2	0.0	5.5	46.4
Nov 4	119.7	0.0	5.0	56.1	Dec 4	151.8	0.0	5.5	44.9
Nov 5	109.1	0.0	5.0	55.2	Dec 5	142.5	0.0	5.5	44.0
Nov 6	115.8	0.0	5.0	54.8	Dec 6	148.0	0.0	5.5	43.4
Nov 7	107.3	0.0	5.0	54.9	Dec 7	158.1	0.0	5.5	42.6
Nov 8	104.0	0.0	5.0	54.6	Dec 8	153.7	0.0	5.5	42.6
Nov 9	115.6	0.0	5.0	54.3	Dec 9	155.7	0.0	5.5	42.1
Nov 10	119.2	0.0	5.5	53.9	Dec 10	156.7	0.0	5.5	42.0
Nov 11	116.4	0.0	5.5	53.9	Dec 11	149.6	0.0	5.5	41.6
Nov 12	109.5	0.0	5.5	53.7	Dec 12	155.1	0.0	5.5	40.8
Nov 13	115.7	0.0	5.5	53.3	Dec 13	135.0	0.0	5.5	40.5
Nov 14	111.0	0.0	5.5	52.7	Dec 14	136.6	0.0	5.5	40.4
Nov 15	110.7	0.0	5.5	52.3	Dec 15	134.8	0.0	5.5	40.2
Nov 16	106.1	0.0	6.0	51.9	Dec 16	128.9	0.0	5.5	40.2
Nov 17	101.3	0.0	5.5	51.8	Dec 17	129.8	0.0	5.5	39.8
Nov 18	111.9	0.0	5.5	51.7	Dec 18	131.1	0.0	5.5	39.4
Nov 19	101.7	0.0	5.5	51.6	Dec 19	137.8	0.0	5.5	39.3
Nov 20	107.4	0.0	5.5	51.2	Dec 20	134.1	0.0	5.5	39.1
Nov 21	120.8	0.0	5.5	50.5	Dec 21	134.1	0.0	5.5	39.3
Nov 22	141.1	0.0	5.5	49.9	Dec 22	123.8	0.0	5.5	39.8
Nov 23	125.6	0.0	5.5	49.5	Dec 23	121.7	0.0	5.5	40.2
Nov 24	71.3	0.0	5.0	49.1	Dec 24	129.4	0.0	5.5	40.4
Nov 25	122.6	0.0	5.0	48.7	Dec 25	136.9	0.0	5.5	40.3
Nov 26	142.1	0.0	5.0	48.5	Dec 26	125.5	0.0	5.5	40.2
Nov 27	130.1	0.0	5.0	48.3	Dec 27	131.0	0.0	5.5	40.1
Nov 28	137.6	0.0	5.0	48.1	Dec 28	131.1	0.0	5.5	40.1
Nov 29	130.6	0.0	5.0	47.6	Dec 29	113.7	0.0	5.5	40.1
Nov 30	134.8	0.0	5.0	47.0	Dec 30	126.2	0.0	5.5	40.1
					Dec 31	126.3	0.0	5.5	40.1
AVG.	113.3	0.0	5.3	52.1	AVG.	134.2	0.0	5.5	41.7

TABLE 41

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT - NIGHT FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO		SOCKEYE	TOTAL				
	SPRING	SUMMER	FALL		ADULT	JACK		STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY
Jun 1												
Jun 2												
Jun 3												
Jun 4												
Jun 5												
Jun 6												
Jun 7												
Jun 8												
Jun 9												
Jun 10												
Jun 11												
Jun 12												
Jun 13												
Jun 14		9		0			36	10	-1			62
Jun 15		50		1			115	1	0			74
Jun 16		14		2			44	0	0			74
Jun 17		75		5			202	2	1			154
Jun 18		95		11			192	4	1			172
Jun 19		81		10			257	13	1			105
Jun 20		56		3			334	8	2			113
Jun 21		52		14			337	9	0			160
Jun 22		54		10			404	3	0			134
Jun 23		43		18			261	6	0			137
Jun 24		64		15			392	5	0			136
Jun 25		34		3			219	5	1			88
Jun 26		43		7			233	7	2			55
Jun 27		71		9			358	6	2			77
Jun 28		49		3			208	6	0			69
Jun 29		32		2			333	2	2			68
Jun 30		50		3			471	7	0			87
<b>TOTAL</b>		<b>872</b>		<b>116</b>			<b>4,396</b>	<b>94</b>	<b>11</b>			<b>1,765</b>
<b>AVG.</b>		<b>51</b>		<b>7</b>			<b>259</b>	<b>6</b>	<b>1</b>			<b>104</b>

Note: Night counts are video counts from 2000-0400 PST.

TABLE 42

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## THE DALLES PROJECT - NIGHT FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL			PINK	CHUM	LAMPREY
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD				
Jul 1		45		4			315	7	1			94	
Jul 2		38		14			397	8	1			136	
Jul 3		50		11			228	13	3			139	
Jul 4		37		17			175	10	3			185	
Jul 5		49		15			309	4	2			209	
Jul 6		33		3			301	11	4			170	
Jul 7		28		3			278	3	1			132	
Jul 8		28		9			318	7	5			128	
Jul 9		30		3			394	15	7			71	
Jul 10		44		5			449	20	9			172	
Jul 11		20		2			278	7	3			215	
Jul 12		18		2			258	12	2			348	
Jul 13		33		6			288	22	4			268	
Jul 14		21		16			228	25	12			208	
Jul 15		25		23			195	18	4			275	
Jul 16		25		19			143	20	11			195	
Jul 17		29		6			194	23	6			299	
Jul 18		22		15			92	40	22			291	
Jul 19		33		4			66	17	9			349	
Jul 20		31		2			72	34	11			253	
Jul 21		22		6			92	33	14			270	
Jul 22		27		5			50	25	12			452	
Jul 23		19		1			32	43	25			329	
Jul 24		17		2			59	46	31			335	
Jul 25		26		3			47	36	26			373	
Jul 26		42		1			32	30	21			563	
Jul 27		27		4			27	45	27			346	
Jul 28		13		7			47	37	26			317	
Jul 29		26		0			25	47	21			307	
Jul 30		22		2			31	54	37			311	
Jul 31		18		2			17	32	19			419	
<b>TOTAL</b>		<b>898</b>		<b>212</b>			<b>5,437</b>	<b>744</b>	<b>379</b>			<b>8,159</b>	
<b>AVG</b>		<b>29</b>		<b>7</b>			<b>175</b>	<b>24</b>	<b>12</b>			<b>263</b>	

Note: Night counts are video counts from 2000-0400 PST.

TABLE 43

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

THE DALLES PROJECT - NIGHT FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL	unclipped			CHUM	LAMPREY	
	SPRING	SUMMER	FALL	JACK	ADULT		JACK	SOCKEYE	STEELHEAD			STEELHEAD
Aug 1		14		3	0	0	10	31	18	0		412
Aug 2		18		1	0	0	11	28	23	0		351
Aug 3		12		0	0	0	16	40	23	0		326
Aug 4			25	4	0	0	8	54	31	0		350
Aug 5			24	5	0	0	8	45	21	0		319
Aug 6			15	0	0	0	2	53	27	0		289
Aug 7			25	1	0	0	2	40	14	0		286
Aug 8			25	0	0	0	4	36	15	0		201
Aug 9			19	1	0	0	1	66	33	0		300
Aug 10			42	1	0	0	3	39	18	0		229
Aug 11			19	3	0	0	5	33	18	0		131
Aug 12			29	2	0	0	1	23	14	0		218
Aug 13			27	2	0	0	1	26	16	0		253
Aug 14			26	2	0	0	0	28	15	0		201
Aug 15			50	2	0	0	1	17	9	0		175
Aug 16			64	0	0	0	3	16	5	0		180
Aug 17			24	4	1	0	1	32	15	0		151
Aug 18			17	0	2	0	1	17	11	0		115
Aug 19			22	7	0	0	0	25	15	0		190
Aug 20			57	6	0	0	0	27	16	0		139
Aug 21			48	5	2	0	0	57	27	0		128
Aug 22			138	8	0	0	0	57	27	1		127
Aug 23			104	11	1	0	0	30	11	0		167
Aug 24			132	15	5	0	0	71	35	0		112
Aug 25			166	20	1	0	0	84	28	0		121
Aug 26			123	5	2	0	0	29	10	0		147
Aug 27			105	22	0	1	0	49	17	0		190
Aug 28			153	8	1	2	0	68	28	0		197
Aug 29			154	1	6	0	0	75	26	0		125
Aug 30			330	18	2	0	0	84	15	0		88
Aug 31			182	6	9	0	0	56	10	0		95
<b>TOTAL</b>		44	2,145	163	32	3	78	1,336	591	1		6,313
<b>AVG.</b>		15	77	5	1	0	3	43	19	0		204

Note: Night counts are video counts from 2000-0400 PST.

TABLE 44

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## THE DALLES PROJECT - NIGHT FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped			CHUM	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		SOCKEYE	STEELHEAD	STEELHEAD		
Sep 1			6	0	1	0	7	6	0			165
Sep 2			15	1	0	0	13	4	0			68
Sep 3			162	21	3	0	18	37	0			65
Sep 4			110	8	2	0	157	65	0			97
Sep 5			160	28	11	0	241	72	0			107
Sep 6			221	29	5	0	265	91	0			111
Sep 7			409	18	16	2	613	148	0			100
Sep 8			581	45	22	0	458	152	0			248
Sep 9			564	24	15	4	153	54	0			141
Sep 10			539	48	22	0	101	38	0			93
Sep 11			737	124	17	6	183	64	0			82
Sep 12			508	65	14	0	175	60	0			80
Sep 13			271	34	8	2	136	48	0			63
Sep 14			692	69	25	2	603	209	0			63
Sep 15			286	32	9	0	245	84	0			65
Sep 16			208	27	13	1	194	92	0			31
Sep 17			193	9	18	1	127	52	0			20
Sep 18			434	30	16	4	190	75	0			14
Sep 19			501	50	21	3	207	87	0			9
Sep 20			539	34	48	5	360	143	0			26
Sep 21			423	33	70	4	377	132	0			12
Sep 22			89	10	33	3	162	65	0			18
Sep 23			90	8	25	2	294	101	0			28
Sep 24			59	2	79	6	431	144	0			13
Sep 25			32	5	44	4	155	56	0			17
Sep 26			32	4	17	0	140	59	1			8
Sep 27			27	5	31	1	155	57	0			9
Sep 28			23	2	17	3	126	51	0			10
Sep 29			27	9	266	19	482	183	0			6
Sep 30			3	1	95	5	135	62	0			1
<b>TOTAL</b>			7,941	775	963	77	6,903	2,491	1			1,770
AVG.			265	26	32	3	230	83	0			59

Note: Night counts are video counts from 2000-0400 PST.

TABLE 45

**YEARLY TOTALS OF SALMONIDS COUNTED OVER THE DALLES DAM  
1957 - 2013**

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	112,254	9,356	4,376			287,744
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
2003	618,472	282,574	34,180	46,101	29	128	981,484
2004	562,737	241,123	107,466	41,645	5	0	952,976
2005	389,905	244,213	65,273	36,129	0	23	735,543
2006	341,371	249,223	30,026	34,339	3	3	654,965
2007	253,613	246,960	19,124	32,961	11	1	552,670
2008	397,766	277,640	177,984	42,682	0	12	896,084
2009	525,837	515,111	155,591	77,492	7	28	1,274,066
2010	618,699	333,033	325,133	31,374	0	1	1,308,240
2011	591,869	299,007	138,293	76,753	3	1,158	1,107,083
2012	539,930	201,640	410,099	34,019	7	2	1,185,697
2013	898,424	190,750	161,896	26,682	4	87	1,277,843
<b>Totals</b>	<b>17,060,639</b>	<b>10,336,027</b>	<b>4,290,455</b>	<b>1,049,890</b>	<b>265</b>	<b>1,644</b>	<b>32,738,920</b>
<b>10-Year Average</b>	<b>512,015</b>	<b>279,870</b>	<b>159,089</b>	<b>43,408</b>			<b>994,517</b>

\*Jacks included



TABLE 46

MONTHLY COUNT OF CHINOOK SALMON  
THE DALLES DAM 1957 - 2013

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL	JACKS	
														1 JUN-3 JUN	4 JUN-3 AUG	4 AUG-31 DEC		
1957			22	42,161	59,410	86,096	35,643	28,828	56,753	3,564	201		312,678	109,723	116,661	86,294	37,374	
1958			114	8,268	47,862	59,955	24,381	17,211	141,262	2,788	119		301,960	61,747	80,139	160,074	19,747	
1959			8	16,771	32,634	27,799	42,817	20,142	65,229	2,022	39		207,461	50,874	71,362	85,225	39,857	
1960				17,073	40,091	52,577	22,549	15,225	46,453	2,720	274		196,962	58,406	75,315	63,241	30,847	
1961				43,822	35,059	24,478	24,596	16,866	53,371	3,143			201,335	79,183	50,824	71,328	35,409	
1962				33,069	35,629	34,488	21,515	13,461	46,135	2,835			187,132	69,139	57,007	60,986	17,835	
1963				19,119	33,207	25,063	20,414	21,865	57,248	4,053			180,969	52,937	47,333	60,699	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	
2003			11	7,227	84,312	54,173	70,347	43,926	42,146	280,091	33,070	3,085	84	618,472	149,967	111,931	356,574	62,007
2004				272	74,705	59,127	59,859	30,999	41,935	261,434	32,361	2,017	28	562,737	138,229	87,925	336,583	48,732
2005			1	44	18,797	41,560	48,505	27,685	25,764	203,518	23,064	958	9	389,905	64,219	73,136	252,550	24,991
2006				9	1,006	61,711	58,394	26,404	24,419	141,212	26,060	2,140	16	341,371	64,012	84,839	192,520	27,212
2007			1	51	19,338	46,147	34,405	19,510	21,415	93,517	17,883	1,326	20	253,613	68,253	52,062	133,298	65,306
2008					21,531	86,590	58,430	21,041	46,608	147,583	15,983			397,766	111,239	77,279	209,248	66,298
2009					8,464	132,674	83,688	30,189	74,468	176,655	19,699			525,837	147,554	107,794	270,489	175,120
2010					83,785	108,482	72,234	29,689	45,375	246,464	32,670			618,699	201,385	93,820	323,494	75,458
2011					8,526	150,084	76,725	47,267	37,941	230,089	41,237			591,869	164,310	120,968	306,591	151,007
2012				18	8,662	110,476	52,142	31,102	44,449	257,070	33,903	2,088	20	539,930	124,262	79,614	336,054	126,554
2013		4	2	**	18,841	79,731	70,063	37,731	99,513	513,045	79,494			898,424	101,513	106,389	690,522	141,021
Total					9,818	2,043,143	2,417,561	1,699,544	1,264,348	1,661,302	7,106,198	843,661	14,868	17,060,639	4,471,261	2,813,091	9,461,247	3,359,227
10-Year Average					26,366	87,658	61,445	30,162	46,189	227,059	32,235			512,015	118,498	88,383	305,135	90,170

\*Jacks included

\*\*No fish count data for March in 2013

TABLE 47

MONTHLY COUNT OF SOCKEYE SALMON  
THE DALLES DAM  
1957 - 2013

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	0				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					0	8,887	66,841	369	6				76,103
1972					0	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	0				28,827
1975					0	7,679	35,291	225	2	1			43,198
1976					1	10,988	16,637	121	0				27,747
1977					5	60,049	26,146	52	0				86,252
1978					24	7,158	4,559	104	0				11,845
1979					0	14,750	17,734	307	0				32,791
1980					0	11,096	30,046	927	19				42,088
1981					0	17,692	17,686	68	1				35,447
1982					0	11,430	21,742	144	15				33,331
1983					1	34,684	49,302	197	19	1			84,204
1984					0	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					0	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					0	6,752	2,594	8	2				9,356
1995					1	4,195	2,890	61	15	4			7,166
1996					0	17,013	7,983	44	15				25,055
1997					4	11,707	20,292	395	29	3			32,430
1998					0	4,777	3,978	65	6				8,826
1999					0	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	0				40,554
2003					8	21,233	12,862	70	3				34,180
2004					61	84,332	22,978	94	1				107,466
2005					4	38,474	26,688	98	7	2			65,273
2006					1	20,817	9,099	105	4				30,026
2007					10	13,475	5,540	99	0				19,124
2008					6	152,255	25,678	45	0				177,984
2009					27	114,162	41,260	126	16				155,591
2010				1	45	235,935	88,980	168	3	1			325,133
2011					1	50,335	87,699	255	3				138,293
2012					15	270,789	139,045	248	2				410,099
2013				1	24	89,464	71,889	514	4				161,896
Total					3	1,690	2,215,135	2,048,226	24,293	1,074	29	1	4,290,455
10-Year Average					19	107,004	51,886	175	4				159,089

TABLE 48  
MONTHLY COUNT OF COHO SALMON  
THE DALLES DAM: 1957-2013

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
2003								1,084	29,129	15,161	713	14	46,101	2,853
2004		-1						565	29,591	10,408	1,072	10	41,645	1,919
2005							1	438	20,376	13,814	1,500	0	36,129	2,187
2006							1	1,541	18,080	12,574	2,142	1	34,339	2,468
2007								596	17,545	14,608	198	14	32,961	2,095
2008								1,369	26,714	14,599			42,682	4,700
2009							4	8,214	29,912	39,362			77,492	8,552
2010							0	1,082	20,090	10,202			31,374	75,458
2011							2	3,172	52,196	21,383			76,753	4,633
2012							8	2,262	28,707	2,921	119	2	34,019	2,861
								840	17,205	8,637			26,682	2,861
<b>Total</b>							<b>1,584</b>	<b>46,428</b>	<b>722,138</b>	<b>273,631</b>	<b>6,069</b>	<b>41</b>	<b>1,049,890</b>	<b>297,389</b>
<b>10-Year Average</b>							<b>2,008</b>	<b>26,042</b>	<b>14,851</b>				<b>43,408</b>	<b>10,773</b>

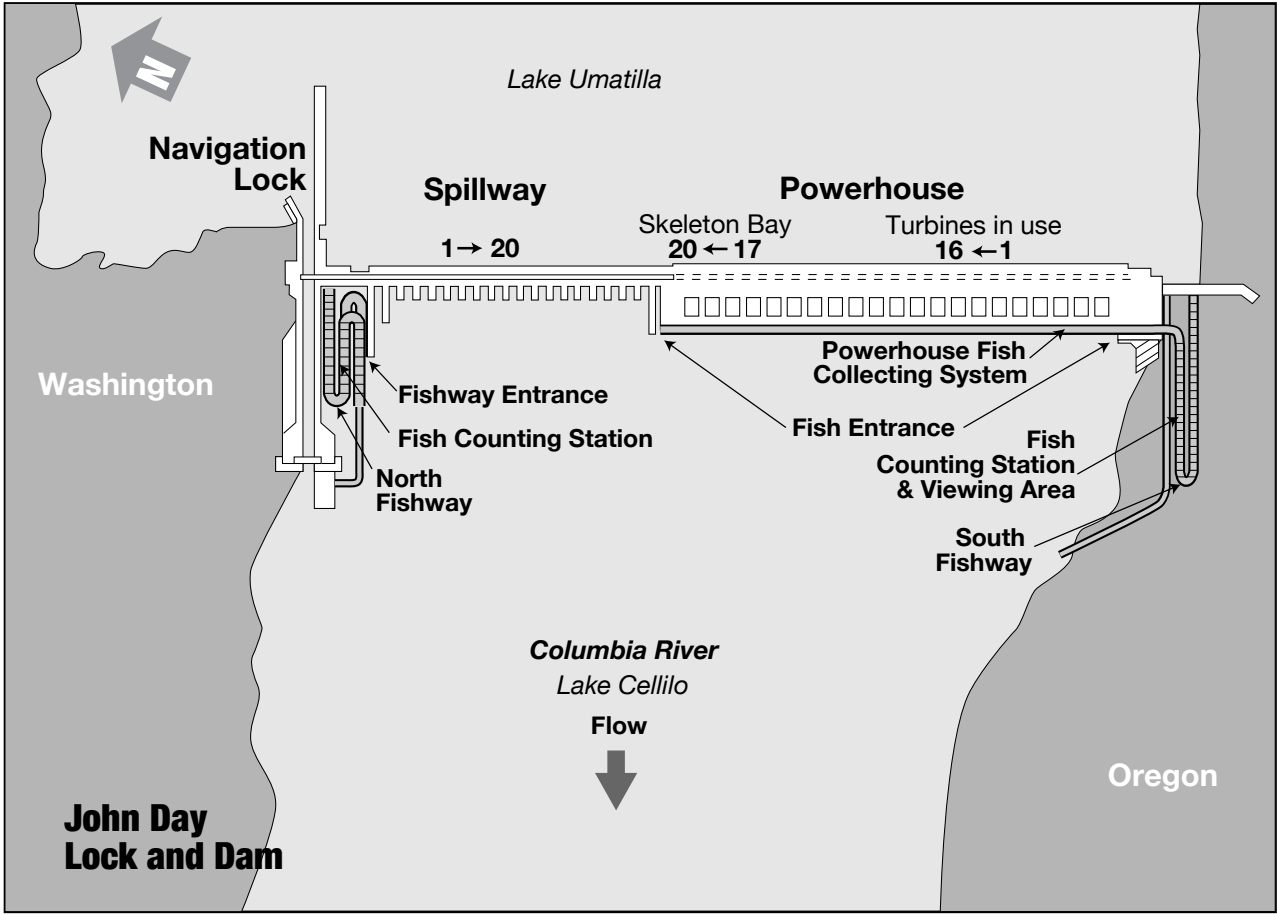
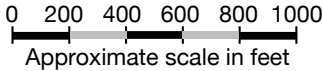
\*Includes Jacks

TABLE 49

MONTHLY COUNT OF STEELHEAD  
THE DALLES DAM 1957 - 2013

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
2003		485	2,389	801	271	4,882	36,960	35,275	158,525	36,458	6,004	524	282,574
2004		140	1,072	1,066	680	7,116	23,581	30,398	152,302	23,099	1,647	22	241,123
2005		107	688	558	616	4,483	33,476	33,332	126,710	41,174	3,020	49	244,213
2006		16	811	972	252	2,241	15,892	43,884	138,845	33,537	12,641	132	249,223
2007		195	1,948	1,033	255	2,155	25,008	66,310	121,058	26,079	2,776	143	246,960
2008				1,084	383	4,847	69,771	47,273	131,616	22,666			277,640
2009				986	392	4,181	51,667	165,723	233,187	58,975			515,111
2010				1,901	580	10,348	104,984	55,209	128,816	31,195			333,033
2011				1,098	352	1,611	56,247	127,161	91,517	21,021			299,007
2012			950	631	258	2,809	49,514	54,567	71,995	18,065	2,631	220	201,640
2013	6	73		560	220	1,723	32,103	41,629	93,711	20,725			190,750
Total			13,099	53,738	35,737	181,302	2,017,699	2,407,009	4,596,785	993,163	35,358		10,336,027
10-Year Average			989	399	4,151	46,224	66,549	128,976	29,654				279,870

# Plate 4 John Day Lock and Dam



# JOHN DAY DAM

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## FISH COUNTING SCHEDULE

Apr 1 – Oct 31	Visual counting daily 0400-2000 hours Pacific Standard Time.
July 15 – Sept 30	Nighttime video counts 2000-0400 hours Pacific Standard Time.
Nov 1 – Dec 31	Video counting daily 0400-2000 hours Pacific Standard Time.

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## FISHWAY OPERATING SCHEDULE

The following information includes fishway operation for calendar year 2013. Total length of time for annual fishway outages can be determined by referring to the 2012 annual report.

### *North Adult Fishway*

Jan 1 – Mar 12	Dewatered for winter maintenance
Mar 13 – 31	In service with mostly orifice flow (AWS pump testing)
Apr 1 – Nov 29	In service with attraction water
Aug 1	Attraction water off half day for required ROV grating inspection
Dec 2 – Dec 19	Dewatered for winter maintenance

### *South Adult Fishway*

Jan 1 – 25	In service with attraction water
Jan 28 – Feb 12	Dewatered for winter maintenance
Feb 13 – Dec 1	In service with attraction water
Aug 1	Attraction water off half day for required ROV grating inspection
Dec 2 – Dec 31	Dewatered for winter maintenance

### *Smolt Monitoring Facility*

Jan 1- March 30	Dewatered
Mar 31 – Jul 24	In full operation with juvenile sampling
Jul 12 – Sep 15	Water temperature 70° F. Condition sampling of 100 fish on Monday and Thursday. System in bypass at switch gate on other days.
Sep 16 – Nov 26	System in bypass for full flow PIT tag detection.
Dec 17 – Dec 31	System dewatered for winter maintenance.

### *Juvenile Bypass System*

Jan 1- Mar 31	1/3 gatewell orifice open, rotated twice weekly
Apr 1-Dec 15	Full operation (for kelts in December)
Dec 19 – 31	1/3 gatewell orifice open, rotated twice weekly

### *Spillway*

Jan 1 – Apr 9	Closed
Apr 10 – Aug 31	Spill ( 30% & 40% per FPP schedule)
Sept 1 – Nov 30	Bay 2 only, 1.5 KCFS daylight hours only (attraction water for north fishway)
Dec 1 – Dec 31	closed

**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 stranded and /or trapped in shallow pools behind weirs. 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. Follow up inspections are 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 Remote Operated Vehicle (ROV.)

***John Day Dam 2013 Fish Ladder Dewatering Results***

Key:a=adult, j=juvenile catfish=ca, mountain whitefish=mw, common carp=cc, sucker species=su, bass=ba, blue gill=bg

Date	Event	Chinook	Steelhead	Lamprey	Sturgeon	Comments	Morts
1/28/13	SFL upper	0	2 j	0	0	Excellent	0
12/4/13	NFL upper	0	2 j	0	2 a	Excellent	0

***Smolt Monitoring Facility 2013 Dewatering Results***

Key:a=adult, j=juvenile catfish=ca, mountain whitefish=mw, common carp=cc, sucker species=su, bass=ba, sculpin=sp

Date	Event	Chinook	Steelhead	Lamprey	Shad	Other	Comments	Morts
01/10/13	JBS Channel	0	0	0	0	0	No Fish	0
12/17/13	SMF -PDS	10a	30a	120a	50a	20a cats	Excellent condition	0

**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 followed, 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.

***John Day Dam 2013 Turbine Dewatering Results***

Key: scroll case=sc, draft tube=dt, catfish=ca, steelhead=sh,shad=sd, common carp=cc, sucker species=su, bass=ba, crappie=cp

Date	Event	Chinook	Steelhead	Shad	Sturgeon	Other	Comments	Morts
1/7/2013	MU6 sc						No Fish	0
1/9/2013	MU6 dt						No Fish	0
1/28/2013	MU9 sc			12a			Old morts	12
1/29/2013	MU9 dt						No Fish	0
2/25/2013	MU7 sc						No Fish	0
2/26/2013	MU7 dt						No Fish	0
10/16/2013	MU3 sc					1 lrg ct		0
10/16/2013	MU3 dt				3a	48 ct		0

**FISH COUNTING**

Visual fish counting was conducted 4/1/13 to 10/31/13 by contract with Normandeau Associates Inc. Counts were sent electronically directly to the web’s data base. Video

counting was conducted at JD 11/1 to 12/31/13 at both JD ladders, except when they were dewatered for winter maintenance.

#### WATER QUALITY

Daily River Temperature was read at JD south forebay's electronic display during the daily fishway inspections. Additionally, the Water Temperatures were collected in both fish ladders at the entrance and exits with HOBO data loggers by JD Fisheries, 1 April – Nov. 30 (Fig. 4.)

Water Clarity was read by Secchi disc at one counting station during the daily fishway inspections.

#### PIKEMINNOW ABATEMENT

Dam angling at the John Day powerhouse BRZ was performed in May through September 2013 by a crew from Washington Department Fish and Wildlife, under contract with the Pacific States Marine Fisheries Commission. The 2013 total catch of 2,370 NPM was slightly higher than the 2012 catch of 2,217 NPM & significantly lower than the 2011 catch of 3,271 NPM. (See the PSMFC report for details.)

#### FISHWAY VELOCITIES – Collection channel

2013 JD South Fishway Collection Channel Velocities were conforming to the FPP criteria of 1.5 to 4.0 f/s. A multiyear data confirm the optimal channel velocities at all times, year round.



TABLE 50

MONTHLY TOTALS OF SALMONIDS, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER JOHN DAY DAM

2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*
CHINOOK*				12,822	68,212	62,206	35,505	48,428	411,708	68,664	2,559	45	710,149
STEELHEAD				754	197	1,837	18,416	22,217	78,355	29,179	3,133	1,654	155,742
SOCKEYE					23	80,403	74,530	516	24	2			155,498
COHO*							1	309	8,939	8,279	554	57	18,139
CHUM											10	2	12
PINK									48	13	3		64
<b>TOTAL</b>				<b>13,576</b>	<b>68,432</b>	<b>144,446</b>	<b>128,452</b>	<b>71,470</b>	<b>499,074</b>	<b>106,137</b>			<b>1,039,604</b>
LAMPREY					24	494	2,984	1,849	1,263	59	4	-7	6,670
STURGEON								4	3				7
BULL TROUT													0

\*Jacks Included

TABLE 51

DISCHARGE AND WATER QUALITY DATA

JOHN DAY PROJECT 2013

JANUARY

DATE	DISCH		TURBIDITY	
	KCFS	SPILL KCFS	SECCHI	DEG F
Jan 1	177.2	0.0	5.0	43.0
Jan 2	196.8	0.0	5.0	42.0
Jan 3	190.0	0.0	5.0	42.0
Jan 4	171.9	0.0	5.0	42.0
Jan 5	178.8	0.0	6.0	42.0
Jan 6	153.9	0.0		
Jan 7	149.1	0.0	6.0	42.0
Jan 8	168.8	0.0	5.0	40.0
Jan 9	190.3	0.0	6.0	42.0
Jan 10	176.3	0.0	6.0	42.0
Jan 11	175.0	0.0	6.0	42.0
Jan 12	179.3	0.0	5.5	42.0
Jan 13	170.6	0.0	5.0	41.0
Jan 14	186.5	0.0	5.0	40.0
Jan 15	192.5	0.0	5.0	40.0
Jan 16	188.9	0.0	6.0	40.0
Jan 17	188.2	0.0	6.0	39.0
Jan 18	172.5	0.0	5.5	39.0
Jan 19	177.4	0.0	4.0	39.0
Jan 20	157.3	0.0	4.0	39.0
Jan 21	182.0	0.0	6.0	39.0
Jan 22	194.5	0.0	6.0	39.0
Jan 23	170.9	0.0	6.0	39.0
Jan 24	163.2	0.0	5.5	39.0
Jan 25	174.3	0.0	5.5	39.0
Jan 26	137.5	0.0	5.5	39.0
Jan 27	140.6	0.0	5.5	39.0
Jan 28	139.8	0.0	5.5	38.0
Jan 29	124.3	0.0	5.5	38.0
Jan 30	137.1	0.0		37.0
Jan 31	157.6	0.0	6.0	39.0

AVG. 169.8 0.0 5.4 40.1

FEBRUARY

DATE	DISCH		TURBIDITY	
	KCFS	SPILL KCFS	SECCHI	DEG F
Feb 1	130.7	0.0		37.0
Feb 2	129.2	0.0		40.0
Feb 3	131.9	0.0	5.5	40.0
Feb 4	145.1	0.0	5.5	38.0
Feb 5	124.6	0.0	5.5	38.0
Feb 6	140.8	0.0		39.0
Feb 7	136.9	0.0	5.5	39.0
Feb 8	137.9	0.0		39.0
Feb 9	141.9	0.0		39.0
Feb 10	129.5	0.0	5.5	40.0
Feb 11	137.8	0.0	5.5	40.0
Feb 12	145.4	0.0	5.5	40.0
Feb 13	130.3	0.0	5.5	41.0
Feb 14	132.5	0.0	6.0	39.0
Feb 15	143.2	0.0	6.0	39.0
Feb 16	141.7	0.0	4.0	41.0
Feb 17	145.0	0.0	4.0	41.0
Feb 18	142.6	0.0	5.0	40.0
Feb 19	143.8	0.0	6.0	40.0
Feb 20	146.5	0.0	6.0	40.0
Feb 21	135.7	0.0	6.0	40.0
Feb 22	128.1	0.0	6.0	41.0
Feb 23	121.1	0.0	5.5	41.0
Feb 24	123.5	0.0	5.0	41.0
Feb 25	111.0	0.0	5.0	43.0
Feb 26	121.1	0.0	6.0	40.0
Feb 27	113.6	0.0	6.0	40.0
Feb 28	126.6	0.0	6.0	40.0

AVG. 133.5 0.0 5.5 39.9

MARCH

DATE	DISCH		TURBIDITY	
	KCFS	SPILL KCFS	SECCHI	DEG F
Mar 1	103.2	0.0	6.0	40.0
Mar 2	121.3	0.0	5.5	40.0
Mar 3	106.8	0.0	5.0	40.0
Mar 4	117.6	0.0	5.0	39.0
Mar 5	110.8	0.0	5.0	40.0
Mar 6	122.5	0.0	5.5	40.0
Mar 7	107.7	0.0	5.0	40.0
Mar 8	107.5	0.0	5.5	40.0
Mar 9	125.0	0.0	5.5	41.0
Mar 10	104.1	0.0	5.5	42.0
Mar 11	125.6	0.0	5.5	41.0
Mar 12	124.1	0.0	5.5	41.0
Mar 13	113.0	0.0	5.0	42.0
Mar 14	108.3	0.0	5.0	42.0
Mar 15	115.3	0.0	5.0	43.0
Mar 16	106.7	0.0	5.0	45.0
Mar 17	106.4	0.0	5.0	45.0
Mar 18	138.4	0.0	5.0	44.0
Mar 19	132.2	0.0	5.0	43.0
Mar 20	102.8	0.0	3.0	43.0
Mar 21	126.5	0.0	3.0	43.0
Mar 22	125.0	0.0	3.5	43.0
Mar 23	120.8	0.0	4.0	44.0
Mar 24	123.1	0.0	4.0	44.0
Mar 25	130.9	0.0	4.0	44.0
Mar 26	119.7	0.0	4.0	44.0
Mar 27	138.7	0.0	4.0	44.0
Mar 28	125.1	0.0	4.0	45.0
Mar 29	128.1	0.0	3.0	45.0
Mar 30	157.1	0.0	2.0	45.0
Mar 31	165.3	0.0	3.0	49.0

AVG. 121.3 0.0 4.5 42.6

TABLE 52

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

JOHN DAY PROJECT - FISH COUNTS

APRIL 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	unclipped					DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
Apr 1	12			0				49	24					157.7	0.0	3.0	49.0
Apr 2	18			2				46	23					162.8	0.0	3.0	48.0
Apr 3	18			0				66	34					174.6	0.0	5.0	47.0
Apr 4	13			0				40	23					185.9	0.0	4.0	52.0
Apr 5	11			0				62	39					211.2	0.0	3.5	50.0
Apr 6	28			2				37	18					217.9	0.0	3.5	49.0
Apr 7	25			0				32	22					228.2	0.0	4.0	49.0
Apr 8	63			0				24	10					232.8	28.5	4.5	49.0
Apr 9	35			0				24	15					279.7	92.5	4.5	48.0
Apr 10	24			0				20	13					269.8	88.0	3.0	47.0
Apr 11	35			0				42	19					289.3	86.7	3.0	48.0
Apr 12	30			1				40	22					302.1	90.7	3.0	49.0
Apr 13	101			4				48	25					241.8	72.7	3.0	49.0
Apr 14	43			2				24	20					265.4	79.9	3.5	49.0
Apr 15	63			1				30	21					283.9	85.3	4.0	48.0
Apr 16	60			1				19	11					288.1	86.5	4.0	50.0
Apr 17	34			2				14	6					247.7	74.2	3.0	48.0
Apr 18	62			6				16	12					247.3	73.9	3.0	48.0
Apr 19	126			5				12	6					212.3	63.6	3.0	48.0
Apr 20	113			2				3	1					225.3	67.4	3.0	48.0
Apr 21	151			11				17	8					234.3	70.5	3.0	48.0
Apr 22	190			13				9	6					251.0	75.3	3.5	48.0
Apr 23	226			16				8	6					214.0	64.2	3.5	49.0
Apr 24	278			22				4	2					216.7	65.1	3.5	50.0
Apr 25	423			40				18	7					214.4	64.6	3.5	52.0
Apr 26	631			35				5	2					219.6	65.9	3.5	51.0
Apr 27	1,054			59				8	6					222.0	66.4	3.5	52.0
Apr 28	2,345			110				15	8					221.6	66.7	3.5	52.0
Apr 29	3,115			242				11	6					217.2	69.0	3.5	52.0
Apr 30	2,622			297				11	5					229.7	91.9	3.5	52.0
<b>TOTAL</b>	<b>11,949</b>			<b>873</b>				<b>754</b>	<b>420</b>								
<b>AVG.</b>	<b>398</b>			<b>29</b>				<b>25</b>	<b>14</b>					<b>232.1</b>	<b>56.3</b>	<b>3.5</b>	<b>49.3</b>

Note: Visual counts occurred April 1 through October 31. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST.  
Official Spring Chinook run started April 1.

TABLE 53

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

JOHN DAY PROJECT - FISH COUNTS

MAY 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped					DISCH	SPILL	TURBIDITY				
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
May 1	2,505			336			0	9	7				0	244.3	93.8	4.5	52.0
May 2	2,057			293			0	5	4				0	232.2	69.8	5.0	52.0
May 3	1,563			299			0	5	0				0	244.2	78.0	5.0	52.0
May 4	1,486			419			0	5	2				0	230.6	91.8	5.0	53.0
May 5	3,347			1,012			0	5	2				0	211.9	80.9	5.0	52.0
May 6	3,723			1,454			0	7	5				1	221.7	66.5	5.0	53.0
May 7	1,944			672			0	6	1				0	233.3	73.5	5.0	53.0
May 8	2,498			1,532			0	3	1				0	269.9	107.3	3.5	54.0
May 9	2,281			1,860			0	14	3				4	269.9	103.5	4.0	54.0
May 10	1,838			2,369			0	8	1				1	323.8	119.0	4.0	55.0
May 11	1,575			1,739			0	7	4				4	353.5	135.7	4.0	55.0
May 12	1,693			2,104			0	4	2				-1	345.3	137.7	5.0	56.0
May 13	1,474			1,763			0	4	2				2	318.3	132.6	5.0	57.0
May 14	971			1,147			0	6	0				0	344.3	140.0	5.5	58.0
May 15	781			1,044			0	6	5				0	342.5	139.9	5.0	57.0
May 16	781			1,026			0	15	0				5	340.4	137.5	5.0	57.0
May 17	1,025			967			0	3	1				1	303.8	135.7	3.5	57.0
May 18	789			888			0	6	3				0	333.8	133.7	3.5	57.0
May 19	902			843			0	2	1				0	326.5	131.5	3.5	56.0
May 20	927			771			0	2	0				0	312.5	143.6	3.5	57.0
May 21	771			656			0	5	1				0	283.3	139.8	3.0	57.0
May 22	960			690			0	17	8				0	287.3	94.6	3.5	58.0
May 23	849			527			0	6	1				8	313.6	104.1	3.5	58.0
May 24	800			452			0	5	0				0	292.8	117.2	3.5	58.0
May 25	439			296			0	8	2				0	294.4	112.9	3.5	58.0
May 26	479			325			0	4	-1				0	299.4	90.1	3.5	57.0
May 27	614			355			0	3	0				0	299.6	94.7	3.5	57.0
May 28	729			290			0	2	0				0	297.9	119.0	3.5	56.0
May 29	698			244			4	7	5				-1	273.0	104.7	4.5	56.0
May 30	507			192			15	10	1				0	254.9	76.1	4.5	56.0
May 31	459			182			4	8	1				0	253.6	80.9	4.5	56.0
<b>TOTAL</b>	<b>41,465</b>			<b>26,747</b>			<b>23</b>	<b>197</b>	<b>62</b>				<b>24</b>				

AVG.	1338			863			1	6	2				1	288.8	109.2	4.2	55.6
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RUN YEAR TOTALS TO DATE	CHINOOK	CHINOOK	unclipped			LAMPREY
	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	
SPRING	53,414	27,620	23	951	482	24

TABLE 54

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

JOHN DAY PROJECT - FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped			PINK	CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD					STEELHEAD	KCFS	KCFS	
Jun 1	782			279			13	9	7			4	250.2	99.7	5.0	58.0
Jun 2	620			251			16	17	12			1	211.8	80.7	5.0	58.0
Jun 3	720			265			20	11	9			5	265.5	79.6	5.0	57.0
Jun 4	582			230			29	23	19			6	242.4	77.0	5.0	58.0
Jun 5	873			312			34	14	10			1	248.8	99.3	4.0	61.0
Jun 6		1,062		391			81	19	14			-1	264.5	101.6	4.0	62.0
Jun 7		1,534		384			98	20	14			1	235.4	70.2	5.0	63.0
Jun 8		2,101		437			273	18	15			6	245.8	78.1	4.0	60.0
Jun 9		1,898		450			259	26	17			-1	238.5	95.2	5.0	60.0
Jun 10		2,274		460			580	29	17			5	248.8	95.9	5.0	61.0
Jun 11		2,053		579			789	43	28			2	217.2	64.8	5.0	61.0
Jun 12		1,834		450			1,163	36	21			2	247.7	78.5	4.0	62.0
Jun 13		2,129		525			1,250	29	24			4	262.7	104.9	4.0	62.0
Jun 14		1,735		400			1,531	12	7			8	238.4	91.2	4.0	62.0
Jun 15		1,432		383			1,767	20	13			7	240.8	72.1	4.0	62.0
Jun 16		2,190		563			2,629	40	23			9	204.2	64.3	4.0	62.0
Jun 17		2,318		643			3,266	24	17			11	206.0	81.9	4.0	62.0
Jun 18		1,673		355			3,003	26	23			24	220.4	84.3	3.5	62.0
Jun 19		1,858		514			3,100	42	34			37	210.4	63.0	4.0	63.0
Jun 20		1,690		539			4,079	44	35			18	212.0	66.9	4.0	63.0
Jun 21		1,809		726			5,147	71	49			22	225.1	89.9	4.0	63.0
Jun 22		1,937		527			4,944	77	51			23	266.3	101.4	4.0	63.0
Jun 23		1,698		663			5,288	81	52			46	262.7	78.7	4.0	63.0
Jun 24		2,078		503			5,196	276	170			25	250.0	79.8	4.0	63.0
Jun 25		2,293		552			5,512	143	92			18	267.8	106.5	4.0	63.0
Jun 26		1,380		512			4,034	205	139			13	267.6	102.2	4.0	63.0
Jun 27		947		411			4,863	115	73			41	267.1	79.9	4.0	63.0
Jun 28		1,493		443			6,818	113	80			40	267.0	84.5	4.0	63.0
Jun 29		1,986		488			7,858	113	80			41	302.2	122.1	4.0	63.0
Jun 30		1,560		432			6,763	141	107			76	262.2	100.7	4.0	63.0
<b>TOTAL</b>	<b>3,577</b>	<b>44,962</b>		<b>13,667</b>			<b>80,403</b>	<b>1,837</b>	<b>1,252</b>			<b>494</b>				
<b>AVG.</b>	<b>715</b>	<b>1,798</b>		<b>456</b>			<b>2,680</b>	<b>61</b>	<b>42</b>			<b>16</b>	<b>245.0</b>	<b>86.5</b>	<b>4.3</b>	<b>61.6</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	56,991	28,957
SUMMER	44,962	12,330
<b>TOTAL</b>	<b>101,953</b>	<b>41,287</b>

SOCKEYE	STEELHEAD	unclipped STEELHEAD	LAMPREY
80,426	2,788	1,734	518

TABLE 55

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

JOHN DAY PROJECT - FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped						DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
Jul 1		1,636		500	0		7,744	179	68			84		283.8	85.4	5.5	64.0
Jul 2		1,498		380	0		6,048	137	49			94		280.5	96.0	5.5	64.0
Jul 3		1,733		521	0		5,677	158	73			72		274.1	114.8	5.0	64.0
Jul 4		1,874		511	0		5,562	167	72			121		275.0	105.0	5.0	65.0
Jul 5		1,986		465	0		5,100	180	71			97		250.1	85.9	5.0	65.0
Jul 6		1,670		418	0		5,009	218	82			110		266.3	84.8	5.0	65.0
Jul 7		1,680		242	0		3,946	208	84			82		251.7	100.3	5.0	66.0
Jul 8		1,384		329	0		4,556	229	91			91		248.2	94.3	5.0	66.0
Jul 9		818		209	0		3,375	164	67			95		215.8	64.5	5.0	67.0
Jul 10		893		260	0		3,420	216	95			90		204.7	65.2	5.0	67.0
Jul 11		1,212		278	0		3,976	306	147			91		201.1	80.6	5.0	68.0
Jul 12		1,045		357	0		2,901	488	257			101		195.7	74.6	5.0	68.0
Jul 13		900		286	0		2,575	409	207			72		212.0	63.7	5.0	68.0
Jul 14		1,142		208	0		2,765	382	191			95		206.0	64.9	4.5	68.0
Jul 15		1,012		324	0		2,369	561	315			87		212.0	84.2	4.5	68.0
Jul 16		779		168	0		1,300	472	254			113		197.3	75.4	4.5	69.0
Jul 17		377		138	0		864	408	179			121		187.2	56.0	4.0	69.0
Jul 18		697		186	0		1,384	503	275			111		194.5	61.9	4.0	69.0
Jul 19		676		141	1		1,464	733	413			81		186.9	74.4	4.0	69.0
Jul 20		645		113	0		1,020	882	501			111		197.9	75.9	4.0	69.0
Jul 21		545		89	0		652	853	488			78		179.1	53.9	4.0	69.0
Jul 22		648		119	0		894	1,118	626			73		194.9	58.1	4.0	69.0
Jul 23		357		78	0		326	1,045	630			98		164.0	49.2	4.0	69.0
Jul 24		384		79	0		374	930	553			80		151.1	45.4	5.5	70.0
Jul 25		304		89	0		231	828	489			119		169.2	50.7	5.5	70.0
Jul 26		318		57	0		194	762	440			83		190.5	57.1	5.5	70.0
Jul 27		464		113	0		185	1,404	815			93		146.8	44.1	5.5	70.0
Jul 28		497		99	0		259	1,407	855			117		143.9	43.2	5.5	70.0
Jul 29		443		109	0		128	1,233	712			133		156.9	47.0	5.5	70.0
Jul 30		372		88	0		121	932	516			118		161.9	48.3	5.5	70.0
Jul 31		484		78	0		111	904	472			73		183.6	54.8	5.0	70.0
<b>TOTAL</b>		<b>28,473</b>		<b>7,032</b>	<b>1</b>		<b>74,530</b>	<b>18,416</b>	<b>10,087</b>			<b>2,984</b>					
AVG		918		227	0		2,404	594	325			96		205.9	69.7	4.9	67.9

RUN YEAR	CHINOOK	CHINOOK	COHO	unclipped			LAMPREY
	ADULT	JACK	ADULT	SOCKEYE	STEELHEAD	STEELHEAD	
TOTALS TO DATE							
SPRING	56,991	28,957	1	154,956	21,204	11,821	3,502
SUMMER	73,435	19,362					
TOTAL	130,426	48,319					

TABLE 56  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

**JOHN DAY PROJECT - FISH COUNTS**

**AUGUST 2013**

DATE	unclipped											DISCH SPILL TURBIDITY					
	CHINOOK ADULT SPRING	CHINOOK ADULT SUMMER	CHINOOK ADULT FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
Aug 1	603			93	0	0	98	1,208	665			63	0	179.6	53.8	5.0	71.0
Aug 2	310			73	0	0	60	960	519			120	0	159.6	47.8	5.0	71.0
Aug 3	297			71	0	0	90	1,056	581			86	0	167.8	50.3	5.0	70.0
Aug 4	335			69	1	1	44	903	509			84	0	170.9	51.1	5.0	70.0
Aug 5	268			46	0	0	47	880	499			144	0	152.2	45.5	5.0	71.0
Aug 6			329	64	0	0	31	983	506			80	1	180.7	54.0	5.0	71.0
Aug 7			367	87	0	0	15	979	500			76	0	153.0	46.1	4.5	71.0
Aug 8			497	91	0	0	22	1,097	548			66	0	157.2	46.8	4.5	71.0
Aug 9			577	126	0	0	20	1,009	520			90	0	160.0	47.8	4.5	71.0
Aug 10			794	144	0	0	16	1,108	559			42	0	147.2	44.1	4.5	71.0
Aug 11			872	143	0	0	11	1,246	600			66	0	113.3	34.0	4.5	71.0
Aug 12			462	60	0	0	9	794	355			53	0	152.5	45.8	4.5	71.0
Aug 13			638	119	0	0	16	805	365			50	0	167.0	50.0	4.5	71.0
Aug 14			742	119	1	0	9	675	288			53	0	165.3	49.7	4.5	72.0
Aug 15			568	115	2	0	8	487	189			80	0	141.3	42.3	4.5	72.0
Aug 16			510	102	0	0	2	318	138			40	0	163.2	48.6	4.5	72.0
Aug 17			736	116	0	1	4	225	93			55	0	151.7	45.3	4.5	72.0
Aug 18			1,026	112	0	0	2	297	138			31	0	133.8	40.1	4.5	72.0
Aug 19			1,035	255	0	0	5	374	139			44	0	142.3	42.6	4.5	72.0
Aug 20			685	146	0	1	2	358	158			27	0	145.2	43.5	4.5	72.0
Aug 21			630	161	2	0	5	328	137			18	0	146.4	43.7	5.0	72.0
Aug 22			702	203	-1	0	2	277	117			40	0	148.7	44.4	5.0	72.0
Aug 23			1,369	307	6	1	0	503	203			30	0	134.8	40.9	5.0	72.0
Aug 24			2,091	554	7	1	-1	692	262			71	0	130.2	39.1	5.0	72.0
Aug 25			2,039	487	19	6	0	677	250			72	2	110.4	33.0	5.0	72.0
Aug 26			2,999	747	13	4	-1	703	265			40	0	134.1	40.1	5.0	72.0
Aug 27			2,421	596	40	10	0	368	126			43	0	121.7	36.6	5.0	72.0
Aug 28			3,780	841	20	1	0	589	196			31	0	132.8	39.7	5.0	72.0
Aug 29			2,592	839	26	3	1	755	255			54	0	132.6	39.7	5.0	72.0
Aug 30			4,040	1,112	35	9	0	754	298			56	0	131.4	39.3	5.0	72.0
Aug 31			4,939	1,177	92	8	-1	809	280			44	1	130.9	39.2	5.0	72.0
<b>TOTAL</b>	1,813	37,440	9,175	263	46		516	22,217	10,258			1,849	4				
<b>AVG.</b>	363	1,440	296	8	1		17	717	331			60	0	147.0	44.0	4.8	71.5

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	56,991	28,957
SUMMER	75,248	19,714
FALL	37,440	8,823
<b>TOTAL</b>	<b>169,679</b>	<b>57,494</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
264	46	155,472	43,421	22,079

LAMPREY	STURGEON
5,351	4

TABLE 57

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

JOHN DAY PROJECT - FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped				CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD				PINK	KCFS	KCFS	SECCHI
Sep 1		4,352	982	20	6	8	1,002	385	0		53	0	98.6	0.9	5.0	72.0
Sep 2		13,117	3,353	243	27	1	1,620	588	3		65	0	88.8	0.9	5.0	72.0
Sep 3		3,768	1,023	35	5	0	1,571	571	0		88	0	90.6	1.0	5.0	72.0
Sep 4		4,554	1,849	77	26	2	1,157	440	0		70	0	92.4	0.8	6.0	72.0
Sep 5		5,888	1,729	48	8	-1	1,207	410	0		98	0	94.2	0.7	6.0	72.0
Sep 6		4,564	1,748	34	1	0	1,473	519	2		34	0	89.4	0.9	6.0	72.0
Sep 7		5,131	1,406	34	4	1	2,265	815	2		38	0	95.3	0.9	6.0	72.0
Sep 8		6,806	1,289	61	12	1	3,724	1,417	1		35	0	68.7	0.9	6.0	72.0
Sep 9		15,565	3,510	118	21	1	6,168	2,208	0		37	0	80.7	0.8	6.0	72.0
Sep 10		16,582	3,596	206	54	1	3,972	1,387	-1		84	0	116.6	1.0	6.0	72.0
Sep 11		14,668	3,342	135	10	0	1,879	617	1		82	0	127.0	0.9	6.0	72.0
Sep 12		10,365	2,059	212	12	0	1,304	458	1		72	0	106.2	0.4	6.0	72.0
Sep 13		13,075	2,853	196	34	1	1,499	498	1		72	0	117.9	0.9	6.0	72.0
Sep 14		10,340	2,963	151	19	1	1,690	580	1		53	0	102.7	0.0	6.0	72.0
Sep 15		12,571	2,172	310	29	0	2,305	931	4		52	1	70.7	0.6	6.0	72.0
Sep 16		23,026	4,695	194	23	1	4,778	1,838	5		64	0	84.9	0.9	6.0	72.0
Sep 17		15,192	2,720	445	44	0	3,039	1,021	0		46	1	116.9	0.8	5.5	72.0
Sep 18		15,783	3,201	205	21	2	1,801	608	3		24	0	83.6	0.8	5.5	72.0
Sep 19		16,198	3,007	326	37	1	1,396	485	0		30	1	96.3	1.0	5.5	72.0
Sep 20		19,491	3,359	160	21	1	1,317	415	7		20	0	107.9	0.8	5.5	72.0
Sep 21		13,649	2,248	193	29	0	1,523	494	0		7	0	72.1	0.8	5.5	71.0
Sep 22		13,392	2,287	275	31	0	2,283	821	3		18	0	74.4	0.9	5.5	70.0
Sep 23		12,743	2,088	276	43	0	2,684	1,001	2		7	0	92.9	0.9	6.0	70.0
Sep 24		12,094	2,010	272	36	0	2,203	768	2		20	0	84.4	0.8	6.0	70.0
Sep 25		14,995	2,020	605	51	1	4,595	1,559	4		14	0	96.9	1.2	6.0	69.0
Sep 26		13,382	1,974	750	55	0	4,176	1,408	2		22	0	97.2	0.9	5.0	69.0
Sep 27		11,980	1,565	871	85	0	3,277	1,117	0		17	0	93.1	0.9	5.0	67.0
Sep 28		7,770	1,268	413	37	1	1,928	649	0		15	0	97.9	0.8	5.0	67.0
Sep 29		5,942	939	436	34	1	2,886	1,127	4		16	0	83.1	0.7	5.0	66.0
Sep 30		6,174	1,296	782	41	0	7,633	3,855	1		10	0	83.8	0.8	5.0	66.0
<b>TOTAL</b>		<b>343,157</b>	<b>68,551</b>	<b>8,083</b>	<b>856</b>	<b>24</b>	<b>78,355</b>	<b>28,990</b>	<b>48</b>		<b>1,263</b>	<b>3</b>				
<b>AVG.</b>		<b>11,439</b>	<b>2,285</b>	<b>269</b>	<b>29</b>	<b>1</b>	<b>2,612</b>	<b>966</b>	<b>2</b>		<b>42</b>	<b>0</b>	<b>93.5</b>	<b>0.8</b>	<b>5.6</b>	<b>70.8</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	56,991	28,957
SUMMER	75,248	19,714
FALL	380,597	77,374
TOTAL	512,836	126,045

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	LAMPREY	STURGEON
8,347	902	155,496	121,776	51,069	48	6,614	7



TABLE 58

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

JOHN DAY PROJECT - FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped				CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD				PINK	KCFS	KCFS	SECCHI
Oct 1			3,728	817	1,731	95	0	7,940	4,102	0		6	111.6	0.6	5.0	66.0
Oct 2			2,407	467	1,440	78	0	4,944	2,486	5		1	122.4	0.9	5.0	65.0
Oct 3			2,887	669	1,049	78	0	2,785	1,321	3		2	103.2	0.8	5.0	64.0
Oct 4			5,781	1224	1,013	39	0	2,312	1,015	0		1	100.7	0.8	5.0	63.0
Oct 5			3,608	1060	362	19	0	1,549	617	-1		4	80.6	0.8	5.0	63.0
Oct 6			2,601	539	438	22	1	1,179	421	1		4	76.1	0.8	5.0	63.0
Oct 7			2,645	706	133	13	1	925	348	0		2	76.6	0.8	5.0	63.0
Oct 8			1,717	364	273	5	0	899	326	0		5	94.7	1.0	5.0	63.0
Oct 9			1,496	449	100	4	0	523	196	0		1	95.2	0.9	5.0	62.0
Oct 10			1,606	371	126	12	0	584	171	0		1	100.5	0.8	5.0	61.0
Oct 11			3,090	514	137	18	0	556	216	1		1	108.5	0.8	5.0	60.0
Oct 12			3,582	460	96	6	0	571	205	0		1	102.5	0.8	5.0	61.0
Oct 13			3,323	467	59	2	0	429	170	0		1	100.1	0.8	5.0	60.0
Oct 14			2,364	240	57	5	0	324	134	0		0	107.9	0.7	5.0	61.0
Oct 15			2,499	624	168	33	0	445	180	0		14	103.2	0.7	5.0	60.0
Oct 16			1,923	516	57	7	0	306	116	1		2	112.6	1.5	5.0	59.0
Oct 17			1,635	372	70	6	0	276	86	1		2	124.8	0.7	5.0	59.0
Oct 18			1,098	226	47	1	0	199	66	0		0	115.7	0.8	5.0	59.0
Oct 19			1,051	219	54	0	0	231	90	1		5	107.0	0.8	5.0	59.0
Oct 20			1,198	205	21	1	0	168	66	0		1	101.2	0.7	5.0	59.0
Oct 21			1,119	272	49	5	0	222	79	0		0	114.9	0.8	5.0	59.0
Oct 22			1,025	93	25	1	0	169	73	0		0	111.0	0.7	5.0	59.0
Oct 23			674	80	19	1	0	150	75	0		0	111.6	0.7	5.0	58.0
Oct 24			723	109	23	0	0	178	84	0		0	97.3	0.7	5.0	58.0
Oct 25			594	121	60	3	0	167	75	0		0	98.7	0.7	5.0	57.0
Oct 26			536	72	36	1	0	136	61	0		1	94.7	0.7	5.0	57.0
Oct 27			497	85	30	0	0	141	73	1		1	84.8	0.9	5.0	57.0
Oct 28			443	115	35	2	0	245	135	0		0	103.9	0.7	5.0	57.0
Oct 29			349	108	26	1	0	300	189	0		0	101.0	0.8	5.0	56.0
Oct 30			411	109	54	1	0	168	86	0		2	92.8	0.8	5.0	57.0
Oct 31			309	72	28	4	0	158	84	0		1	96.1	0.7	5.0	57.0
<b>TOTAL</b>			<b>56,919</b>	<b>11,745</b>	<b>7,816</b>	<b>463</b>	<b>2</b>	<b>29,179</b>	<b>13,346</b>	<b>13</b>		<b>59</b>				
<b>AVG.</b>			<b>1,836</b>	<b>379</b>	<b>252</b>	<b>15</b>	<b>0</b>	<b>941</b>	<b>431</b>	<b>0</b>		<b>2</b>	<b>101.7</b>	<b>0.8</b>	<b>5.0</b>	<b>60.1</b>

RUN YEAR	CHINOOK	CHINOOK	COHO	COHO	unclipped				CHUM	LAMPREY	STURGEON
	ADULT	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK			
TOTALS TO DATE											
SPRING	56,991	28,957	16,163	1,365	155,498	150,955	64,415	61	0	6,673	7
SUMMER	75,248	19,714									
FALL	437,516	89,119									
<b>TOTAL</b>	<b>569,755</b>	<b>137,790</b>									

Note: Visual counts ended October 31.

TABLE 59

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

JOHN DAY PROJECT - FISH COUNTS

NOVEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	unclipped						DISCH KCFS	SPILL KCFS	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM			LAMPREY	STURGEON	SECCHI	DEG F
Nov 1			219	96	28	2		176	84	0	0	1		87.1	0.5	5.0	57.0
Nov 2			196	55	33	1		107	57	0	0	-1		88.1	0.4	5.0	57.0
Nov 3			187	55	70	6		266	116	0	1	-3		85.8	0.8	5.0	57.0
Nov 4			141	43	82	15		192	77	0	2	3		117.1	0.7	5.0	56.0
Nov 5			164	47	82	5		192	59	1	2	0		113.5	0.7	5.0	56.0
Nov 6			116	73	37	5		135	50	1	2	0		115.8	0.7	5.0	55.0
Nov 7			118	43	25	1		121	46	0	0	0		109.4	0.7	5.0	55.0
Nov 8			115	23	14	2		182	55	0	0	0		102.2	0.7	5.0	54.0
Nov 9			82	31	16	2		227	58	0	0	0		115.5	0.6	5.0	54.0
Nov 10			91	29	25	2		161	64	0	1	0		122.2	0.7	5.0	54.0
Nov 11			36	17	17	1		103	30	0	0	0		120.7	0.7	5.0	54.0
Nov 12			56	22	16	-1		55	18	0	0	0		108.5	0.6	5.0	54.0
Nov 13			42	11	15	1		54	18	0	0	0		117.6	0.7	5.0	54.0
Nov 14			53	15	13	0		45	23	0	0	0		111.3	0.7	5.5	52.0
Nov 15			59	9	4	0		41	14	0	0	0		111.9	0.7	5.5	52.0
Nov 16			56	13	4	0		55	28	0	0	-1		105.9	0.7	5.0	53.0
Nov 17			35	6	2	0		44	21	0	0	1		102.1	0.6	5.5	53.0
Nov 18			37	4	2	0		44	20	0	0	1		113.9	0.7	6.0	53.0
Nov 19			17	11	3	0		37	18	0	1	0		101.8	0.8	5.5	52.0
Nov 20			15	4	3	0		57	32	0	0	0		110.0	0.8	5.5	51.0
Nov 21			13	7	5	1		355	218	0	1	0		123.6	0.8	5.5	51.0
Nov 22			28	3	2	0		266	106	0	0	0		144.3	0.8	5.5	51.0
Nov 23			14	6	1	0		75	24	1	0	0		123.5	0.7	5.0	50.0
Nov 24			7	7	1	0		46	17	0	0	0		80.1	0.2	5.0	51.0
Nov 25			5	2	3	0		17	6	0	0	-1		134.0	0.7	5.5	51.0
Nov 26			5	1	0	0		24	11	0	0	0		119.5	0.7	5.5	49.0
Nov 27			9	2	1	1		21	8	0	0	3		126.9	0.8	5.5	49.0
Nov 28			4	0	2	0		12	7	0	0	1		123.1	0.7	5.5	49.0
Nov 29			1	0	1	0		13	4	0	0	0		123.8	0.7	5.5	48.0
Nov 30			2	1	3	0		10	3	0	0	0		109.4	0.0	5.5	47.0
<b>TOTAL</b>			<b>1,923</b>	<b>636</b>	<b>510</b>	<b>44</b>		<b>3,133</b>	<b>1,292</b>	<b>3</b>	<b>10</b>	<b>4</b>					

AVG.	64	21	17	1		104	43		0					112.3	0.6	5.3	52.6
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RUN YEAR	CHINOOK	CHINOOK	COHO	COHO	unclipped									
	TOTALS TO DATE	ADULT	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	LAMPREY	STURGEON		
SPRING	56,991	28,957				16,163	1,365	155,498	150,955	64,415	64	10	6,673	7
SUMMER	75,248	19,714												
FALL	437,516	89,119												
<b>TOTAL</b>	<b>569,755</b>	<b>137,790</b>												

Note: From November 1 to December 31, counts were from video tape. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST. Official Fall Chinook run ended October 31st. November and December counts were not added to fall totals with the exception of Pink, Chum, and Sturgeon counts which are for the entire year.

TABLE 60  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT - FISH COUNTS

DECEMBER 2013

DATE	CHINOOK ADULT		CHINOOK COHO		COHO		unclipped				DISCH KCFS	SPILL KCFS	TURBIDITY				
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK			CHUM	LAMPREY	STURGEON	SECCHI	DEG F
Dec 1			-1	0	1	1		2	-1		0	1		102.4	0.0	5.0	47.0
Dec 2			6	0	9	1		62	48		0	4		87.1	0.0	5.5	47.0
Dec 3			7	3	11	4		496	323		2	1		136.6	0.0	5.5	47.0
Dec 4			0	3	2	0		259	176		0	-3		130.9	0.0	5.5	46.0
Dec 5			3	0	3	0		318	188		0	0		135.2	0.0	5.5	46.0
Dec 6			2	0	4	0		157	99		0	0		143.5	0.0	5.5	46.0
Dec 7			6	2	1	0		71	39		0	0		142.1	0.0	5.5	46.0
Dec 8			4	1	2	0		63	33		0	-2		144.8	0.0	6.0	46.0
Dec 9			2	0	4	1		44	22		0	0		144.5	0.0	5.0	43.0
Dec 10			0	0	-1	0		5	1		0	-1		138.5	0.0	5.0	45.0
Dec 11			0	0	0	0		11	4		0	-2		140.6	0.0	5.0	41.0
Dec 12			1	0	2	0		6	4		0	0		127.0	0.0	5.5	41.0
Dec 13			0	0	0	0		14	10		0	-1		127.5	0.0	5.5	41.0
Dec 14			-1	0	0	0		3	2		0	0		119.5	0.0	5.5	41.0
Dec 15			3	-1	1	0		9	8		0	0		114.6	0.0	5.5	41.0
Dec 16			1	-2	0	0		8	3		0	-1		121.1	0.0	5.0	44.0
Dec 17			1	0	1	1		5	3		0	0		124.2	0.0	5.0	41.0
Dec 18			-1	0	0	0		10	3		0	0		126.3	0.0	5.0	40.0
Dec 19			2	0	0	0		9	6		0	0		122.8	0.0	5.0	40.0
Dec 20			0	-1	1	0		7	6		0	0		125.1	0.0	6.0	40.0
Dec 21			1	0	1	0		15	8		0	0		114.2	0.0	6.0	40.0
Dec 22			3	-1	2	0		3	2		0	0		114.3	0.0	6.0	40.0
Dec 23			0	0	0	0		19	8		0	0		120.3	0.0	6.0	40.0
Dec 24			0	0	0	0		23	12		0	0		122.9	0.0	6.0	40.0
Dec 25			0	0	0	0		18	10		0	0		116.5	0.0		
Dec 26			1	0	0	0		6	6		0	0		119.3	0.0	6.0	40.0
Dec 27			0	-1	0	1		3	3		0	0		118.4	0.0		
Dec 28			0	0	1	0		2	2		0	-3		124.3	0.0	6.0	40.0
Dec 29			1	1	0	0		2	1		0	0		116.4	0.0	6.0	40.0
Dec 30			0	0	0	2		2	2		0	0		118.7	0.0	5.5	40.0
Dec 31			0	0	0	1		2	1		0	0		116.6	0.0	5.5	40.0
<b>TOTAL</b>			41	4	45	12		1,654	1,032		2	-7					
<b>AVG.</b>			1	0	1	0		53	33		0			124.4	0.0	5.5	42.4

RUN YEAR	CHINOOK		COHO		unclipped				PINK	CHUM	LAMPREY	STURGEON		
	TOTALS TO DATE	ADULT	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD						
SPRING	56,991	28,957				16,163	1,365	155,498	150,955	64,415	64	12	6,673	7
SUMMER	75,248	19,714												
FALL	437,516	89,119												
<b>TOTAL</b>	<b>569,755</b>	<b>137,790</b>												

Note: From November 1 to December 31, counts were from video tape. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST. Official Fall Chinook run ended October 31st. November and December counts were not added to fall totals.

TABLE 61

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT - NIGHT FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO		SOCKEYE	unclipped		
	SPRING	SUMMER	FALL		ADULT	JACK		STEELHEAD	STEELHEAD	PINK
Jun 1										
Jun 2										
Jun 3										
Jun 4										
Jun 5										
Jun 6										
Jun 7										
Jun 8										
Jun 9										
Jun 10										
Jun 11										
Jun 12										
Jun 13										
Jun 14		0		0		32	0	0		19
Jun 15		40		10		61	8	2		59
Jun 16		27		2		112	15	2		49
Jun 17		21		3		189	1	0		38
Jun 18		19		4		126	1	0		28
Jun 19		34		5		122	0	0		22
Jun 20		5		2		102	5	0		25
Jun 21		31		8		113	8	0		26
Jun 22		42		5		90	3	1		35
Jun 23		11		4		98	3	0		35
Jun 24		16		5		88	1	0		71
Jun 25		35		2		110	0	0		59
Jun 26		41		4		100	0	0		38
Jun 27		22		4		124	3	0		63
Jun 28		31		9		153	7	0		34
Jun 29		10		10		82	3	1		63
Jun 30		13		3		106	4	0		74
<b>TOTAL</b>		<b>398</b>		<b>80</b>		<b>1,808</b>	<b>62</b>	<b>6</b>		<b>738</b>
<b>AVG.</b>		<b>23</b>		<b>5</b>		<b>106</b>	<b>4</b>	<b>0</b>		<b>43</b>

Note: Night counts are video counts from 2000-0400 PST.

TABLE 62

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## JOHN DAY PROJECT -NIGHT FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	unclipped				
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	LAMPREY
Jul 1		35		4			120	8	1		137
Jul 2		36		1			110	1	0		75
Jul 3		25		11			188	8	0		103
Jul 4		23		4			145	5	1		149
Jul 5		19		3			184	16	1		182
Jul 6		28		12			235	8	0		244
Jul 7		26		20			157	4	0		185
Jul 8		29		25			267	7	0		142
Jul 9		9		9			128	3	0		52
Jul 10		6		7			144	0	0		69
Jul 11		47		46			288	11	2		124
Jul 12		9		9			151	6	3		40
Jul 13		15		4			399	11	6		146
Jul 14		16		1			265	9	4		160
Jul 15		23		4			266	1	2		164
Jul 16		15		8			182	9	3		195
Jul 17		13		14			258	13	4		137
Jul 18		15		1			418	11	3		150
Jul 19		11		0			175	10	3		142
Jul 20		7		0			82	10	3		198
Jul 21		11		2			119	15	3		193
Jul 22		8		0			44	12	2		170
Jul 23		13		1			55	12	5		203
Jul 24		8		1			54	16	7		160
Jul 25		3		0			57	19	6		233
Jul 26		5		3			63	5	1		249
Jul 27		10		2			53	11	7		279
Jul 28		8		2			69	14	7		238
Jul 29		12		4			42	17	8		219
Jul 30		10		4			31	28	12		216
Jul 31		5		1			31	13	6		176
<b>TOTAL</b>		<b>500</b>		<b>203</b>			<b>4,780</b>	<b>313</b>	<b>100</b>		<b>5,130</b>

AVG

16

7

154

10

3

165

Note: Night counts are video counts from 2000-0400 PST.

TABLE 63

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## JOHN DAY PROJECT - NIGHT FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	unclipped				
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	LAMPREY
Aug 1		12		1	0		25	17	11		198
Aug 2		5		1	0		23	17	6		168
Aug 3		8		2	0		26	19	1		187
Aug 4		8		0	0		25	31	17		217
Aug 5		8		1	0		13	29	14		154
Aug 6			6	0	0		9	16	5		127
Aug 7			16	0	0		1	23	10		118
Aug 8			15	1	0		2	20	3		109
Aug 9			11	0	0		15	16	2		164
Aug 10			7	0	0		2	29	12		154
Aug 11			9	0	0		8	27	10		107
Aug 12			15	0	0		3	18	9		113
Aug 13			19	1	0		1	9	3		94
Aug 14			12	1	0		0	7	1		118
Aug 15			6	0	0		1	9	3		141
Aug 16			26	3	0		1	5	2		77
Aug 17			16	2	0		2	7	1		114
Aug 18			20	4	0		1	8	2		76
Aug 19			26	8	0		0	13	1		83
Aug 20			7	3	0		0	12	-1		118
Aug 21			20	4	0		0	17	-2		135
Aug 22			20	3	0		0	20	7		107
Aug 23			24	3	0		0	37	6		105
Aug 24			45	2	0		0	67	23		100
Aug 25			22	9	0		0	57	11		46
Aug 26			63	8	0		0	22	10		66
Aug 27			34	5	0		0	54	8		68
Aug 28			52	3	0		0	62	14		64
Aug 29			69	4	1		0	72	25		85
Aug 30			44	3	0		0	48	18		84
Aug 31			140	18	2		0	91	29		122
<b>TOTAL</b>		41	744	90	3		158	879	261		3,619
AVG.		8	29	3	0		5	28	8		117

Note: Night counts are video counts from 2000-0400 PST.

TABLE 64

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## JOHN DAY PROJECT - NIGHT FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	unclipped		PINK	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		STEELHEAD	STEELHEAD		
Sep 1			241	31	1	0		123	34		112
Sep 2			98	9	3	0		162	44		97
Sep 3			98	17	0	0		66	21		74
Sep 4			79	3	0	0		101	23		72
Sep 5			78	11	0	0		107	31		81
Sep 6			43	11	0	0		183	46		93
Sep 7			158	24	8	2		395	88		85
Sep 8			470	112	13	0		767	193		81
Sep 9			314	45	13	0		363	115		98
Sep 10			179	19	15	-1		197	66		174
Sep 11			129	28	4	0		136	42		154
Sep 12			78	13	1	1		82	24		88
Sep 13			122	34	2	0		131	19		79
Sep 14			86	38	5	1		91	32		91
Sep 15			295	204	16	2		221	83		66
Sep 16			271	42	4	2		269	99		61
Sep 17			306	40	3	2		225	67		36
Sep 18			659	92	8	1		190	38		60
Sep 19			1,093	118	19	0		253	85		44
Sep 20			414	42	8	1		205	95		44
Sep 21			502	81	3	0		352	128		54
Sep 22			314	39	11	0		320	104		31
Sep 23			206	33	7	0		252	84		21
Sep 24			153	28	10	1		373	99		36
Sep 25			342	99	20	0		521	189		32
Sep 26			99	16	41	1		342	86		20
Sep 27			88	4	12	1		232	59		34
Sep 28			57	5	34	0		298	94		10
Sep 29			67	13	39	3		684	223		6
Sep 30			26	7	27	4		203	60		9
<b>TOTAL</b>			<b>7,065</b>	<b>1,258</b>	<b>327</b>	<b>21</b>		<b>7,844</b>	<b>2,371</b>		<b>1,943</b>
<b>AVG.</b>			<b>236</b>	<b>42</b>	<b>11</b>	<b>1</b>		<b>261</b>	<b>79</b>		<b>65</b>

Note: Night counts are video counts from 2000-0400 PST.

TABLE 65

YEARLY TOTALS OF SALMONIDS COUNTED OVER  
JOHN DAY DAM  
1968 - 2013

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	TOTAL
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	4,229	382,337
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
2003	472,340	305,042	35,417	38,765	851,564
2004	447,891	233,431	113,497	35,522	830,341
2005	322,991	232,103	69,770	36,205	661,081
2006	290,161	231,355	35,387	38,374	595,281
2007	215,876	237,517	24,277	39,421	517,091
2008	342,952	277,162	193,409	44,898	858,421
2009	451,974	581,645	157,402	71,739	1,262,760
2010	534,247	283,812	324,128	23,272	1,165,459
2011	497,771	257,345	143,605	65,668	965,087
2012	444,136	162,083	394,166	33,859	1,034,259
2013	710,149	155,742	155,498	18,139	1,039,604
<b>TOTALS</b>	<b>11,927,568</b>	<b>8,102,785</b>	<b>3,548,480</b>	<b>802,225</b>	<b>24,381,864</b>
<b>10-Year Average</b>	<b>425,815</b>	<b>265,220</b>	<b>161,114</b>	<b>40,710</b>	<b>892,938</b>

\*Jacks included

1999 - Total includes 1 pink  
2005 - Total includes 12 pinks  
2006 - Total includes 1 chum and 3 pinks  
2011 - Total includes 698 pinks  
2012 - Total includes 15 pinks  
2013 - Total includes 64 pinks and 12 chum





TABLE 67

**MONTHLY COUNT OF SOCKEYE SALMON  
JOHN DAY DAM  
1968 - 2013**

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
2003						19,260	16,004	151	2				35,417
2004					34	84,659	28,663	133	5	3			113,497
2005					-3	35,616	33,988	162	6	1			69,770
2006						20,279	14,949	154	5				35,387
2007					6	16,083	7,994	141	53				24,277
2008					1	150,928	42,325	153	2				193,409
2009					3	100,136	57,110	142	8	3			157,402
2010					14	226,244	97,705	153	8	4			324,128
2011						41,854	101,278	471	2	0			143,605
2012					2	241,353	152,501	285	22	3			394,166
2013					23	80,403	74,530	516	24	2			155,498
<b>TOTAL</b>						<b>126</b>	<b>1,823,699</b>	<b>1,706,233</b>	<b>17,667</b>	<b>673</b>	<b>81</b>	<b>1</b>	<b>3,548,480</b>
<b>10-Year Average</b>						<b>99,756</b>	<b>61,104</b>	<b>231</b>	<b>14</b>				<b>161,114</b>

TABLE 68  
MONTHLY COUNT OF COHO SALMON  
JOHN DAY DAM 1968 - 2013

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		
2003								282	24,786	13,509	183	5	38,765		
2004								161	24,884	9,710	766	1	35,522		
2005								334	20,981	12,882	2,005	3	36,205		
2006								613	20,825	12,340	4,543	53	38,374		
2007						1	1	248	21,179	17,799	193		39,421		
2008								810	29,451	14,637			44,898		
2009							1	4,826	29,003	37,909			71,739		
2010							10	375	14,126	8,761			23,272		
2011								2,234	37,683	25,751			65,668		
2012							9	1,393	28,826	3,631			33,859		
2013							1	309	8,939	8,279	554	57	18,139		
TOTAL						0	2	1	119	20,963	513,945	258,291	8,785	119	802,225
10-Year Average								1,130	23,590	15,170					40,710

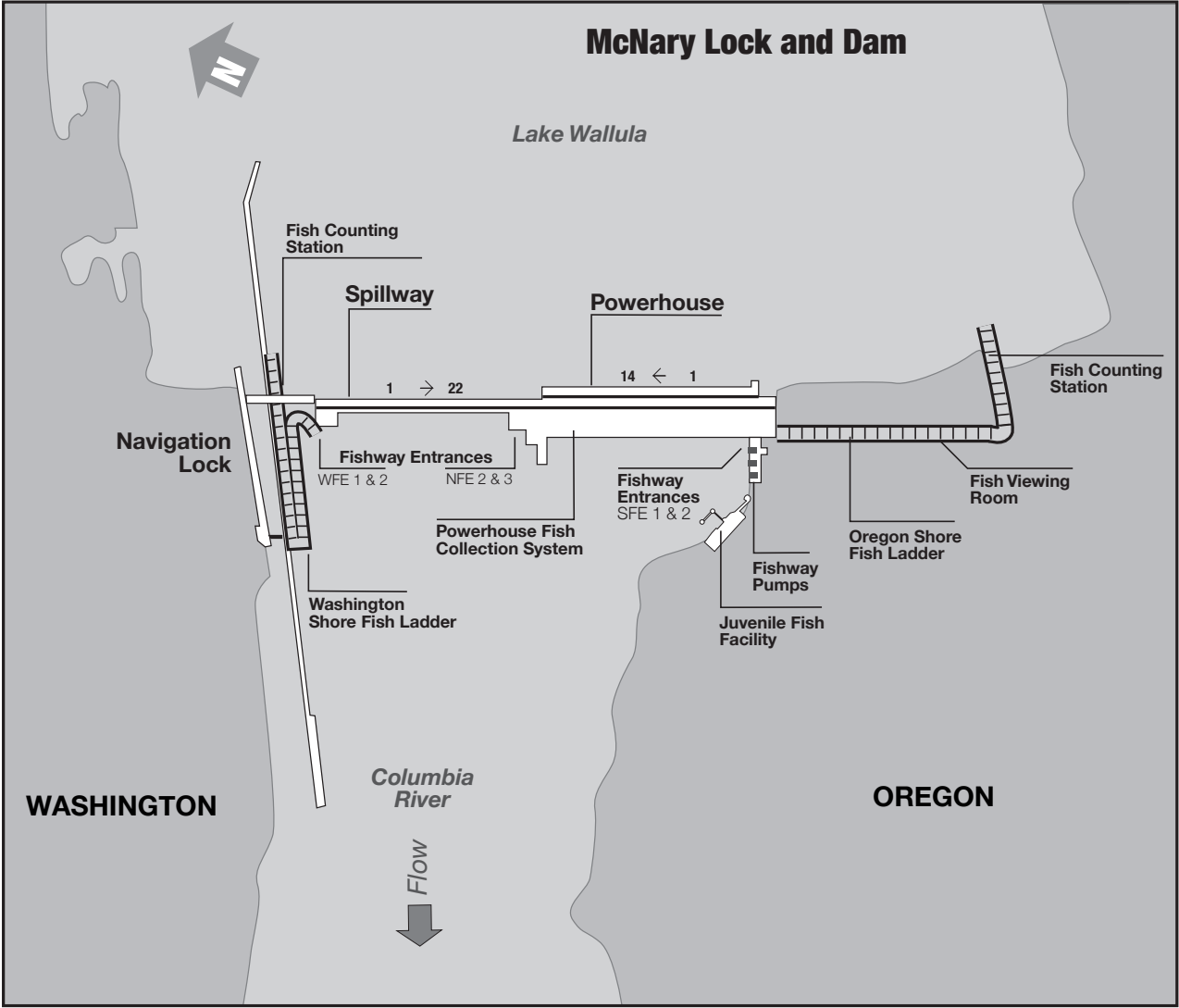
\*Jacks included

TABLE 69

**MONTHLY COUNT OF STEELHEAD  
JOHN DAY DAM 1968 - 2013**

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	8,850	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
2003			9,792	1,327	222	4,888	28,019	23,687	177,058	50,975	7,666	1,408	305,042
2004		186	2,591	1,437	537	6,840	20,250	24,594	145,241	28,300	3,401	54	233,431
2005		106	2,571	843	456	3,424	24,705	27,445	116,336	49,965	6,158	94	232,103
2006		32	1,252	2,104	343	2,575	15,719	25,008	125,323	46,050	12,909	40	231,355
2007		400	3,584	1,592	641	2,450	16,497	43,710	119,499	42,809	5,509	826	237,517
2008				2,363	1,004	5,973	45,572	41,931	144,781	35,538			277,162
2009				2,502	674	5,136	43,692	167,086	262,375	100,180			581,645
2010				2,156	442	7,589	73,271	36,206	123,408	40,740			283,812
2011				2,396	408	1,090	32,498	101,526	83,950	35,477			257,345
2012				1,657	277	1,995	27,799	34,466	67,996	27,893			162,083
2013				754	197	1,837	18,416	22,217	78,355	29,179	3,133	1,654	155,742
TOTAL	724	23,715	117,708	41,802	114,013	890,258	1,362,588	3,911,218	1,584,645	52,038	4,076		8,102,785
10-YR Average			1,780	498	3,891	31,842	52,419	126,726	43,613				265,220

# Plate 5 McNary Lock and Dam



## McNARY DAM

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### FISH COUNTING SCHEDULE

#### *Washington Ladder Schedule*

1 January – 31 March	No counting.
1 April – 31 October	Visual counts daily (0400-2000 hours PST).
1 July – 30 September	Nightly video lamprey counts (2000-0400 hours PST).
1 November – 31 December	No counting.

#### *Oregon Ladder Schedule*

1 January – 31 March	No counting.
1 April – 31 October	Visual counts daily (0400-2000 hours PST).
1 July – 30 September	Nightly video lamprey counts (2000-0400 hours PST).
1 November – 31 December	No counting.

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### FISH LADDER OPERATING SCHEDULE

#### *Washington Ladder*

1 – 7 January	Ladder in service.
7 – 24 January	Ladder dewatered for annual maintenance.
24 January – 31 December	Ladder in service.

#### *Oregon Ladder*

1 – 28 January	Ladder in service.
28 January – 4 March	Ladder dewatered due for annual maintenance.
4 March – 31 December	Ladder in service.

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### FISHWAY ACTIVITIES

Both ladders had new exit cranes installed.

Washington ladder maintenance activities consisted of a camera inspection of diffuser gratings with maintenance performed on all above-water structures and in the ladder to tailwater elevation. The junction pool still can not be dewatered due to problems with the concrete spillway bulkheads.

The Wasco county PUD was out of service from 7 to 24 January for annual maintenance with conduit bulkheads in place. On 5 to 7 and 24 to 25 January, the bypass system was functional around the unit's outage and operation.

Oregon ladder maintenance activities consisted of a dive inspection of diffuser gratings, replacement of diffuser 11's support and grating, debris removal, picketed leads repaired and maintenance performed on all above-water structures including the exit's

traveling screens along with maintenance below the water line up to the ladder's south junction pool bulkheads. The project also removed the lamprey passage stilts on SFEW2.

Fish pump 2 remains out of service for major overhaul, which is now scheduled for March, 2015. Fish pumps 1 and 3 were out of service from 27 January to 4 March for annual maintenance. Both pumps were operational from 4 March to 31 December with no long outages to report.

On 28 January, the exit crane contractor closed the 1000 cfs gravity conduit's intake valve. On 4 March, the project used the new crane to open the conduit's valve, which received a new hoist chain. However, the valve itself needs to be rehabilitated next winter.

From 26 March to 19 December, the juvenile bypass channel was operated for both juvenile and adult fallback passage. From 27 November to 19 December, the system was in emergency bypass due to failure of the side screen cleaning device. When in emergency bypass, the system does not provide auxiliary flow to the Oregon ladder's north powerhouse entrances.

TABLE 70

MONTHLY TOTALS OF SALMONIDS, SHAD, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER McNARY DAM  
2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*
CHINOOK*	7	-1		4,718	62,493	58,146	36,003	32,050	382,331	98,615			674,362
STEELHEAD	136	88		1,073	177	1,171	12,018	23,277	62,187	44,227			144,354
SOCKEYE					2	58,594	74,774	809	19	4			134,202
COHO*		1						15	4,983	8,882			13,881
CHUM													0
PINK									9	25			34
<b>TOTAL</b>				<b>5,791</b>	<b>62,672</b>	<b>117,911</b>	<b>122,795</b>	<b>56,151</b>	<b>449,529</b>	<b>151,753</b>			<b>966,833</b>
SHAD					<b>3,301</b>	<b>915,905</b>	<b>321,831</b>	<b>5,457</b>					<b>1,246,494</b>
LAMPREY				21	1	59	617	624	238	10			1,570
STURGEON							1						1
BULL TROUT													0

\*Jacks Included



TABLE 71

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

MCNARY PROJECT - FISH COUNTS													JANUARY 2013				
DATE	CHINOOK ADULT			CHINOOK COHO		COHO		TOTAL					DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	SHAD	LAMPREY			STURGEON	SECCH	DEG F
Jan 1	1							6		2				195.8	21.7	6.0	42.0
Jan 2	0							1		0				198.2	27.1	6.0	42.0
Jan 3	0							6		2				168.1	0.0	6.0	42.0
Jan 4	1							3		0				166.2	0.0	6.0	42.0
Jan 5	1							5		0				168.2	0.3	6.0	42.0
Jan 6	0							3		1				183.1	15.0	6.0	41.0
Jan 7	0							6		0				182.0	16.9	6.0	41.0
Jan 8	0							8		2				188.3	23.3	6.0	40.0
Jan 9	0							8		2				172.1	4.8	6.0	40.0
Jan 10	0							11		7				165.1	0.0	6.0	40.0
Jan 11	0							3		1				173.5	0.0	6.0	40.0
Jan 12	0							3		1				173.0	0.0	6.0	40.0
Jan 13	0							2		1				171.1	0.0	6.0	39.0
Jan 14	0							7		5				161.3	2.0	6.0	38.0
Jan 15	0							11		1				178.8	26.7	6.0	39.0
Jan 16	0							11		5				180.3	21.9	6.0	39.0
Jan 17	0							5		2				190.1	18.2	6.0	39.0
Jan 18	0							7		0				186.5	16.5	6.0	38.0
Jan 19	0							2		0				178.5	8.4	6.0	38.0
Jan 20	0							5		2				169.0	0.0	6.0	38.0
Jan 21	0							7		1				183.9	15.2	6.0	38.0
Jan 22	0							3		1				184.1	19.3	6.0	38.0
Jan 23	0							4		1				178.1	15.5	6.0	38.0
Jan 24	0							0		0				191.2	18.7	6.0	38.0
Jan 25	0							2		2				168.5	2.7	6.0	37.0
Jan 26	2							4		4				138.9	0.0	6.0	37.0
Jan 27	0							0		0				149.7	0.0	6.0	37.0
Jan 28	0							0		0				128.9	0.0	6.0	37.0
Jan 29	1							0		0				126.0	0.0	6.0	38.0
Jan 30	1							1		0				140.5	0.0	6.0	38.0
Jan 31	0							2		1				135.0	0.0	6.0	38.0
<b>TOTAL</b>	<b>7</b>							<b>136</b>		<b>44</b>				<b>170.1</b>	<b>8.8</b>	<b>6.0</b>	<b>39.2</b>
<b>AVG.</b>	<b>0</b>							<b>4</b>		<b>1</b>							

Note: January counts were from video tape. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST. Official Spring Chinook run started April 1. January counts were not added to spring totals.

TABLE 72  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT - FISH COUNTS											FEBRUARY 2013					
DATE	CHINOOK ADULT			CHINOOK COHO		COHO		TOTAL unclipped			DISCH KCFS	SPILL KCFS	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK			SHAD	LAMPREY	STURGEON	SECCH
Feb 1	-1				0			1		0			127.5	0.0	6.0	38.0
Feb 2	0				0			2		1			128.1	0.0	6.0	38.0
Feb 3	0				0			2		1			121.3	0.0	6.0	38.0
Feb 4	0				0			2		1			133.1	0.0	6.0	39.0
Feb 5	0				0			7		5			108.2	0.0	6.0	39.0
Feb 6	0				0			2		1			121.8	0.0	6.0	39.0
Feb 7	0				0			3		2			147.6	0.0	6.0	39.0
Feb 8	0				0			1		0			154.4	0.0	6.0	39.0
Feb 9	0				0			0		0			161.7	0.0	6.0	39.0
Feb 10	0				0			0		0			144.6	0.0	6.0	39.0
Feb 11	0				0			0		0			124.3	0.0	6.0	39.0
Feb 12	0				0			0		0			120.1	0.0	6.0	39.0
Feb 13	0				0			1		0			119.2	0.0	6.0	39.0
Feb 14	0				0			1		1			110.9	0.0	6.0	39.0
Feb 15	0				0			1		1			156.3	0.0	6.0	39.0
Feb 16	0				0			3		1			133.6	0.0	6.0	39.0
Feb 17	0				0			2		1			132.0	0.0	6.0	39.0
Feb 18	0				0			3		3			125.8	0.0	6.0	39.0
Feb 19	0				0			1		1			143.0	0.0	6.0	39.0
Feb 20	0				0			1		0			158.8	0.0	6.0	39.0
Feb 21	0				0			11		4			141.9	0.0	6.0	39.0
Feb 22	0				0			7		3			124.6	0.0	6.0	39.0
Feb 23	0				0			4		1			104.2	0.0	6.0	39.0
Feb 24	0				1			14		6			96.1	0.0	6.0	39.0
Feb 25	0				0			3		2			115.2	0.0	6.0	39.0
Feb 26	0				0			2		1			109.2	0.0	6.0	39.0
Feb 27	0				0			4		2			121.8	0.0	6.0	39.0
Feb 28	0				0			10		4			98.8	0.0	6.0	39.0

<b>TOTAL</b>	-1				1			88	42							
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AVG.	128.0	0.0	6.0	38.9
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TABLE 73  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT - FISH COUNTS												MARCH 2013					
DATE	CHINOOK ADULT			CHINOOK JACK	COHO		COHO ADULT	SOCKEYE	TOTAL			unclipped	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL		STEELHEAD	STEELHEAD			PINK	SHAD	LAMPREY				SECCHI	DEG F	
Mar 1													101.7	0.0	6.0	39.0	
Mar 2													89.3	0.0	6.0	39.0	
Mar 3													100.9	0.0	6.0	40.0	
Mar 4													129.6	0.0	6.0	40.0	
Mar 5													125.0	0.0	6.0	40.0	
Mar 6													105.7	0.0	6.0	40.0	
Mar 7													109.0	0.0	6.0	41.0	
Mar 8													119.6	0.0	6.0	41.0	
Mar 9													132.5	0.0	6.0	41.0	
Mar 10													110.2	0.0	6.0	41.0	
Mar 11													107.9	0.0	6.0	41.0	
Mar 12													108.8	0.0	6.0	41.0	
Mar 13													101.1	0.0	6.0	41.0	
Mar 14													117.9	0.0	6.0	41.0	
Mar 15													118.8	0.0	6.0	42.0	
Mar 16													109.4	0.0	6.0	42.0	
Mar 17													108.6	0.0	6.0	43.0	
Mar 18													124.1	0.0	6.0	43.0	
Mar 19													124.8	0.0	6.0	43.0	
Mar 20													115.5	0.0	6.0	43.0	
Mar 21													114.8	0.0	6.0	43.0	
Mar 22													107.7	0.0	5.0	43.0	
Mar 23													122.8	0.0	5.4	43.0	
Mar 24													111.0	0.0	5.1	43.0	
Mar 25													109.5	0.0	5.3	43.0	
Mar 26													105.4	0.4	5.4	43.0	
Mar 27													123.9	0.0	5.4	43.0	
Mar 28													118.5	0.0	5.3	43.0	
Mar 29													148.3	0.0	5.4	43.0	
Mar 30													148.7	0.0	5.3	43.0	
Mar 31													148.5	0.0	5.3	45.0	
<b>TOTAL</b>																	
AVG.																	

Note: Counting discontinued for March.

TABLE 74

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

MCNARY PROJECT - FISH COUNTS

APRIL 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL unclipped			SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
	SPRING	SUMMER	FALL					STEELHEAD	STEELHEAD	PINK						
Apr 1	2			0				39	17			0	139.2	11.8	5.0	46.0
Apr 2	5			0				63	35			0	168.4	38.8	6.0	46.0
Apr 3	1			0				99	43			0	169.8	38.8	6.0	46.0
Apr 4	4			0				52	23			0	171.2	46.0	5.6	47.0
Apr 5	8			0				49	24			0	218.7	99.6	5.8	47.0
Apr 6	10			0				93	63			0	225.4	86.7	5.4	48.0
Apr 7	12			0				93	45			0	219.9	81.2	5.1	48.0
Apr 8	13			0				64	36			0	224.9	116.8	4.8	48.0
Apr 9	4			0				86	55			0	268.7	142.3	4.6	48.0
Apr 10	19			0				58	33			0	264.6	128.8		48.0
Apr 11	19			0				70	32			0	277.4	138.0	4.5	48.0
Apr 12	18			0				44	24			0	281.5	147.1	4.5	48.0
Apr 13	3			0				20	8			0	242.7	98.4	4.3	47.0
Apr 14	20			1				17	3			0	259.7	115.4	4.4	47.0
Apr 15	39			0				29	9			0	269.3	141.0	6.0	47.0
Apr 16	33			1				22	13			0	276.6	151.3	6.0	47.0
Apr 17	33			1				15	10			0	265.2	138.1	6.0	47.0
Apr 18	9			2				6	5			0	238.8	106.0	6.0	47.0
Apr 19	44			1				27	18			0	217.6	88.0	6.0	47.0
Apr 20	119			1				24	12			0	223.2	90.1	6.0	47.0
Apr 21	65			0				15	10			0	233.2	93.5	6.0	47.0
Apr 22	98			1				26	11			1	232.2	93.2	6.0	48.0
Apr 23	109			0				12	7			0	207.8	83.8	6.0	49.0
Apr 24	48			0				4	3			0	217.1	86.7	6.0	49.0
Apr 25	146			2				10	1			0	211.3	85.1	6.0	49.0
Apr 26	162			2				4	2			0	219.1	87.8	6.0	49.0
Apr 27	288			11				4	3			0	226.9	90.9	6.0	50.0
Apr 28	426			11				2	1			20	223.7	89.9	6.0	50.0
Apr 29	877			21				13	11			0	220.9	88.7	6.0	50.0
Apr 30	1,954			75				13	7			0	219.6	88.2	6.0	50.0
<b>TOTAL</b>	<b>4,588</b>			<b>130</b>				<b>1,073</b>	<b>564</b>			<b>21</b>				
<b>AVG.</b>	<b>153</b>			<b>4</b>				<b>36</b>	<b>19</b>			<b>1</b>	<b>227.8</b>	<b>96.4</b>	<b>5.6</b>	<b>47.8</b>

Note: Visual counts occurred April 1 through October 31. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST. Official Spring Chinook run started April 1.

TABLE 75

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

MCNARY PROJECT - FISH COUNTS

MAY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO		SOCKEYE	TOTAL unclipped			SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TEMP DEG F
	SPRING	SUMMER	FALL		ADULT	JACK		STEELHEAD	STEELHEAD	PINK						
May 1	2,360			156		0	14	6		0	0	234.0	94.0	6.0	50.0	
May 2	1,302			146		0	4	2		0	0	237.9	95.7	6.0	50.0	
May 3	2,396			209		0	9	1		0	0	243.0	97.6	6.0	51.0	
May 4	2,059			203		0	9	4		0	0	223.3	89.7	6.0	51.0	
May 5	1,528			170		0	4	3		0	0	220.8	88.6	6.0	52.0	
May 6	1,154			221		0	8	6		0	0	234.5	94.2	6.0	52.0	
May 7	2,039			444		0	2	0		0	0	261.2	114.8	6.0	52.0	
May 8	2,907			862		0	3	1		0	0	286.2	139.3	6.0	54.0	
May 9	1,620			507		0	1	0		0	0	330.5	182.6	6.0	54.0	
May 10	3,238			1485		0	13	5		0	0	353.7	205.8	6.0	55.0	
May 11	2,605			1891		0	10	1		0	0	334.0	186.6	6.0	56.0	
May 12	1,903			1665		0	9	4		0	0	330.0	182.0	6.0	56.0	
May 13	1,477			1509		0	5	2		0	0	341.4	187.4	6.0	56.0	
May 14	1,898			1528		0	7	1		0	0	342.8	188.9	4.8	56.0	
May 15	1,779			1200		0	1	1		0	0	328.3	171.3		55.0	
May 16	979			737		0	1	1		1	0	311.9	158.4	4.2	55.0	
May 17	906			804		0	4	2		4	0	333.1	174.7	4.6	55.0	
May 18	744			726		0	2	1		1	0	318.6	167.4	4.0	55.0	
May 19	859			872		0	2	0		0	0	313.4	173.1	4.0	55.0	
May 20	597			567		0	3	1		12	0	286.6	158.5	4.3	55.0	
May 21	808			614		0	5	1		14	0	283.2	170.9		55.0	
May 22	943			693		0	3	2		31	0	316.2	160.0	4.5	55.0	
May 23	559			390		0	0	0		26	0	299.3	144.1	5.5	55.0	
May 24	840			534		0	3	2		34	0	295.1	147.9	5.6	55.0	
May 25	739			428		0	0	0		186	0	297.7	139.2	6.0	55.0	
May 26	734			385		0	5	1		99	0	301.7	141.9	6.0	55.0	
May 27	786			335		0	5	0		54	0	292.6	133.7	6.0	55.0	
May 28	360			291		0	6	3		304	0	280.2	120.6	5.5	55.0	
May 29	522			286		0	12	5		611	0	256.4	103.6	5.7	55.0	
May 30	639			290		0	2	0		483	0	245.1	98.3	5.0	55.0	
May 31	783			282		2	25	7		1441	1	246.6	98.9	5.4	55.0	
<b>TOTAL</b>	<b>42,063</b>			<b>20,430</b>		<b>2</b>	<b>177</b>	<b>63</b>		<b>3,301</b>	<b>1</b>					
<b>AVG.</b>	<b>1,357</b>			<b>659</b>		<b>0</b>	<b>6</b>	<b>2</b>		<b>106</b>	<b>0</b>	<b>289.7</b>	<b>142.2</b>	<b>5.5</b>	<b>54.2</b>	
<b>RUN YEAR</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>				<b>TOTAL STEELHEAD</b>	<b>unclipped STEELHEAD</b>		<b>SHAD</b>	<b>LAMPREY</b>					
<b>TOTALS TO DATE</b>		<b>46,651</b>	<b>20,560</b>				<b>2</b>	<b>1,250</b>	<b>627</b>	<b>3,301</b>	<b>22</b>					

TABLE 76

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

MCNARY PROJECT - FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL unclipped			SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEGF
	SPRING	SUMMER				STEELHEAD	STEELHEAD	PINK						
Jun 1	632		216			3	23	7	2,387	0	232.7	93.4	6.0	56.0
Jun 2	638		228			5	16	2	5,291	0	264.0	105.9	6.0	56.0
Jun 3	505		176			7	8	-2	7,433	1	241.5	96.8	6.0	56.0
Jun 4	646		224			8	23	2	5,550	0	260.1	116.3	6.0	56.0
Jun 5	696		190			9	10	2	6,591	1	266.1	119.2	6.0	56.0
Jun 6	652		179			19	13	1	10,941	0	247.9	102.1	6.0	56.0
Jun 7	912		260			27	11	0	20,871	1	241.3	100.0	6.0	60.0
Jun 8	838		246			68	22	-1	18,940	1	243.0	97.7	6.0	60.0
Jun 9		1,305	337			151	33	6	31,242	2	246.7	109.5	6.0	61.0
Jun 10		1,574	368			176	24	2	19,269	1	235.9	103.0	6.0	61.0
Jun 11		1,826	320			243	9	0	10,760	1	246.9	108.6	6.0	61.0
Jun 12		2,153	505			444	27	0	18,220	0	264.7	117.9	6.0	61.0
Jun 13		2,602	497			781	44	3	27,461	0	242.3	97.3	6.0	61.0
Jun 14		1,563	410			910	44	15	27,205	0	243.4	97.7	6.0	61.0
Jun 15		1,993	421			1,079	47	17	29,143	0	216.1	86.9	6.0	60.0
Jun 16		2,102	411			1,746	17	7	41,923	0	207.6	83.6	6.0	61.0
Jun 17		2,037	339			1,892	15	3	62,816	0	223.1	89.7	6.0	61.0
Jun 18		2,403	450			2,360	19	0	78,582	5	219.3	87.6	6.0	61.0
Jun 19		1,984	440			3,104	32	3	52,938	1	219.3	109.8	6.0	61.0
Jun 20		1,977	416			2,724	37	9	18,480	3	226.1	113.5	6.0	61.0
Jun 21		1,485	461			3,035	61	25	22,325	0	273.5	137.3	6.0	61.0
Jun 22		2,328	549			4,386	61	10	64,592	0	261.7	131.0	6.0	61.0
Jun 23		1,702	472			4,391	42	14	62,254	4	261.6	131.0	6.0	60.0
Jun 24		1,743	337			3,702	60	16	52,478	4	270.0	135.0	6.0	61.0
Jun 25		2,091	474			4,820	64	15	41,171	1	271.7	135.8	6.0	61.0
Jun 26		2,191	444			4,763	72	13	32,004	2	266.6	133.7	6.0	61.0
Jun 27		1,482	317			3,318	45	4	31,518	4	275.9	150.3	6.0	60.0
Jun 28		2,387	431			4,874	85	19	41,321	6	292.2	173.7	6.0	61.0
Jun 29		1,537	251			4,268	135	36	28,524	13	284.7	161.7	6.0	62.0
Jun 30		1,495	298			5,281	72	9	43,675	8	282.2	159.7	6.0	63.0

<b>TOTAL</b>	<b>5,519</b>	<b>41,960</b>	<b>10,667</b>			<b>58,594</b>	<b>1,171</b>	<b>237</b>	<b>915,905</b>	<b>59</b>				
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AVG.	690	1,907	356			1,953	39	8	30,530	2	250.9	116.2	6.0	59.9
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RUN YEAR TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
	SPRING	52,170	22,279	58,596	2,421	864	919,206
SUMMER	41,960	8,948					
<b>TOTAL</b>	<b>94,130</b>	<b>31,227</b>					

TABLE 77  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

**MCNARY PROJECT - FISH COUNTS**

**JULY 2013**

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL unclipped				DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	SHAD	LAMPREY	KCFS	KCFS	SECCHI	DEG F
Jul 1		2,254		333			6,443	104	12		51,387	11	285.2	165.6	6.0	63.0
Jul 2		1,966		212			6,201	114	40		43,327	9	284.4	160.4	6.0	63.0
Jul 3		1,638		194			6,790	168	43		30,962	7	280.5	156.7	6.0	63.0
Jul 4		1,320		215			5,281	136	35		30,458	9	241.1	133.2	6.0	63.0
Jul 5		1,745		360			4,431	154	47		19,722	15	269.0	136.7	6.0	66.0
Jul 6		1,901		493			4,606	169	50		12,118	12	261.3	131.7	6.0	65.0
Jul 7		2,022		372			3,256	162	62		9,274	7	250.0	135.4	6.0	66.0
Jul 8		2,036		368			3,859	170	52		10,607	12	223.6	116.7	6.0	66.0
Jul 9		1,148		165			2,809	129	36		11,957	19	217.9	109.0	6.0	66.0
Jul 10		1,251		124			2,620	142	48		10,354	8	203.8	102.0	6.0	66.0
Jul 11		993		144			3,175	131	45		11,616	11	200.5	100.6	6.0	67.0
Jul 12		964		202			3,601	169	67		14,017	23	217.6	108.7	6.0	67.0
Jul 13		1,292		230			3,810	238	99		9,474	20	218.6	109.4	6.0	67.0
Jul 14		1,085		214			2,369	263	136		10,652	10	215.6	108.2	6.0	67.0
Jul 15		933		127			2,417	283	131		8,228	13	210.5	105.7	6.0	67.0
Jul 16		1,050		182			2,568	306	156		5,086	18	196.9	99.2	6.0	67.0
Jul 17		932		176			2,290	275	122		5,457	18	196.8	99.2	6.0	67.0
Jul 18		684		159			1,787	378	211		4,498	28	190.5	95.4	6.0	64.0
Jul 19		426		66			1,043	318	158		3,434	23	216.0	108.2	6.0	69.0
Jul 20		558		96			1,256	349	173		3,252	17	197.1	98.8	6.0	69.0
Jul 21		687		83			1,002	382	198		2,458	16	190.6	95.7	6.0	68.0
Jul 22		505		70			631	457	258		2,621	24	178.7	89.5	6.0	68.0
Jul 23		552		83			490	767	397		2,320	18	161.2	80.7	6.0	69.0
Jul 24		426		63			585	755	428		1,725	18	170.8	85.6	6.0	69.0
Jul 25		322		72			341	657	361		1,823	32	197.7	99.0	6.0	69.0
Jul 26		322		82			237	700	427		1,302	21	168.6	84.7	6.0	69.0
Jul 27		312		65			255	755	445		967	18	149.3	74.7	6.0	70.0
Jul 28		353		73			180	886	509		803	47	159.0	79.3	6.0	70.0
Jul 29		381		80			179	849	511		609	53	166.4	83.2	6.0	70.0
Jul 30		364		51			168	864	487		571	42	194.1	97.3	6.0	70.0
Jul 31		371		56			94	788	413		752	38	188.8	94.8	6.0	70.0

<b>TOTAL</b>	<b>30,793</b>	<b>5,210</b>	<b>74,774</b>	<b>12,018</b>	<b>6,157</b>	<b>321,831</b>	<b>617</b>	<b>209.7</b>	<b>107.9</b>	<b>6.0</b>	<b>67.1</b>
<b>AVG.</b>	<b>993</b>	<b>168</b>	<b>2,412</b>	<b>388</b>	<b>199</b>	<b>10,382</b>	<b>20</b>				

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
TOTALS TO DATE							
SPRING	52,170	22,279	133,370	14,439	7,021	1,241,037	698
SUMMER	72,753	14,158					
<b>TOTAL</b>	<b>124,923</b>	<b>36,437</b>					

Note: 1 Sturgeon counted upstream on July 1

TABLE 78

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

MCNARY PROJECT - FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL		unclipped		SHAD	LAMPREY	DISCH SPILL TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD			PINK	KCFS	KCFS	SECCHI
Aug 1		291		55	0	0	99	883	498	859	19	162.1	81.2	6.0	70.0
Aug 2		525		114	0	0	138	1,332	728	552	26	175.5	88.1	6.0	69.0
Aug 3		560		99	0	0	100	1,154	660	456	35	172.0	86.4	6.0	69.0
Aug 4		380		69	0	0	93	1,173	656	473	38	173.5	87.1	6.0	69.0
Aug 5		270		57	0	0	63	874	465	503	41	180.5	90.6	6.0	69.0
Aug 6		357		44	0	0	43	692	377	201	48	166.1	83.4	6.0	69.0
Aug 7		299		93	0	0	65	801	432	152	29	158.2	79.3	6.0	68.0
Aug 8		306		119	0	0	59	997	579	75	24	175.9	88.1	6.0	70.0
Aug 9			352	96	0	0	18	838	442	161	16	154.0	77.0	6.0	70.0
Aug 10		409		109	0	0	25	1,045	530	195	20	129.6	64.8	6.0	70.0
Aug 11			502	109	-1	0	18	1,031	486	206	39	159.8	80.1	6.0	70.0
Aug 12			617	162	0	0	18	847	389	207	24	174.5	87.4	6.0	70.0
Aug 13			869	155	0	0	8	1,122	544	179	12	161.7	81.1	6.0	70.0
Aug 14			546	72	0	0	6	1,254	590	194	15	156.2	78.3	6.0	71.0
Aug 15			624	118	0	0	6	1,208	599	132	16	170.2	85.1	6.0	71.0
Aug 16			753	108	0	0	9	764	374	90	9	159.8	80.2	6.0	71.0
Aug 17			508	102	0	0	8	643	289	113	15	155.6	77.8	6.0	71.0
Aug 18			640	120	0	0	2	467	236	78	9	146.2	73.1	6.0	72.0
Aug 19			744	114	0	0	3	355	169	107	16	147.0	73.6	6.0	72.0
Aug 20			808	112	4	0	9	430	199	55	31	156.0	78.3	6.0	72.0
Aug 21			603	140	-2	0	4	333	183	48	11	158.7	79.4	6.0	71.0
Aug 22			502	77	0	0	5	303	141	38	16	145.6	72.9	6.0	72.0
Aug 23			760	120	-1	0	0	383	171	26	16	125.9	63.1	6.0	71.0
Aug 24			1,083	254	1	0	1	547	256	48	21	129.4	64.7	6.0	71.0
Aug 25			1,237	242	0	0	2	510	211	13	17	141.0	70.5	6.0	70.0
Aug 26			2,333	322	0	0	1	639	280	18	17	124.9	62.8	6.0	70.0
Aug 27			1,712	382	2	0	1	619	211	199	8	145.1	72.7	6.0	70.0
Aug 28			1,338	378	3	0	0	516	213	53	14	140.7	70.5	6.0	70.0
Aug 29			2,012	428	1	4	1	512	177	8	7	133.1	66.3	6.0	70.0
Aug 30			2,869	564	0	2	4	424	154	6	8	141.3	70.9	6.0	70.0
Aug 31			1,859	448	2	0	0	581	210	12	7	100.3	0.0	6.0	70.0
<b>TOTAL</b>		2,988	23,680	5,382	9	6	809	23,277	11,449	5,457	624				
AVG.		374	1030	174	0	0	26	751	369	176	20	152.3	74.7	6.0	70.3

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	52,170	22,279
SUMMER	75,741	14,808
FALL	23,680	4,732
<b>TOTAL</b>	<b>151,591</b>	<b>41,819</b>

COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD
9	6	134,179	37,716	18,470

SHAD	LAMPREY
1,246,494	1,322



TABLE 79

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

MCNARY PROJECT - FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL					SHAD	LAMPREY	DISCH SPILL TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK			KCFS	KCFS	SECCHI	DEG F
Sep 1			4,493	1,062	24	20	0	769	249	0		12	92.6	0.0	6.0	71.0
Sep 2			4,370	642	16	1	0	492	175	0		6	83.6	0.0	6.0	71.0
Sep 3			4,895	715	31	12	2	761	256	0		10	98.6	0.0	6.0	71.0
Sep 4			12,724	1,289	75	22	4	1,367	451	0		6	100.8	0.0	6.0	71.0
Sep 5			3,709	466	28	5	2	1,266	496	0		3	101.0	0.0	6.0	71.0
Sep 6			3,772	867	23	1	0	1,138	407	0		6	88.0	0.0	6.0	71.0
Sep 7			3,378	881	14	5	0	855	297	0		1	70.6	0.0	6.0	71.0
Sep 8			4,242	711	6	4	0	1,049	321	0		11	85.4	0.0	6.0	71.0
Sep 9			5,077	854	7	0	0	1,367	455	0		11	122.5	6.5	6.0	71.0
Sep 10			7,426	848	30	1	1	1,988	689	0		5	117.1	0.0	6.0	71.0
Sep 11			14,382	1,308	54	20	4	3,870	1,115	0		8	108.0	0.0	6.0	71.0
Sep 12			13,810	1,015	55	7	2	3,631	1,152	0		12	114.9	0.0	6.0	71.0
Sep 13			14,074	1,449	96	14	1	3,469	1,190	0		16	100.3	0.0	6.0	71.0
Sep 14			9,331	1,144	59	13	0	2,584	853	0		17	79.7	0.0	6.0	71.0
Sep 15			12,178	1,714	80	11	0	1,787	574	1		9	92.8	0.0	6.0	71.0
Sep 16			14,638	1,772	153	25	0	1,308	417	0		12	116.3	0.0	6.0	71.0
Sep 17			13,028	1,869	30	7	1	2,802	969	1		11	85.1	0.0	6.0	71.0
Sep 18			14,964	1,076	232	87	0	3,063	1,104	0		17	100.4	0.0	6.0	71.0
Sep 19			10,539	772	113	27	0	2,352	794	0		8	103.5	0.0	6.0	71.0
Sep 20			15,716	2,100	108	19	0	1,900	531	0		10	79.2	0.0	6.0	70.0
Sep 21			20,513	2,416	210	24	-1	1,778	441	0		16	76.3	0.0	6.0	69.0
Sep 22			30,306	2,940	362	62	2	2,415	632	2		3	86.9	0.0	6.0	68.0
Sep 23			17,804	2,122	249	30	1	2,016	485	0		2	93.3	0.0	6.0	67.0
Sep 24			17,212	2,510	270	48	0	2,146	636	0		6	97.0	0.0	6.0	67.0
Sep 25			17,522	2,446	419	85	0	3,099	869	2		9	95.4	0.0	6.0	67.0
Sep 26			9,727	1,122	300	44	0	2,019	579	2		0	97.6	0.0	6.0	67.0
Sep 27			9,097	709	186	30	0	2,129	649	0		2	98.7	0.0	6.0	67.0
Sep 28			12,408	798	331	29	0	2,890	909	1		0	84.5	0.0	6.0	64.0
Sep 29			11,202	728	385	46	0	3,362	928	0		6	87.4	0.0	6.0	64.0
Sep 30			10,759	690	300	38	0	2,515	705	0		3	111.8	0.0	5.1	64.0
<b>TOTAL</b>			<b>343,296</b>	<b>39,035</b>	<b>4,246</b>	<b>737</b>	<b>19</b>	<b>62,187</b>	<b>19,328</b>	<b>9</b>		<b>238</b>				

AVG.	11,443	1301	142	25	1	2,073	644	0	8	95.6	0.2	6.0	69.4
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY
TOTALS TO DATE										
SPRING	52,170	22,279			134,198	99,903	37,798	9	1,246,494	1,560
SUMMER	75,741	14,808								
FALL	366,976	43,767								
<b>TOTAL</b>	<b>494,887</b>	<b>80,854</b>								

TABLE 80

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

MCNARY PROJECT - FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	TOTAL			SHAD	LAMPREY	DISCH SPILL TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT		JACK	STEELHEAD	unclipped			STEELHEAD	PINK	KCFS	KCFS
Oct 1			9,569	730	455	48	0	3,174	1,033	0	2	116.9	0.0	6.0	63.0
Oct 2			6,176	717	500	41	0	3,247	1,220	0	3	103.4	0.0	6.0	62.0
Oct 3			5,571	498	708	37	1	4,893	1,936	1	0	104.8	0.0	6.0	62.0
Oct 4			3,697	594	1,027	162	1	7,861	3,626	1	0	98.2	0.0	6.0	61.0
Oct 5			5,227	886	1,416	172	0	6,395	2,814	10	0	88.6	0.0	6.0	61.0
Oct 6			5,045	779	1,085	128	0	3,643	1,578	1	0	83.0	0.0	6.0	61.0
Oct 7			6,271	862	716	116	0	2,457	960	0	0	89.4	0.0	6.0	61.0
Oct 8			4,335	577	401	68	0	2,155	843	0	0	105.9	0.0	6.0	61.0
Oct 9			3,095	401	180	36	0	1,425	552	0	0	114.0	0.0	6.0	61.0
Oct 10			2,105	311	105	28	0	848	346	0	1	108.6	0.0	6.0	61.0
Oct 11			2,505	340	138	13	0	948	321	1	0	93.3	0.0	6.0	61.0
Oct 12			2,589	286	121	23	1	988	308	0	0	84.0	0.0	6.0	60.0
Oct 13			2,556	331	110	21	0	620	216	0	0	107.0	0.0	6.0	60.0
Oct 14			2,249	325	97	6	1	567	168	1	0	109.3	0.0	6.0	60.0
Oct 15			4,723	609	145	15	0	508	170	4	0	108.0	0.0	6.0	60.0
Oct 16			3,760	535	131	24	0	698	201	0	0	113.2	0.0	5.9	59.0
Oct 17			3,343	339	75	20	0	556	198	1	1	113.3	0.0	**	59.0
Oct 18			1,937	139	34	5	0	353	132	0	0	112.0	0.0	6.0	59.0
Oct 19			1,680	190	65	7	0	341	125	0	0	113.5	0.0	6.0	59.0
Oct 20			1,521	120	50	6	0	243	77	0	0	113.2	0.0	6.0	58.0
Oct 21			1,151	112	39	5	0	214	75	0	0	113.6	0.1	6.0	58.0
Oct 22			1,327	111	35	2	0	246	80	0	1	103.8	0.0	6.0	58.0
Oct 23			1,246	118	41	-1	0	249	87	0	1	96.7	0.0	6.0	58.0
Oct 24			1,173	145	54	7	0	261	108	1	0	99.3	0.0	6.0	58.0
Oct 25			1,136	125	26	4	0	247	105	4	0	90.6	0.0	6.0	58.0
Oct 26			918	117	19	8	0	263	121	0	0	91.3	0.0	6.0	59.0
Oct 27			835	90	23	1	0	220	83	0	0	96.0	0.0	6.0	59.0
Oct 28			611	61	24	3	0	101	8	0	0	117.7	0.0	5.3	58.0
Oct 29			446	55	14	2	0	162	78	0	0	92.3	13.0	6.0	57.0
Oct 30			456	37	12	1	0	131	60	0	1	99.7	23.7	6.0	57.0
Oct 31			762	60	26	2	0	213	105	0	0	102.3	5.8	6.0	57.0
<b>TOTAL</b>			88,015	10,600	7,872	1,010	4	44,227	17,734	25	10				
AVG.			2839	342	254	33	0	1,427	572	1	0	102.7	1.4	6.0	59.5

RUN YEAR TOTALS TO DATE	CHINOOK	CHINOOK	COHO	COHO	SOCKEYE	TOTAL		PINK	SHAD	LAMPREY
	ADULT	JACK	ADULT	JACK		STEELHEAD	unclipped			
SPRING	52,170	22,279	12,127	1,753	134,202	144,130	55,532	34	1,246,494	1,570
SUMMER	75,741	14,808								
FALL	454,991	54,367								
<b>TOTAL</b>	<b>582,902</b>	<b>91,454</b>								

Note: Visual counts ended October 31.  
Official Fall Chinook run ended October 31.

TABLE 81  
DISCHARGE AND WATER QUALITY DATA  
MCNARY PROJECT 2013

NOVEMBER					DECEMBER				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY		DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F				SECCHI	DEG F
Nov 1	104.0	0.0	6.0	57.0	Dec 1	99.4	0.0	6.0	47.0
Nov 2	101.7	0.0	6.0	56.0	Dec 2	99.4	0.0	6.0	46.0
Nov 3	101.2	0.0	6.0	55.0	Dec 3	134.3	0.0	6.0	46.0
Nov 4	103.7	0.0	6.0	55.0	Dec 4	137.3	0.0	6.0	46.0
Nov 5	118.5	0.0	6.0	55.0	Dec 5	137.1	0.0	6.0	46.0
Nov 6	119.6	0.0	6.0	55.0	Dec 6	134.4	0.0	6.0	46.0
Nov 7	93.1	0.0	6.0	55.0	Dec 7	126.4	0.0	6.0	45.0
Nov 8	103.5	0.0	6.0	55.0	Dec 8	145.6	0.0	6.0	43.0
Nov 9	101.4	0.0	6.0	55.0	Dec 9	149.8	0.0	6.0	42.0
Nov 10	114.2	0.0	6.0	53.0	Dec 10	122.9	0.0	6.0	41.0
Nov 11	108.3	0.0	6.0	53.0	Dec 11	136.7	0.0	6.0	40.0
Nov 12	112.0	0.0	6.0	53.0	Dec 12	143.9	0.0	6.0	40.0
Nov 13	117.3	0.0	6.0	53.0	Dec 13	140.1	0.0	6.0	40.0
Nov 14	114.9	0.0	6.0	53.0	Dec 14	129.5	0.0	6.0	40.0
Nov 15	103.3	0.0	6.0	53.0	Dec 15	98.3	0.0	6.0	40.0
Nov 16	102.2	0.0	6.0	52.0	Dec 16	106.8	0.0	6.0	40.0
Nov 17	118.8	0.0	6.0	52.0	Dec 17	142.4	0.0	6.0	40.0
Nov 18	118.2	0.0	6.0	52.0	Dec 18	115.0	0.0	6.0	40.0
Nov 19	118.0	0.0	6.0	52.0	Dec 19	144.8	0.0	6.0	40.0
Nov 20	108.6	0.0	6.0	52.0	Dec 20	126.4	0.0	6.0	41.0
Nov 21	122.6	0.0	6.0	52.0	Dec 21	102.8	0.0	6.0	41.0
Nov 22	132.2	0.0	6.0	50.0	Dec 22	119.6	0.0	6.0	41.0
Nov 23	114.8	0.0	6.0	49.0	Dec 23	109.0	0.0	6.0	41.0
Nov 24	98.9	0.0	6.0	49.0	Dec 24	108.5	0.0	6.0	41.0
Nov 25	129.0	0.0	6.0	48.0	Dec 25	112.9	0.0	6.0	41.0
Nov 26	131.9	0.0	6.0	47.0	Dec 26	118.6	0.0	6.0	41.0
Nov 27	129.8	0.0	6.0	47.0	Dec 27	121.4	0.0	6.0	41.0
Nov 28	114.1	0.0	6.0	47.0	Dec 28	117.2	0.0	6.0	41.0
Nov 29	122.4	0.0	6.0	47.0	Dec 29	105.2	0.0	6.0	41.0
Nov 30	124.0	0.0	6.0	47.0	Dec 30	125.1	0.0	6.0	41.0
					Dec 31	115.1	0.0	6.0	41.0
AVG.	113.4	0.0	6.0	52.0	AVG.	123.4	0.0	6.0	41.9

TABLE 82

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT - NIGHT FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL		unclipped	PINK	SHAD	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD			
Jun 1												
Jun 2												
Jun 3												
Jun 4												
Jun 5												
Jun 6												
Jun 7												
Jun 8												
Jun 9												
Jun 10												
Jun 11												
Jun 12												
Jun 13												
Jun 14												
Jun 15												
Jun 16												
Jun 17												
Jun 18												
Jun 19												
Jun 20												
Jun 21												
Jun 22												
Jun 23												
Jun 24												
Jun 25												
Jun 26												
Jun 27												
Jun 28												
Jun 29												
Jun 30		5		3				110			672	1
<b>TOTAL</b>	0	5		3				110			672	1

Note: Night counts are video counts from 2000-0400 PST.

TABLE 83

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## MCNARY PROJECT - NIGHT FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL			PINK	SHAD	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD			
Jul 1		76		3			319	2	2		1,173	6
Jul 2		44		4			316	1	1		1,573	0
Jul 3		33		1			267	4	2		2,370	2
Jul 4		30		3			236	5	0		1,339	5
Jul 5		35		5			299	3	0		825	6
Jul 6		18		3			251	1	0		773	3
Jul 7		46		10			217	4	3		571	2
Jul 8		31		7			392	5	1		851	12
Jul 9		10		0			197	7	-1		470	14
Jul 10		24		0			244	8	6		749	6
Jul 11		13		4			270	5	0		557	13
Jul 12		24		6			325	17	3		647	16
Jul 13		42		6			271	8	1		542	10
Jul 14		43		9			181	6	0		733	8
Jul 15		28		3			246	2	1		413	12
Jul 16		17		24			120	7	1		367	16
Jul 17		21		16			189	8	0		507	28
Jul 18		2		6			122	7	3		337	17
Jul 19		18		2			179	7	0		372	14
Jul 20		17		3			165	12	3		264	19
Jul 21		15		6			109	19	8		166	29
Jul 22		13		14			93	16	5		180	39
Jul 23		0		0			39	7	1		75	11
Jul 24		1		1			36	1	0		59	32
Jul 25		10		3			39	22	8		59	54
Jul 26		8		0			52	18	7		56	41
Jul 27		7		5			27	26	7		75	73
Jul 28		13		5			38	17	5		46	85
Jul 29		10		8			31	27	18		29	95
Jul 30		10		2			19	14	7		38	49
Jul 31		16		0			14	13	6		71	37
<b>TOTAL</b>		<b>675</b>		<b>159</b>			<b>5,303</b>	<b>299</b>	<b>98</b>		<b>16,287</b>	<b>754</b>
<b>AVG.</b>		<b>22</b>		<b>5</b>			<b>171</b>	<b>10</b>	<b>3</b>		<b>525</b>	<b>24</b>

Note: Night counts are video counts from 2000-0400 PST.

TABLE 84

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

MCNARY PROJECT - NIGHT FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL			PINK	SHAD	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD			
Aug 1		19		0	0	0	19	17	4		60	34
Aug 2		3		1	0	0	2	2	2		6	4
Aug 3		12		1	0	0	12	33	20		40	23
Aug 4		9		0	0	0	7	13	9		35	29
Aug 5		9		0	0	0	5	12	6		39	58
Aug 6		10		11	0	0	3	5	2		25	24
Aug 7		8		1	0	0	1	16	3		18	35
Aug 8		8		0	0	0	0	5	3		24	29
Aug 9			6	4	0	0	0	9	7		45	25
Aug 10			5	8	0	0	0	18	6		8	61
Aug 11			18	20	0	0	1	18	7		20	47
Aug 12			8	2	0	0	1	19	10		11	22
Aug 13			18	1	0	0	0	16	7		6	28
Aug 14			14	2	0	0	0	22	6		5	33
Aug 15			30	3	0	0	0	23	15		7	21
Aug 16			24	3	0	0	0	9	3		0	13
Aug 17			26	2	0	0	0	15	3		14	19
Aug 18			20	10	0	0	0	11	1		7	27
Aug 19			23	7	0	0	0	7	2		4	25
Aug 20			3	0	0	0	0	8	3		5	29
Aug 21			15	1	0	0	0	10	2		4	24
Aug 22			10	10	0	0	1	3	1		0	8
Aug 23			22	9	0	1	0	7	7		2	23
Aug 24			15	13	0	0	1	14	3		3	30
Aug 25			10	6	0	0	1	19	4		3	13
Aug 26			19	4	0	0	0	19	4		13	15
Aug 27			3	2	0	0	0	9	1		3	10
Aug 28			22	7	0	0	0	4	1		0	1
Aug 29			19	8	0	0	0	4	2		2	9
Aug 30			30	12	1	1	0	17	2		2	11
Aug 31			33	23	0	0	0	22	7		-2	16
<b>TOTAL</b>		78	393	171	1	2	54	406	153		409	746
<b>AVG.</b>		10	17	6	0	0	2	13	5		13	24

Note: Night counts are video counts from 2000-0400 PST.

TABLE 85

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## MCNARY PROJECT - NIGHT FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL			unclipped	PINK	SHAD	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD			
Sep 1	NO COUNT											
Sep 2		98	33	0	0	2	29	13				11
Sep 3		135	40	0	0	3	50	23				17
Sep 4		74	17	0	0	0	29	11				9
Sep 5		19	7	0	0	0	60	19				12
Sep 6		52	21	0	1	0	47	12				7
Sep 7		52	36	5	2	0	53	11				18
Sep 8		75	33	0	0	0	63	18				26
Sep 9		102	65	0	0	0	83	20				11
Sep 10		116	35	0	0	0	85	11				10
Sep 11		106	30	0	1	0	208	54				18
Sep 12		217	56	1	0	0	120	36				11
Sep 13		246	82	0	0	0	102	29				21
Sep 14		170	47	0	0	0	89	25				39
Sep 15		318	76	0	1	0	102	31				15
Sep 16		384	142	0	0	0	186	47				20
Sep 17		298	136	0	0	0	172	63				15
Sep 18		45	5	0	0	0	51	18				10
Sep 19		158	3	1	0	0	28	16				15
Sep 20		719	16	0	0	2	164	76				3
Sep 21		661	10	2	0	3	150	90				5
Sep 22		408	100	0	0	0	159	59				1
Sep 23		193	44	3	0	0	130	39				5
Sep 24		204	45	5	2	0	168	56				3
Sep 25		50	8	2	0	0	147	41				2
Sep 26		22	3	0	0	0	32	14				1
Sep 27		84	5	0	0	0	248	72				0
Sep 28		132	5	0	0	0	281	120				1
Sep 29		89	5	0	0	0	209	66				1
Sep 30		46	2	1	0	0	163	45				0
<b>TOTAL</b>		<b>5,273</b>	<b>1,107</b>	<b>20</b>	<b>7</b>	<b>10</b>	<b>3,408</b>	<b>1,135</b>				<b>307</b>

AVG. 182 38 1 0 0 118 39 11

Note: Night counts are video counts from 2000-0400 PST.

TABLE 8\*

YEARLY TOTALS OF SALMONIDS COUNTED OVER McNARY DAM  
1954 - 2013

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	168,962	69,365	2,272	355,440
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
2003	423,363	246,898	32,037	20,231	722,529
2004	384,808	212,683	89,707	20,570	707,768
2005	270,003	224,292	63,540	20,600	578,435
2006	219,191	206,155	29,295	13,923	468,564
2007	180,435	221,534	18,175	22,825	442,969
2008	267,979	221,310	146,924	21,806	658,019
2009	358,505	408,157	121,672	37,270	925,604
2010	463,000	262,513	278,799	15,089	1,019,401
2011	440,427	246,069	113,952	44,304	844,752
2012	405,202	157,018	364,147	18,801	945,168
2013	674,362	144,354	134,202	13,881	966,799
<b>Totals</b>	<b>12,736,518</b>	<b>8,114,026</b>	<b>4,204,435</b>	<b>695,817</b>	<b>25,750,796</b>
<b>10-Year Average</b>	<b>366,391</b>	<b>230,409</b>	<b>136,041</b>	<b>22,907</b>	<b>755,748</b>

\*Jacks included



TABLE 87

MONTHLY COUNT OF CHINOOK SALMON  
McNARY DAM: 1954 - 2013

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL
														MAR 15- JUN 8	JUN 9- AUG 8	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 87  
(Continued)

MONTHLY COUNT OF CHINOOK SALMON  
McNARY DAM: 1954 - 2013

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL
														MAR 15- JUN 8	JUN 9- AUG 8	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
2003			853	53,947	46,116	57,732	50,157	13,667	166,635	32,349	1,750	157	423,363	107,522	104,948	208,982
2004			72	53,405	53,267	47,903	32,067	12,212	149,297	34,795	1,659	131	384,808	115,251	74,217	193,550
2005			4	6,750	38,439	45,654	28,928	11,655	111,701	25,976	825	71	270,003	55,056	66,858	147,189
2006			1	121	43,778	40,077	27,708	10,210	71,105	24,186	1,810	195	219,191	48,363	65,960	102,863
2007			3	7,073	38,622	27,760	18,036	8,565	60,291	18,455	1,538	92	180,435	51,104	42,436	85,262
2008				7,133	64,596	48,906	24,035	13,094	94,986	15,229			267,979	80,213	65,974	121,792
2009				1,821	98,882	63,510	26,828	30,161	117,844	19,459			358,505	113,741	78,319	166,445
2010				48,451	98,345	58,192	30,587	18,708	166,173	42,544			463,000	191,921	74,589	225,154
2011				683	118,537	64,599	46,170	21,482	144,223	44,733			440,427	132,995	102,786	204,646
2012				1,877	94,385	45,725	31,612	19,396	174,650	36,164	1,306	87	405,202	107,550	69,532	226,727
2013	7	-1		4,718	62,493	58,146	36,003	32,050	382,331	98,615			674,362	74,449	90,549	509,358
Total	995			993,815	2,372,989	1,555,798	1,424,275	797,823	4,555,858	1,019,446	14,749	769	12,736,523	3,685,249	2,874,269	6,196,031
10-Year Average				13,203	71,134	50,047	30,197	17,753	147,260	36,016			366,391	97,064	73,122	198,299

\*Jacks included

TABLE 88  
MONTHLY COUNT OF SOCKEYE SALMON  
McNARY DAM: 1954 - 2013

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 88

(Continued)

**MONTHLY COUNT OF SOCKEYE SALMON  
McNARY DAM; 1954 - 2013**

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	
2003					4	13,277	18,728	28	0				32,037	
2004					10	61,547	28,107	38	5				89,707	
2005					0	27,341	36,009	182	8				63,540	
2006					0	14,675	14,473	142	5				29,295	
2007					1	11,087	6,974	105	6	2			18,175	
2008					1	96,655	50,196	70	2				146,924	
2009					5	62,066	59,564	31	9	-3			121,672	
2010					7	166,127	112,474	194	-4	1			278,799	
2011						20,773	92,461	703	15				113,952	
2012					1	165,803	198,037	292	14				364,147	
2013					2	58,594	74,774	809	19	4			134,202	
<b>Total</b>					<b>1</b>	<b>221</b>	<b>1,257,734</b>	<b>2,845,113</b>	<b>88,083</b>	<b>9,475</b>	<b>3,802</b>	<b>5</b>	<b>1</b>	<b>4,204,435</b>
<b>10-Year Average</b>					<b>3</b>	<b>68,467</b>	<b>67,307</b>	<b>257</b>	<b>8</b>					<b>136,041</b>

TABLE 89

**MONTHLY COUNT OF COHO SALMON  
McNARY DAM: 1954 - 2013**

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 89

(Continued)

**MONTHLY COUNT OF COHO SALMON  
McNARY DAM; 1954 - 2013**

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
2003								25	11,788	8,017	401		20,231
2004								17	13,954	6,161	427	11	20,570
2005								59	11,327	8,390	819	5	20,600
2006								90	7,893	5,350	588	2	13,923
2007								9	11,263	11,315	238		22,825
2008								63	14,588	7,155			21,806
2009								1,193	16,626	19,451			37,270
2010								54	9,555	5,480			15,089
2011								917	24,682	18,705			44,304
2012								424	14,779	2,998	550	50	18,801
2013		1						15	4,983	8,882			13,881
<b>TOTAL</b>				<b>1</b>	<b>14</b>	<b>50</b>	<b>515</b>	<b>22,792</b>	<b>482,165</b>	<b>183,835</b>	<b>6,356</b>	<b>88</b>	<b>695,817</b>
<b>10-Year Average</b>								<b>284</b>	<b>12,965</b>	<b>9,389</b>			<b>22,907</b>

\*Jacks included

TABLE 90

**MONTHLY COUNT OF STEELHEAD  
MCNARY DAM: 1954-2013**

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 90

(Continued)

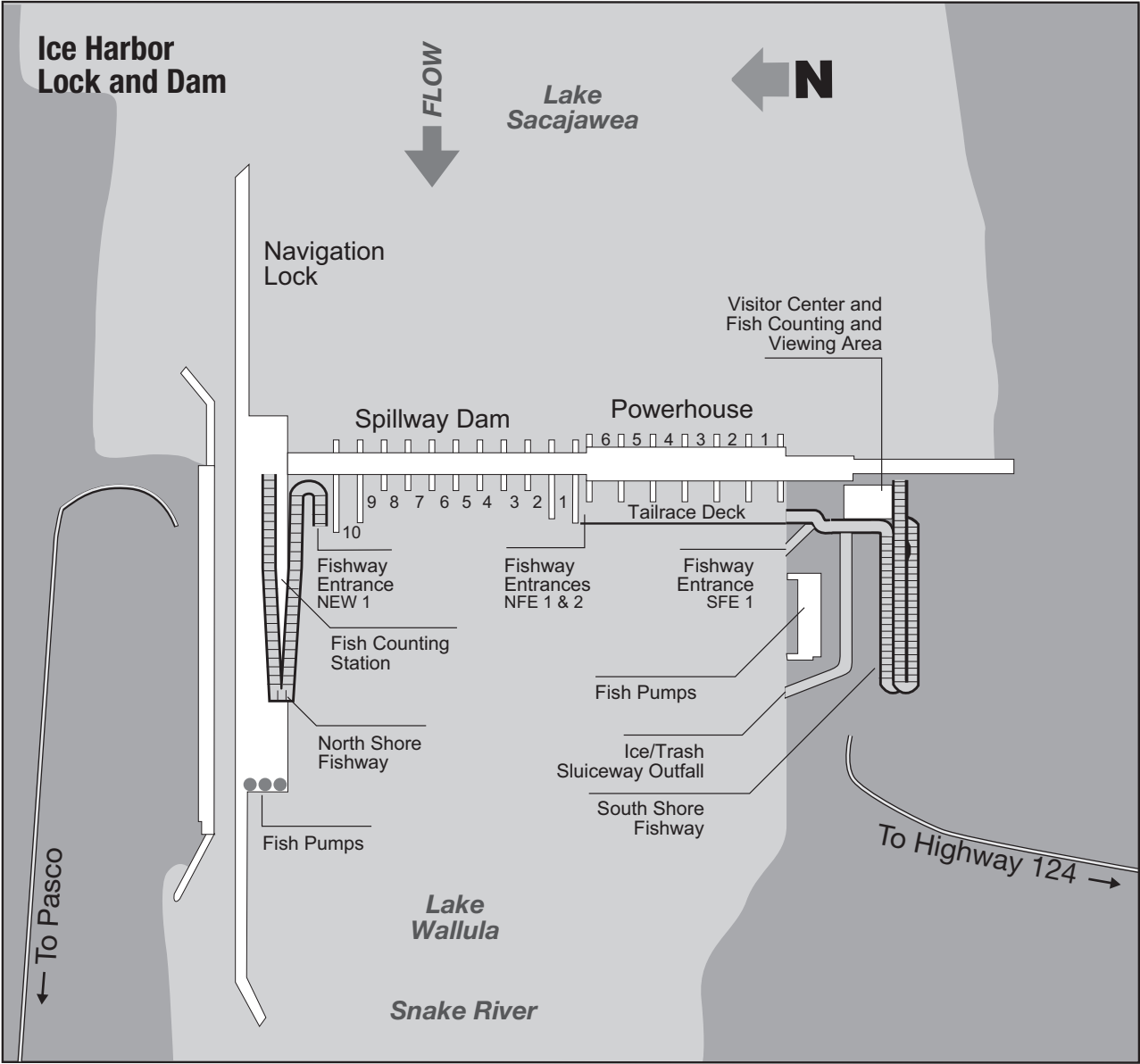
**MONTHLY COUNT OF STEELHEAD  
McNARY DAM: 1954 - 2013**

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
2003			8,696	1,309	145	2,298	20,439	15,184	139,321	51,722	6,307	1,477	246,898
2004			4,316	1,133	480	3,901	14,376	10,863	132,387	37,931	4,348	2,948	212,683
2005			2,271	847	377	2,669	17,371	19,933	109,198	63,710	7,248	668	224,292
2006			1,388	2,009	175	1,272	9,214	14,519	104,009	52,826	17,808	2,935	206,155
2007			6,155	1,693	241	1,616	13,232	32,652	109,015	50,339	4,805	1,786	221,534
2008				2,066	362	2,342	27,375	26,588	122,078	40,499			221,310
2009				2,144	293	2,108	20,407	85,285	204,948	92,972			408,157
2010				1,974	397	3,668	51,028	39,689	122,146	43,611			262,513
2011				2,283	348	714	17,533	94,372	87,138	43,681			246,069
2012			3,009	1,521	234	1,744	18,373	33,983	62,318	28,580	4,931	2,325	157,018
2013	136	88		1,073	177	1,171	12,018	23,277	62,187	44,227			144,354
<b>Total</b>	<b>1,195</b>	<b>1,013</b>	<b>36,732</b>	<b>117,815</b>	<b>41,944</b>	<b>81,532</b>	<b>729,753</b>	<b>1,408,081</b>	<b>3,822,394</b>	<b>1,781,964</b>	<b>74,211</b>	<b>17,392</b>	<b>8,114,026</b>
<b>10-Year Avg.</b>				<b>1,674</b>	<b>308</b>	<b>2,121</b>	<b>20,093</b>	<b>38,116</b>	<b>111,542</b>	<b>49,838</b>			<b>230,409</b>



# Plate 6 Ice Harbor Lock and Dam

0 200 400  
approximate scale in feet



## ICE HARBOR DAM

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### FISH COUNTING SCHEDULE

1 January – 31 March	No counting
1 April – 31 October	Visual counting daily from 0400-2000 hours PST
1 November – 31 December	No counting

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### FISH LADDER OPERATING SCHEDULE

#### *North Ladder*

1 January – 2 January	Ladder in service
3 January – 10 January	Ladder dewatered for annual maintenance
11 January – 31 December	Ladder in service

#### *South Ladder*

1 January – 12 January	Ladder in service
13 January – 5 March	Ladder dewatered for annual maintenance
6 March – 31 December	Ladder in service

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### FISHWAY ACTIVITIES

Water temperatures were recorded hourly from both fish ladder exit pools and the downstream end of the juvenile collection channel. Hourly readings were taken June to October.

The RSW operated 1 April until the end of the spill season 31 August.

The Juvenile Fish Facility was operated for juvenile fish bypass and adult fallbacks from 1 April to 23 December. Juvenile fish were sampled April 2 – July 15.

The south adult fish ladder trap was replaced with a newly designed trap. Adult Chinook were radio tagged and released at Levee Park Boat Ramp for a passage study up river.

The University of Idaho and the University of California at Davis monitored lamprey passage by video in the adult fish ladders.

Pacific Northwest National Laboratory conducted noise testing in the tailrace for hydro acoustic tagging research.

The University of Idaho collected data on adult fish passage.

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TABLE 91

**MONTHLY TOTALS OF SALMONIDS, SHAD, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER ICE HARBOR DAM  
2013**

<b>SPECIES</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>TOTAL</b>
CHINOOK*			8	1,979	48,023	18,657	5,350	10,876	60,731	6,220	325	5	152,174
STEELHEAD			1,531	2,159	156	923	5,886	16,367	46,775	37,027	4,635	703	116,162
SOCKEYE						175	709	11					895
COHO*								4	592	1,809	124	1	2,530
PINK										1			1
<b>TOTAL</b>			<b>1,539</b>	<b>4,138</b>	<b>48,179</b>	<b>19,755</b>	<b>11,945</b>	<b>27,258</b>	<b>108,098</b>	<b>45,057</b>	<b>5,084</b>	<b>709</b>	<b>271,762</b>
<b>SHAD</b>					<b>19</b>	<b>144,752</b>	<b>47,801</b>	<b>953</b>					<b>193,525</b>
<b>LAMPREY</b>				<b>8</b>	<b>0</b>	<b>8</b>	<b>118</b>	<b>110</b>	<b>75</b>	<b>9</b>			<b>328</b>
<b>STURGEON</b>													<b>0</b>
<b>BULL TROUT</b>					<b>1</b>								<b>1</b>

\*Jacks included

TABLE 92

## DISCHARGE AND WATER QUALITY DATA

## ICE HARBOR PROJECT 2013

## JANUARY

DATE	DISCH		TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F
Jan 1	19.9	0.0	6.2	41.0
Jan 2	34.9	0.0	6.2	41.0
Jan 3	25.6	0.0	6.5	41.0
Jan 4	24.9	0.0	6.5	40.0
Jan 5	21.0	0.0	6.5	40.0
Jan 6	13.5	0.0	6.5	40.0
Jan 7	23.9	0.0	6.5	40.0
Jan 8	30.6	0.0	6.5	40.0
Jan 9	27.0	0.0	6.5	40.0
Jan 10	22.0	0.0	6.5	40.0
Jan 11	34.1	0.0	6.5	40.0
Jan 12	31.1	0.0	6.5	40.0
Jan 13	17.4	0.0	6.5	40.0
Jan 14	35.1	0.0	6.5	40.0
Jan 15	33.9	0.0	6.5	40.0
Jan 16	25.1	0.0	7.3	40.0
Jan 17	26.6	13.1	7.3	40.0
Jan 18	29.3	0.0	7.1	40.0
Jan 19	20.7	0.0	7.6	40.0
Jan 20	13.6	0.0	7.6	40.0
Jan 21	26.6	0.0	7.6	40.0
Jan 22	27.7	0.0	7.8	38.0
Jan 23	20.5	0.0	7.7	38.0
Jan 24	18.5	0.0	7.7	38.0
Jan 25	18.1	0.0	7.7	38.0
Jan 26	25.2	0.0	7.7	38.0
Jan 27	22.4	0.0	7.7	38.0
Jan 28	23.2	0.0	7.7	38.0
Jan 29	27.9	0.0	7.7	38.0
Jan 30	28.8	0.0	7.8	38.0
Jan 31	26.6	1.5	7.8	38.0

AVG.	25.0	0.5	7.1	39.5
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## FEBRUARY

DATE	DISCH		TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F
Feb 1	31.1	0.0	7.8	38.0
Feb 2	29.8	0.0	7.8	38.0
Feb 3	28.2	0.0	7.8	38.0
Feb 4	34.3	0.0	7.8	38.0
Feb 5	32.0	0.0	7.8	38.0
Feb 6	33.9	0.0	7.8	38.0
Feb 7	25.9	2.3	7.8	38.0
Feb 8	28.4	0.0	7.8	38.0
Feb 9	34.0	0.0	7.8	38.0
Feb 10	26.4	0.0	7.8	38.0
Feb 11	32.5	0.0	6.8	39.0
Feb 12	28.4	0.0	6.9	39.0
Feb 13	36.0	0.0	6.9	39.0
Feb 14	26.1	0.0	7.1	39.0
Feb 15	27.1	0.0	7.1	39.0
Feb 16	33.9	0.0	6.6	39.0
Feb 17	29.6	0.0	6.6	39.0
Feb 18	33.3	0.0	7.2	39.0
Feb 19	30.9	0.0	7.2	39.0
Feb 20	32.5	0.0	6.8	39.0
Feb 21	22.0	0.0	6.8	39.0
Feb 22	28.2	0.0	6.8	39.0
Feb 23	24.1	0.0	6.8	39.0
Feb 24	23.9	0.0	6.8	39.0
Feb 25	29.3	0.0	6.9	39.0
Feb 26	29.0	0.0	6.9	39.0
Feb 27	26.4	0.0	6.9	39.0
Feb 28	19.6	0.0	6.9	39.0

AVG.	29.2	0.1	7.2	38.6
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TABLE 93

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

ICE HARBOR PROJECT - FISH COUNTS

MARCH 2013

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER					FALL	STEELHEAD							unclipped STEELHEAD	SECCHI
Mar 1	0						22	7					26.8	0.7	7.2	39.0
Mar 2													27.3	1.0	7.2	39.0
Mar 3	0						29	13					31.2	0.9	7.2	40.0
Mar 4	0						39	17					44.7	1.0	7.2	40.0
Mar 5	0						47	16					36.8	0.4	7.2	40.0
Mar 6	1						62	20					32.6	0.0	7.2	40.0
Mar 7	0						70	12					25.4	0.0	7.2	40.0
Mar 8	0						56	16					33.2	0.0	7.2	40.0
Mar 9	0						45	17					34.4	0.0	7.2	40.0
Mar 10	0						43	13					20.0	0.0	7.2	40.0
Mar 11	0						42	11					29.7	0.0	7.2	41.0
Mar 12	0						44	11					28.1	0.0	7.0	41.0
Mar 13	0						45	8					20.0	0.0	7.0	41.0
Mar 14	0						66	9					31.5	0.0	6.7	41.0
Mar 15	0						40	9					31.0	0.0	6.7	41.0
Mar 16	0						58	11					36.2	0.0	6.7	41.0
Mar 17	0						71	16					48.0	0.0	6.7	43.0
Mar 18	0						69	13					47.4	0.0	6.7	43.0
Mar 19	0						86	16					38.2	0.0	6.5	43.0
Mar 20	0						72	20					42.0	0.0	6.5	43.0
Mar 21	0						55	16					32.8	0.0	6.5	43.0
Mar 22	0						58	20					35.9	0.0	6.5	43.0
Mar 23	0						42	15					41.0	0.0	6.5	43.0
Mar 24	0						72	20					34.3	0.0	6.5	43.0
Mar 25	1						33	9					35.1	0.0	6.4	43.0
Mar 26	2						59	15					27.7	0.0	6.4	43.0
Mar 27	0						39	13					29.4	0.0	6.1	44.0
Mar 28	1						33	8					10.0	0.0	6.0	44.0
Mar 29	1						40	14					16.4	0.0	6.0	44.0
Mar 30	0						40	14					38.7	0.0	6.0	44.0
Mar 31	2						54	25					48.2	0.0	6.0	44.0
<b>TOTAL</b>	<b>8</b>						<b>1,531</b>	<b>424</b>								
AVG.	0						51	14					32.7	0.1	6.7	41.7

Note: March counts were from video tape. The counts are 10-hour counts and occurred between the hours of 0600-1600 PST.  
Official Spring Chinook run started April 1. March Chinook counts were not added to spring totals. Power outage on March 2.

TABLE 94  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

APRIL 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD							SECCHI	DEG F
Apr 1	4			1				67	23			0		55.8	0.0	6.0	44.0
Apr 2	0			2				76	34			0		61.6	0.1	5.6	46.0
Apr 3	0			1				137	74			0		57.7	47.3	5.6	46.0
Apr 4	1			0				119	66			2		61.3	50.8	5.6	46.0
Apr 5	1			0				165	97			0		67.8	51.0	5.6	46.0
Apr 6	3			0				130	69			0		76.7	54.3	5.6	46.0
Apr 7	6			0				141	85			0		75.2	54.4	5.6	47.0
Apr 8	4			0				171	84			0		81.9	57.9	5.6	47.0
Apr 9	3			0				120	58			0		71.9	51.6	4.8	47.0
Apr 10	13			0				141	56			0		63.0	45.4	4.8	48.0
Apr 11	15			0				133	61			0		67.1	48.3	4.8	48.0
Apr 12	13			0				113	53			1		62.4	46.8	4.8	48.0
Apr 13	15			0				98	45			0		57.4	46.5	4.8	49.0
Apr 14	24			0				92	44			0		66.2	49.6	4.8	49.0
Apr 15	8			0				56	23			0		61.1	47.2	4.6	50.0
Apr 16	18			0				41	18			0		52.4	42.0	4.6	50.0
Apr 17	25			0				39	26			0		53.6	43.5	4.6	50.0
Apr 18	32			1				38	13			0		47.5	37.4	4.6	50.0
Apr 19	26			2				39	20			0		50.1	39.9	4.6	50.0
Apr 20	21			0				31	9			0		51.3	41.0	4.6	50.0
Apr 21	20			1				23	4			0		59.8	45.4	4.6	51.0
Apr 22	42			0				23	8			0		61.4	47.6	4.6	51.0
Apr 23	71			2				17	11			0		48.6	38.7	4.6	51.0
Apr 24	104			1				22	7			0		50.4	40.5	4.6	51.0
Apr 25	71			1				25	10			0		47.0	37.0	4.6	51.0
Apr 26	89			4				17	6			0		55.2	45.3	4.6	50.0
Apr 27	100			4				20	11			0		52.7	42.1	4.6	50.0
Apr 28	343			17				32	12			5		51.7	21.6	4.6	50.0
Apr 29	494			17				19	6			0		64.9	19.5	4.6	50.0
Apr 30	339			20				14	6			0		64.7	41.7	4.6	50.0
<b>TOTAL</b>	<b>1,905</b>			<b>74</b>				<b>2,159</b>	<b>1,039</b>			<b>8</b>					
AVG.	64			2				72	35			0		59.9	41.1	4.9	48.7

Note: Visual counts occurred April 1 through October 31. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST. South shore ladder was counted by direct observation while the north shore ladder was counted using closed circuit TV. Official Spring Chinook run started April 1.

TABLE 95

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

ICE HARBOR PROJECT - FISH COUNTS

MAY 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL					DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	SHAD			LAMPREY	STURGEON	KCFS	KCFS
May 1	1,391			35				36	14			0		65.9	47.9	4.6	50.0
May 2	885			40				7	5			0		59.4	44.1	4.9	50.0
May 3	1,893			119				10	6			0		53.1	42.7	4.9	51.0
May 4	2,263			157				7	4			0		59.8	24.8	4.9	51.0
May 5	2,058			176				1	1			0		54.8	16.4	4.9	51.0
May 6	1,078			115				9	1			0		64.4	41.1	4.9	51.0
May 7	1,059			261				6	2			0		68.2	51.2	5.2	51.0
May 8	2,020			513				8	2			0		76.3	31.6	5.1	52.0
May 9	2,988			1,046				5	0			0		95.2	30.4	5.1	54.0
May 10	1,090			444				3	1			0		99.9	44.1	5.1	54.0
May 11	1,863			871				-2	-4			0		107.3	42.7	3.9	54.0
May 12	1,972			1,294				16	9			0		116.1	75.6	3.9	54.0
May 13	1,428			1,514				1	0			0		123.4	71.7	3.9	54.0
May 14	946			1,014				3	0			0		136.0	73.0	3.9	55.0
May 15	1,080			1,124				2	1			0		135.2	66.3	3.6	56.0
May 16	1,007			1,254				4	-1			0		116.7	66.7	3.6	56.0
May 17	684			717				1	0			0		102.3	66.4	3.6	56.0
May 18	580			640				7	2			0		97.8	67.2	3.6	56.0
May 19	587			628				9	1			0		89.8	63.0	3.6	56.0
May 20	547			680				5	2			0		83.6	35.7	3.4	56.0
May 21	404			429				0	-1			0		75.3	22.8	3.4	56.0
May 22	339			352				2	0			0		79.5	47.1	3.8	55.0
May 23	437			466				1	0			0		76.8	55.6	3.8	55.0
May 24	339			330				1	0			0		85.6	75.3	3.8	55.0
May 25	368			310				0	0			1		72.0	29.9	3.8	54.0
May 26	524			423				0	0			2		62.6	18.8	3.8	54.0
May 27	386			226				0	0			0		59.8	17.7	3.8	54.0
May 28	394			231				1	0			0		53.6	20.7	3.6	54.0
May 29	288			216				5	0			2		66.0	51.0	3.6	55.0
May 30	467			338				5	1			7		70.8	51.7	3.6	55.0
May 31	443			252				3	-6			7		77.1	54.8	4.0	55.0
<b>TOTAL</b>	<b>31,808</b>			<b>16,215</b>				<b>156</b>	<b>40</b>			<b>19</b>					

AVG.	1026			523				5	1					83.4	46.7	4.1	53.9
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RUN YEAR																	
TOTALS TO DATE		CHINOOK ADULT	CHINOOK JACK					STEELHEAD	unclipped STEELHEAD			SHAD	LAMPREY				
	SPRING	33,713	16,289					2,315	1,079			19	8				

note: 1 Bulltrout counted on May 16

TABLE 96

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL													SECCHI	DEG F
Jun 1	617			258			0	-4	-4		43	0		68.7	29.3	4.0	55.0
Jun 2	413			162			0	1	0		74	2		64.0	19.2	5.2	55.0
Jun 3	229			138			0	-2	-7		105	0		57.7	40.7	5.2	56.0
Jun 4	258			107			1	7	2		115	1		65.7	49.5	5.2	56.0
Jun 5	419			219			0	11	4		546	0		63.9	26.5	5.2	56.0
Jun 6	418			211			0	10	1		524	0		63.5	19.0	5.2	56.0
Jun 7	329			193			0	9	1		812	0		66.0	42.7	5.2	57.0
Jun 8	275			235			0	13	0		1,095	0		75.6	53.2	5.2	57.0
Jun 9	363			197			2	14	0		2,319	0		74.1	30.9	5.6	57.0
Jun 10	507			278			1	16	3		1,724	0		72.2	21.6	5.6	58.0
Jun 11	468			324			0	18	1		2,321	0		68.1	42.1	6.9	58.0
Jun 12		423		175			1	18	1		1,265	0		64.8	48.9	6.9	58.0
Jun 13		788		344			1	33	6		3,806	0		58.6	23.4	6.9	58.0
Jun 14		762		241			2	26	1		3,788	0		56.4	17.0	6.9	59.0
Jun 15		397		206			3	75	18		6,778	0		54.2	37.7	6.9	59.0
Jun 16		414		207			1	49	5		8,306	0		44.3	33.8	6.9	59.0
Jun 17		320		227			4	43	7		7,551	0		47.4	17.9	6.9	60.0
Jun 18		366		267			6	33	4		9,898	1		52.1	15.6	7.0	60.0
Jun 19		540		385			6	17	2		13,037	0		48.0	33.5	7.0	60.0
Jun 20		612		428			4	44	8		10,445	0		52.2	41.6	7.0	60.0
Jun 21		285		199			11	61	5		11,096	0		62.5	25.1	7.0	62.0
Jun 22		292		175			11	58	11		7,859	0		43.9	13.2	7.0	62.0
Jun 23		299		204			8	19	4		5,063	1		42.3	29.4	7.0	62.0
Jun 24		413		288			14	52	2		4,292	0		42.0	31.8	7.0	62.0
Jun 25		271		230			17	89	34		9,904	1		44.8	17.8	7.0	62.0
Jun 26		296		211			19	45	13		9,774	0		47.3	14.1	5.0	62.0
Jun 27		308		193			12	49	14		5,048	0		46.7	30.8	5.5	62.0
Jun 28		283		191			13	42	3		4,212	0		47.7	37.4	5.5	62.0
Jun 29		225		137			19	29	0		6,102	0		52.2	23.5	5.5	62.0
Jun 30		294		143			19	48	10		6,850	2		49.3	14.7	5.5	62.0
<b>TOTAL</b>	<b>4,296</b>	<b>7,588</b>		<b>6,773</b>			<b>175</b>	<b>923</b>	<b>149</b>		<b>144,752</b>	<b>8</b>					
<b>AVG.</b>	<b>391</b>	<b>399</b>		<b>226</b>			<b>6</b>	<b>31</b>	<b>5</b>		<b>4,825</b>	<b>0</b>		<b>56.5</b>	<b>29.4</b>	<b>6.1</b>	<b>59.1</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	38,009	18,611
SUMMER	7,588	4,451
<b>TOTAL</b>	<b>45,597</b>	<b>23,062</b>

unclipped			SHAD		LAMPREY
SOCKEYE	STEELHEAD	STEELHEAD			
175	3,238	1,228	144,771		16



TABLE 97  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL unclipped			PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL				SOCKEYE	STEELHEAD	STEELHEAD							SECCHI	DEG F
Jul 1		281		171			31	70	12		5,022	0	0	44.2	29.4	5.5	62.0
Jul 2		229		90			31	65	11		4,681	0	0	58.5	46.7	5.5	64.0
Jul 3		234		80			44	68	2		6,188	2	0	45.5	18.8	5.5	65.0
Jul 4		243		104			40	79	13		4,380	0	0	43.9	13.3	5.5	65.0
Jul 5		126		120			50	100	13		2,816	3	0	43.1	32.7	5.5	65.0
Jul 6		182		112			44	105	16		3,135	2	0	34.5	24.1	4.8	65.0
Jul 7		227		136			52	95	27		2,894	2	0	41.4	16.4	4.8	65.0
Jul 8		226		135			72	96	20		3,542	9	0	37.0	11.0	4.8	66.0
Jul 9		174		104			53	103	29		1,828	4	0	40.0	26.1	4.8	66.0
Jul 10		207		121			65	139	36		1,669	4	0	35.0	24.7	4.8	66.0
Jul 11		187		120			64	173	54		1,841	6	0	35.0	13.5	5.0	66.0
Jul 12		60		84			22	149	47		2,175	2	0	31.6	9.5	5.0	66.0
Jul 13		102		83			15	138	30		1,178	7	0	37.8	25.4	7.0	66.0
Jul 14		108		32			21	139	37		733	1	0	26.4	16.1	7.0	68.0
Jul 15		108		21			21	128	26		942	1	1	36.5	26.2	7.0	68.0
Jul 16		104		45			10	177	55		682	0	0	32.7	22.4	5.8	68.0
Jul 17		86		30			17	189	47		586	2	0	31.6	21.4	5.8	68.0
Jul 18		90		19			13	145	34		421	1	0	32.8	22.5	5.6	69.0
Jul 19		76		22			6	203	77		362	4	0	27.3	17.4	5.6	69.0
Jul 20		39		42			6	198	83		495	7	0	35.2	27.7	5.6	69.0
Jul 21		72		21			2	284	73		461	15	0	28.9	19.1	5.6	69.0
Jul 22		55		18			6	243	74		206	6	0	28.6	18.6	5.8	69.0
Jul 23		40		16			2	220	79		209	7	0	28.9	18.0	5.8	70.0
Jul 24		33		10			4	186	52		127	0	0	30.8	20.3	5.8	70.0
Jul 25		32		11			4	245	77		91	6	0	29.2	18.5	7.0	70.0
Jul 26		26		4			7	275	81		198	2	0	30.1	19.4	7.0	70.0
Jul 27		61		8			2	431	120		147	2	0	22.1	11.3	7.0	70.0
Jul 28		43		9			2	296	79		272	5	0	28.1	17.8	7.0	70.0
Jul 29		38		5			1	415	139		297	1	0	27.4	17.0	7.1	70.0
Jul 30		42		8			0	356	137		156	11	0	25.2	15.0	7.0	70.0
Jul 31		36		2			2	376	126		67	6	0	26.3	16.1	7.1	70.0
<b>TOTAL</b>		<b>3,567</b>		<b>1,783</b>			<b>709</b>	<b>5,886</b>	<b>1,706</b>		<b>47,801</b>	<b>118</b>	<b>1</b>				
AVG.		115		58			23	190	55		1,542	4	0	34.1	20.5	5.9	67.5

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	38,009	18,611
SUMMER	11,155	6,234
<b>TOTAL</b>	<b>49,164</b>	<b>24,845</b>

SOCKEYE	STEELHEAD	unclipped STEELHEAD
884	9,124	2,934

SHAD	LAMPREY	STURGEON
192,572	134	1

TABLE 98

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

ICE HARBOR PROJECT - FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL			PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TEMP DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD								
Aug 1		48		7	0		0	560	166		126	11		27.4	17.1	7.1	70.0
Aug 2		54		5	0		2	625	207		137	2		27.1	16.6	7.0	70.0
Aug 3		68		18	0		2	493	141		87	2		31.1	21.0	7.0	70.0
Aug 4		63		9	0		1	321	79		77	5		25.7	15.2	7.0	70.0
Aug 5		68		6	0		0	438	148		60	3		27.1	16.2	7.2	70.0
Aug 6		90		9	0		3	484	137		45	2		29.8	19.3	7.2	70.0
Aug 7		41		9	0		0	362	90		24	0		24.4	14.0	7.0	70.0
Aug 8		64		6	0		0	485	148		26	5		25.7	15.2	7.0	70.0
Aug 9		38		2	0		0	533	178		30	4		27.2	17.1	7.0	70.0
Aug 10		95		7	0		1	621	192		29	6		24.3	14.0	6.8	70.0
Aug 11		128		9	0		0	528	152		32	7		23.3	13.3	6.8	70.0
Aug 12			75	9	0		0	461	157		20	5		24.0	14.1	6.0	70.0
Aug 13			163	32	0		0	610	211		25	3		28.1	17.6	6.0	70.0
Aug 14			190	40	0		1	567	186		31	1		21.7	11.1	6.0	70.0
Aug 15			217	54	0		0	609	224		19	2		22.2	11.7	6.0	70.0
Aug 16			194	37	0		0	698	228		7	3		22.2	11.7	6.0	70.0
Aug 17			377	50	0		1	1,130	373		21	5		22.2	11.7	6.0	70.0
Aug 18			304	40	0		0	802	245		29	7		24.6	14.0	6.0	70.0
Aug 19			300	24	0		0	836	253		12	4		19.0	8.6	6.0	70.0
Aug 20			208	45	0		0	520	155		12	13		22.2	12.1	6.0	70.0
Aug 21			406	35	0		0	465	144		5	0		19.4	9.2	6.0	70.0
Aug 22			359	54	0		0	421	136		8	6		18.2	7.6	6.6	70.0
Aug 23			372	69	0		0	414	118		20	3		20.6	10.6	6.8	70.0
Aug 24			288	94	0		0	247	84		8	0		20.1	10.1	6.8	69.0
Aug 25			316	63	2		0	266	83		28	1		20.1	10.1	6.8	69.0
Aug 26			473	121	-1		0	333	97		11	0		20.5	10.6	6.8	69.0
Aug 27			677	129	0		0	358	111		8	0		23.5	13.5	6.9	69.0
Aug 28			821	165	0		0	447	130		12	1		23.9	13.9	6.9	69.0
Aug 29			582	121	2		0	548	136		2	4		19.7	9.6	6.5	69.0
Aug 30			1,224	370	0		0	780	220		1	4		18.2	8.2	6.5	69.0
Aug 31			767	167	1		0	405	127		1	1		21.9	11.9	6.5	69.0
<b>TOTAL</b>		<b>757</b>	<b>8,313</b>	<b>1,806</b>	<b>4</b>		<b>11</b>	<b>16,367</b>	<b>5,056</b>		<b>953</b>	<b>110</b>					
<b>AVG.</b>		<b>69</b>	<b>416</b>	<b>58</b>	<b>0</b>		<b>0</b>	<b>528</b>	<b>163</b>		<b>31</b>	<b>4</b>		<b>23.4</b>	<b>13.1</b>	<b>6.6</b>	<b>69.7</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	38,009	18,611
SUMMER	11,912	6,321
FALL	8,313	1,719
<b>TOTAL</b>	<b>58,234</b>	<b>26,651</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY	STURGEON
4	0	895	25,491	7,990	193,525	244	1

TABLE 99

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL		unclipped					DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	SHAD	LAMPREY	STURGEON	KCFS	KCFS	SECCHI	DEG F
Sep 1			1,108	251	0	0		584	138			6		10.1	0.0	6.5	69.0
Sep 2			1,597	396	4	6		662	186			11		10.8	0.0	7.2	69.0
Sep 3			1,184	304	5	6		426	114			7		17.3	0.0	8.2	70.0
Sep 4			1,326	315	1	1		406	89			2		18.1	0.0	8.2	70.0
Sep 5			1,878	455	5	5		738	198			3		21.3	0.0	8.2	70.0
Sep 6			3,024	954	4	1		1,301	332			2		22.8	0.0	8.2	70.0
Sep 7			1,053	427	11	2		897	247			2		19.2	0.0	8.2	70.0
Sep 8			1,182	469	7	2		574	142			1		21.6	0.0	8.2	70.0
Sep 9			1,450	469	4	4		802	195			0		21.8	0.0	8.2	70.0
Sep 10			1,479	483	5	1		901	256			4		23.7	0.0	8.0	70.0
Sep 11			1,988	690	25	5		1,558	403			2		22.8	0.0	8.0	70.0
Sep 12			2,924	533	4	1		2,263	616			0		22.6	0.0	8.0	70.0
Sep 13			1,730	375	2	2		2,779	727			1		22.4	0.0	8.0	69.0
Sep 14			1,831	452	11	1		2,638	720			1		19.9	0.0	8.0	68.0
Sep 15			2,177	602	0	0		1,998	490			0		15.9	0.0	8.0	66.0
Sep 16			1,650	529	26	5		1,817	407			1		18.2	0.0	8.0	69.0
Sep 17			1,530	583	14	1		1,563	418			2		13.9	1.0	8.0	68.0
Sep 18			1,554	486	13	4		1,713	487			4		13.9	1.9	8.0	68.0
Sep 19			1,911	763	7	1		1,983	525			1		25.1	0.7	8.2	68.0
Sep 20			1,342	468	8	5		1,755	449			5		28.4	0.0	7.6	69.0
Sep 21			1,974	813	17	16		2,174	571			0		9.9	0.0	7.6	69.0
Sep 22			1,658	453	5	10		1,345	352			2		9.9	0.0	7.6	68.0
Sep 23			2,164	759	22	2		2,190	546			1		10.3	0.0	7.6	67.0
Sep 24			1,536	465	26	8		1,765	416			1		15.6	0.0	7.4	67.0
Sep 25			1,145	366	18	5		1,741	364			12		17.7	0.0	6.8	67.0
Sep 26			742	302	14	0		1,425	315			2		17.6	0.0	7.0	66.0
Sep 27			881	575	57	21		2,223	509			1		20.4	0.0	7.0	66.0
Sep 28			676	431	26	0		2,084	539			1		22.5	0.0	7.0	66.0
Sep 29			560	336	46	10		1,970	530			0		19.0	0.0	7.0	66.0
Sep 30			601	372	66	14		2,500	656			0		24.5	0.0	7.3	66.0
<b>TOTAL</b>			<b>45,855</b>	<b>14,876</b>	<b>453</b>	<b>139</b>		<b>46,775</b>	<b>11,937</b>			<b>75</b>					
AVG.			1529	496	15	5		1,559	398			3		18.6	0.1	7.7	68.4

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	38,009	18,611
SUMMER	11,912	6,321
FALL	54,168	16,595
<b>TOTAL</b>	<b>104,089</b>	<b>41,527</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
457	139	895	72,266	19,927

SHAD	LAMPREY	STURGEON
193,525	319	1

TABLE 100

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL		unclipped		SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD						PINK	SECCHI
Oct 1			498	331	87	17		3,713	785	0		0	30.6	0.0	7.3	66.0
Oct 2			374	325	62	13		2,887	729	0		2	36.2	0.0	7.3	65.0
Oct 3			269	228	54	14		2,443	633	0		0	29.0	0.0	7.3	65.0
Oct 4			264	183	110	6		3,018	858	0		1	25.1	0.0	7.3	62.0
Oct 5			290	108	103	8		2,226	636	1		0	31.3	0.0	7.3	62.0
Oct 6			214	150	147	16		3,740	1,015	0		1	19.1	0.0	7.4	62.0
Oct 7			177	121	296	30		3,647	951	0		0	27.9	0.0	7.4	62.0
Oct 8			130	93	169	12		2,196	670	0		0	26.0	0.0	7.4	62.0
Oct 9			88	76	93	13		1,535	454	0		0	26.1	0.0	7.4	62.0
Oct 10			125	86	73	13		1,279	366	0		1	27.3	0.0	7.4	62.0
Oct 11			86	112	60	18		1,467	468	0		0	27.1	0.0	7.4	61.0
Oct 12			101	78	40	8		1,230	349	0		0	24.9	0.0	7.4	61.0
Oct 13			74	74	35	10		896	269	0		1	21.3	0.0	7.4	61.0
Oct 14			96	74	38	12		701	187	0		0	27.6	0.0	7.4	60.0
Oct 15			81	63	25	13		649	171	0		0	18.1	0.0	7.4	60.0
Oct 16			64	39	24	2		448	110	0		1	24.8	0.0	7.4	60.0
Oct 17			79	80	21	9		633	200	0		0	18.2	0.0	7.4	60.0
Oct 18			95	64	9	2		584	170	0		0	13.8	0.0	7.4	60.0
Oct 19			73	37	15	2		436	156	0		0	23.4	0.0	7.4	60.0
Oct 20			73	36	7	2		366	101	0		1	21.6	0.0	7.4	60.0
Oct 21			57	26	9	4		435	110	0		0	23.3	0.0	7.4	60.0
Oct 22			36	25	7	7		305	87	0		0	16.3	0.0	7.4	59.0
Oct 23			44	18	10	2		288	79	0		0	17.5	0.0	7.4	59.0
Oct 24			37	20	12	1		249	76	0		0	15.4	0.0	7.4	59.0
Oct 25			34	24	8	0		257	58	0		0	14.9	0.0	7.8	59.0
Oct 26			41	17	6	1		232	64	0		0	18.5	0.0	7.8	59.0
Oct 27			37	9	1	2		235	57	0		0	12.8	0.0	7.8	58.0
Oct 28			48	15	6	1		196	54	0		0	14.0	0.0	7.8	58.0
Oct 29			25	11	14	2		192	67	0		0	21.9	0.0	7.8	57.0
Oct 30			55	9	14	0		287	93	0		0	17.6	0.0	7.8	57.0
Oct 31			17	6	14	0		257	94	0		0	16.8	0.0	7.8	57.0
<b>TOTAL</b>			<b>3,682</b>	<b>2,538</b>	<b>1,569</b>	<b>240</b>		<b>37,027</b>	<b>10,117</b>	<b>1</b>		<b>9</b>	<b>22.2</b>	<b>0.0</b>	<b>7.5</b>	<b>60.5</b>
<b>AVG.</b>			<b>119</b>	<b>82</b>	<b>51</b>	<b>8</b>		<b>1,194</b>	<b>326</b>	<b>0</b>		<b>0</b>				

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	38,009	18,611
SUMMER	11,912	6,321
FALL	57,850	19,133
<b>TOTAL</b>	<b>107,771</b>	<b>44,065</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	STURGEON
2,026	379	895	109,293	30,044	1	193,525	328	1

Note: Visual counts occurred April 1 through October 31. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST. South shore ladder was counted by direct observation while the north shore ladder was counted using closed circuit TV.

TABLE 101  
MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

NOVEMBER 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL		PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	STEELHEAD	STEELHEAD							SECCHI	DEG F
Nov 1			20	8	11	3	270	114					12.9	0.0	7.8	57.0
Nov 2			28	6	3	3	217	103					17.8	0.0	7.8	57.0
Nov 3			21	4	17	2	332	143					18.7	0.0	7.8	56.0
Nov 4			19	5	13	2	246	100					19.9	0.0	7.8	56.0
Nov 5			44	2	6	3	297	131					27.8	0.0	7.8	56.0
Nov 6			26	3	7	1	240	92					18.1	0.0	7.8	56.0
Nov 7			6	0	14	0	281	101					19.0	0.0	7.8	56.0
Nov 8			12	2	4	1	349	157					11.2	0.0	7.8	56.0
Nov 9			8	-2	5	0	237	123					22.1	0.0	7.8	56.0
Nov 10			21	3	9	0	168	80					17.2	0.0	7.8	55.0
Nov 11			17	4	5	0	238	91					25.3	0.0	7.8	55.0
Nov 12			9	0	5	1	150	57					20.3	0.0	7.8	54.0
Nov 13			6	0	0	0	154	63					20.3	0.0	7.8	54.0
Nov 14			9	1	1	1	151	62					20.4	0.0	7.8	54.0
Nov 15			6	0	0	0	145	56					20.9	0.0	8.0	54.0
Nov 16			8	0	1	0	137	46					16.0	0.0	8.0	54.0
Nov 17			6	0	1	1	141	59					17.7	0.0	8.0	54.0
Nov 18			6	0	1	2	145	68					20.2	0.0	8.0	54.0
Nov 19			3	1	0	1	129	60					21.4	0.0	8.0	53.0
Nov 20			2	0	2	0	80	42					23.5	0.0	8.0	53.0
Nov 21			3	0	0	0	72	30					23.7	0.0	8.7	53.0
Nov 22			2	0	-1	0	66	28					20.1	0.0	8.7	52.0
Nov 23			1	0	0	0	50	21					17.8	0.0	8.7	49.0
Nov 24			2	0	-1	0	53	30					14.9	0.0	8.0	49.0
Nov 25			1	0	0	0	41	21					18.0	0.0	8.0	49.0
Nov 26			1	0	0	0	72	35					16.2	0.0	8.0	48.0
Nov 27			0	0	0	0	58	24					15.1	0.0	8.0	48.0
Nov 28			0	0	0	0	48	18					18.9	0.0	8.5	48.0
Nov 29			1	0	0	0	36	11					21.8	0.0	8.5	48.0
Nov 30			0	0	0	0	32	18					16.1	0.0	8.5	46.0

<b>TOTAL</b>			288	37	103	21		4,635	1,984								
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AVG.			10	1	3	1		155	66				19.1	0.0	8.0	53.0
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	STURGEON
TOTALS TO DATE											
SPRING	38,009	18,611				109,293	30,044	1	193,525	328	1
SUMMER	11,912	6,321			895						
FALL	57,850	19,133									
<b>TOTAL</b>	<b>107,771</b>	<b>44,065</b>									

Note: November counts were from video tape. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST. Official Fall Chinook run ended October 31. November and December Chinook counts were not added to fall totals.

TABLE 102  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

DECEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL					DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK			SHAD	LAMPREY	STURGEON	KCFS
Dec 1			0		0			23	13				13.9	0.0	8.5	46.0
Dec 2			0		0			26	7				26.2	0.0	8.5	46.0
Dec 3			1		0			18	8				34.3	0.0	8.3	46.0
Dec 4			1		0			29	12				31.9	0.0	8.3	46.0
Dec 5			0		0			23	15				28.4	0.0	8.3	45.0
Dec 6			2		0			10	5				24.5	0.0	8.3	44.0
Dec 7			0		0			28	11				21.2	0.0	8.3	44.0
Dec 8			0		0			35	12				21.4	0.0	8.3	42.0
Dec 9			0		1			27	9				23.0	0.0	8.3	41.0
Dec 10			0		0			49	28				20.0	0.0	11.0	41.0
Dec 11			0		0			41	18				18.4	0.0	9.5	41.0
Dec 12			0		0			47	20				18.8	0.0	9.5	41.0
Dec 13			0		0			49	24				17.4	0.0	9.5	40.0
Dec 14			0		0			25	10				13.3	0.0	9.5	39.0
Dec 15			0		0			24	11				20.4	0.0	9.5	39.0
Dec 16			0		0			32	9				21.3	0.0	9.0	39.0
Dec 17			0		0			18	4				22.1	0.0	9.0	39.0
Dec 18			0		0			13	7				23.7	0.0	9.0	39.0
Dec 19			0		0			13	4				19.1	0.0	9.0	39.0
Dec 20			0		0			18	9				22.9	0.0	9.0	39.0
Dec 21			0		0			24	4				18.1	0.0	9.0	39.0
Dec 22			0		0			11	2				17.5	0.0	9.0	39.0
Dec 23			0		0			20	10				18.2	0.0	9.0	40.0
Dec 24			0		0			24	11				10.2	0.0	9.5	40.0
Dec 25			0		0			23	10				21.2	0.0	9.5	40.0
Dec 26			0		0			23	13				20.2	0.0	9.5	40.0
Dec 27			0		0			10	9				20.0	0.0	9.5	40.0
Dec 28			1		0			6	2				19.0	0.0	9.5	40.0
Dec 29			0		0			7	5				19.8	0.0	9.5	40.0
Dec 30			0		0			2	1				24.0	0.0	9.5	40.0
Dec 31			0		0			5	1				18.5	0.0	9.5	40.0
<b>TOTAL</b>			5		1			703	304							
AVG.			0		0			23	10				20.9	0.0	9.1	41.1

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	38,009	18,611
SUMMER	11,912	6,321
FALL	57,850	19,133
<b>TOTAL</b>	<b>107,771</b>	<b>44,065</b>

COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	STURGEON
2,026	379	895	109,293	30,044	1	193,525	328	1

Note: December counts were from video tape. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST. Official Fall Chinook run ended October 31. November and December Chinook counts were not added to fall totals.

**TABLE 103**  
**YEARLY TOTALS OF SALMONIDS COUNTED OVER**  
**ICE HARBOR DAM**  
**1962 - 2013**

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	137,507	211,762	61	289	349,619
2003	143,329	191,675	37	1,431	336,472
2004	130,218	171,380	91	3,519	305,208
2005	58,361	156,920	18	1,621	216,920
2006	52,501	124,812	48	971	178,332
2007	69,106	157,620	55	2,147	228,928
2008	123,007	172,453	539	3,003	299,002
2009	180,349	328,105	867	5,436	514,757
2010	199,092	206,959	1,302	1,735	409,088
2011	177,586	198,805	1,141	6,727	384,259
2012	150,625	105,269	453	2,985	259,332
2013	152,174	116,162	895	2,530	271,761
<b>Totals</b>	<b>3,605,132</b>	<b>5,376,287</b>	<b>16,103</b>	<b>79,279</b>	<b>9,076,801</b>
<b>10-Year Average</b>	<b>129,302</b>	<b>173,849</b>	<b>541</b>	<b>3,067</b>	<b>306,759</b>

\*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, 1996-2002.

TABLE 104  
 MONTHLY COUNT OF CHINOOK SALMON  
 ICE HARBOR DAM  
 1962 - 2013

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL
														1 APR- 11 JUN	12 JUN- 11 AUG	12 AUG- 31 OCT
1962				2,579	28,951	23,250	8,315	3,547	20,578	7,081			94,301	33,613	30,639	30,049
1963				3,434	21,790	14,001	7,591	1,415	9,342	2,918	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	3,314	1,773			31,841	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	100	3	137,507	87,033	29,044	21,327
2003			132	42,343	34,581	28,636	5,732	1,286	23,445	7,174			143,329	86,190	25,344	31,663
2004			5	36,168	37,934	19,580	4,094	908	26,998	4,531			130,218	81,752	16,185	32,276
2005				1,763	20,798	14,089	2,323	1,389	14,672	3,327			58,361	29,306	9,817	19,238
2006				29	21,660	11,042	2,438	1,534	11,976	3,822			52,501	26,309	9,085	17,107
2007			1	3,277	27,506	11,597	3,167	1,984	17,456	4,118			69,106	35,355	10,599	23,151
2008				4,447	45,174	34,258	5,381	3,461	26,145	4,141			123,007	60,899	28,657	33,451
2009				1,173	65,190	40,728	9,465	10,549	49,471	3,773			180,349	83,658	33,256	63,435
2010				32,517	66,010	34,208	6,921	5,381	45,279	8,776			199,092	107,235	33,086	58,771
2011				374	74,309	38,699	12,109	5,817	39,184	7,094			177,586	87,467	39,136	50,983
2012				488	63,407	22,704	3,337	4,531	51,132	5,026			150,625	74,862	15,663	60,100
2013			8	1,979	48,023	18,657	5,350	10,876	60,731	6,220	325	5	152,174	56,620	18,233	76,983
<b>TOTAL</b>		<b>1</b>	<b>352</b>	<b>512,235</b>	<b>1,321,695</b>	<b>652,132</b>	<b>273,265</b>	<b>86,384</b>	<b>613,003</b>	<b>142,292</b>	<b>3,681</b>	<b>92</b>	<b>3,605,132</b>	<b>2,049,188</b>	<b>729,077</b>	<b>826,288</b>
<b>10-Year Average</b>				<b>8,222</b>	<b>47,001</b>	<b>24,556</b>	<b>5,459</b>	<b>4,643</b>	<b>34,304</b>	<b>5,083</b>			<b>129,302</b>	<b>64,346</b>	<b>21,372</b>	<b>43,550</b>

\*Jacks included  
 The 1996 through 2002, 2013 count seasons were extended to include video counts made between 0600 and 1600 hours daily from November 1 through December 15.



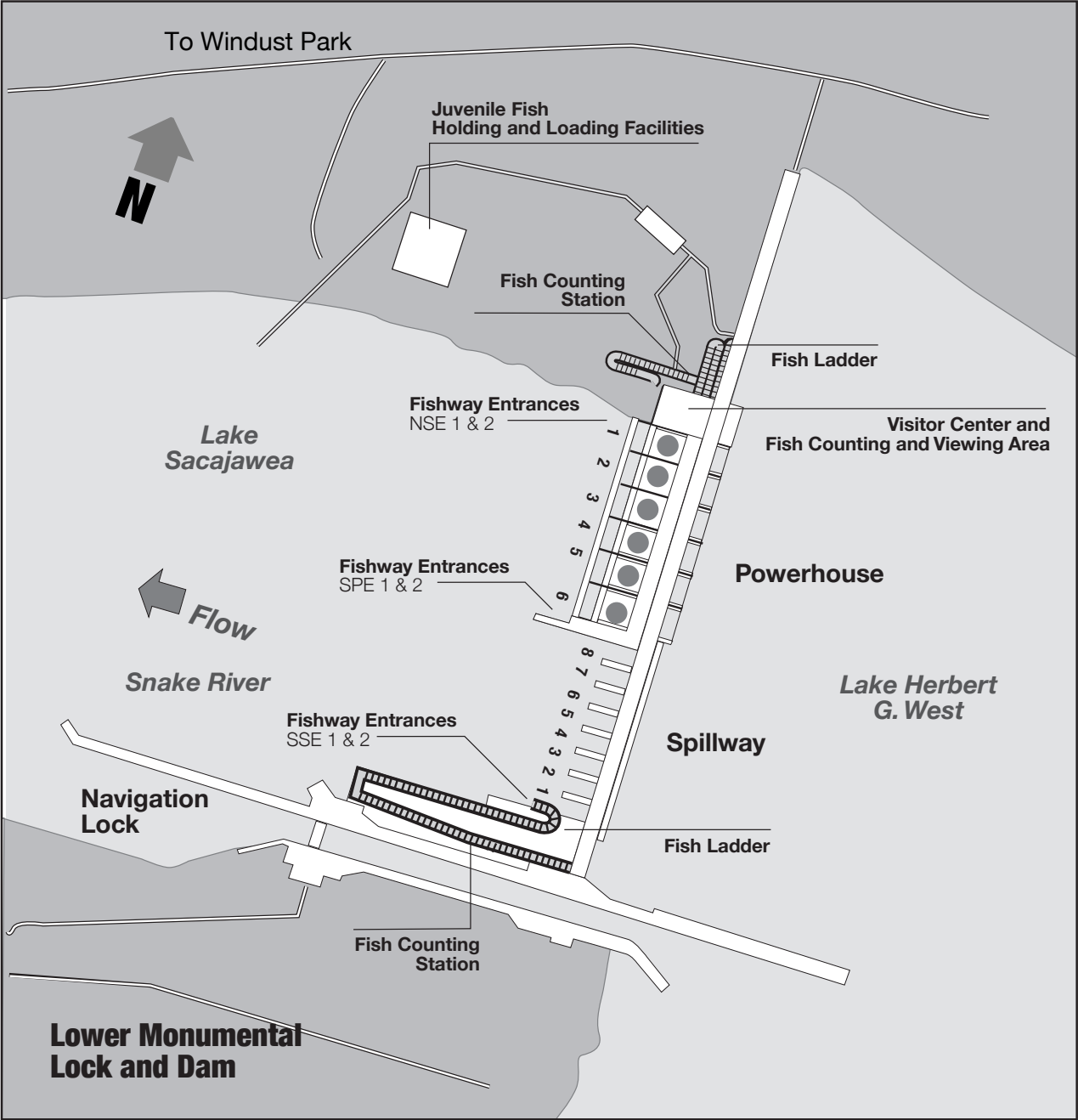
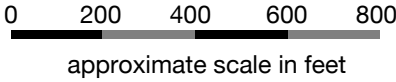
TABLE 105

**MONTHLY COUNT OF STEELHEAD  
ICE HARBOR DAM  
1962 -2013**

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	8,770	819	211,762
2003			5,201	1,548	74	1,128	11,558	12,267	109,101	50,798			191,675
2004			2,483	1,690	118	1,467	9,875	6,593	111,826	37,328			171,380
2005			1,379	1,205	124	1,364	4,619	11,902	76,394	59,933			156,920
2006			1,181	2,628	78	490	2,797	7,265	67,556	42,817			124,812
2007			4,001	2,183	107	903	4,743	11,723	83,713	50,247			157,620
2008				2,942	241	702	14,056	20,872	97,545	36,095			172,453
2009				2,906	154	1,218	13,616	43,697	167,918	98,596			328,105
2010				2,773	289	1,431	29,670	25,794	106,546	40,456			206,959
2011				2,691	360	201	9,931	55,460	86,211	43,951			198,805
2012				2,111	266	816	2,875	5,820	64,613	28,768			105,269
2013			1,531	2,159	156	923	5,886	16,367	46,775	37,027	4,635	703	116,162
Totals	268	287	27,105	119,076	22,871	26,068	262,018	527,040	2,680,397	1,610,247	86,164	14,746	5,376,287
10-Year Average				2,329	189	952	9,807	20,549	90,910	47,522			173,849

Video daytime counts during extended count seasons are included.

# Plate 7 Lower Monumental Lock and Dam



## LOWER MONUMENTAL DAM

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### FISH COUNTING SCHEDULE

1 Apr – 31 Oct      Visual counting daily 0400 – 2000 hours PST

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### FISH LADDER OPERATING SCHEDULE

#### *North Ladder*

1 Jan – 2 Jan      Ladder in service.  
2 Jan – 11 Feb      Ladder dewatered for annual maintenance.  
11 Feb– 31 Dec      Ladder in service.

#### *South Ladder*

1 Jan – 11 Feb Ladder in service.  
11 Feb – 27 Feb      Ladder dewatered for annual maintenance.  
27 Feb– 31 Dec      Ladder in service.

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### FISHWAY ACTIVITIES

Water temperatures were recorded hourly from north and south fish ladder exit pools and the downstream end of the primary dewaterer. Hourly readings were taken from May 30 to September 23. The purpose is to determine if summer spill has any effects on exit pool temperatures.

All fish pumps were out of service from 1 January through 20 February. Additionally, fish pump 2 was out of service February 20 – December 31 (shaft realignment and replacement of the bearing housing).

The juvenile fish facility was operated for juvenile fish transport/bypass and adult fallbacks from 1 April to 17 December.

LoMo's RSW was in service as per requirements of 2013 operating year.

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TABLE 106

MONTHLY TOTALS OF SALMONIDS, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER LOWER MONUMENTAL DAM  
2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				1,102	45,917	19,984	7,105	9,070	61,547	6,696			151,421
STEELHEAD				2,310	196	539	4,476	12,809	45,280	41,039			106,649
SOCKEYE						116	891	6	1				1,014
COHO*								2	403	1,920			2,325
PINK													0
<b>TOTAL</b>				<b>3,412</b>	<b>46,113</b>	<b>20,639</b>	<b>12,472</b>	<b>21,887</b>	<b>107,231</b>	<b>49,655</b>			<b>261,409</b>
LAMPREY					1	5	30	58	16	-2			108
STURGEON													0
BULL TROUT				3	12	1							16

\*Jacks included

TABLE 107

DISCHARGE AND WATER QUALITY DATA  
LOWER MONUMENTAL PROJECT 2013

JANUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Jan 1	20.4	0.0	4.5	40.0
Jan 2	31.9	0.0	4.5	40.0
Jan 3	28.0	0.0	4.5	39.0
Jan 4	28.2	0.0	4.5	39.0
Jan 5	24.9	0.0	4.5	39.0
Jan 6	13.5	0.0	4.5	39.0
Jan 7	21.8	0.0	5.5	39.0
Jan 8	31.8	0.0	6.0	39.0
Jan 9	27.8	0.0	6.0	39.0
Jan 10	24.0	0.0	6.0	39.0
Jan 11	34.2	0.0	6.0	39.0
Jan 12	31.2	0.0	6.0	38.0
Jan 13	20.9	0.0	6.0	38.0
Jan 14	31.4	0.0	6.0	38.0
Jan 15	35.1	0.0	6.0	38.0
Jan 16	25.2	0.0	6.0	38.0
Jan 17	28.5	0.0	6.0	38.0
Jan 18	27.8	0.0	6.0	38.0
Jan 19	22.1	0.0	6.0	37.5
Jan 20	14.7	0.0	6.0	37.5
Jan 21	26.0	0.0	6.0	37.5
Jan 22	26.2	0.0	6.0	37.5
Jan 23	24.1	0.0	6.0	37.0
Jan 24	20.7	0.0	6.0	37.0
Jan 25	15.1	0.0	7.5	37.0
Jan 26	25.4	0.0	8.0	37.0
Jan 27	22.5	0.0	8.0	37.0
Jan 28	28.9	0.0	8.0	37.0
Jan 29	25.8	0.0	8.0	37.0
Jan 30	27.2	0.0	8.0	37.0
Jan 31	28.9	0.0	8.0	37.0

AVG    25.6    0.0    6.1    38.1

FEBRUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Feb 1	31.0	0.0	8.0	37.0
Feb 2	31.7	0.0	8.0	37.0
Feb 3	27.5	0.0	8.0	37.0
Feb 4	31.9	0.5	8.0	38.0
Feb 5	30.7	0.0	7.5	38.0
Feb 6	31.6	0.0	7.5	38.0
Feb 7	30.7	0.0	7.5	38.0
Feb 8	29.7	0.0	7.5	38.0
Feb 9	32.6	0.0	7.5	38.0
Feb 10	26.8	0.0	7.5	38.0
Feb 11	31.3	0.0	7.5	38.0
Feb 12	27.6	0.0	7.5	38.0
Feb 13	32.2	0.0	6.0	38.0
Feb 14	27.7	0.0	6.0	38.0
Feb 15	28.6	0.0	6.0	38.0
Feb 16	34.1	0.0	6.0	38.0
Feb 17	27.7	0.0	6.0	38.0
Feb 18	29.8	0.0	4.5	39.0
Feb 19	31.5	0.0	4.5	39.0
Feb 20	32.4	0.0	4.5	39.0
Feb 21	23.0	0.0	5.0	39.0
Feb 22	26.4	0.0	5.0	39.0
Feb 23	24.8	0.0	5.0	39.0
Feb 24	24.9	0.0	5.0	39.0
Feb 25	28.6	0.0	5.0	39.0
Feb 26	28.5	0.0	5.0	39.0
Feb 27	28.0	0.0	5.0	39.0
Feb 28	18.9	0.0	5.0	39.0

AVG    28.9    0.0    6.3    38.3

MARCH				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Mar 1	27.1	0.0	5.0	39.0
Mar 2	29.8	0.0	5.0	39.0
Mar 3	30.4	0.0	5.0	39.0
Mar 4	42.2	0.0	5.0	40.0
Mar 5	36.4	0.0	5.0	40.0
Mar 6	32.8	0.0	5.0	40.0
Mar 7	25.4	0.0	5.0	40.0
Mar 8	34.2	0.0	5.0	40.0
Mar 9	31.6	0.0	5.0	40.0
Mar 10	23.3	0.0	5.0	40.0
Mar 11	30.5	0.0	5.0	42.0
Mar 12	27.2	0.0	5.0	42.0
Mar 13	33.6	0.0	5.0	42.0
Mar 14	36.2	0.0	5.0	42.0
Mar 15	35.9	0.0	5.0	42.0
Mar 16	37.7	0.0	5.0	42.0
Mar 17	40.9	0.0	5.0	42.0
Mar 18	44.9	0.0	5.0	42.0
Mar 19	42.4	0.0	5.0	43.0
Mar 20	36.3	0.0	5.0	43.0
Mar 21	34.3	0.0	5.0	43.0
Mar 22	38.6	0.0	5.0	43.0
Mar 23	40.0	0.0	5.0	43.0
Mar 24	33.0	0.0	5.0	43.0
Mar 25	26.2	0.0	5.0	44.0
Mar 26	30.9	0.0	5.0	44.0
Mar 27	28.7	0.0	4.5	44.0
Mar 28	25.3	0.0	3.5	44.0
Mar 29	39.0	0.0	4.0	44.0
Mar 30	37.2	0.0	4.0	44.0
Mar 31	48.8	0.0	4.0	44.0

AVG    34.2    0.0    4.8    41.9

TABLE 108

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

LOWER MONUMENTAL PROJECT - FISH COUNTS											APRIL 2013						
DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL		unclipped		BULL		DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	STURGEON	TROUT	LAMPREY	KCFS	KCFS	SECCH	DEG F
Apr 1	1			0				82	50				0	54.7	0.0	4.5	47.0
Apr 2	3			0				115	58				0	59.5	0.0	4.5	47.0
Apr 3	0			0				91	50				0	58.7	27.8	4.5	47.0
Apr 4	2			0				133	74				0	60.9	28.0	4.5	47.0
Apr 5	4			0				169	95				0	67.5	28.0	4.5	47.0
Apr 6	2			1				145	71				1	75.9	27.9	4.5	47.0
Apr 7	1			0				182	98				1	74.9	27.9	4.5	47.0
Apr 8	5			0				175	108				0	80.1	28.6	4.5	47.0
Apr 9	2			1				153	96				0	72.2	30.0	4.5	48.0
Apr 10	2			0				95	62				0	60.9	29.9	4.5	49.0
Apr 11	5			0				103	61				0	66.4	29.9	4.5	49.0
Apr 12	5			0				124	79				0	61.9	30.1	4.5	49.0
Apr 13	10			1				72	36				0	58.2	30.0	4.5	49.0
Apr 14	20			1				112	63				0	65.7	30.6	4.5	49.0
Apr 15	8			0				97	46				0	59.2	31.0	4.5	49.0
Apr 16	11			0				60	30				0	52.6	29.7	4.0	48.0
Apr 17	13			0				57	32				0	54.5	30.5	4.0	48.0
Apr 18	5			0				29	14				0	47.1	31.0	4.0	48.0
Apr 19	13			2				21	10				0	49.5	31.1	4.0	48.0
Apr 20	23			0				37	26				0	50.4	31.0	4.0	48.0
Apr 21	26			0				37	23				0	58.1	31.0	4.3	48.0
Apr 22	20			1				22	10				0	60.7	31.0	4.3	48.0
Apr 23	35			2				21	6				0	49.3	31.0	4.3	48.0
Apr 24	14			2				28	16				1	48.8	31.0	4.3	49.0
Apr 25	33			0				16	11				0	47.4	29.6	4.0	50.0
Apr 26	98			4				36	17				0	52.2	28.0	4.0	50.0
Apr 27	51			1				21	11				0	54.6	28.0	4.0	50.0
Apr 28	100			3				21	15				0	53.0	26.7	4.0	50.0
Apr 29	261			6				29	18				0	65.2	26.0	4.0	49.0
Apr 30	291			13				27	14				0	65.6	26.7	4.0	49.0
<b>TOTAL</b>	<b>1,064</b>			<b>38</b>				<b>2,310</b>	<b>1,300</b>				<b>3</b>				
AVG.	35			1				77	43				0	59.5	27.4	4.3	48.3

Note: Official Spring Chinook run started April 1.

TABLE 109

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

LOWER MONUMENTAL PROJECT - FISH COUNTS											MAY 2013						
DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL unclipped		BULL		DISCH	SPILL	TURBIDITY				
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK					STURGEON	TROUT	LAMPREY
May 1	406			16				17	10			1	0	64.7	29.9	4.0	50.0
May 2	794			35				16	10			0	0	60.1	31.2	4.0	50.0
May 3	635			20				17	8			0	0	53.4	29.9	4.0	51.0
May 4	1,683			101				9	7			0	0	59.5	29.9	4.0	51.0
May 5	1,907			143				12	6			0	0	56.0	28.9	4.0	52.0
May 6	1,908			214				11	9			0	0	64.6	28.0	4.5	52.0
May 7	1,247			163				5	2			1	1	68.9	26.1	4.5	54.0
May 8	960			174				12	7			0	-1	75.1	23.4	4.0	55.0
May 9	1,951			444				3	2			1	0	93.9	23.4	4.0	54.0
May 10	2,843			807				6	3			0	0	99.0	23.6	4.0	54.0
May 11	1,259			562				1	1			0	0	106.0	23.8	2.5	54.0
May 12	1,827			812				1	-1			0	0	113.2	23.8	2.3	54.0
May 13	1,980			1,271				6	0			2	1	120.6	26.3	3.0	55.0
May 14	1,352			1,132				7	2			1	0	131.5	21.8	3.0	55.0
May 15	941			881				2	1			0	0	131.0	22.8	3.0	55.0
May 16	994			902				4	2			1	0	112.9	22.5	3.0	55.0
May 17	844			1,066				10	4			0	0	100.4	22.7	3.0	55.0
May 18	767			881				6	1			1	0	96.2	24.1	3.0	55.0
May 19	544			615				-3	-5			1	0	88.5	23.9	3.2	55.0
May 20	298			517				2	1			0	0	82.2	23.0	3.5	54.0
May 21	576			557				4	0			0	1	76.4	25.6	3.0	54.0
May 22	445			593				7	2			0	0	78.6	25.7	3.0	54.0
May 23	234			341				4	0			0	0	76.3	27.5	3.0	54.0
May 24	455			525				9	1			0	0	70.8	28.1	3.0	54.0
May 25	599			572				5	0			0	0	72.5	28.2	4.0	54.0
May 26	307			337				3	2			0	0	64.9	28.2	4.0	54.0
May 27	492			408				2	1			0	0	59.1	29.3	4.0	54.0
May 28	403			466				3	1			1	0	67.0	28.7	4.0	54.0
May 29	504			404				2	0			0	0	64.8	28.5	4.0	54.0
May 30	602			418				4	0			0	0	71.1	28.3	4.0	54.0
May 31	438			345				9	1			2	-1	75.5	28.8	4.0	54.0
<b>TOTAL</b>	<b>30,195</b>			<b>15,722</b>				<b>196</b>	<b>78</b>			<b>12</b>	<b>1</b>				
AVG.	974			507				6	3			0	0	82.4	26.3	3.6	53.7
RUN YEAR		CHINOOK	CHINOOK						unclipped			BULL					
TOTALS TO DATE		ADULT	JACK					STEELHEAD	STEELHEAD			TROUT	LAMPREY				
SPRING		31,259	15,760					2,506	1,378			15	1				

TABLE 110

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

LOWER MONUMENTAL PROJECT - FISH COUNTS											JUNE 2013					
DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL unclipped			BULL		DISCH KCFS	SPILL KCFS	TURBIDITY SECCH	TEMP DEG F	
	SPRING	SUMMER	FALL				SOCKEYE	STEELHEAD	STEELHEAD	PINK	STURGEON					TROUT
Jun 1	414			358			0	3	1		0	0	68.7	28.2	4.0	54.0
Jun 2	535			336			0	11	0		0	0	63.1	27.4	4.0	55.0
Jun 3	448			221			0	3	1		0	0	59.9	26.5	3.5	55.0
Jun 4	258			176			1	7	0		0	0	63.5	25.6	3.5	55.0
Jun 5	279			219			0	7	1		0	0	64.4	23.3	3.5	55.0
Jun 6	390			179			0	6	0		0	0	62.2	24.0	3.5	57.5
Jun 7	440			239			0	2	2		0	0	66.0	23.7	3.5	57.5
Jun 8	341			214			0	10	0		0	0	74.8	22.7	4.0	59.0
Jun 9	277			235			0	7	1		0	2	73.1	20.6	4.0	59.0
Jun 10	323			234			0	8	2		0	0	70.8	21.0	5.0	60.0
Jun 11	465			286			0	12	2		0	0	70.8	21.0	5.0	60.0
Jun 12	555			300			0	17	2		0	0	63.3	21.3	5.0	60.0
Jun 13	486			296			0	20	1		1	0	57.9	21.5	5.0	60.0
Jun 14		817		472			0	8	1		0	0	56.5	22.9	5.0	61.0
Jun 15		619		304			4	18	1		0	0	53.3	23.8	4.5	62.0
Jun 16		471		275			0	21	3		0	0	44.8	24.0	4.5	62.0
Jun 17		519		336			0	29	4		0	0	47.5	23.6	4.5	62.0
Jun 18		242		194			4	24	3		0	1	51.1	24.9	4.5	62.0
Jun 19		215		198			2	14	2		0	0	48.5	25.5	4.5	62.0
Jun 20		291		295			2	16	2		0	0	52.1	26.0	4.5	62.0
Jun 21		844		619			2	21	6		0	0	60.4	16.6	4.5	62.0
Jun 22		454		285			7	30	4		0	1	42.9	17.0	4.5	61.5
Jun 23		402		294			7	31	8		0	0	43.2	16.8	4.5	62.5
Jun 24		251		221			6	27	4		0	0	41.4	16.9	5.5	62.0
Jun 25		481		371			8	50	5		0	1	48.1	16.6	5.5	62.0
Jun 26		304		276			12	37	6		0	0	47.1	17.0	5.5	62.5
Jun 27		309		304			25	30	3		0	0	46.2	16.5	5.5	63.0
Jun 28		164		122			14	24	6		0	0	45.7	16.9	5.5	63.0
Jun 29		135		169			5	27	9		0	0	48.8	17.1	4.5	64.0
Jun 30		106		121			17	19	5		0	0	48.8	17.0	4.5	64.0
<b>TOTAL</b>	<b>5,211</b>	<b>6,624</b>		<b>8,149</b>			<b>116</b>	<b>539</b>	<b>85</b>		<b>1</b>	<b>5</b>				
AVG.	401	390		272			4	18	3		0	0	56.2	21.5	4.5	60.2
RUN YEAR TOTALS TO DATE																
		CHINOOK ADULT	CHINOOK JACK				SOCKEYE	STEELHEAD	unclipped STEELHEAD		BULL TROUT	LAMPREY				
SPRING		36,470	19,053				116	3,045	1,463		16	6				
SUMMER		6,624	4,856													
TOTAL		43,094	23,909													



TABLE 111

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

LOWER MONUMENTAL PROJECT - FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL			BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCH	TURBIDITY DEG F
	SPRING	SUMMER	FALL				SOCKEYE	STEELHEAD	unclipped STEELHEAD						
Jul 1		105		109			21	41	5		0	44.8	16.5	4.5	65.0
Jul 2		403		427			45	72	16		0	55.7	18.4	4.5	65.0
Jul 3		354		248			34	56	12		-1	44.6	18.8	4.5	65.0
Jul 4		251		194			58	65	5		1	43.2	17.0	4.5	65.0
Jul 5		299		209			62	60	9		0	43.2	17.2	4.5	66.0
Jul 6		164		85			52	61	18		1	34.7	16.6	4.5	66.0
Jul 7		122		88			56	71	18		0	38.6	16.6	4.5	66.0
Jul 8		323		163			91	129	34		0	37.8	17.0	4.5	67.0
Jul 9		171		86			41	121	39		0	39.0	16.7	4.5	68.0
Jul 10		306		149			71	124	35		0	34.6	17.0	4.5	69.0
Jul 11		279		155			70	112	28		2	35.3	16.6	5.5	69.0
Jul 12		196		135			78	105	22		2	32.2	17.0	5.5	69.0
Jul 13		143		60			45	135	52		0	36.0	16.6	5.5	69.0
Jul 14		100		58			36	107	20		2	25.4	13.0	5.5	69.0
Jul 15		108		88			28	132	43		4	36.4	16.1	5.5	70.0
Jul 16		77		53			18	127	54		2	31.7	16.2	5.5	70.0
Jul 17		146		72			7	105	43		2	31.2	16.1	5.5	70.0
Jul 18		128		55			22	146	58		5	32.1	17.0	5.5	70.0
Jul 19		84		34			9	192	62		1	29.2	14.8	5.5	70.0
Jul 20		102		34			11	151	44		1	33.7	17.0	5.5	70.0
Jul 21		85		31			3	171	56		2	29.2	16.9	5.5	70.0
Jul 22		76		24			7	134	46		1	28.1	15.6	5.5	70.0
Jul 23		56		19			5	183	76		0	29.0	15.3	5.5	70.0
Jul 24		43		9			2	165	62		0	29.5	17.0	5.5	70.0
Jul 25		64		9			6	206	89		0	30.3	15.9	5.0	69.0
Jul 26		24		11			4	159	71		0	28.8	16.3	5.0	69.5
Jul 27		69		26			4	285	114		0	23.0	10.5	5.0	69.5
Jul 28		38		21			0	292	113		1	27.2	15.0	5.0	69.5
Jul 29		46		14			1	302	134		2	26.1	13.7	6.5	70.0
Jul 30		45		7			4	265	113		2	26.7	13.1	6.5	70.0
Jul 31		18		7			0	202	86		0	26.0	13.6	6.5	70.0
<b>TOTAL</b>		<b>4,425</b>		<b>2,680</b>			<b>891</b>	<b>4,476</b>	<b>1,577</b>		<b>30</b>				
<b>AVG.</b>		<b>143</b>		<b>86</b>			<b>29</b>	<b>144</b>	<b>51</b>		<b>1</b>	<b>33.7</b>	<b>16.0</b>	<b>5.2</b>	<b>68.6</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	36,470	19,053
SUMMER	11,049	7,536
<b>TOTAL</b>	<b>47,519</b>	<b>26,589</b>

SOCKEYE	STEELHEAD	unclipped STEELHEAD
1,007	7,521	3,040

BULL TROUT	LAMPREY
16	36

TABLE 112

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

LOWER MONUMENTAL PROJECT - FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL		unclipped		BULL		DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	STURGEON	TROUT	LAMPREY	KCFS	KCFS	SECCH	DEG F
Aug 1		24		11	0		1	186	87			2		26.4	14.0	6.5	70.0
Aug 2		34		10	0		1	262	115			1		27.4	14.3	5.5	70.0
Aug 3		72		22	0		2	529	224			2		31.6	16.0	5.0	70.0
Aug 4		52		16	0		0	576	270			0		25.8	13.3	5.0	70.0
Aug 5		33		1	0		0	374	185			4		26.9	14.2	5.0	69.0
Aug 6		61		11	0		0	313	163			1		26.5	15.1	5.0	69.0
Aug 7		48		16	0		0	518	210			0		24.5	12.0	5.0	69.0
Aug 8		93		16	0		1	514	206			2		25.9	13.4	5.0	69.0
Aug 9		42		2	0		0	288	114			3		25.4	13.0	5.0	69.0
Aug 10		59		10	0		0	449	164			0		25.3	12.8	5.0	69.0
Aug 11		61		23	0		0	433	150			7		22.4	9.9	5.0	69.0
Aug 12		71		11	0		0	333	145			2		24.1	11.7	4.0	69.0
Aug 13		84		25	0		0	324	140			0		26.7	14.2	4.0	69.0
Aug 14			60	11	0		0	285	115			0		22.6	10.0	4.0	69.0
Aug 15			143	19	0		0	453	184			1		22.5	10.1	5.0	69.0
Aug 16			230	49	0		0	362	156			1		22.5	10.1	4.8	69.0
Aug 17			214	50	0		0	491	209			1		22.5	10.1	4.8	69.0
Aug 18			309	52	0		0	457	211			1		23.0	10.7	5.5	69.0
Aug 19			280	42	0		0	305	128			2		20.1	9.7	5.5	69.0
Aug 20			308	25	0		0	441	182			0		20.8	10.8	5.5	68.0
Aug 21			173	9	0		0	366	143			2		19.2	8.2	6.0	68.0
Aug 22			130	25	0		0	418	187			5		19.9	9.4	6.0	68.0
Aug 23			474	87	0		0	579	213			5		19.5	9.5	6.0	68.0
Aug 24			495	95	0		0	924	355			1		21.7	6.6	6.0	68.0
Aug 25			270	60	0		1	397	174			2		21.7	6.7	6.0	68.0
Aug 26			280	58	0		0	334	134			2		22.5	9.3	6.0	68.0
Aug 27			396	88	0		0	289	128			1		22.5	10.0	6.0	69.0
Aug 28			480	132	0		0	335	147			5		22.3	10.0	6.0	69.0
Aug 29			600	181	1		0	332	125			0		19.9	7.4	6.0	69.0
Aug 30			1,048	272	1		0	529	155			4		19.6	7.2	6.0	69.5
Aug 31			791	226	0		0	413	145			1		19.5	7.2	6.0	69.5
<b>TOTAL</b>		734	6,681	1,655	2		6	12,809	5,264			58					
AVG.		56	371	53	0		0	413	170			2		23.3	10.9	5.4	68.9

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO	SOCKEYE	STEELHEAD	unclipped STEELHEAD	BULL TROUT	LAMPREY
TOTALS TO DATE								
SPRING	36,470	19,053	2	1,013	20,330	8,304	16	94
SUMMER	11,783	7,710						
FALL	6,681	1,481						
TOTAL	54,934	28,244						

TABLE 113

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

LOWER MONUMENTAL PROJECT - FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO		SOCKEYE	TOTAL unclipped		BULL		DISCH KCFS	SPILL KCFS	TURBIDITY SECCH	TEMP DEG F	
	SPRING	SUMMER	FALL		ADULT	JACK		STEELHEAD	STEELHEAD	PINK	STURGEON TROUT					LAMPREY
Sep 1			454	146	0	0	0	414	110			2	12.3	0.0	6.0	70.0
Sep 2			768	242	0	0	0	311	109			0	13.4	0.0	5.0	70.0
Sep 3			421	169	1	0	0	211	82			4	20.2	0.0	5.0	70.0
Sep 4			1,016	334	2	1	0	217	87			0	18.5	0.0	5.0	70.0
Sep 5			838	249	7	5	0	293	123			0	20.7	0.0	4.0	70.0
Sep 6			2,865	1,031	7	1	1	842	247			0	22.8	0.0	4.0	70.0
Sep 7			2,673	784	9	0	0	1,359	420			1	20.2	0.0	4.5	70.0
Sep 8			1,246	456	6	0	0	1,118	341			0	22.8	0.0	4.5	70.0
Sep 9			1,284	534	9	0	0	1,096	327			2	22.4	0.0	4.5	70.0
Sep 10			735	308	3	0	0	673	214			1	25.0	0.0	4.5	70.0
Sep 11			450	130	5	1	0	622	174			2	23.6	0.0	4.5	70.0
Sep 12			897	288	7	2	0	656	209			0	23.6	0.0	4.5	70.0
Sep 13			2,037	702	11	1	0	944	291			1	21.8	0.0	4.5	70.0
Sep 14			1,726	778	6	1	0	1,292	433			0	20.4	0.0	4.5	70.0
Sep 15			659	202	2	1	0	958	348			0	18.5	0.0	4.5	70.0
Sep 16			6,146	3,142	19	5	0	4,766	1,399			0	19.9	0.0	4.5	68.0
Sep 17			2,581	1,176	10	2	0	4,384	1,296			1	14.6	0.0	4.5	68.0
Sep 18			2,123	905	17	4	0	3,000	872			0	18.6	0.0	4.5	68.0
Sep 19			1,241	548	11	10	0	1,876	578			0	25.8	0.0	4.0	68.0
Sep 20			1,553	882	4	0	0	2,104	597			0	25.5	0.0	4.0	68.0
Sep 21			1,717	972	5	1	0	1,938	500			4	12.6	0.0	3.8	67.0
Sep 22			1,580	774	10	3	0	1,965	523			0	12.4	0.0	3.8	67.0
Sep 23			1,501	584	29	6	0	1,670	426			0	13.2	0.0	3.8	67.0
Sep 24			1,653	891	14	5	0	1,823	526			-1	16.8	0.0	3.8	67.0
Sep 25			1,229	675	17	5	0	1,694	476			0	17.5	0.0	4.0	67.0
Sep 26			744	386	6	1	0	1,415	411			0	18.1	0.0	4.0	66.0
Sep 27			964	542	27	6	0	1,988	492			-1	21.1	0.0	4.0	66.0
Sep 28			636	373	27	2	0	1,792	453			0	23.8	0.0	4.0	66.0
Sep 29			614	296	28	7	0	1,737	450			0	19.0	0.0	4.0	66.0
Sep 30			470	227	32	2	0	2,122	525			0	22.9	0.0	4.0	66.0
<b>TOTAL</b>			<b>42,821</b>	<b>18,726</b>	<b>331</b>	<b>72</b>	<b>1</b>	<b>45,280</b>	<b>13,039</b>			<b>16</b>				
<b>AVG.</b>			<b>1,427</b>	<b>624</b>	<b>11</b>	<b>2</b>	<b>0</b>	<b>1,509</b>	<b>435</b>			<b>1</b>	<b>19.6</b>	<b>0.0</b>	<b>4.3</b>	<b>68.5</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	36,470	19,053
SUMMER	11,783	7,710
FALL	49,502	20,207
<b>TOTAL</b>	<b>97,755</b>	<b>46,970</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
333	72	1,014	65,610	21,343

BULL TROUT	LAMPREY
16	110

TABLE 114

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

LOWER MONUMENTAL PROJECT - FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL		unclipped		BULL		DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	STURGEON	TROUT	LAMPREY	KCFS	KCFS	SECCH	DEG F
Oct 1			507	279	78	12		2,845	714				-2	29.6	0.0	4.0	65.0
Oct 2			438	198	63	8		2,374	524				0	35.9	0.0	4.0	64.0
Oct 3			354	222	54	11		2,756	667				0	29.5	0.0	4.0	63.0
Oct 4			240	230	52	17		2,344	651				0	28.3	0.0	4.0	63.0
Oct 5			217	187	87	14		2,391	728				0	31.2	0.0	4.0	63.0
Oct 6			201	170	124	34		3,598	1,161				0	21.5	0.0	4.0	62.0
Oct 7			154	147	143	13		2,372	790				0	27.0	0.0	4.0	62.0
Oct 8			225	174	256	49		4,450	1,384				0	26.7	0.0	4.0	62.0
Oct 9			103	81	130	13		2,305	691				0	26.4	0.0	4.0	62.0
Oct 10			126	143	145	27		2,054	612				0	27.9	0.0	4.0	62.0
Oct 11			108	92	119	8		1,675	531				0	26.1	0.0	4.0	61.0
Oct 12			83	84	54	5		1,051	322				0	25.1	0.0	4.0	61.0
Oct 13			104	107	76	5		1,406	452				0	22.0	0.0	4.0	61.0
Oct 14			83	67	42	2		1,364	461				0	28.0	0.0	4.0	61.0
Oct 15			83	60	30	5		1,142	384				0	19.1	0.0	4.0	61.0
Oct 16			80	66	35	9		883	287				0	27.0	0.0	4.0	61.0
Oct 17			100	79	24	3		729	246				0	21.2	0.0	4.0	61.0
Oct 18			76	52	18	4		540	192				0	13.7	0.0	4.0	60.0
Oct 19			64	43	16	0		541	166				0	20.2	0.0	4.0	60.0
Oct 20			70	48	10	2		494	176				0	23.0	0.0	4.0	59.0
Oct 21			45	51	6	0		419	142				0	22.0	0.0	4.0	58.0
Oct 22			86	39	15	4		491	170				0	17.8	0.0	4.0	57.0
Oct 23			46	31	14	0		353	113				0	17.8	0.0	4.0	56.5
Oct 24			40	27	8	0		349	116				0	15.8	0.0	4.0	56.0
Oct 25			48	35	12	0		456	175				0	15.6	0.0	4.0	56.0
Oct 26			34	20	16	2		352	124				0	18.7	0.0	4.0	56.0
Oct 27			29	17	14	1		313	120				0	14.0	0.0	4.0	56.0
Oct 28			32	13	3	0		212	90				0	16.7	0.0	4.5	55.0
Oct 29			38	22	13	0		329	136				0	19.8	0.0	4.5	55.0
Oct 30			38	22	7	0		247	88				0	16.7	0.0	4.5	55.0
Oct 31			27	11	8	0		204	72				0	16.9	0.0	4.5	55.0
<b>TOTAL</b>			<b>3,879</b>	<b>2,817</b>	<b>1,672</b>	<b>248</b>		<b>41,039</b>	<b>12,485</b>			<b>-2</b>					
<b>AVG.</b>			<b>125</b>	<b>91</b>	<b>54</b>	<b>8</b>		<b>1,324</b>	<b>403</b>			<b>0</b>		<b>22.6</b>	<b>0.0</b>	<b>4.1</b>	<b>59.7</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	36,470	19,053
SUMMER	11,783	7,710
FALL	53,381	23,024
TOTAL	101,634	49,787

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
TOTALS TO DATE				
	2,005	320	1,014	106,649
				33,828

BULL TROUT	LAMPREY
TOTALS TO DATE	
	16
	108

TABLE 115

DISCHARGE AND WATER QUALITY DATA  
LOWER MONUMENTAL PROJECT 2013

NOVEMBER					DECEMBER				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY		DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F				SECCHI	DEG F
Nov 1	15.5	0.0	4.5	54.0	Dec 1	13.4	0.0	5.0	45.0
Nov 2	16.9	0.0	4.5	54.0	Dec 2	25.7	0.0	5.0	45.0
Nov 3	18.5	0.0	4.5	54.0	Dec 3	33.8	0.0	5.0	44.0
Nov 4	20.1	0.0	4.5	53.0	Dec 4	30.8	0.0	5.0	44.0
Nov 5	23.9	0.0	4.5	53.0	Dec 5	28.8	0.0	5.0	44.0
Nov 6	19.0	0.0	4.5	53.0	Dec 6	24.0	0.0	5.0	43.0
Nov 7	17.7	0.0	4.5	52.0	Dec 7	19.2	0.0	5.0	43.0
Nov 8	14.2	0.0	4.5	51.5	Dec 8	22.5	0.0	5.0	42.0
Nov 9	21.6	0.0	4.5	51.5	Dec 9	21.6	0.0	5.0	41.0
Nov 10	19.6	0.0	4.5	51.5	Dec 10	21.1	0.0	5.0	40.0
Nov 11	21.3	0.0	4.5	51.5	Dec 11	17.7	0.0	5.0	40.0
Nov 12	21.2	0.0	4.5	51.0	Dec 12	19.5	0.0	5.0	40.0
Nov 13	22.5	0.0	4.5	51.0	Dec 13	15.5	0.0	5.0	39.5
Nov 14	21.2	0.0	4.5	51.0	Dec 14	14.4	0.0	5.0	39.5
Nov 15	20.4	0.0	5.0	50.0	Dec 15	19.7	0.0	5.0	39.5
Nov 16	16.9	0.0	5.0	50.0	Dec 16	21.9	0.0	5.0	39.0
Nov 17	17.0	0.0	5.0	50.0	Dec 17	20.2	0.0	6.0	39.0
Nov 18	19.5	0.0	5.0	49.0	Dec 18	23.9	0.0	6.0	40.0
Nov 19	20.8	0.0	5.0	49.0	Dec 19	18.7	0.0	6.0	39.0
Nov 20	23.2	0.0	5.0	49.0	Dec 20	22.3	0.0	6.0	39.0
Nov 21	23.0	0.0	5.0	49.0	Dec 21	18.1	0.0	6.0	39.0
Nov 22	19.3	0.0	5.0	48.0	Dec 22	17.7	0.0	6.5	38.0
Nov 23	19.2	0.0	5.0	48.0	Dec 23	19.0	0.0	7.0	38.0
Nov 24	15.6	0.0	5.0	47.0	Dec 24	20.1	0.0	7.0	38.0
Nov 25	16.9	0.0	5.0	47.0	Dec 25	20.4	0.0	7.0	38.0
Nov 26	15.8	0.0	5.0	46.5	Dec 26	20.3	0.0	7.0	37.0
Nov 27	14.8	0.0	5.0	46.5	Dec 27	20.3	0.0	7.0	37.0
Nov 28	19.4	0.0	5.0	46.0	Dec 28	19.0	0.0	7.0	37.0
Nov 29	22.6	0.0	5.0	46.0	Dec 29	20.1	0.0	7.0	37.0
Nov 30	15.7	0.0	5.0	46.0	Dec 30	23.0	0.0	10.0	37.0
					Dec 31	17.2	0.0	10.0	36.5
AVG.	19.1	0.0	4.8	50.0	AVG.	21.0	0.0	6.0	39.9

**TABLE 116**  
**YEARLY TOTALS OF SALMONIDS COUNTED OVER**  
**LOWER MONUMENTAL DAM**  
**1969 - 2013**

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	44,907	0	1	73,123
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	225,667	285,745	32	1,210	512,654
2002	124,897	232,809	46	158	357,910
2003	123,158	187,338	14	1,106	311,616
2004	114,030	158,792	80	3,665	276,567
2005	52,281	153,792	18	2,095	208,186
2006	54,482	135,566	17	1,181	191,246
2007	73,333	154,104	44	2,231	229,712
2008	123,018	186,058	722	4,513	314,311
2009	183,451	317,275	1,162	5,617	507,505
2010	200,817	213,811	1,652	2,003	418,283
2011	178,281	187,272	1,395	4,829	371,777
2012	144,661	101,523	486	2,501	249,171
2013	151,421	106,649	1,014	2,325	261,409
<b>Total</b>	<b>2,948,623</b>	<b>4,599,130</b>	<b>11,572</b>	<b>50,692</b>	<b>7,610,017</b>
<b>10-Year Average</b>	<b>127,578</b>	<b>171,484</b>	<b>659</b>	<b>3,096</b>	<b>302,817</b>

\*Jacks included

Includes 2001 extended season counts for November and December 0600-1600 PST.

Includes 2002 extended season counts for February and March 0800-1600 PST and November and December 0600-1600 PST.

Includes 2003 and 2004 extended season counts for January, February, and March 0800-1600 PST and November and December 0600-1600 PST.

TABLE 117  
MONTHLY COUNT OF CHINOOK SALMON  
LOWER MONUMENTAL DAM  
1969-2013

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	334	11	225,667
2002	1		7	3,881	60,767	31,795	6,496	2,367	15,707	3,660	214	2	124,897
2003			50	33,435	31,906	28,381	6,247	951	15,255	6,642	288	3	123,158
2004			1	29,462	36,732	18,114	3,721	566	21,620	3,670	145	-1	114,030
2005				1,174	18,726	13,028	2,942	948	12,215	3,248			52,281
2006				10	17,659	12,916	3,541	1,816	12,534	6,006			54,482
2007				2,143	27,277	13,221	5,238	1,804	17,407	6,243			73,333
2008				2,468	43,772	37,105	7,801	3,334	24,325	4,213			123,018
2009				483	64,754	45,527	10,839	7,310	49,587	4,951			183,451
2010				23,522	70,028	39,285	9,253	2,937	44,326	11,466			200,817
2011				193	71,045	44,773	15,764	4,502	34,401	7,603			178,281
2012				203	59,645	23,507	4,218	4,103	47,126	5,859			144,661
2013				1,102	45,917	19,984	7,105	9,070	61,547	6,696			151,421
Total	2	0	60	364,316	1,141,417	605,349	206,509	57,915	457,258	113,287	1,487	23	2,947,623
10-Year Average				6,076	45,556	26,746	7,042	3,639	32,509	5,996			127,578

\*Jacks included

Includes 2001 extended season counts for November and December 0600-1600 PST.

Includes 2002 extended season counts for February and March 0800-1600 PST and November and December 0600-1600 PST.

Includes 2003 and 2004 extended season counts for January, February, and March 0800-1600 PST and November and December 0600-1600 PST.

TABLE 118  
MONTHLY COUNT OF STEELHEAD  
LOWER MONUMENTAL DAM  
1969 - 2013

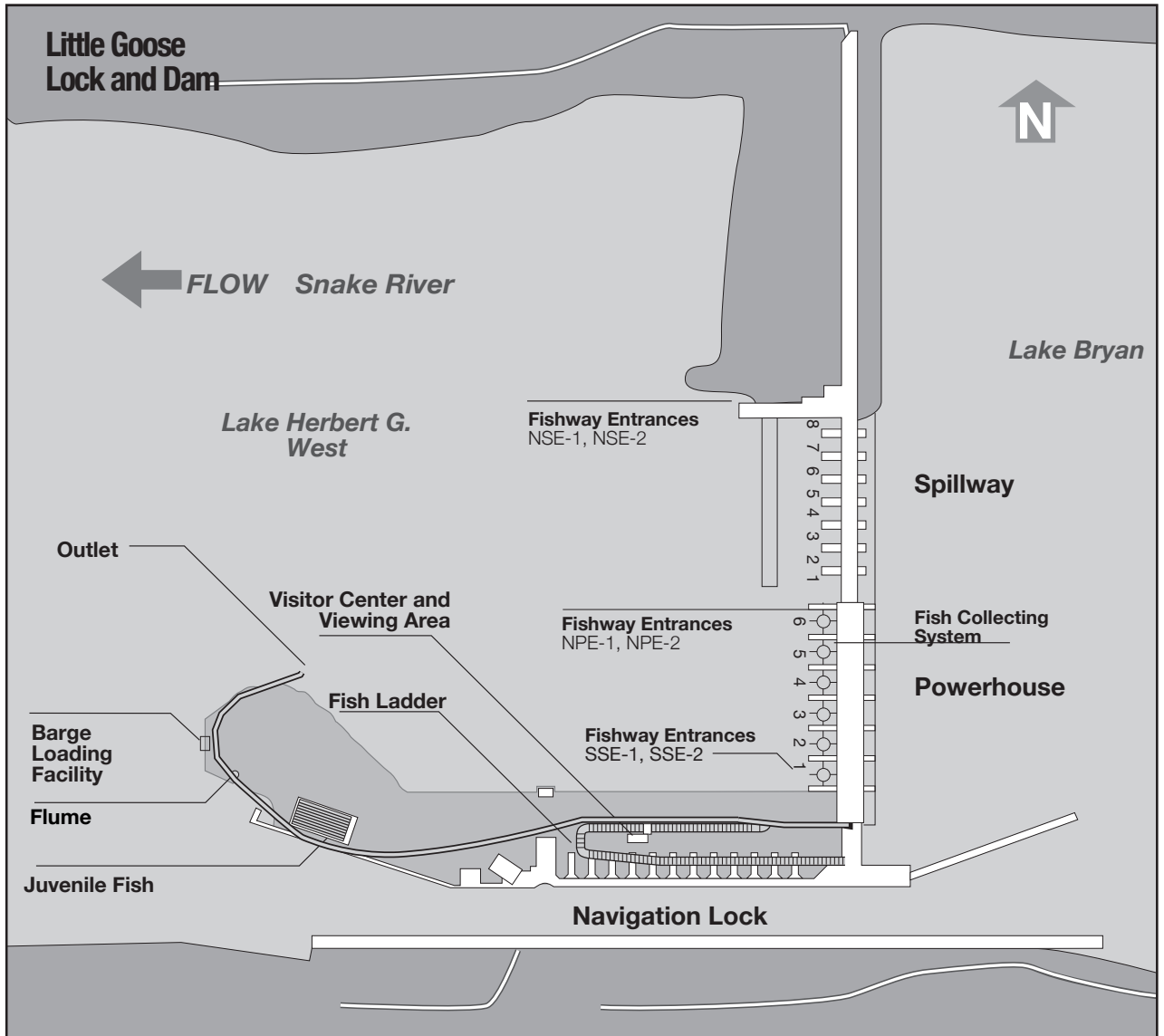
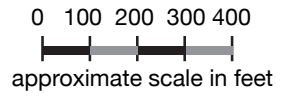
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
1969		5	1,525	9,235	5,475	248	2,141	6,410	26,647	15,195	4,189	366	71,436
1970	252	1,025	1,519	3,143	2,134	232	1,989	7,947	30,701	11,194	1,615	416	62,167
1971			422	2,404	1,510	131	2,199	2,992	42,438	18,018			70,114
1972				2,182	744	86	2,336	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	23,900	8,922	285,745
2002	3,687	1,858	3,429	4,876	196	688	10,901	25,998	94,310	75,670	9,028	2,168	232,809
2003	775	3,686	5,325	1,872	45	850	7,704	8,122	93,190	60,813	3,945	1,011	187,338
2004	115	1,036	2,619	1,473	127	1,052	6,477	4,020	90,900	45,380	4,101	1,492	158,792
2005				783	181	1,062	5,193	7,445	70,701	68,427			153,792
2006				2,756	98	454	3,392	7,778	63,849	57,239			135,566
2007				2,174	143	914	5,735	8,657	77,612	58,869			154,104
2008				3,520	510	552	12,664	21,947	97,562	49,303			186,058
2009				4,294	426	1,358	12,112	23,920	167,680	107,485			317,275
2010				3,621	489	1,377	19,765	25,351	109,728	53,480			213,811
2011				3,331	548	196	7,342	45,999	82,453	47,403			187,272
2012				3,189	421	518	2,960	4,550	55,979	33,906			101,523
2013				2,310	196	539	4,476	12,809	45,280	41,039			106,649
<b>Total</b>	<b>4,829</b>	<b>7,610</b>	<b>14,839</b>	<b>109,249</b>	<b>21,583</b>	<b>17,540</b>	<b>201,465</b>	<b>409,714</b>	<b>2,146,436</b>	<b>1,602,251</b>	<b>49,239</b>	<b>14,375</b>	<b>4,599,130</b>
<b>10-Year Average</b>				<b>2,745</b>	<b>314</b>	<b>802</b>	<b>8,012</b>	<b>16,248</b>	<b>86,174</b>	<b>56,253</b>			<b>171,484</b>

Includes 2001 extended season counts for November and December 0600-1600 PST.

Includes 2002, '03, and '04 extended season counts for January through March 0800-1600 PST and November and December 0600-1600 PST.



# Plate 8 Little Goose Lock and Dam



## LITTLE GOOSE DAM

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### FISH COUNTING SCHEDULE

1 January – 31 March	No counting
1 April – 31 October	Visual counting daily from 0400-2000 hours PST
1 November – 31 December	No counting

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### FISH LADDER OPERATING SCHEDULE

1 January – 2 January	Ladder in service
7 January – 28 February	Ladder dewatered for annual maintenance
1 March – 31 December	Ladder in service

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### FISHWAY ACTIVITIES

Adult fishways were inspected for proper operating criteria on average three times per week during fish passage season

As in previous years water temperature at the ladder exit was recorded on an hourly basis in an ongoing trend study in support of safe fish passage.

Invasive species were monitored for with particular attention to Zebra Mussels and Quagga Mussels. Reports were submitted weekly to district.

NSE 1 and NSE 2 operators failed in 2010. These weirs were again positioned at a fixed elevation at approximately 632.0 feet to maintain best adult fish passage conditions throughout the year. New operators are scheduled for installation in January – February 2014.

Auxiliary fish pump 3 failed on September 25, 2012 due to a worn out gearing system. In 2013 the fishway collection channel was operated with two pumps at increased RPMs and with north powerhouse entrance closed until August 19, when pump 3 was returned to service.

Collection channel subsurface water velocities were measured monthly using a hydrologic current meter. Measurements were taken just below the surface, at mid depth and just above bottom and averaged. The subsurface average velocities ranged between 2.8 and 3.1 feet per second (fps) with two pumps operating (~78 RPMs) and NPE2 raised and closed. The velocities ranged between 2.7 and 4.0 fps with three pumps (~73 RPMs) and NPE2 open.

Collection channel surface water velocities were measured using a floating stick or bubble that was timed over a distance and calculated into feet per second. Measurements ranged 0.7 and 2.6 fps near the SSE, 1.4 and 3.0 fps near the NPEs and 1.8 and 3.0 near the NSEs.

Water clarity was measured during all adult fish passage facility inspections. Measurements were taken in the adult fish ladder using a Secchi disk that could be lowered to a maximum depth of just over 6 feet. The fish ladder water supply is gravity fed from the forebay and is representative of river conditions. Secchi disk measurements ranged from 2.8 feet to over 6.0 feet.

A new fall out fence was installed in the adult fish collection channel near the NPE entrances. The fence helps to keep fish in the collection channel from falling out back to the tailrace.

Adult lamprey passage orifices were installed on the south side of the 10 vertical slot weirs. These weirs are the top 10 weirs beginning downstream from the ladder exit and numbered 628 - 637. Evaluation of the orifices were conducted by University of California, Davis using video monitoring to assess lamprey behavior and passage through the orifices and whether the lamprey orifices delayed salmon from passing through the traditional orifices.

Normandeau Associates Inc. conducted fish counting activities and monitored for and reported bull trout migration past the adult fish ladder. Sightings are reported annually to U.S. Fish and Wildlife Services.

University of Idaho performed adult salmon, steelhead and lamprey passage studies using radio-telemetry to estimate passage and survival conversion rates.

TABLE 119

MONTHLY TOTALS OF SALMONIDS, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER LITTLE GOOSE DAM  
2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				611	43,290	19,104	8,331	7,440	60,363	10,303			149,442
STEELHEAD				2,024	184	180	1,773	6,888	41,043	43,779			95,871
SOCKEYE						91	870	28	3	4			996
COHO								1	461	1,674			2,136
PINK													0
<b>TOTAL</b>				<b>2,635</b>	<b>43,474</b>	<b>19,375</b>	<b>10,974</b>	<b>14,357</b>	<b>101,870</b>	<b>55,760</b>			<b>248,445</b>
LAMPREY				1	1	1	10	15	5	0			33
STURGEON													0
BULL TROUT				0	16	28	1	0	0	1			46

\*Jacks included

TABLE 120  
DISCHARGE AND WATER QUALITY DATA  
LITTLE GOOSE PROJECT 2013

JANUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
Jan 1	17.3	0.0		
Jan 2	28.0	0.0		
Jan 3	26.1	0.0		
Jan 4	20.8	0.0		
Jan 5	21.8	0.0		
Jan 6	13.8	0.0		
Jan 7	19.6	0.0		
Jan 8	27.8	0.0		
Jan 9	25.5	0.0		
Jan 10	22.2	0.0		
Jan 11	29.9	0.0		
Jan 12	28.2	0.0		
Jan 13	20.0	0.0		
Jan 14	28.2	0.0		
Jan 15	28.5	0.0		
Jan 16	24.6	0.0		
Jan 17	23.8	0.0		
Jan 18	25.0	0.0		
Jan 19	19.4	0.0		
Jan 20	12.8	0.0		
Jan 21	23.1	0.0		
Jan 22	22.8	0.0		
Jan 23	21.1	0.0		
Jan 24	19.9	0.0		
Jan 25	13.4	0.0		
Jan 26	22.1	0.0		
Jan 27	19.4	0.0		36.8
Jan 28	27.3	0.0		36.8
Jan 29	21.8	0.0		36.9
Jan 30	24.3	0.0		36.9
Jan 31	25.3	0.0		37.0

AVG.    

22.7	0.0
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36.9
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FEBRUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
Feb 1	26.4	0.0		37.2
Feb 2	27.1	0.0		37.4
Feb 3	24.6	0.0		37.5
Feb 4	27.4	0.0		37.6
Feb 5	29.1	0.0		37.7
Feb 6	27.6	0.0		37.6
Feb 7	26.1	0.0		37.7
Feb 8	28.3	0.0		37.6
Feb 9	30.4	0.0		37.6
Feb 10	22.1	0.0		37.8
Feb 11	30.0	0.0		37.9
Feb 12	24.9	0.0		37.9
Feb 13	29.7	0.0		38.1
Feb 14	24.3	0.0		38.3
Feb 15	27.7	0.0		38.5
Feb 16	29.7	0.0		38.8
Feb 17	25.1	0.0		38.9
Feb 18	23.5	0.0		38.9
Feb 19	29.8	0.0		38.8
Feb 20	27.6	0.0		38.8
Feb 21	22.7	0.0		39.1
Feb 22	25.9	0.0		38.9
Feb 23	21.7	0.0		38.9
Feb 24	21.9	0.0		38.9
Feb 25	26.9	0.0		38.8
Feb 26	25.4	0.0		38.7
Feb 27	25.4	0.0		38.8
Feb 28	18.2	0.0		38.8

AVG.    

26.1	0.0
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38.3
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MARCH				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
Mar 1	24.6	0.0	6.0+	38.9
Mar 2	25.7	0.0		39.3
Mar 3	28.0	0.0		39.6
Mar 4	36.2	0.0		39.7
Mar 5	33.4	0.0	5.9	40.1
Mar 6	31.7	0.0		40.3
Mar 7	24.1	0.0	5.5	40.3
Mar 8	31.0	0.0		40.5
Mar 9	27.0	0.0	5.1	40.2
Mar 10	21.7	0.0		40.7
Mar 11	28.1	0.0	4.8	40.6
Mar 12	26.1	0.0	4.9	40.7
Mar 13	30.0	0.0		40.9
Mar 14	33.7	0.0	4.6	41.3
Mar 15	33.3	0.0		41.6
Mar 16	34.7	0.0		42.0
Mar 17	36.1	0.0		42.3
Mar 18	39.6	0.0	4.0	42.3
Mar 19	40.2	0.0	4.4	42.3
Mar 20	33.9	0.0		42.6
Mar 21	30.4	0.0	4.6	42.6
Mar 22	37.7	0.0		42.5
Mar 23	35.4	0.0		42.6
Mar 24	32.1	0.0	4.3	43.2
Mar 25	30.9	0.0		43.3
Mar 26	30.9	0.0	4.4	45.9
Mar 27	23.8	0.8		45.2
Mar 28	25.9	0.0	4.8	46.3
Mar 29	35.8	0.0	4.8	46.0
Mar 30	36.1	0.0		
Mar 31	46.1	0.0	5	

AVG.    

31.7	0.0
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4.8
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41.9
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\*Water temps from water quality sensor located in the tailrace

TABLE 121

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

LITTLE GOOSE PROJECT - FISH COUNTS											APRIL 2013					
DATE	CHINOOK ADULT			CHINOOK JACK	COHO		SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL		ADULT	JACK									SECCHI	DEG F
Apr 1	2			0				84	50			0	50.8	0.0		46.2
Apr 2	2			0				97	48			0	54.6	0.0	3.8	45.8
Apr 3	0			1				35	18			0	55.9	16.9		45.4
Apr 4	1			0				78	32			0	58.2	17.4		46.1
Apr 5	1			0				142	54			0	63.6	19.1	4.4	46.7
Apr 6	2			0				115	48			0	74.0	22.2		47.3
Apr 7	2			0				131	71			0	72.9	22.0	3.9	48.7
Apr 8	2			0				122	70			0	77.0	25.8		48.9
Apr 9	2			0				117	64			0	70.4	23.9	3.0	49.0
Apr 10	1			0				111	65			0	59.0	17.7		50.0
Apr 11	6			0				121	74			0	62.3	18.8		48.8
Apr 12	6			0				89	41			0	59.9	17.9	3.2	48.5
Apr 13	2			0				136	83			0	56.9	17.0	3.8	48.6
Apr 14	2			0				79	49			0	61.7	18.6		47.8
Apr 15	10			1				54	25			0	55.9	16.7		
Apr 16	12			0				78	38			0	50.3	15.0	3.8	47.4
Apr 17	8			0				55	25			0	53.3	16.0		
Apr 18	13			0				35	17			1	44.2	13.2	3.8	
Apr 19	7			0				54	37			0	47.0	14.1	3.6	
Apr 20	14			1				41	31			0	48.8	14.6		
Apr 21	20			1				31	23			0	53.7	16.1	3.8	
Apr 22	12			1				19	12			0	58.2	17.5		
Apr 23	17			1				25	17			0	48.5	14.5		
Apr 24	23			1				28	14			0	46.1	13.9	3.3	
Apr 25	25			4				23	13			0	44.9	13.5		49.2
Apr 26	8			1				11	1			0	48.1	14.4	3.9	48.3
Apr 27	42			1				24	12			0	52.4	15.8	4.7	
Apr 28	48			0				28	14			0	51.6	15.5		
Apr 29	88			4				35	11			0	62.6	18.8		
Apr 30	192			24				26	18			0	63.7	19.2	3.6	49.7
<b>TOTAL</b>	<b>570</b>			<b>41</b>				<b>2,024</b>	<b>1,075</b>			<b>1</b>				
AVG.	19			1				67	36			0	56.9	16.2	3.8	47.9

\*April 2-Oct 31 water temps collected from juvenile fish collection channel.

TABLE 122

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

LITTLE GOOSE PROJECT - FISH COUNTS

MAY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	BULL		DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL								TROUT	LAMPREY			SECCHI	DEG F
May 1	188			19				12	7		0	0	61.7	18.5		49.7
May 2	318			50				22	12		0	0	59.3	17.8		
May 3	493			34				13	5		0	0	51.8	15.5	5.0	
May 4	658			25				24	14		0	0	57.2	17.2		
May 5	989			73				9	7		0	0	53.1	16.0		
May 6	1,328			126				12	7		0	0	62.4	18.9	4.0	53.7
May 7	1,938			155				13	8		0	1	68.5	20.6	4.0	54.2
May 8	1,514			162				9	5		0	-1	75.6	22.6		55.7
May 9	1,037			160				8	2		0	0	91.3	27.6		56.3
May 10	1,554			506				2	1		1	0	94.7	30.7	3.8	54.6
May 11	2,138			881				6	5		0	0	101.9	31.4		56.0
May 12	928			568				6	7		1	0	109.8	35.5		55.0
May 13	1,262			601				5	5		0	1	120.3	39.7	4.4	55.5
May 14	2,348			1,195				6	2		1	0	130.1	42.4	3.2	54.7
May 15	1,426			1,097				6	5		2	0	127.8	38.9		54.7
May 16	1,354			1,259				3	2		3	0	109.9	32.9		54.0
May 17	851			972				5	4		0	0	98.1	29.4	3.3	54.1
May 18	781			881				2	2		0	0	94.7	31.0		53.1
May 19	870			870				3	1		3	0	85.1	27.6	2.8	52.7
May 20	761			749				1	1		1	0	82.2	24.8		53.4
May 21	469			529				0	0		1	1	74.4	22.4	2.8	53.9
May 22	410			553				0	0		0	0	76.8	23.2		53.0
May 23	628			648				1	1		3	0	74.2	22.3	3.0	53.1
May 24	248			335				5	4		0	0	69.1	20.8	3.4	52.7
May 25	356			520				2	1		-1	0	68.7	25.3		52.4
May 26	438			473				2	0		0	0	63.1	18.9		53.6
May 27	479			410				2	0		0	0	55.3	16.6		54.4
May 28	464			487				1	1		0	0	65.0	19.5	3.6	54.3
May 29	384			344				2	0		0	0	63.4	19.1	4.5	54.3
May 30	583			396				1	1		1	0	69.2	20.7		54.2
May 31	599			418				1	1		0	-1	73.9	22.2	4.5	54.0
<b>TOTAL</b>	<b>27,794</b>			<b>15,496</b>				<b>184</b>	<b>111</b>		<b>16</b>	<b>1</b>				
<b>AVG.</b>	<b>897</b>			<b>500</b>				<b>6</b>	<b>4</b>		<b>1</b>	<b>0</b>	<b>80.3</b>	<b>24.8</b>	<b>3.7</b>	<b>54.0</b>
<b>RUN YEAR</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>					<b>STEELHEAD</b>	<b>unclipped STEELHEAD</b>		<b>BULL TROUT</b>	<b>LAMPREY</b>				
<b>TOTALS TO DATE</b>	<b>SPRING</b>	<b>28,364</b>	<b>15,537</b>					<b>2,208</b>	<b>1,186</b>		<b>16</b>	<b>2</b>				

TABLE 123

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

LITTLE GOOSE PROJECT - FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	BULL		DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TEMP DEG F
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD		TROUT	LAMPREY				
Jun 1	342			324			0	3	-1		1	0	67.6	20.3		54.7
Jun 2	329			280			0	0	0		1	0	61.6	18.4		56.2
Jun 3	898			404			0	2	0		2	0	57.7	17.3		55.7
Jun 4	413			221			0	1	0		0	0	62.6	18.8	5.2	58.0
Jun 5	376			180			1	2	1		0	0	63.1	18.9	5.1	59.0
Jun 6	294			188			0	0	0		1	0	61.2	18.3	6.0	60.1
Jun 7	419			181			1	2	0		0	1	67.4	20.3		62.9
Jun 8	486			209			0	4	0		1	0	74.2	22.4		58.8
Jun 9	414			194			0	1	0		0	0	73.0	21.9	5.5	60.0
Jun 10	282			167			0	0	0		0	0	71.2	21.4		61.0
Jun 11	322			254			0	4	0		1	0	68.1	20.4	5.3	62.0
Jun 12	424			302			0	5	1		1	0	62.2	18.4		60.6
Jun 13	443			299			0	8	0		3	-1	57.6	17.2	5.0	61.3
Jun 14	510			299			0	7	1		1	0	55.4	16.6		61.1
Jun 15	756			404			1	1	0		1	0	51.5	15.4		61.7
Jun 16		488		280			5	4	0		1	0	43.3	13.0		62.1
Jun 17		400		300			0	12	1		1	0	45.4	13.6	5.4	64.4
Jun 18		298		210			4	5	1		2	0	46.7	14.1	5.8	63.8
Jun 19		132		138			1	5	0		2	0	46.4	13.9		62.3
Jun 20		196		160			0	6	2		1	0	50.4	15.1	4.0	61.7
Jun 21		233		277			1	7	1		1	0	59.1	17.7	6.0	61.3
Jun 22		619		564			2	8	4		1	0	43.1	12.9		61.2
Jun 23		329		311			8	5	4		1	0	42.3	12.7		61.6
Jun 24		118		130			8	11	1		1	1	40.8	12.2		64.1
Jun 25		154		253			4	11	5		0	0	42.4	12.7	6.0	63.1
Jun 26		242		311			8	4	0		0	1	46.4	14.0		63.6
Jun 27		618		469			5	19	2		3	0	43.8	13.1	6.0	63.9
Jun 28		409		329			22	17	4		0	0	44.9	13.4		64.6
Jun 29		132		112			16	8	4		0	0	47.5	15.0		70.0
Jun 30		169		109			4	18	2		1	-1	48.2	14.5	6+	71.6
<b>TOTAL</b>	<b>6,708</b>	<b>4,537</b>		<b>7,859</b>			<b>91</b>	<b>180</b>	<b>33</b>		<b>28</b>	<b>1</b>				

AVG.	447	302		262			3	6	1		1	0	54.8	16.5	5.4	61.7
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	35,072	19,443
SUMMER	4,537	3,953
<b>TOTALS</b>	<b>39,609</b>	<b>23,396</b>

SOCKEYE	STEELHEAD	unclipped STEELHEAD
91	2,388	1,219

BULL TROUT	LAMPREY
44	3



TABLE 124

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

LITTLE GOOSE PROJECT - FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	BULL		DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TEMP DEG F
	SPRING	SUMMER					FALL	STEELHEAD		unclipped STEELHEAD	TROUT				
Jul 1		179		120		13	13	-1		0	0	46.2	13.8		74.2
Jul 2		376		269		24	15	4		0	0	53.1	18.1	6.0	74.4
Jul 3		331		370		23	31	7		1	0	44.6	17.0		69.7
Jul 4		384		364		40	32	7		0	1	42.4	12.7	5.7	66.7
Jul 5		253		197		50	27	7		0	0	40.6	12.9		66.7
Jul 6		288		182		49	34	8		0	0	36.3	10.9	5.5	67.6
Jul 7		106		108		36	18	0		0	0	36.8	11.0		69.9
Jul 8		211		120		56	37	14		0	0	36.8	11.0		71.7
Jul 9		252		216		54	28	8		0	2	38.3	11.5	6.0	68.8
Jul 10		294		160		41	47	24		0	1	34.8	10.4		74.7
Jul 11		298		221		78	51	22		0	1	35.3	10.6	6.0	71.4
Jul 12		234		178		58	31	8		0	0	30.3	9.1		69.5
Jul 13		158		124		73	54	23		0	1	35.9	10.7		69.7
Jul 14		148		110		56	54	29		0	0	24.1	7.2	6+	70.4
Jul 15		100		79		41	38	16		0	0	35.8	10.7		70.1
Jul 16		94		103		23	27	14		0	1	32.2	9.7	6+	70.5
Jul 17		100		78		30	80	38		0	0	31.5	9.5		72.2
Jul 18		94		103		24	56	24		0	0	30.3	8.8	6+	69.7
Jul 19		65		50		23	48	31		0	0	28.9	9.1		71.8
Jul 20		112		52		14	55	26		0	0	31.5	9.1		72.9
Jul 21		148		65		17	60	34		0	0	28.1	9.0	6+	72.5
Jul 22		83		34		7	64	29		0	0	28.0	9.0		70.2
Jul 23		48		38		6	82	52		0	1	26.8	9.1		68.8
Jul 24		55		30		6	89	49		0	2	28.5	9.1	6+	71.8
Jul 25		72		23		2	93	43		0	0	29.6	9.1	6+	74.5
Jul 26		61		20		1	59	37		0	0	26.4	9.0		73.6
Jul 27		65		36		13	87	49		0	-1	23.9	9.1		73.7
Jul 28		76		25		1	126	67		0	0	26.5	9.1	6+	69.7
Jul 29		44		28		5	124	71		0	0	24.1	9.1		69.0
Jul 30		41		11		1	120	61		0	0	25.6	9.0	6+	72.1
Jul 31		41		6		5	93	52		0	1	25.1	9.1		72.5
<b>TOTAL</b>		<b>4,811</b>		<b>3,520</b>		<b>870</b>	<b>1,773</b>	<b>853</b>		<b>1</b>	<b>10</b>				
<b>AVG.</b>		<b>155</b>		<b>114</b>		<b>28</b>	<b>57</b>	<b>28</b>		<b>0</b>	<b>0</b>	<b>32.8</b>	<b>10.4</b>	<b>5.8</b>	<b>71.0</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	35,072	19,443
SUMMER	9,348	7,473
<b>TOTAL</b>	<b>44,420</b>	<b>26,916</b>

SOCKEYE	STEELHEAD	unclipped STEELHEAD	BULL TROUT	LAMPREY
961	4,161	2,072	45	13

TABLE 125

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

LITTLE GOOSE PROJECT - FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	BULL	LAMPREY	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		SOCKEYE		STEELHEAD					
Aug 1		10		10	0		4	42	23		0	25.4	9.2	6+	71.6
Aug 2		25		10	0		0	109	54		0	27.9	8.5		70.9
Aug 3		31		14	0		2	160	84		0	28.1	7.4	6+	68.6
Aug 4		55		14	0		0	183	94		2	25.8	7.5		72.4
Aug 5		56		12	0		2	180	92		0	27.8	7.5		71.3
Aug 6		34		6	0		2	195	89		1	26.4	7.4	6+	71.3
Aug 7		28		5	0		2	162	88		0	25.1	7.4		71.9
Aug 8		46		18	0		1	187	104		0	25.2	7.4		72.8
Aug 9		66		1	0		1	210	112		1	25.3	7.5		73.4
Aug 10		70		13	0		5	239	124		0	25.0	7.5		73.3
Aug 11		78		11	0		2	198	103		2	22.5	7.5	6+	69.9
Aug 12		62		5	0		0	211	108		0	24.2	7.5		68.7
Aug 13		61		13	0		1	192	101		1	24.9	7.5	6.0	71.4
Aug 14		94		16	0		5	206	104		0	22.6	7.4		71.7
Aug 15		56		11	0		0	182	88		-1	23.1	7.5	6.0	71.5
Aug 16			109	11	0		0	136	74		0	22.3	7.5		70.9
Aug 17			125	24	1		0	172	83		1	24.2	7.5	6.0	72.0
Aug 18			286	48	0		1	249	131		2	20.4	7.5		70.7
Aug 19			254	36	0		0	251	120		0	21.6	7.5	6+	70.4
Aug 20			217	19	0		0	300	133		0	21.0	6.1	6+	70.1
Aug 21			259	25	0		0	239	120		2	18.9	5.6	5.7	71.0
Aug 22			131	16	0		0	165	71		0	20.3	8.1		72.3
Aug 23			184	76	0		0	314	126		0	19.8	7.5		73.1
Aug 24			425	70	0		0	268	140		0	19.8	7.5		69.7
Aug 25			350	82	0		0	283	139		0	20.9	8.7	5.0	71.7
Aug 26			433	85	0		0	317	131		0	21.6	9.4		71.3
Aug 27			356	52	0		0	331	137		0	21.9	8.3	6+	72.1
Aug 28			304	68	0		0	372	146		2	21.6	7.5		73.8
Aug 29			408	109	0		0	208	82		1	21.0	7.5	6+	72.2
Aug 30			797	157	0		0	314	146		1	20.1	7.5		70.8
Aug 31			778	215	0		0	313	127		0	20.6	7.5	6+	69.1
<b>TOTAL</b>		<b>772</b>	<b>5,416</b>	<b>1,252</b>	<b>1</b>		<b>28</b>	<b>6,888</b>	<b>3,274</b>		<b>15</b>				

AVG.	51	339	40	0		1	222	106		0	23.1	7.6	5.7	71.4
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO	SOCKEYE	STEELHEAD	unclipped STEELHEAD	BULL TROUT	LAMPREY
TOTALS TO DATE								
SPRING	35,072	19,443	1	989	11,049	5,346	45	28
SUMMER	10,120	7,632						
FALL	5,416	1,093						
TOTALS	50,608	28,168						

TABLE 126

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

LITTLE GOOSE PROJECT - FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	BULL	DISCH	SPILL	TURBIDITY	DEG F	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	STEELHEAD	STEELHEAD	PINK					TROUT
Sep 1			572	154	2	0	284	114		-1	12.8	0.0		70.3
Sep 2			662	119	0	0	193	78		-1	17.1	0.0		72.4
Sep 3			420	170	0	0	136	62		0	19.6	0.0	6.0	71.3
Sep 4			608	229	0	0	187	68		1	17.3	0.0		72.1
Sep 5			412	190	0	1	158	61		2	20.4	0.0	5.4	72.5
Sep 6			1,393	372	4	0	375	116		1	20.8	0.0		71.8
Sep 7			1,739	359	12	2	292	112		0	19.2	0.0	4.3	68.4
Sep 8			3,169	868	24	2	732	258		0	21.6	0.0		70.9
Sep 9			1,205	415	10	4	462	158		1	23.2	8.0		70.1
Sep 10			1,726	509	14	1	717	229		1	20.7	0.0	4.8	70.8
Sep 11			864	544	7	4	732	212		2	22.5	0.4		72.3
Sep 12			595	409	7	5	638	196		0	20.5	0.6	6+	72.4
Sep 13			694	380	0	4	555	160		2	19.4	0.6		72.2
Sep 14			1,356	673	10	2	701	214		0	17.5	0.0		71.5
Sep 15			1,559	623	5	2	519	163		0	17.3	0.0	6.0	72.4
Sep 16			1,436	552	4	6	917	292		1	19.8	0.0		72.1
Sep 17			4,975	1,529	24	11	2,908	892		0	14.4	0.0	5.0	69.1
Sep 18			3,450	1,404	8	2	5,939	1,679		-4	15.6	0.0		68.8
Sep 19			1,824	775	11	6	3,276	803		0	23.3	0.0	6+	68.4
Sep 20			1,657	643	26	14	2,626	708		0	20.2	0.0		68.6
Sep 21			1,132	508	10	8	1,324	386		0	12.6	0.0		68.4
Sep 22			2,234	936	19	6	2,523	725		-1	12.4	0.0		67.8
Sep 23			1,867	782	22	8	2,265	613		0	15.6	0.0	5.3	67.5
Sep 24			1,642	632	18	4	1,767	490		-1	16.2	0.0		67.0
Sep 25			1,952	815	7	7	2,122	563		0	15.4	0.0	6+	66.7
Sep 26			1,345	662	8	7	1,502	396		2	16.9	0.0	5.0	66.3
Sep 27			882	335	18	6	1,775	426		0	18.6	0.0		65.8
Sep 28			835	406	17	4	1,356	344		-1	23.6	0.0		65.4
Sep 29			656	275	13	6	1,589	379		0	17.0	0.0	4.6	65.0
Sep 30			810	424	31	8	2,473	626		1	21.2	0.0		64.7
<b>TOTAL</b>			<b>43,671</b>	<b>16,692</b>	<b>331</b>	<b>130</b>	<b>41,043</b>	<b>11,523</b>		<b>5</b>				

AVG.	1,456	556	11	4	0	1,368	384	0	18.4	0.3	5.2	69.4
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	35,072	19,443
SUMMER	10,120	7,632
FALL	49,087	17,785
<b>TOTALS</b>	<b>94,279</b>	<b>44,860</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
332	130	992	52,092	16,869

BULL TROUT	LAMPREY
45	33

TABLE 127

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

LITTLE GOOSE PROJECT - FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
	SPRING	SUMMER	FALL													
Oct 1			649	374	28	8	0	2,318	536		0	-1	29.2	0.0	5.6	64.2
Oct 2			611	308	25	7	0	2,904	744		0	0	33.8	0.0		63.8
Oct 3			479	234	29	10	0	2,009	509		0	0	27.7	0.0	6+	63.4
Oct 4			412	270	38	4	1	2,625	635		0	0	28.4	0.0		63.2
Oct 5			392	280	43	8	0	2,451	602		0	0	29.4	0.0		63.1
Oct 6			437	228	73	12	0	2,372	602		0	0	21.0	0.0	5.7	63.1
Oct 7			298	197	43	12	0	2,616	824		0	0	26.1	0.0		63.0
Oct 8			222	146	121	19	0	3,220	968		0	0	26.1	0.0	6+	62.4
Oct 9			270	161	151	30	0	3,242	976		0	0	25.1	0.0		62.0
Oct 10			188	126	157	31	0	2,974	874		0	0	26.2	0.0	5.7	61.5
Oct 11			230	241	137	41	1	2,584	809		0	0	25.0	0.0		61.1
Oct 12			188	120	84	14	0	1,357	408		0	0	24.4	0.0		60.7
Oct 13			199	120	98	10	0	1,374	428		0	0	21.8	0.0	5.0	60.0
Oct 14			169	95	59	13	0	1,456	444		0	0	26.5	0.0		59.6
Oct 15			115	143	40	8	0	981	277		0	0	19.2	0.0	6+	59.5
Oct 16			89	106	46	10	0	1,348	422		0	0	23.0	0.0		59.2
Oct 17			106	96	31	5	0	1,051	325		0	0	22.7	0.0	6+	58.6
Oct 18			72	76	22	4	0	797	216		0	0	12.9	0.0		58.5
Oct 19			78	67	18	7	0	795	263		0	0	19.8	0.0		57.9
Oct 20			80	65	42	5	0	786	260		0	0	22.0	0.0	4.5	57.6
Oct 21			82	58	22	2	1	604	197		0	0	20.0	0.0	6.0	57.9
Oct 22			112	70	11	1	0	576	214		0	0	17.3	0.0		57.6
Oct 23			94	86	17	4	0	466	161		0	1	17.2	0.0		57.3
Oct 24			73	71	19	2	0	582	217		0	0	14.8	0.0	5.7	57.1
Oct 25			73	85	8	2	0	386	133		0	0	14.3	0.0		57.0
Oct 26			86	82	5	1	1	380	126		1	0	17.6	0.0		56.8
Oct 27			59	54	7	2	0	282	90		0	0	12.8	0.0	5.8	56.3
Oct 28			36	38	4	0	0	186	68		0	0	16.4	0.0	6.0	55.9
Oct 29			74	59	7	6	0	411	151		0	0	18.6	0.0		55.4
Oct 30			82	91	8	1	0	364	131		0	0	15.3	0.0	6.0	55.1
Oct 31			48	53	2	0	0	282	108		0	0	15.6	0.0		55.0
<b>TOTAL</b>			<b>6,103</b>	<b>4,200</b>	<b>1,395</b>	<b>279</b>	<b>4</b>	<b>43,779</b>	<b>12,718</b>		<b>1</b>	<b>0</b>				

AVG.			197	135	45	9	0	1,412	410		0	0	21.6	0.0	5.6	59.5
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	BULL TROUT	LAMPREY
TOTALS TO DATE									
SPRING	35,072	19,443	1,727	409	996	95,871	29,587	46	33
SUMMER	10,120	7,632							
FALL	55,190	21,985							
<b>TOTALS</b>	<b>100,382</b>	<b>49,060</b>							

TABLE 128

DISCHARGE AND WATER QUALITY DATA  
LITTLE GOOSE PROJECT 2013

NOVEMBER					DECEMBER				
DATE	DISCH	SPILL	TURBIDITY		DATE	DISCH	SPILL	TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F		KCFS	KCFS	SECCHI	DEG F
Nov 1	15.8	0.0		54.7	Dec 1	13.5	0.0		44.7
Nov 2	15.8	0.0		54.5	Dec 2	26.1	0.0	6+	44.7
Nov 3	17.5	0.0		54.0	Dec 3	32.5	0.0		
Nov 4	19.6	0.0	6+	53.6	Dec 4	29.0	0.0	6+	44.0
Nov 5	22.5	0.0		53.1	Dec 5	27.6	0.0		43.6
Nov 6	17.0	0.0	6.0	52.4	Dec 6	23.2	0.0		43.3
Nov 7	16.5	0.0		52.3	Dec 7	18.3	0.0		42.7
Nov 8	13.0	0.0		51.7	Dec 8	21.1	0.0		41.7
Nov 9	20.8	0.0		51.5	Dec 9	20.7	0.0		41.4
Nov 10	18.8	0.0		51.3	Dec 10	20.8	0.0	6+	40.7
Nov 11	21.1	0.0		51.2	Dec 11	16.5	0.0	6+	40.0
Nov 12	19.8	0.0		50.8	Dec 12	17.3	0.0	6+	38.9
Nov 13	20.3	0.0	6+	50.7	Dec 13	15.0	0.0		38.6
Nov 14	19.6	0.0	6+	50.6	Dec 14	14.3	0.0		38.8
Nov 15	19.0	0.0		50.3	Dec 15	19.8	0.0		38.0
Nov 16	17.1	0.0		50.0	Dec 16	21.9	0.0		38.3
Nov 17	16.5	0.0		49.6	Dec 17	20.7	0.0	6+	37.7
Nov 18	19.0	0.0	6+	49.2	Dec 18	21.8	0.0	6+	37.8
Nov 19	19.1	0.0	6+	49.0	Dec 19	18.0	0.0	6+	37.8
Nov 20	22.1	0.0		48.7	Dec 20	22.3	0.0		37.5
Nov 21	22.6	0.0	6+	48.2	Dec 21	16.9	0.0		37.3
Nov 22	18.7	0.0		47.8	Dec 22	17.1	0.0		36.9
Nov 23	16.3	0.0		47.3	Dec 23	18.1	0.0	6+	36.7
Nov 24	16.3	0.0		47.0	Dec 24	18.7	0.0	6+	37.0
Nov 25	17.4	0.0		46.6	Dec 25	20.7	0.0		36.7
Nov 26	15.7	0.0	6+	46.1	Dec 26	20.6	0.0	6.0	36.4
Nov 27	14.7	0.0	6+		Dec 27	18.2	0.0		36.1
Nov 28	17.9	0.0		45.5	Dec 28	17.8	0.0		36.0
Nov 29	22.0	0.0		45.1	Dec 29	18.9	0.0		36.0
Nov 30	16.0	0.0		44.9	Dec 30	21.5	0.0		35.6
					Dec 31	17.4	0.0	6+	35.6

AVG.	18.3	0.0	6.0	49.9	AVG.	20.2	0.0	6.0	39.0
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\*Water temps from water quality sensor located in the tailrace

**TABLE 129**  
**YEARLY TOTALS OF SALMONIDS COUNTED OVER**  
**LITTLE GOOSE DAM**  
**1970 - 1981, 1991 - 2013**

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	214,726	261,132	72	768	476,698
2002	119,429	215,251	38	133	334,851
2003	114,902	176,193	23	865	291,983
2004	100,998	151,406	81	3,042	255,527
2005	46,553	143,537	13	1,992	192,095
2006	44,695	124,440	26	972	170,133
2007	60,398	135,414	37	2,141	197,990
2008	108,953	168,105	594	3,806	281,458
2009	163,562	305,436	1,061	5,239	475,298
2010	189,451	193,891	1,658	2,008	387,008
2011	197,424	175,328	1,436	4,851	379,039
2012	142,119	98,278	453	2,662	243,512
2013	149,442	95,871	996	2,136	248,445
<b>Total</b>	<b>2,401,904</b>	<b>3,482,470</b>	<b>10,612</b>	<b>41,565</b>	<b>5,936,551</b>
<b>10-Yr Avg</b>	<b>120,360</b>	<b>159,171</b>	<b>636</b>	<b>2,885</b>	<b>283,051</b>

\*Jacks included

\*\*1981 was the last year visual counts were made at Little Goose Project until 1991.  
Includes 2001 extended season counts for November and December 0600-1600 PST.  
Includes 2002 extended season counts for February and March 0800-1600 PST and  
November and December 0600-1600 PST.  
Includes 2003 and 2004 extended season counts for January, February, and March 0800-  
1600 PST and November and December 0600-1600 PST.

TABLE 130

**MONTHLY COUNT OF CHINOOK SALMON  
LITTLE GOOSE DAM; 1970-1981, 1991-2013**

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	356	2	214,726
2002		1		1,807	60,391	32,782	6,846	1,493	12,631	3,374	96	8	119,429
2003		2		32,082	29,615	26,129	5,838	829	14,048	5,917	433	9	114,902
2004				21,955	34,443	16,941	3,946	473	19,087	3,888	264	1	100,998
2005				599	16,952	11,484	3,638	679	10,362	2,839			46,553
2006				10	14,632	10,859	4,432	1,108	9,228	4,426			44,695
2007				998	21,050	14,741	4,650	1,154	12,109	5,696			60,398
2008				1,294	39,284	35,674	7,926	2,252	18,892	3,631			108,953
2009				173	52,369	43,467	11,800	4,289	44,304	7,160			163,562
2010				14,935	72,430	37,156	9,058	2,761	39,443	13,668			189,451
2011				145	60,525	67,803	21,088	5,064	31,454	11,345			197,424
2012				113	58,343	22,568	6,156	3,227	43,726	7,986			142,119
2013				611	43,290	19,104	8,331	7,440	60,363	10,303			149,442
<b>Total</b>		<b>3</b>		<b>248,401</b>	<b>909,235</b>	<b>539,327</b>	<b>191,534</b>	<b>41,699</b>	<b>365,715</b>	<b>104,230</b>	<b>1,732</b>	<b>28</b>	<b>2,401,904</b>
<b>10-Year Average</b>				<b>4,083</b>	<b>41,332</b>	<b>27,980</b>	<b>8,103</b>	<b>2,845</b>	<b>28,897</b>	<b>7,094</b>			<b>120,360</b>

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

\*Jacks included

Includes 2001 extended season counts for November and December 0600-1600 PST.

Includes 2002 extended season counts for February and March 0800-1600 PST and November and December 0600-1600 PST.

Includes 2003 and 2004 extended season counts for January, February, and March 0800-1600 PST and November and December 0600-1600 PST.

TABLE 131  
MONTHLY COUNT OF STEELHEAD  
LITTLE GOOSE DAM  
1970 - 1981, 1991 - 2013

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1970			3,346	4,148	1,762	167	1,485	7,487	27,898	11,931	1,136	280	59,640
1971			586	1,968	1,319	85	1,286	3,337	38,988	19,674	2,161	609	70,013
1972	248	251	943	2,565	720	54	1,209	6,637	25,089	24,323	1,258	341	63,638
1973	133	80	1,039	2,051	829	65	1,249	2,856	16,650	12,420	1,129	319	38,820
1974	191	294	543	1,105	278	5	726	2,203	3,970	4,721	583	165	14,784
1975	96	75	70	732	472	16	390	3,433	6,230	3,711			15,225
1976				1,052	345	133	678	3,556	8,988	6,142			20,894
1977				1,340	272	155	1,951	2,738	18,753	22,179			47,388
1978				1,625	216	20	593	2,617	11,547	8,309			24,927
1979				742	222	16	1,614	2,326	5,278	10,851			21,049
1980				3,063	668	43	821	3,858	15,305	14,869			38,627
1981				1,360	424	119	1,740	2,024	11,559	21,454			38,680
**													
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	20,313	8150	261,132
2002		1,387	3,342	5,873	294	455	5,853	21,066	86,596	83,357	5,483	1545	215,251
2003	310	2,067	6,744	2,001	109	586	4,741	6,701	81,173	65,715	5,020	1026	176,193
2004	106	911	2,702	1,814	87	524	3,133	4,118	83,925	48,491	4,326	1269	151,406
2005				896	128	494	2,528	5,165	62,611	71,715			143,537
2006				2,569	120	129	978	3,547	54,727	62,370			124,440
2007				2,096	205	339	2,062	4,560	63,517	62,635			135,414
2008				2,127	490	179	5,770	15,499	93,240	50,800			168,105
2009				4,839	538	595	5,655	13,821	160,927	119,061			305,436
2010				2,755	369	632	9,165	19,891	103,207	57,872			193,891
2011				5,505	697	151	4,283	29,183	83,281	52,228			175,328
2012				3,416	510	184	1,419	3,031	52,470	37,248			98,278
2013				2,024	184	180	1,773	6,888	41,043	43,779			95,871
<b>Total</b>	<b>1,084</b>	<b>5,065</b>	<b>19,315</b>	<b>69,980</b>	<b>13,208</b>	<b>8,443</b>	<b>89,966</b>	<b>239,122</b>	<b>1,575,270</b>	<b>1,378,997</b>	<b>68,316</b>	<b>13,704</b>	<b>3,482,470</b>
<b>10-Year Average</b>				<b>2,804</b>	<b>333</b>	<b>341</b>	<b>3,677</b>	<b>10,570</b>	<b>79,895</b>	<b>60,620</b>			<b>159,171</b>

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

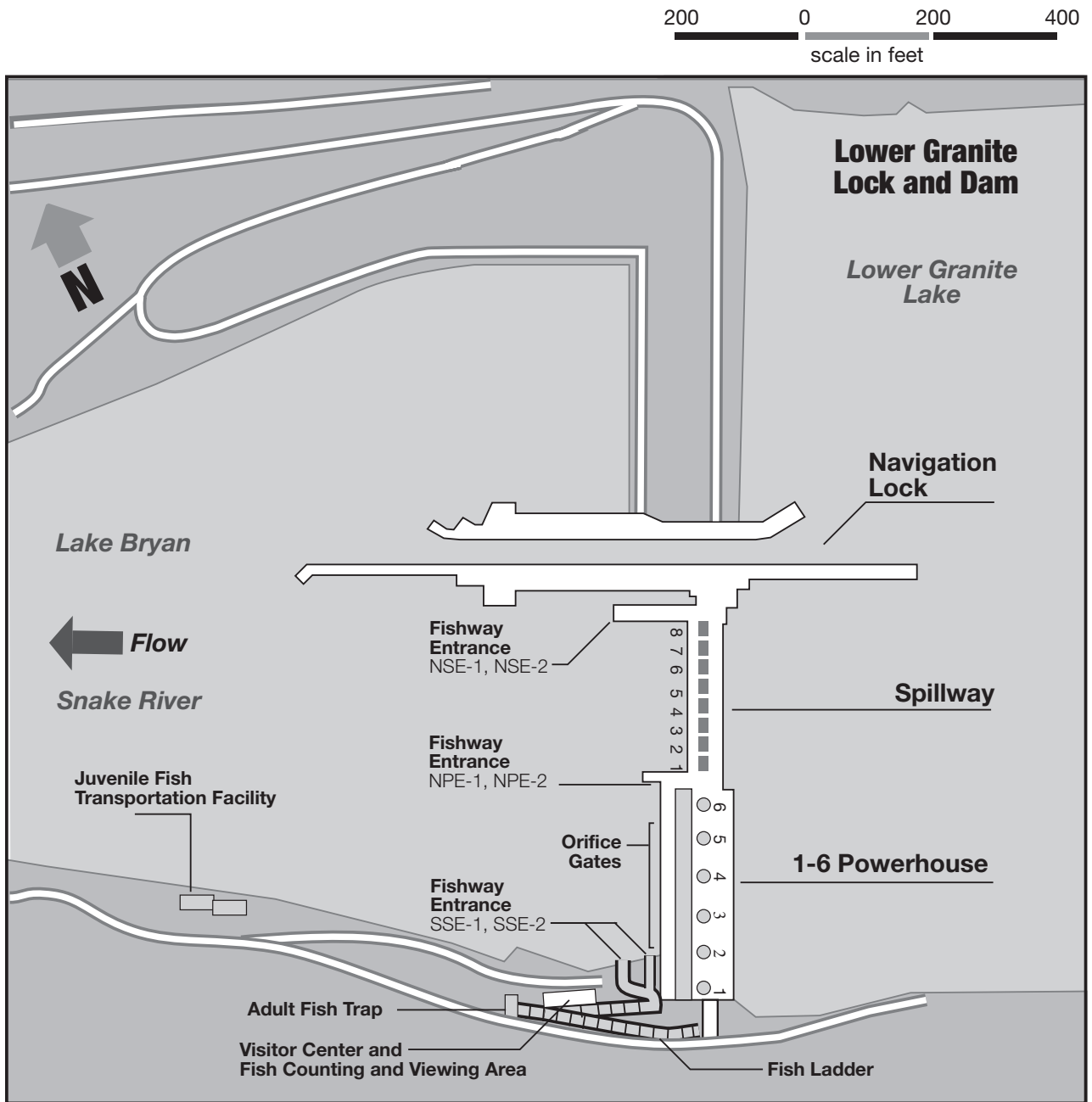
Includes 2001 extended season counts for November and December 0600-1600 PST.

Includes 2002 extended season counts for February and March 0800-1600 PST and November and December 0600-1600 PST.

Includes 2003 and 2004 extended season counts for January, February, and March 0800-1600 PST and November and December 0600-1600 PST.



# Plate 9 Lower Granite Lock and Dam



## LOWER GRANITE DAM

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### FISH COUNTING SCHEDULE

1 January – 28 February	No counting.
1 March – 31 March	Video counting daily 0600 – 1600 hours PST.
1 April – 31 October	Visual counting daily 0400 – 2000 hours PST.
15 June – 31 August	Night video counts for sockeye 2000 – 0400 hours PST.
1 July – 30 September	Night video counts for lamprey 2000 – 0400 PST
1 November – 31 December	Video counting daily 0600 – 1600 hours PST.

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### FISH LADDER OPERATING SCHEDULE

17 December 2012 – 26 February 2013	Ladder dewatered for annual maintenance and lamprey modifications/new grating installation in the powerhouse channel.
27 February – 31 December	Ladder in service.

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### FISHWAY ACTIVITIES

Water temperatures were monitored hourly by hobo from the fish ladder exit pool and the downstream end of the juvenile fish collection channel (temperatures were also monitored near diffuser 14, the turn pool near the adult trap and at the first pool near the north shore entrances from late July onward as part of the effort to improve adult passage). During 2013, hourly readings were taken continuously from June 1 to October 1. In addition, substrate media at the ladder exit pool was examined monthly for zebra and quagga mussels from March through December.

Normal maintenance activities on the adult fish ladder complex took place during the 17 December 2012 – 28 February 2013 fishway outage. A visual inspection was conducted on all diffuser gratings, gate valves were checked and repaired, fish pumps were serviced, adult fish counting machinery was serviced, picketed leads were refurbished, windows were cleaned and the viewing room window cleaning brush was checked.

The ladder was dewatered early (December 17 2012) for the winter 2013 maintenance season in order to facilitate work being done in the ladder to improve lamprey passage. New grating was also installed in the powerhouse channel.

Problems continued with the weir motor and cable control system on north shore fishway entrance number 1 (NSE-1) from May 31, 2011. Inspection in 2011 had revealed that the cable had broken and the weir gate had dropped to the sill. The weir motor was also burned up. A temporary adjustment was done on the weir gate by crane on June 7, 2011 and the gate was dogged off at 635.0 feet by cables. This setting was maintained until July 22, 2011 when an A-frame and chain hoist system was put in place to adjust the weir depth relative (at this point 630.0 feet) to the tailwater elevation. The gate remains in this state.

During the 2013 fish season, the adult fish trap at Lower Granite Dam was operated between March 4 and November 24. Like the 2012 season, it was necessary to take the trap out of service several times due to water temperatures exceeding 70°F. The adult fish trap was first shut down at 0845 hours on the morning of Wednesday July 3 due to high water temperatures. The trap water temperature at the time of shutdown was above 70 Degrees F. Water temperatures had increased at the trap by 9 degrees from June 28 until the shutdown date. On July 4 at 0730 hours the adult fish trap was again placed in operation, as water temperatures had decreased below 70 Degrees F. The trap was again taken out of service at 0745 hours on July 10 due to a water temperature of 70.2 degrees F. As of 0856 hours on July 10 the temperature was already up to 70.8 degrees F. A combination of warm water temperatures in the adult fish ladder (especially the substantial differential between the high temperatures at the ladder exit and up to six degrees F lower temperatures at the entrances) and the special operations noted below did not enable the NOAA adult fish trap to operate from July 10 to September 23. System Operational Request #2013-4 was drafted by the TMT on July 23 to increase adult passage and reduce the water temperature in the LGR fish ladder. The SOR directed the COE to take immediate actions that could potentially increase adult passage and decrease the water temperature in the adult ladder.

Following this directive, the COE through the TMT and FPOM processes coordinated several different dam operation strategies trying to draw cooler water and/or fish into the adult fish ladder and were met with limited success. The Turbine Unit priority was changed to make Unit #1 the priority Unit to provide more attraction flow to south shore adult ladder entrances. The project stored water during the night to run Unit #1 or two units during the day depending on total inflow, since most adults pass the fish ladder during daylight hours. Emergency auxiliary pumps (installed for the reservoir draw down test in 1992) were operated from July 25 through September 18 to provide cooler water to the fish ladder exit, since their intakes are around 30 feet deep. Emergency auxiliary pumping operations provided cooler water to the fish ladder but when in use diffuser 14 closed too much to provide sufficient water to allow operation of the NOAA trap. During September water temperatures cooled and fish began to use the adult ladder and the trap again began operation on the morning of September 23.

Fall Chinook Transport: Collection of adult fall Chinook for transport to Lyons Ferry Hatchery and the Nez Perce Hatchery at Cherry Lane began late (September 23) because of the situation described above. Trucking operations concluded on November 22.

The Nez Perce conducted a study to monitor the effectiveness of adult 'B' run steelhead hatchery (supplementation) in the Clearwater sub-basin. Utilizing sort-by-code; fifty each of known South Fork Clearwater adults – comprised of: Clearwater natural, supplementation and conventional steelhead were radio tagged. The two main goals of this study are: 1. Compare the relative performance of these three groups. 2. Determine spatial overlap in the spawning distribution of these groups.

The juvenile fish facility was operated for fish transport/bypass from March 25 to October 31 and for monitoring and bypass of adult fallbacks and juvenile PIT-tagged fish from March 25 to December 6. The separator was scheduled to operate thru December 15, but was forced out of service early due very cold temperatures.

TABLE 132

MONTHLY TOTALS OF SALMONIDS, SHAD, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER LOWER GRANITE DAM  
2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*			1	267	42,356	20,223	6,930	3,818	61,913	13,316	1,102	0	149,926
STEELHEAD			4,461	2,674	304	107	1,044	4,016	39,492	49,717	5,597	498	107,910
SOCKEYE						62	611	64	17	3			757
COHO*									105	2,302	46	1	2,454
PINK													
<b>TOTAL</b>			<b>4,462</b>	<b>2,941</b>	<b>42,660</b>	<b>20,392</b>	<b>8,585</b>	<b>7,898</b>	<b>101,527</b>	<b>65,338</b>	<b>6,745</b>	<b>499</b>	<b>261,047</b>
<b>SHAD</b>						21	1,771	100					1,892
<b>LAMPREY</b>					2	-1	6	6	6	0			19
<b>STURGEON</b>													0
<b>BULL TROUT</b>													0

\*Jacks included

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

TABLE 133  
DISCHARGE AND WATER DATA  
LOWER GRANITE PROJECT 2013

		JANUARY						FEBRUARY			
		DISCH	SPILL	TURBIDITY				DISCH	SPILL	TURBIDITY	
		KCFS	KCFS	SECCHI	DEG F			KCFS	KCFS	SECCHI	DEG F
Jan 1		22.9	0.0			Feb 1		27.4	0.0		
Jan 2		26.3	0.0			Feb 2		29.7	0.0		
Jan 3		22.6	0.0			Feb 3		25.6	0.0		
Jan 4		22.4	0.0			Feb 4		31.0	0.0		
Jan 5		23.0	0.0			Feb 5		30.0	0.0		
Jan 6		16.9	0.0			Feb 6		28.5	0.0		
Jan 7		25.4	0.0			Feb 7		27.3	0.0		
Jan 8		30.8	0.0			Feb 8		29.8	0.0		
Jan 9		27.1	0.0			Feb 9		29.8	0.0		
Jan 10		22.7	0.0			Feb 10		25.1	0.0		
Jan 11		31.1	0.0			Feb 11		31.4	0.0		
Jan 12		29.4	0.0			Feb 12		27.1	0.0		
Jan 13		22.9	0.0			Feb 13		29.0	0.0		
Jan 14		27.3	0.0			Feb 14		25.3	0.0		
Jan 15		27.4	0.0			Feb 15		30.6	0.0		
Jan 16		25.8	0.0			Feb 16		29.4	0.0		
Jan 17		25.0	0.0			Feb 17		26.7	0.0		
Jan 18		26.0	0.0			Feb 18		28.2	0.0		
Jan 19		21.1	0.0			Feb 19		27.2	0.0		
Jan 20		17.1	0.0			Feb 20		30.9	0.0		
Jan 21		23.1	0.0			Feb 21		23.8	0.0		
Jan 22		22.3	0.0			Feb 22		27.2	0.0		
Jan 23		21.5	0.0			Feb 23		23.7	0.0		
Jan 24		20.8	0.0			Feb 24		25.0	0.0		
Jan 25		20.6	0.0			Feb 25		26.0	0.0		
Jan 26		22.8	0.0			Feb 26		28.4	0.0		
Jan 27		23.5	0.0			Feb 27		27.3	0.0		
Jan 28		27.6	0.0			Feb 28		19.5	0.0		
Jan 29		24.5	0.0								
Jan 30		24.5	0.0								
Jan 31		28.9	0.0								
AVG.		24.3	0.0			AVG.		27.5	0.0		

TABLE 134  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - FISH COUNTS

MARCH 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD						SECCHI	DEG F
Mar 1	0							30	10				26.4	0.0		
Mar 2	0							30	12				28.4	0.0		
Mar 3	0							101	28				30.8	0.0		
Mar 4	0							67	14				36.2	0.0	3.2	42.4
Mar 5	0							94	34				33.6	0.0	3.8	42.3
Mar 6	0							77	29				33.7	0.0	3.9	42.1
Mar 7	0							152	55				27.2	0.0		
Mar 8	0							417	172				32.7	0.0		
Mar 9	0							465	151				27.8	0.0		
Mar 10	0							190	56				23.8	0.0		
Mar 11	0							62	19				28.2	3.8		
Mar 12	0							92	27				27.0	0.0	3.1	43.1
Mar 13	0							88	31				29.6	0.0	3.8	43.3
Mar 14	0							92	28				35.4	0.0	3.5	44.0
Mar 15	0							148	71				32.9	0.0		
Mar 16	0							120	38				35.9	0.0		
Mar 17	0							489	169				40.0	0.0		
Mar 18	0							112	50				40.1	0.0	4.1	46.0
Mar 19	0							111	36				39.2	0.0	3.7	46.2
Mar 20	0							160	62				32.5	0.0		
Mar 21	0							109	38				37.8	0.0	3.2	46.7
Mar 22	0							154	58				39.7	0.0	3.5	47.0
Mar 23	0							168	69				35.3	0.0	3.0	45.8
Mar 24	0							175	77				34.8	0.0		
Mar 25	0							75	30				34.0	0.0		
Mar 26	0							60	25				34.0	0.0	3.3	46.2
Mar 27	0							78	33				32.8	0.0		
Mar 28	0							59	30				26.8	0.0		
Mar 29	0							94	39				37.7	0.0	4.1	45.7
Mar 30	0							222	80				36.8	0.0	4.4	47.1
Mar 31	1							170	67				42.9	0.0		
<b>TOTAL</b>	<b>1</b>							<b>4,461</b>	<b>1,638</b>							
AVG.	0							144	53				33.4	0.1	3.6	46.4

Note: March counts were from video tape. The counts are 16-hour counts and occurred between 0400-2000 PST.

TABLE 135  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - FISH COUNTS

APRIL 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD						SECCHI	DEG F	
Apr 1	0			0				124	56				45.7	0.0	4.3	48.3	
Apr 2	1			0				116	58				57.0	0.0			
Apr 3	0			0				92	54				57.5	20.1			
Apr 4	0			0				187	96				56.5	20.3			
Apr 5	0			0				189	94				64.6	20.3			
Apr 6	1			0				207	101				72.3	20.4	3.8	51.0	
Apr 7	0			0				163	83				75.3	20.3	4.4	49.7	
Apr 8	4			0				152	62				75.8	23.8	4.4	50.4	
Apr 9	0			0				138	89				71.6	23.7			
Apr 10	0			0				130	74				62.7	20.3			
Apr 11	2			0				105	58				62.7	20.4			
Apr 12	1			0				104	52				59.7	20.3			
Apr 13	5			0				143	73				59.1	20.3	4.0	48.9	
Apr 14	5			0				117	67				60.5	20.3	4.2	49.0	
Apr 15	0			0				85	42				55.4	20.0			
Apr 16	4			0				80	40				52.0	20.0	4.0	49.3	
Apr 17	5			2				56	28				50.2	20.2			
Apr 18	2			0				40	16				45.2	20.2			
Apr 19	4			0				24	11				45.8	20.4	4.4	48.4	
Apr 20	11			4				60	36				48.8	20.4	4.7	48.8	
Apr 21	12			1				61	29				51.8	20.4	4.7	48.5	
Apr 22	0			1				36	25				54.7	20.3			
Apr 23	14			2				40	26				49.8	20.2			
Apr 24	22			2				38	20				45.0	20.2	4.0	48.9	
Apr 25	10			0				30	19				45.2	20.4			
Apr 26	22			2				33	20				47.8	20.2	4.8	50.7	
Apr 27	20			4				30	22				52.6	20.2	5.0	51.1	
Apr 28	23			0				26	13				51.7	20.3			
Apr 29	31			2				27	16				61.2	20.3	4.8	51.8	
Apr 30	47			1				41	18				63.5	20.2			
<b>TOTAL</b>	<b>246</b>			<b>21</b>				<b>2,674</b>	<b>1,398</b>								
AVG.	8			1				89	47				56.7	19.1	4.4	49.6	
RUN YEAR																	
TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK						STEELHEAD	unclipped STEELHEAD								
	247	21						7,135	3,036								

Note: Visual counts occurred April 1 through October 31. The counts are 16-hour counts and occurred between 0400-2000 PST.

TABLE 136

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

LOWER GRANITE PROJECT - FISH COUNTS

MAY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD						SECCHI	DEG F
May 1	89			17				31	18		0		61.2	20.2		
May 2	220			8				31	23		1		59.8	20.3		
May 3	299			8				24	16		0		53.4	20.3	5.0	52.1
May 4	398			25				21	13		0		55.4	20.2	5.0	52.4
May 5	664			52				21	13		0		54.3	20.2		
May 6	762			55				23	13		0		61.4	20.3	4.5	52.3
May 7	1,034			97				22	16		0		67.1	20.2		
May 8	1,690			137				23	18		0		76.6	19.3		
May 9	1,597			157				15	10		0		93.2	18.4		
May 10	1,231			222				15	10		0		100.7	20.4	4.0	55.5
May 11	1,733			344				11	5		0		108.5	20.3	4.1	55.3
May 12	2,501			770				9	4		0		114.8	20.3		
May 13	856			486				4	2		0		125.9	24.6	3.5	55.2
May 14	1,387			664				9	7		0		137.3	29.7		
May 15	1,741			1,104				7	6		0		132.7	24.4		
May 16	1,284			1,157				2	1		0		114.9	22.9		
May 17	1,506			1,372				9	7		0		101.2	20.6	2.6	54.0
May 18	1,589			1,372				2	1		0		97.6	26.7	2.8	54.1
May 19	893			959				3	1		0		88.7	24.8		
May 20	498			739				4	4		0		83.7	20.8	2.7	54.0
May 21	628			746				1	1		0		75.4	20.6		
May 22	576			716				1	1		0		77.6	20.5		
May 23	487			545				1	0		0		77.4	20.5		
May 24	611			601				1	0		0		71.0	20.5	3.3	54.7
May 25	443			467				2	2		0		68.5	26.1	3.9	53.9
May 26	247			421				4	0		0		63.8	20.4	4.1	54.1
May 27	443			458				2	1		0		60.6	20.3		
May 28	307			314				0	0		1		65.1	20.4		
May 29	404			374				2	2		0		63.9	20.2		
May 30	443			424				2	0		0		70.1	20.1		
May 31	526			458				2	1		0		74.4	20.2	4.4	55.4
<b>TOTAL</b>	<b>27,087</b>			<b>15,269</b>				<b>304</b>	<b>196</b>		<b>2</b>					
AVG.	874			493				10	6		0		82.5	21.4	3.8	54.1
RUN YEAR																
TOTALS TO DATE		CHINOOK ADULT	CHINOOK JACK					STEELHEAD	unclipped STEELHEAD		LAMPREY					
SPRING		27,334	15,290					7,439	3,232		2					



TABLE 137  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD						SECCHI	DEG F
Jun 1	660			395			0	1	1	0	0		69.2	20.2	4.8	55.7
Jun 2	456			270			0	1	1	0	0		63.5	20.2	4.7	55.5
Jun 3	304			235			0	1	0	0	0		59.4	20.4	4.3	55.7
Jun 4	613			364			0	0	0	0	0		63.4	20.2		
Jun 5	637			298			0	1	0	0	0		62.9	20.2		
Jun 6	479			227			2	2	1	0	-1		63.7	20.2		
Jun 7	301			199			0	1	0	0	0		67.1	20.2	4.8	58.4
Jun 8	454			210			1	1	0	0	0		75.0	20.2	5.0	59.1
Jun 9	412			184			0	4	0	0	0		73.9	20.2	5.0	59.3
Jun 10	378			181			0	1	1	0	0		72.0	20.2		
Jun 11	314			196			0	0	0	2	0		69.2	20.2		
Jun 12	257			262			0	2	0	1	0		63.8	20.1		
Jun 13	428			310			0	3	1	0	0		58.5	20.1		
Jun 14	425			299			0	4	0	1	0		57.1	20.3	5.0	61.4
Jun 15	478			278			0	3	1	0	0		52.6	20.3		
Jun 16	695			404			0	1	1	0	0		45.9	20.4	5.0	62.2
Jun 17	406			338			1	6	0	0	0		46.6	20.4	5.0	61.7
Jun 18		397		293			0	2	0	0	0		48.5	20.3		
Jun 19		384		229			0	3	1	0	0		47.9	20.4		
Jun 20		160		169			1	5	1	1	0		51.7	18.6		
Jun 21		181		205			0	5	0	0	0		58.3	18.6		
Jun 22		220		308			0	3	1	0	0		43.1	18.5	5.0	62.0
Jun 23		648		550			1	3	1	0	0		42.5	18.5	5.0	61.3
Jun 24		329		250			1	8	1	1	0		41.4	18.5	4.4	60.8
Jun 25		209		192			4	6	4	2	0		40.4	18.5		
Jun 26		222		239			4	9	4	6	0		48.6	18.5		
Jun 27		233		284			6	4	2	4	0		45.6	18.5		
Jun 28		540		466			10	7	0	1	0		44.3	18.6	5.0	60.9
Jun 29		428		395			11	11	1	2	0		47.5	20.2	5.0	61.2
Jun 30		193		152			20	9	2	0	0		48.4	18.4	5.0	61.6
<b>TOTAL</b>	<b>7,697</b>	<b>4,144</b>		<b>8,382</b>			<b>62</b>	<b>107</b>	<b>25</b>	<b>21</b>	<b>-1</b>					
<b>AVG.</b>	<b>453</b>	<b>319</b>		<b>279</b>			<b>2</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>0</b>		<b>55.7</b>	<b>19.7</b>	<b>4.9</b>	<b>59.8</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	35,031	19,940
SUMMER	4,144	3,732
<b>TOTAL</b>	<b>39,175</b>	<b>23,672</b>

SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
62	7,546	3,257	21	1

TABLE 138

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

LOWER GRANITE PROJECT - FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER												FALL	SECCHI
Jul 1		78	62			8	10	4	5	0		47.3	18.5	4.3	63.3
Jul 2		214	91			4	11	1	12	0		52.0	19.8		
Jul 3		238	175			12	6	2	2	0		47.2	20.1		
Jul 4		386	316			17	15	2	13	0		43.2	18.1		
Jul 5		348	340			23	27	10	2	0		40.1	19.0		
Jul 6		161	185			46	20	7	4	0		36.7	18.7	5.0	67.3
Jul 7		308	265			46	26	7	28	2		37.3	18.7	4.7	67.0
Jul 8		119	88			30	13	5	64	0		37.4	18.7	3.7	66.6
Jul 9		98	88			13	18	6	29	0		37.8	18.7		
Jul 10		66	42			18	17	7	24	1		35.6	18.4		
Jul 11		194	224			46	30	6	316	0		36.5	18.4		
Jul 12		202	288			41	30	12	107	0		32.4	18.5	5.0	66.4
Jul 13		168	190			43	30	12	58	0		32.2	18.0	5.0	66.5
Jul 14		100	145			22	44	28	256	0		27.9	15.0	5.0	66.7
Jul 15		36	56			36	25	11	67	0		31.4	21.9		
Jul 16		110	77			38	37	14	14	0		32.8	23.1		
Jul 17		58	55			28	32	12	52	0		30.4	18.3		
Jul 18		53	61			25	22	8	37	0		30.3	18.3		
Jul 19		4	6			1	16	10	46	0		29.4	17.4	5.0	64.1
Jul 20		-4	11			1	18	11	48	0		31.2	18.1	4.7	64.5
Jul 21		23	14			4	12	5	34	-1		27.1	15.0	5.0	64.0
Jul 22		20	11			6	16	10	74	0		26.9	13.0		
Jul 23		0	22			2	19	7	49	1		27.5	15.1		
Jul 24		11	14			2	17	10	138	1		27.9	16.5		
Jul 25		204	170			26	95	54	110	0		26.8	13.3		
Jul 26		-30	-19			-4	26	18	7	0		27.0	14.6		
Jul 27		212	146			30	107	72	59	2		25.0	9.5	5.0	66.2
Jul 28		169	154			41	106	70	83	0		25.5	8.1	5.0	66.5
Jul 29		7	5			2	61	37	2	0		22.4	7.6	5.0	65.5
Jul 30		13	17			2	57	34	0	0		25.3	13.2		
Jul 31		25	40			2	81	47	31	0		24.9	9.9		
<b>TOTAL</b>		<b>3,591</b>	<b>3,339</b>			<b>611</b>	<b>1,044</b>	<b>539</b>	<b>1,771</b>	<b>6</b>					
<b>AVG.</b>		<b>116</b>	<b>108</b>			<b>20</b>	<b>34</b>	<b>17</b>	<b>57</b>			<b>32.8</b>	<b>16.5</b>	<b>4.8</b>	<b>65.7</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	unclipped				
	TOTALS TO DATE	TOTALS TO DATE	SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY
SPRING	35,031	19,940	673	8,590	3,796	1,792	7
SUMMER	7,735	7,071					
<b>TOTAL</b>	<b>42,766</b>	<b>27,011</b>					

TABLE 139  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL												SECCHI	DEG F
Aug 1		62		90			22	105	62	36	0		24.1	6.9		
Aug 2		32		53			7	57	35	48	0		24.2	6.9	4.8	65.3
Aug 3		65		55			2	93	49	16	2		26.0	8.7	5.0	65.3
Aug 4		1		28			5	88	54	4	0		24.5	7.1		
Aug 5		14		18			4	94	50	1	0		24.2	10.2	5.0	64.8
Aug 6		42		25			5	160	107	0	1		24.0	12.9		
Aug 7		28		23			2	138	82	4	0		24.4	12.9		
Aug 8		47		18			1	107	59	1	1		24.2	12.8		
Aug 9		36		46			2	99	52	2	0		24.1	12.6	5.0	64.5
Aug 10		24		26			1	84	50	2	1		23.8	15.9	5.0	63.5
Aug 11		24		12			2	102	67	4	0		21.6	12.4	5.0	63.3
Aug 12		42		14			4	134	86	1	0		22.0	14.7		
Aug 13		56		26			0	133	80	-2	0		21.7	16.0		
Aug 14		25		13			1	124	86	-12	0		21.4	16.1		
Aug 15		61		18			1	166	110	-1	0		21.3	16.0		
Aug 16		70		29			1	177	97	1	0		21.4	15.8	5.0	63.6
Aug 17		59		7			0	126	79	-1	0		22.4	14.0		
Aug 18			60	16			1	127	72	-4	0		19.4	7.1	5.0	64.2
Aug 19			41	17			1	119	64	-2	0		19.6	10.6		
Aug 20			41	8			0	109	56	0	0		18.8	10.1		
Aug 21			161	35			0	139	65	0	0		19.7	11.1		
Aug 22			61	16			0	96	49	0	0		18.1	9.8	5.0	65.0
Aug 23			34	13			0	62	34	1	0		17.9	8.7	3.8	64.6
Aug 24			290	68			0	180	83	0	0		20.4	7.7		
Aug 25			114	32			0	202	95	0	0		22.8	9.9	5.0	65.1
Aug 26			98	20			0	106	60	0	0		21.0	12.5		
Aug 27			299	48			1	169	77	0	1		21.8	12.2		
Aug 28			206	74			0	161	84	0	0		22.1	12.7	4.4	64.3
Aug 29			197	47			0	157	73	0	0		21.3	11.5		
Aug 30			335	67			0	187	92	1	0		21.8	12.3		
Aug 31			200	31			1	215	100	0	0		21.6	12.2	4.7	64.9
<b>TOTAL</b>		<b>688</b>	<b>2,137</b>	<b>993</b>			<b>64</b>	<b>4,016</b>	<b>2,209</b>	<b>100</b>	<b>6</b>					
<b>AVG</b>		<b>40</b>	<b>153</b>	<b>32</b>			<b>2</b>	<b>130</b>	<b>71</b>	<b>3</b>	<b>0</b>		<b>22.0</b>	<b>11.6</b>	<b>4.8</b>	<b>64.5</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	35,031	19,940
SUMMER	8,423	7,572
FALL	2,137	492
TOTAL	45,591	28,004

SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
737	12,606	6,005	1,892	13

TABLE 140  
 MONTHLY FISH PASSAGE SUMMARY REPORT  
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	TOTAL	unclipped	SHAD	LAMPREY	BULL	DISCH	SPILL	TURBIDITY	DEG F
	SPRING	SUMMER	JACK	ADULT	JACK		STEELHEAD	STEELHEAD			TROUT	KCFS	KCFS	SECCHI	
Sep 1			278	92	0	0	220	104		-1		22.1	0.0	4.1	65.9
Sep 2			204	55	0	0	129	59		0		22.6	0.0	4.0	65.1
Sep 3			-6	22	1	0	35	12		1		20.8	7.2		
Sep 4			83	34	0	0	124	62		0		17.4	5.5	4.3	65.3
Sep 5			287	34	0	0	104	49		1		20.0	3.0		
Sep 6			230	73	0	0	170	72		1		23.3	2.8	4.8	65.1
Sep 7			577	245	0	0	238	96		1		21.6	6.3	4.5	65.3
Sep 8			746	214	0	0	268	107		0		24.3	7.7	5.0	65.2
Sep 9			2,360	515	0	0	255	113		1		25.0	7.7		
Sep 10			132	18	0	0	159	52		1		19.7	3.3		
Sep 11			1,039	293	0	0	228	92		0		23.9	3.3		
Sep 12			2,416	602	0	0	344	146		0		24.3	2.8		
Sep 13			1,956	835	0	-1	384	134		0		14.7	0.6	5.0	66.2
Sep 14			1,220	604	4	1	518	198		0		24.5	0.0	5.0	66.7
Sep 15			1,763	415	24	10	463	168		0		24.8	0.0		
Sep 16			536	262	0	0	397	125		0		15.1	0.0		
Sep 17			3,426	1,649	4	0	1,608	545		0		21.6	0.0		
Sep 18			4,007	1,333	0	1	2,775	893		-1		20.5	0.0	5.0	71.0
Sep 19			2,518	1,274	0	1	1,773	604		1		14.9	0.0		
Sep 20			4,387	1,490	6	0	6,439	1,950		0		21.7	0.0		
Sep 21			3,370	924	2	0	3,620	912		0		18.2	0.0	4.6	68.2
Sep 22			2,106	528	2	0	2,421	649		0		18.3	0.0	4.5	68.4
Sep 23			2,681	763	5	1	3,103	835		0		18.6	0.0	3.9	68.1
Sep 24			1,933	682	0	0	2,427	613		1		17.7	0.0		
Sep 25			1,890	685	0	0	2,279	577		0		16.1	0.0		
Sep 26			1,854	602	6	0	1,688	438		0		18.1	0.0		
Sep 27			1,828	851	4	1	2,382	678		0		19.7	0.0	5.0	66.7
Sep 28			199	119	0	1	1,266	311		0		21.6	0.0	4.4	67.4
Sep 29			802	530	8	7	1,654	446		0		20.9	0.0	4.1	66.0
Sep 30			851	497	16	1	2,021	498		0		24.8	0.0		
<b>TOTAL</b>			45,673	16,240	82	23	39,492	11,538		6					
AVG.			1,522	541	3	1	1,316	385		0		20.6	1.7	4.5	66.7

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	35,031	19,940
SUMMER	8,423	7,572
FALL	47,810	16,732
TOTAL	91,264	44,244

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
82	23	754	52,098	17,543	1,892	19

TABLE 141

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL												SECCHI	DEG F
Oct 1			989	577	14	5	0	2,320	594				31.4	0.0		
Oct 2			658	349	28	1	1	2,121	484				36.2	0.0		
Oct 3			905	408	43	0	0	2,545	599				30.0	0.0		
Oct 4			560	395	55	7	0	2,958	698				30.6	0.0	5.0	62.7
Oct 5			478	271	48	12	2	2,420	643				29.8	0.0	5.0	62.5
Oct 6			493	359	72	20	0	2,749	679				25.2	0.0	5.0	61.9
Oct 7			384	329	76	23	0	2,578	665				26.6	0.0	5.0	61.6
Oct 8			302	304	119	18	0	3,123	886				27.8	0.0		
Oct 9			191	156	89	28	0	2,826	824				26.7	0.0		
Oct 10			240	192	138	29	0	2,588	744				25.9	0.0		
Oct 11			353	232	220	8	0	3,706	1,138				26.7	0.0	5.0	59.3
Oct 12			241	200	204	20	0	3,284	944				27.9	0.0	4.4	58.5
Oct 13			259	174	175	16	0	2,417	714				22.5	0.0	4.0	58.3
Oct 14			175	138	173	7	0	1,929	505				25.7	0.0		
Oct 15			100	110	89	25	0	972	298				17.9	0.1		
Oct 16			130	113	65	24	0	1,115	312				25.9	0.0		
Oct 17			126	106	64	13	0	1,336	413				26.5	0.0		
Oct 18			145	92	68	10	0	1,461	451				16.6	0.0	3.7	57.6
Oct 19			143	65	46	8	0	1,164	370				21.5	0.0	3.2	57.4
Oct 20			130	64	30	11	0	1,012	293				23.5	0.0	3.8	57.1
Oct 21			88	60	22	12	0	571	170				18.8	0.0		
Oct 22			128	86	23	2	0	727	235				19.5	0.0		
Oct 23			108	74	20	4	0	668	198				17.6	0.0		
Oct 24			121	84	10	1	0	498	163				15.1	0.0		
Oct 25			82	76	7	6	0	495	151				14.9	0.0	4.5	56.3
Oct 26			128	48	13	0	0	444	126				18.6	0.0	4.0	56.0
Oct 27			138	46	22	0	0	461	154				13.5	0.0		
Oct 28			54	36	11	2	0	248	100				18.2	0.0		
Oct 29			71	50	13	7	0	270	88				19.7	0.0	4.4	55.2
Oct 30			55	28	5	5	0	376	134				17.7	0.0		
Oct 31			54	65	12	4	0	335	127				18.4	0.0	5.0	54.4
<b>TOTAL</b>			<b>8,029</b>	<b>5,287</b>	<b>1,974</b>	<b>328</b>	<b>3</b>	<b>49,717</b>	<b>13,900</b>							
<b>AVG.</b>			<b>259</b>	<b>171</b>	<b>64</b>	<b>11</b>	<b>0</b>	<b>1,604</b>	<b>448</b>				<b>23.1</b>	<b>0.0</b>	<b>4.4</b>	<b>58.5</b>

RUN YEAR TOTALS TO DATE	CHINOOK		COHO		SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
	ADULT	JACK	ADULT	JACK					
SPRING	35,031	19,940							
SUMMER	8,423	7,572	2,056	351	757	101,815	31,443	1,892	19
FALL	55,839	22,019							
<b>TOTAL</b>	<b>99,293</b>	<b>49,531</b>							

Note: Visual counts ended October 31.

TABLE 142  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

**LOWER GRANITE PROJECT - FISH COUNTS**

**NOVEMBER 2013**

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	TOTAL	unclipped	SHAD	LAMPREY	BULL	DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		STEELHEAD	STEELHEAD			TROUT			KCFS	KCFS	SECCHI
Nov 1			111	48	5	2		528	164				21.6	0.0	3.8	54.4	
Nov 2			111	50	4	2		528	164				15.8	0.0	4.2	54.3	
Nov 3			78	44	8	0		313	124				18.1	0.0			
Nov 4			35	29	2	0		243	79				19.4	0.0	5.0	54.0	
Nov 5			48	41	5	0		204	64				23.7	0.0			
Nov 6			43	25	2	0		150	51				17.3	0.0			
Nov 7			43	19	2	1		137	62				17.1	0.0			
Nov 8			41	20	2	0		233	90				16.1	0.0			
Nov 9			37	24	1	1		281	112				24.2	0.0			
Nov 10			39	9	1	0		191	65				19.6	0.0			
Nov 11			30	12	1	1		234	93				20.7	0.0	5.0	51.5	
Nov 12			20	8	0	0		153	51				21.6	0.0	5.0	51.0	
Nov 13			18	13	0	0		127	49				22.1	0.0			
Nov 14			21	6	2	0		136	55				20.2	0.0	5.0	50.6	
Nov 15			11	10	0	0		151	50				19.3	0.0			
Nov 16			10	6	0	0		421	160				21.5	0.0			
Nov 17			5	5	2	0		355	130				16.8	0.0			
Nov 18			4	1	0	0		153	69				20.2	0.0	5.0	49.9	
Nov 19			5	3	0	0		127	43				19.3	0.0	5.0	49.9	
Nov 20			4	1	0	0		156	60				21.4	0.0	4.7	49.6	
Nov 21			5	1	1	0		105	35				22.4	0.0			
Nov 22			1	0	0	0		110	45				18.2	0.0			
Nov 23			2	0	0	0		134	48				20.2	0.0	4.4	48.5	
Nov 24			-4	0	0	0		111	31				20.4	0.0	4.6	48.4	
Nov 25			2	-1	0	0		69	25				17.3	0.0	5.0	48.2	
Nov 26			0	1	0	0		55	25				17.1	0.0			
Nov 27			3	0	1	0		49	18				16.7	0.0			
Nov 28			5	1	0	0		48	16				19.9	0.0			
Nov 29			-1	0	0	0		53	19				22.8	0.0			
Nov 30			-1	0	0	0		42	15				17.0	0.0	5.0	46.5	
<b>TOTAL</b>			<b>726</b>	<b>376</b>	<b>39</b>	<b>7</b>		<b>5,597</b>	<b>2,012</b>								

AVG.	24	13	1	0	187	67	19.6	0.0	4.7	50.5
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
TOTALS TO DATE									
SPRING	35,031	19,940	2,095	358	757	107,412	33,455	1,892	19
SUMMER	8,423	7,572							
FALL	56,565	22,395							
TOTAL	100,019	49,907							

Note: From November 1 to December 31, counts were from video tape. The counts are 16-hour counts and occurred between 0400-2000 PST.

TABLE 143  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

**LOWER GRANITE PROJECT - FISH COUNTS**

**DECEMBER 2013**

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL												SECCHI	DEG F	
Dec 1			0		0			29	11				15.0	0.0	5.0	46.3	
Dec 2			0		0			26	5				27.7	0.0			
Dec 3			0		0			22	5				34.6	0.0	5.0	44.0	
Dec 4			2		0			19	5				29.4	0.0			
Dec 5			-1		0			39	11				25.7	0.0			
Dec 6			0		0			40	12				21.8	0.0	5.0	42.2	
Dec 7			0		1			63	30				18.0	0.0	5.0	41.9	
Dec 8			0		0			52	21				19.8	0.0	5.0	42.0	
Dec 9			-1		0			31	12				22.6	0.0			
Dec 10			0		0			30	8				20.6	0.0			
Dec 11			0		0			14	8				19.7	0.0			
Dec 12			0		0			10	6				19.2	0.0			
Dec 13			0		0			7	1				19.1	0.0	5.0	38.2	
Dec 14			0		0			3	3				21.6	0.0	5.0	39.3	
Dec 15			0		0			8	2				18.7	0.0			
Dec 16			0		0			6	5				22.8	0.0	5.0	38.4	
Dec 17			0		0			3	2				21.0	0.0			
Dec 18			0		0			3	0				23.4	0.0			
Dec 19			0		0			8	2				18.4	0.0			
Dec 20			0		0			4	3				22.2	0.0	5.0	40.5	
Dec 21			0		0			6	2				17.4	0.0	5.0	40.2	
Dec 22			0		0			10	4				17.9	0.0			
Dec 23			0		0			18	3				19.3	0.0	5.0	40.0	
Dec 24			0		0			8	3				19.6	0.0			
Dec 25			0		0			16	8				21.7	0.0			
Dec 26			0		0			9	3				21.2	0.0			
Dec 27			0		0			5	1				17.7	0.0			
Dec 28			0		0			2	1				18.2	0.0	5.0	41.5	
Dec 29			0		0			5	1				18.7	0.0			
Dec 30			0		0			2	1				22.0	0.0	5.0	40.9	
Dec 31			0		0			2	1				18.0	0.0	5.0	41.4	
<b>TOTAL</b>			0		1			498	179								
<b>AVG.</b>			0		0			17	6				21.1	0.0	5.0	41.2	

**RUN YEAR**

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
SPRING	35,031	19,940	2,096	358	757	107,805	33,595	1,892	19
SUMMER	8,423	7,572							
FALL	56,565	22,395							
<b>TOTAL</b>	<b>100,019</b>	<b>49,907</b>							

Note: From November 1 to December 31, counts were from video tape. The counts are 16-hour counts and occurred between 0400-2000 PST. Official Fall Chinook run ended December 15.

TABLE 144

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

LOWER GRANITE PROJECT - NIGHT FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL			SHAD	LAMPREY
	SPRING	SUMMER	FALL				STEELHEAD	unclipped STEELHEAD			
Jun 1											
Jun 2											
Jun 3											
Jun 4											
Jun 5											
Jun 6											
Jun 7											
Jun 8											
Jun 9											
Jun 10											
Jun 11											
Jun 12											
Jun 13											
Jun 14	5			5			0	0	0		
Jun 15	32			9			0	1	0		
Jun 16	18			10			0	1	0		
Jun 17	12			2			0	1	0		
Jun 18		14		12			0	1	0		
Jun 19		23		16			0	0	0		
Jun 20		15		9			0	1	0		
Jun 21		14		24			0	0	0		
Jun 22		33		21			0	0	0		
Jun 23		19		16			0	1	0		
Jun 24		6		0			2	0	0		
Jun 25		5		8			2	1	0		
Jun 26		21		21			0	2	0		
Jun 27		27		21			0	0	0		
Jun 28		12		6			3	0	0		
Jun 29		5		3			4	0	0		
Jun 30		2		4			4	1	0		
<b>TOTAL</b>	<b>67</b>	<b>196</b>		<b>187</b>			<b>15</b>	<b>10</b>	<b>0</b>		
<b>AVG.</b>	<b>17</b>	<b>15</b>		<b>11</b>			<b>1</b>	<b>1</b>	<b>0</b>		

Note: Night counts are video counts from 2000-0400 PST.



TABLE 145

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - NIGHT FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL unclipped				
	SPRING	SUMMER	FALL				SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY
Jul 1		9		2			0	0	0	0	0
Jul 2		9		5			2	2	1	0	1
Jul 3		13		20			8	1	0	0	1
Jul 4		8		7			3	3	0	0	0
Jul 5		9		7			12	3	1	1	1
Jul 6		9		3			11	2	2	0	0
Jul 7		15		10			10	2	2	2	0
Jul 8		10		8			18	1	1	0	0
Jul 9		2		0			3	1	0	0	2
Jul 10		2		4			4	2	1	2	0
Jul 11		12		15			3	5	2	2	0
Jul 12		19		10			2	3	1	2	0
Jul 13		-7		7			8	2	2	1	4
Jul 14		4		0			2	1	1	0	2
Jul 15		5		3			-3	0	0	1	2
Jul 16		-1		0			0	1	0	0	1
Jul 17		3		-1			4	1	0	0	3
Jul 18		-2		1			1	2	2	-1	1
Jul 19		-1		-1			0	1	0	-1	3
Jul 20		0		0			0	0	0	1	3
Jul 21		-1		-1			-1	0	0	0	3
Jul 22		-1		2			0	2	3	12	1
Jul 23		-2		1			0	1	1	-1	1
Jul 24		0		1			-1	0	0	3	1
Jul 25		1		-1			2	1	0	7	5
Jul 26		1		-2			0	3	2	1	5
Jul 27		-22		-16			-2	2	1	2	1
Jul 28		-22		-7			-1	3	2	1	2
Jul 29		-4		-1			-1	-1	-1	2	4
Jul 30		0		-1			0	2	2	0	3
Jul 31		-5		-2			0	-2	0	-1	3
<b>TOTAL</b>		<b>63</b>		<b>73</b>			<b>84</b>	<b>44</b>	<b>26</b>	<b>36</b>	<b>53</b>
<b>AVG.</b>		<b>2</b>		<b>2</b>			<b>3</b>	<b>1</b>	<b>1</b>	<b>1</b>	

Note: Night counts are video counts from 2000-0400 PST.

TABLE 146

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - NIGHT FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL unclipped				
	SPRING	SUMMER	FALL				SOCKEYE	STEELHEAD	STEELHEAD	SHAD	LAMPREY
Aug 1		-12		-7			-6	0	0	0	8
Aug 2		-7		-2			-1	0	0	1	3
Aug 3		-9		-1			0	2	2	1	5
Aug 4		-3		0			-1	1	0	0	4
Aug 5		-1		0			0	-1	-1	0	8
Aug 6		-1		0			0	2	1	1	3
Aug 7		0		0			0	-1	0	1	2
Aug 8		-1		0			0	-1	1	0	0
Aug 9		-2		-2			0	2	1	4	2
Aug 10		0		-2			0	2	1	0	7
Aug 11		0		-1			0	5	5	1	3
Aug 12		-5		-2			0	5	2	3	7
Aug 13		-5		0			1	2	1	10	4
Aug 14		-3		0			0	-1	-1	2	7
Aug 15		-5		1			0	0	1	2	3
Aug 16		-2		-1			0	2	2	2	1
Aug 17		-1		0			0	1	1	2	4
Aug 18			-4	0			0	1	0	1	1
Aug 19			-3	0			0	4	3	1	1
Aug 20			-1	1			0	-1	-1	0	4
Aug 21			-8	1			0	2	2	1	2
Aug 22			-4	0			0	-6	-4	2	0
Aug 23			-6	0			0	-4	-2	1	0
Aug 24			-19	1			0	0	1	0	3
Aug 25			-2	1			0	6	3	0	4
Aug 26			-4	-2			0	1	1	0	-1
Aug 27			-4	-2			0	4	1	0	0
Aug 28			-6	0			0	2	0	0	1
Aug 29			-7	2			0	-1	-2	0	3
Aug 30			-6	4			0	2	0	0	3
Aug 31			-4	1			0	1	-2	0	2
<b>TOTAL</b>		<b>-57</b>	<b>-78</b>	<b>-10</b>			<b>-7</b>	<b>31</b>	<b>16</b>	<b>36</b>	<b>94</b>
<b>AVG</b>		<b>-3</b>	<b>-6</b>	<b>0</b>			<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>

Note: Night counts are video counts from 2000-0400 PST.

TABLE 147

## MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

## LOWER GRANITE PROJECT - NIGHT FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL	unclipped		SHAD	LAMPREY	
	SPRING	SUMMER	FALL	JACK	ADULT		JACK	SOCKEYE			STEELHEAD
Sep 1			-18	-3	0	0	0	-3	-1		2
Sep 2			-7	-2	0	0	0	-4	-1		0
Sep 3			-1	1	0	0	0	-1	0		1
Sep 4			-5	0	0	0	0	2	0		2
Sep 5			-9	0	0	0	0	3	1		1
Sep 6			-6	1	0	0	0	5	4		2
Sep 7			-6	-1	0	0	0	15	7		3
Sep 8			2	-2	0	0	0	11	10		4
Sep 9			-5	-1	0	0	0	7	1		3
Sep 10			-1	0	0	0	0	3	1		2
Sep 11			-1	-2	0	0	0	24	10		2
Sep 12			-24	-3	0	0	0	24	5		4
Sep 13			40	4	0	0	0	51	22		0
Sep 14			-19	-5	0	0	0	0	1		0
Sep 15			-51	-1	0	0	0	17	5		1
Sep 16			12	2	0	0	0	21	9		1
Sep 17			-10	-2	0	0	0	16	4		2
Sep 18			23	13	0	0	1	196	67		3
Sep 19			5	6	0	0	0	253	68		3
Sep 20			25	9	0	0	2	170	59		2
Sep 21			11	7	0	0	0	90	30		1
Sep 22			37	3	0	0	0	188	51		3
Sep 23			67	10	0	0	0	168	37		1
Sep 24			39	17	0	0	0	127	44		1
Sep 25			13	4	0	0	0	57	19		0
Sep 26			30	11	1	1	1	122	34		0
Sep 27			5	1	0	0	0	39	7		1
Sep 28			0	0	0	0	0	28	7		1
Sep 29			14	1	0	1	0	140	36		0
Sep 30			7	5	1	1	0	157	38		1
<b>TOTAL</b>			<b>167</b>	<b>73</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>1,926</b>	<b>575</b>		<b>47</b>
<b>AVG.</b>			<b>6</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64</b>	<b>19</b>		<b>2</b>

Note: Night counts are video counts from 2000-0400 PST.

TABLE 148

YEARLY TOTALS OF SALMONIDS COUNTED OVER  
LOWER GRANITE DAM  
1975 - 2013

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
2003	119,676	180,672	11	1,265	301,624
2004	109,061	154,389	113	3,904	267,467
2005	49,530	155,783	18	2,183	207,514
2006	45,992	145,991	17	1,434	193,434
2007	62,530	157,345	52	2,798	222,725
2008	115,632	175,481	909	4,770	296,792
2009	168,032	323,697	1,219	4,912	497,860
2010	189,394	206,885	2,201	1,902	400,382
2011	179,497	183,648	1,502	5,351	369,998
2012	141,449	110,675	470	2,635	255,229
2013	149,926	107,910	757	2,454	261,047
<b>Total</b>	<b>2,350,868</b>	<b>4,319,066</b>	<b>9,878</b>	<b>38,953</b>	<b>6,718,765</b>
<b>10-Year Average</b>	<b>121,104</b>	<b>172,180</b>	<b>726</b>	<b>3,234</b>	<b>297,245</b>

\*Jacks included

TABLE 149

**MONTHLY COUNT OF CHINOOK SALMON  
LOWER GRANITE DAM  
1975 - 2013**

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
2003			10	29,379	30,358	31,808	7,467	817	12,616	6,990	228	3	119,676
2004			1	20,189	42,777	19,382	3,991	410	17,277	4,512	522	0	109,061
2005				327	17,557	11,709	5,320	445	11,295	2,767	105	5	49,530
2006				4	14,325	12,477	3,927	1,053	8,630	5,332	240	4	45,992
2007			1	531	19,516	16,994	4,921	1,200	12,720	6,428	217	2	62,530
2008				1,019	36,995	40,654	9,513	1,819	20,570	4,725	335	2	115,632
2009				95	52,614	45,565	12,404	2,871	44,432	9,630	419	2	168,032
2010			1	9,432	75,785	36,788	11,810	2,078	38,806	14,025	668	1	189,394
2011				71	52,580	56,837	23,502	3,837	30,091	12,011	557	11	179,497
2012				36	53,549	24,743	5,607	2,353	45,341	9,016	793	11	141,449
2013			1	267	42,356	20,223	6,930	3,818	61,913	13,316	1,102	0	149,926
<b>Total</b>			<b>17</b>	<b>203,530</b>	<b>893,786</b>	<b>554,659</b>	<b>184,754</b>	<b>30,469</b>	<b>356,981</b>	<b>118,771</b>	<b>7,818</b>	<b>83</b>	<b>2,350,868</b>
<b>10-Year Average</b>				<b>3,197</b>	<b>40,805</b>	<b>28,537</b>	<b>8,793</b>	<b>1,988</b>	<b>29,108</b>	<b>8,176</b>	<b>496</b>		<b>121,104</b>

\*Jacks included

TABLE 150

MONTHLY COUNT OF STEELHEAD  
LOWER GRANITE DAM  
1975 - 2013

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
2003			13,038	2,583	182	398	3,169	5,108	71,337	77,100	7,157	600	180,672
2004			4,802	2,662	154	421	2,492	3,227	78,020	55,626	6,480	505	154,389
2005			3,479	1,204	180	433	2,156	3,315	57,231	79,926	6,882	977	155,783
2006			3,467	3,924	200	87	691	2,063	50,958	68,063	14,958	1,580	145,991
2007			6,894	3,477	211	271	1,504	3,792	58,983	71,535	8,269	2,409	157,345
2008			3,812	3,412	547	107	4,301	13,596	83,413	56,851	8,322	1,120	175,481
2009			4,313	5,918	550	486	3,806	8,978	154,804	129,599	14,574	669	323,697
2010			5,934	3,986	542	490	8,939	16,337	98,690	63,325	7,620	1,022	206,885
2011			5,017	6,443	830	73	3,309	21,163	84,732	58,065	3,355	661	183,648
2012			4,451	3,863	613	108	1,202	2,374	46,049	40,984	8,927	2,104	110,675
2013			4,461	2,674	304	107	1,044	4,016	39,492	49,717	5,597	498	107,910
<b>Total</b>	<b>539</b>	<b>790</b>	<b>123,014</b>	<b>122,432</b>	<b>15,898</b>	<b>6,414</b>	<b>76,360</b>	<b>201,745</b>	<b>1,650,279</b>	<b>1,818,912</b>	<b>267,628</b>	<b>35,055</b>	<b>4,319,066</b>
<b>10-Yr Average</b>	<b>4,663</b>	<b>3,756</b>	<b>413</b>	<b>258</b>	<b>2,944</b>	<b>7,886</b>	<b>75,237</b>	<b>67,369</b>	<b>8,498</b>	<b>1,155</b>	<b>172,180</b>		

## PRIEST RAPIDS AND WANAPUM DAMS

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### FISH COUNTING SCHEDULE – PRIEST RAPIDS DAM

Jan. 1 – Apr. 14	No adult fish counting.
Apr. 15 – Nov. 15	Daily fish counting via video fish-counting system.
Nov. 16 – Dec. 31	No adult fish counting.

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### FISH COUNTING SCHEDULE – WANAPUM DAM

Jan. 1 – Apr. 14	No adult fish counting.
Apr. 15 – Nov. 15	Daily fish counting via video fish-counting system.
Nov. 16 – Dec. 31	No adult fish counting.

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### FISH LADDER OPERATING AND MAINTENANCE SCHEDULE – PRIEST RAPIDS DAM

#### *Left Bank Ladder*

01 Jan. – 26 Nov.	In service (within operational criteria).
26 Nov. – 31 Dec.	Out of criteria for annual inspection, maintenance, and repairs.

#### *Right Bank Ladder*

01 Jan. – 11 Apr.	Out of criteria for annual inspection, maintenance, and repairs.
11 Apr. – 26 Nov.	In service (within operational criteria).
26 Nov. – 02 Dec.	Out of criteria (fish passage at Ladder Flow due to LB shutdown).
02 Dec. – 04 Dec.	In service (within criteria, operation of new RB water supply).
04 Dec. – 31 Dec.	Out of criteria (fish passage at Ladder Flow due to LB shutdown).

### FISH LADDER OPERATING AND MAINTENANCE SCHEDULE – WANAPUM DAM

#### *Left Bank Ladder*

01 Jan. – 07 Mar.	Out of criteria for annual inspection, maintenance, and repairs.
07 Mar. – 31 Dec.	In service (within operational criteria).

#### *Right Bank Ladder*

01 Jan. – 04 Jan.	Out of criteria for annual inspection, maintenance, and repairs.
04 Jan. – 29 Nov.	In service (within operational criteria).
29 Nov. – 31 Dec.	Out of criteria for annual inspection, maintenance, and repairs.

Note: Out of criteria dates provided above reflect time periods when the adult fishway was out of operational flow and/or head differential criteria. Upstream fish passage is possible for one to several days before and after the indicated dates. “Ladder flow” are periods of reduced fishway flow that still allow fish passage.

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## FISHWAY ACTIVITIES

### Adult Fish Counting

The video fish-counting system uses digital video cameras installed in the fishways to assist with counting migrating fish at Priest Rapids and Wanapum Dams. Digital video images are streamed 24 hours per day to a digital video recorder (DVD) at each dam. The fish counting staff then playback these images on a computer screen in a fast-forward mode until a fish is observed, then slowed for fish identification and count. During high fish passage playback is in real time or replayed. At the end of each day all counts are electronically tallied and a fish-count report is generated for each dam and posted on Grant County PUD’s Fish, Wildlife, and Water Quality’s website:

<http://www.gcpud.org/naturalResources/fishWaterWildlife/fishCounts.php>. This site provides several years of fish counts and a historic fish count summary for Priest Rapids Dam. The fish-counting season for both hydroelectric projects run from April 15 through November 15, annually. Fish counting offices will be moved from the Priest Rapids Dam to the new Wanapum Dam phase II building in 2014 at which time the video fish counting system will be evaluated for possible improvements.

### Adult PIT Tag Detection

The PIT tag detection array is located in the exit section in both ladders of Priest Rapids Dam. The detection system is operated continuously whenever the adult fishways are operational. During the 2014 – 2015 winter outage period, the PIT tag readers will be upgraded with Biomark FS2020 transceivers, antenna improved and relocated. Another PIT tag monitoring site is located within OLAFT. There is no adult passage PIT tag array at Wanapum Dam.

### Off Ladder Adult Fish Trap (OLAFT)

The adult fish trap is located off the left bank fish ladder at Priest Rapids Dam. The trap was used by the (1) Yakama Nation to trap adult sockeye salmon for the Lake Cle Elum and Cooper Lake sockeye reintroduction program during June 26 – July 17, (2) Washington Department of Fish and Wildlife (WDFW) for its steelhead stock assessment from July 8 to October 18, (3) WDFW for the fall Chinook salmon age composition monitoring during September 1 – October 18, (4) WDFW for the Priest Rapids Hatchery broodstock collection feasibility program from September 11 to November 15, and (5) Yakama Nation to collect coho salmon broodstock in support of their mid-Columbia River coho salmon re-introduction program from early to late October. The facility was dewatered and winterized on November 18. No significant trap modifications are envisioned.



### Adult Lamprey Passage Study

Grant County PUD continued the study to identify and address hydro project impacts to upstream migrating adult Pacific lamprey. The study utilized strategically placed installed aluminum plating and fish counting stations with HDX-PIT tag arrays for evaluation of passage success and travel times within the Priest Rapids and Wanapum Dam fish ladders.

### New Priest Rapids Dam Right Bank Water Supply

Construction of an independent right bank fish ladder gravity attraction water supply began January 2013 and will be completed in early 2014. After completion, the water supply conduit under the spillway will be used as a backup to the new water supply. This new water supply will now allow the right bank ladder to be within operational criteria when the left bank ladder is down for maintenance.

TABLE 151

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER PRIEST RAPIDS DAM  
2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				162	11,141	31,603	40,341	16,317	163,009	98,627	10,526		371,726
STEELHEAD				24	28	124	1,219	4,678	6,834	1,993	111		15,011
SOCKEYE					1	38,803	122,836	1,433	5	0			163,078
COHO*									1,379	2,629	12		4,020
PINK													0
<b>TOTAL</b>				<b>186</b>	<b>11,170</b>	<b>70,530</b>	<b>164,396</b>	<b>22,428</b>	<b>171,227</b>	<b>103,249</b>	<b>10,649</b>		<b>553,835</b>
<b>SHAD</b>					<b>1</b>	<b>2,116</b>	<b>18,174</b>	<b>1,378</b>	<b>-40</b>	<b>-35</b>	<b>-8</b>		<b>21,586</b>
<b>LAMPREY</b>					<b>8</b>	<b>72</b>	<b>986</b>	<b>3,488</b>	<b>1,202</b>	<b>203</b>	<b>9</b>		<b>5,968</b>

\*Jacks included

TABLE 152

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

PRIEST RAPIDS PROJECT- FISH COUNTS										APRIL 2013					
DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F		
	SPRING	SUMMER	FALL												
Apr 1	BEGIN COUNTING APRIL 15										92.4	0.0	43.7		
Apr 2											95.5	0.2	44.2		
Apr 3											100.3	0.0	44.6		
Apr 4											132.3	4.0	44.6		
Apr 5											141.8	8.6	44.4		
Apr 6											138.9	5.5	44.8		
Apr 7											127.1	0.0	45.0		
Apr 8											140.6	26.6	44.8		
Apr 9											186.0	72.1	44.4		
Apr 10											195.6	83.5	44.4		
Apr 11											216.2	108.2	44.4		
Apr 12											195.7	91.1	44.1		
Apr 13											192.8	94.1	43.7		
Apr 14											204.8	79.7	43.7		
Apr 15	1								2			200.1	84.4	43.7	
Apr 16	0								1			206.0	99.8	43.9	
Apr 17	0								2			191.6	92.7	41.5	
Apr 18	4								2			175.1	69.6	43.9	
Apr 19	1								2			161.2	43.2	43.3	
Apr 20	1								2			162.8	22.4	41.9	
Apr 21	25								3			152.7	21.6	45.3	
Apr 22	3								0			148.5	21.8	45.9	
Apr 23	2								4			152.8	24.3	45.9	
Apr 24	0								1			169.2	31.6	46.0	
Apr 25	4								2			153.5	36.3	46.4	
Apr 26	10								0			165.5	32.4	47.3	
Apr 27	56								1			157.4	28.1	47.1	
Apr 28	35								1			148.4	26.4	47.7	
Apr 29	6								0			145.8	26.1		
Apr 30	14								1			150.7	27.2		
<b>TOTAL</b>	162										24		160.0	42.1	44.7
AVG.	10										2		160.0	42.1	44.7

TABLE 153

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT- FISH COUNTS

MAY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL										
May 1	5			0			0	0	0	0	165.5	33.6	47.8
May 2	46			0			0	1	0	0	165.1	30.8	48.7
May 3	292			2			0	3	0	0	158.7	29.6	48.9
May 4	357			7			0	2	0	0	157.6	27.6	49.3
May 5	365			1			0	2	0	0	148.8	26.3	49.5
May 6	113			4			0	0	0	0	148.0	26.3	50.2
May 7	92			3			0	3	0	0	165.4	31.2	50.5
May 8	224			8			0	1	0	0	198.7	65.2	51.1
May 9	345			15			0	2	0	1	166.3	51.7	51.8
May 10	1,262			51			0	0	1	0	242.1	116.7	52.2
May 11	124			3			0	0	0	0	225.4	84.3	52.2
May 12	559			52			0	2	0	1	189.3	55.9	52.2
May 13	184			9			0	0	0	0	209.0	82.2	51.8
May 14	228			63			0	1	0	0	191.8	77.8	51.6
May 15	397			19			0	0	0	0	204.0	66.8	51.4
May 16	392			137			0	1	0	0	197.9	69.1	51.4
May 17	737			71			0	0	0	0	217.0	85.5	51.4
May 18	963			160			0	0	0	1	225.0	109.6	51.6
May 19	537			27			0	1	0	1	223.8	106.2	52.0
May 20	204			64			0	1	0	0	216.0	93.5	51.8
May 21	157			3			0	1	0	2	206.7	86.1	52.3
May 22	156			85			0	0	0	0	220.3	107.2	52.5
May 23	439			26			0	2	0	0	222.9	104.9	52.5
May 24	276			45			0	2	0	1	200.6	81.7	52.3
May 25	675			40			0	0	0	0	227.2	105.3	52.5
May 26	264			96			0	1	0	0	220.2	94.4	52.9
May 27	180			20			0	1	0	0	220.1	90.6	53.1
May 28	69			37			1	1	0	0	214.3	123.3	53.4
May 29	54			2			0	0	0	0	205.4	68.5	53.4
May 30	192			25			0	0	0	1	160.0	23.3	53.8
May 31	168			10			0	0	0	0	147.0	25.1	54.7
<b>TOTAL</b>	<b>10,056</b>			<b>1,085</b>			<b>1</b>	<b>28</b>	<b>1</b>	<b>8</b>			
<b>AVG.</b>	<b>324</b>			<b>35</b>			<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>195.5</b>	<b>70.3</b>	<b>51.6</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	10,218	1085

SOCKEYE	STEELHEAD	SHAD	LAMPREY
1	52	1	8

TABLE 154

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

PRIEST RAPIDS PROJECT- FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL										
Jun 1	527			40			1	4	0	0	149.6	26.3	
Jun 2	189			6			0	3	2	1	188.2	61.3	
Jun 3	56			5			0	0	1	1	181.0	36.6	68.7
Jun 4	38			0			3	1	0	4	188.3	46.7	68.7
Jun 5	144			21			1	0	1	7	198.1	51.7	69.3
Jun 6	400			30			4	3	12	2	176.3	34.8	69.3
Jun 7	332			37			3	1	7	5	164.1	31.9	69.6
Jun 8	304			16			6	1	11	3	168.9	31.1	69.4
Jun 9	352			6			23	1	0	0	161.7	25.1	69.3
Jun 10	208			19			10	0	5	5	154.5	24.7	69.1
Jun 11	431			7			39	1	28	0	153.6	27.4	69.4
Jun 12	75			12			15	0	17	1	198.4	66.1	69.8
Jun 13	451			14			48	0	16	1	187.2	49.4	70.0
Jun 14		810		50			65	6	5	6	169.4	27.5	70.0
Jun 15		1,250		38			133	3	12	1	160.7	27.6	70.0
Jun 16		1,781		18			215	19	21	6	162.2	30.4	70.0
Jun 17		1,519		13			414	9	13	6	167.2	27.0	70.0
Jun 18		921		62			550	2	4	0	166.1	34.4	69.4
Jun 19		2,042		15			1,243	4	44	2	165.0	28.3	68.9
Jun 20		220		5			276	1	34	1	149.4	20.0	68.0
Jun 21		1,329		7			866	5	44	1	175.3	51.6	67.8
Jun 22		2,248		77			796	3	53	2	214.4	73.8	67.8
Jun 23		1,804		8			2,290	4	59	1	208.0	64.9	67.8
Jun 24		914		55			2,681	12	69	2	224.2	90.3	67.5
Jun 25		578		51			2,033	3	44	2	212.5	82.8	66.6
Jun 26		1,602		101			3,534	4	92	2	223.1	81.1	66.2
Jun 27		923		30			3,233	3	143	2	226.1	89.8	65.7
Jun 28		2,187		5			3,542	11	238	4	237.8	107.8	
Jun 29		4,078		122			7,976	13	560	3	229.7	107.7	
Jun 30		2,930		90			8,803	7	581	1	242.5	112.7	
<b>TOTAL</b>	<b>3,507</b>	<b>27,136</b>		<b>960</b>			<b>38,803</b>	<b>124</b>	<b>2,116</b>	<b>72</b>			
<b>AVG.</b>		<b>1596</b>		<b>32</b>			<b>1,293</b>	<b>4</b>	<b>71</b>	<b>2</b>	<b>186.8</b>	<b>52.4</b>	<b>68.7</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	13,725	1,298
SUMMER	27,136	747
<b>TOTAL</b>	<b>40,861</b>	<b>2,045</b>

SOCKEYE	STEELHEAD	SHAD	LAMPREY
38,804	176	2,117	80

TABLE 155

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

PRIEST RAPIDS PROJECT- FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK							
Jul 1		595		20			3,243	33	431	3	237.1	106.9	60.98
Jul 2		1,902		102			7,453	26	667	15	230.8	105.6	
Jul 3		2,389		64			6,102	25	1,581	11	243.8	119.9	62.1
Jul 4		2,283		124			9,199	11	2,230	3	205.2	86.5	
Jul 5		2,236		40			6,172	20	1,066	14	215.4	97.7	62.4
Jul 6		1,615		99			7,588	62	3,231	9	216.6	79.4	63.0
Jul 7		1,807		59			8,066	16	2,454	6	205.3	69.4	63.3
Jul 8		2,096		47			6,405	18	1,267	8	184.9	40.7	63.5
Jul 9		1,427		40			5,583	12	787	15	172.0	25.8	63.7
Jul 10		1,269		59			4,546	11	468	11	163.6	24.5	63.5
Jul 11		2,811		62			6,961	25	354	4	161.6	27.4	63.7
Jul 12		764		14			3,921	23	240	7	183.7	34.4	63.5
Jul 13		1,924		48			5,270	23	324	13	168.8	29.4	63.5
Jul 14		1,650		53			4,328	27	406	14	173.7	39.7	63.9
Jul 15		908		27			5,219	30	213	18	160.5	28.5	63.9
Jul 16		992		69			4,869	15	167	21	173.9	34.1	64.0
Jul 17		1,530		10			4,152	22	155	12	150.1	28.0	64.4
Jul 18		558		25			2,855	15	217	35	164.9	28.3	64.6
Jul 19		1,396		23			3,801	36	124	35	172.7	29.9	64.6
Jul 20		1,047		84			3,714	40	137	42	163.7	26.1	64.8
Jul 21		1,503		8			3,166	45	216	32	152.9	24.8	65.3
Jul 22		894		56			2,246	57	163	30	134.7	23.7	65.8
Jul 23		653		30			1,811	34	143	34	140.3	25.4	66.6
Jul 24		954		26			1,901	58	160	48	132.2	25.9	66.6
Jul 25		874		5			1,148	63	247	62	143.9	26.3	66.9
Jul 26		446		25			582	52	64	41	156.0	26.3	66.9
Jul 27		462		20			828	91	132	55	119.6	26.7	67.3
Jul 28		585		40			632	103	69	98	116.2	27.2	67.3
Jul 29		478		31			490	83	125	105	123.8	27.2	67.1
Jul 30		354		35			361	82	165	113	146.8	29.9	
Jul 31		496		98			224	61	171	72	150.9	28.0	
<b>TOTAL</b>		<b>38,898</b>		<b>1,443</b>			<b>122,836</b>	<b>1,219</b>	<b>18,174</b>	<b>986</b>			
<b>AVG.</b>		<b>1,255</b>		<b>47</b>			<b>3,962</b>	<b>39</b>	<b>586</b>	<b>32</b>	<b>169.9</b>	<b>43.7</b>	<b>64.6</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	13,725	1,298
SUMMER	66,034	2,190
<b>TOTAL</b>	<b>79,759</b>	<b>3,488</b>

SOCKEYE	STEELHEAD	SHAD	LAMPREY
161,640	1,395	20,291	1,066

TABLE 156

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT- FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK							
Aug 1		367		6	0		376	74	149	67	139.0	26.9	66.7
Aug 2		413		68	0		238	123	88	81	127.0	26.1	66.4
Aug 3		466		72	0		145	92	88	123	139.7	28.2	66.9
Aug 4		418		46	0		162	74	59	101	143.7	28.5	66.7
Aug 5		404		73	0		131	103	47	136	141.2	26.2	66.9
Aug 6		424		131	0		95	150	61	142	127.1	27.2	66.9
Aug 7		556		115	0		54	135	59	146	130.0	27.4	67.5
Aug 8		318		34	0		29	100	138	121	138.4	27.5	67.6
Aug 9		359		80	0		39	169	74	108	131.7	26.6	68.0
Aug 10		330		81	0		34	151	25	151	108.9	27.6	68.4
Aug 11		372		94	0		48	250	47	123	102.9	28.2	68.7
Aug 12		326		80	0		14	198	19	121	132.9	26.6	69.1
Aug 13		296		104	0		23	131	22	103	124.6	26.4	69.3
Aug 14			480	166	0		9	266	84	335	124.0	27.5	69.3
Aug 15			475	165	0		4	258	121	271	138.0	27.0	70.2
Aug 16			491	173	0		2	295	31	96	141.5	26.3	69.4
Aug 17			290	733	0		12	269	16	158	127.4	26.5	69.1
Aug 18			197	63	0		7	152	19	106	112.9	26.2	69.1
Aug 19			265	253	0		3	228	8	120	114.5	26.4	68.9
Aug 20			294	88	0		1	152	-3	57	121.5	26.1	68.7
Aug 21			285	497	0		0	172	54	46	128.8	25.3	68.5
Aug 22			179	78	0		1	86	31	49	123.3	23.9	68.5
Aug 23			328	68	0		1	152	13	47	111.3	12.1	68.5
Aug 24			263	174	0		0	135	50	113	90.3	6.1	68.4
Aug 25			229	106	0		0	136	9	99	93.5	6.7	68.2
Aug 26			146	83	0		2	104	-57	74	107.7	7.1	68.4
Aug 27			270	365	0		0	82	16	107	105.7	6.4	68.4
Aug 28			268	103	0		0	99	80	104	109.2	7.7	
Aug 29			465	456	0		2	94	39	75	112.9	4.5	
Aug 30			620	341	1		1	148	-18	54	114.7	7.9	
Aug 31			310	517	0		0	100	9	54	107.2	7.8	
<b>TOTAL</b>		<b>5,049</b>	<b>5,855</b>	<b>5,413</b>	<b>1</b>		<b>1,433</b>	<b>4,678</b>	<b>1,378</b>	<b>3,488</b>			
<b>AVG.</b>		<b>388</b>	<b>325</b>	<b>175</b>			<b>46</b>	<b>151</b>	<b>44</b>	<b>113</b>	<b>121.6</b>	<b>21.1</b>	<b>68.2</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	13,725	1,298
SUMMER	71,083	3,174
FALL	5,855	4,429
<b>TOTAL</b>	<b>90,663</b>	<b>8,901</b>

COHO ADULT	SOCKEYE	STEELHEAD	SHAD	LAMPREY
1	163,073	6,073	21,669	4,554

TABLE 157

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT- FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	DISCH	SPILL	DEG F
	SPRING	SUMMER	JACK	ADULT	JACK					KCFS	KCFS	
Sep 1			605	138	0	0	145	3	66	88.3	7.6	68.7
Sep 2			766	249	2	0	121	-13	67	61.4	7.1	68.7
Sep 3			905	146	0	0	148	1	55	81.5	7.2	69.3
Sep 4			1,190	257	1	0	157	-20	56	77.0	7.4	69.3
Sep 5			1,684	249	2	1	192	-22	55	76.4	7.4	69.6
Sep 6			1,579	202	3	2	166	4	38	79.7	7.3	69.4
Sep 7			3,666	294	0	0	203	14	34	52.1	7.0	69.3
Sep 8			2,170	127	0	0	190	5	23	52.1	6.9	69.1
Sep 9			2,600	208	0	0	236	-22	44	82.5	7.8	69.4
Sep 10			2,504	236	17	0	180	-42	72	102.2	7.6	69.8
Sep 11			1,987	227	6	1	322	41	156	82.8	7.3	70.0
Sep 12			2,658	425	4	1	288	8	65	85.3	7.4	70.0
Sep 13			4,893	349	23	9	417	10	72	80.4	7.4	70.0
Sep 14			6,875	502	52	11	434	5	54	72.9	7.6	70.0
Sep 15			7,140	463	46	20	438	-2	17	67.8	7.9	70.0
Sep 16			8,401	378	121	24	447	-2	28	94.8	7.9	69.4
Sep 17			5,889	333	36	14	332	0	28	81.5	7.5	68.9
Sep 18			5,374	405	15	0	205	0	26	58.1	7.1	68.0
Sep 19			5,814	314	23	4	206	0	18	84.0	7.9	67.8
Sep 20			7,730	323	28	0	188	0	16	67.8	7.7	67.8
Sep 21			8,241	539	125	6	235	-2	42	70.9	7.8	67.8
Sep 22			8,332	413	56	4	242	5	29	64.5	7.9	67.5
Sep 23			10,764	392	105	6	240	-6	30	77.1	7.9	66.6
Sep 24			7,393	162	69	1	157	-2	19	75.2	7.9	66.2
Sep 25			9,095	497	74	1	180	0	15	72.6	7.7	65.7
Sep 26			7,602	356	66	20	156	0	18	77.1	8.0	
Sep 27			6,294	284	113	8	131	0	15	81.2	8.0	
Sep 28			6,950	384	89	5	205	2	13	69.6	7.9	
Sep 29			7,091	415	107	14	191	1	17	48.3	7.5	
Sep 30			7,239	311	38	6	82	-6	14	72.7	7.9	
<b>TOTAL</b>			<b>153,431</b>	<b>9,578</b>	<b>1,221</b>	<b>158</b>	<b>5</b>	<b>6,834</b>	<b>-40</b>	<b>1,202</b>		

AVG.			5114	319	41	5	0	228	-1	40	74.6	7.6	68.7
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	13,725	1,298
SUMMER	71,083	3,174
FALL	159,286	14,007
<b>TOTAL</b>	<b>244,094</b>	<b>18,479</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY
1,222	158	163,078	12,907	21,629	5,756



TABLE 158

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT- FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK							
Oct 1			4,481	308	84	10		117	-1	10	81.3	7.9	63.1
Oct 2			1,212	75	40	4		71	0	20	71.6	7.5	63.1
Oct 3			3,175	209	37	30		135	0	11	77.5	7.9	62.8
Oct 4			1,763	115	67	8		125	0	6	66.9	7.8	62.4
Oct 5			2,114	142	130	30		121	-1	21	70.4	8.0	62.2
Oct 6			4,323	180	193	13		84	-4	5	52.7	7.5	61.9
Oct 7			4,805	256	183	14		99	-2	17	62.7	5.8	61.7
Oct 8			4,975	163	164	37		121	1	16	65.6	8.0	61.3
Oct 9			4,229	230	217	24		108	0	7	88.2	8.2	60.8
Oct 10			2,160	110	194	21		110	0	12	91.7	6.7	60.6
Oct 11			2,277	146	175	16		95	-2	9	64.3	4.7	60.3
Oct 12			3,408	158	149	23		112	-6	4	67.8	5.0	59.7
Oct 13			2,760	102	73	8		57	-4	5	56.7	5.3	59.9
Oct 14			4,279	155	57	28		45	-2	9	85.3	6.1	60.1
Oct 15			4,860	142	23	2		35	-4	2	83.3	7.5	60.3
Oct 16			3,237	105	164	10		69	-1	1	92.3	7.3	60.1
Oct 17			2,470	128	73	9		41	3	0	103.0	7.8	59.9
Oct 18			2,507	106	66	6		61	1	1	89.8	6.6	59.9
Oct 19			1,806	120	22	2		47	-3	4	92.4	7.0	60.1
Oct 20			1,827	108	15	1		40	0	2	83.2	6.8	60.4
Oct 21			2,538	122	63	13		26	0	3	89.6	3.7	60.3
Oct 22			2,433	56	16	3		61	-4	3	72.5	3.5	60.4
Oct 23			2,789	87	15	1		23	1	3	77.0	4.9	60.4
Oct 24			3,681	82	3	0		20	-2	1	82.3	6.3	60.6
Oct 25			3,092	90	25	2		21	-2	6	76.7	6.8	60.6
Oct 26			2,629	89	7	0		16	0	6	75.2	6.9	60.4
Oct 27			4,176	96	10	2		27	0	5	73.1	6.4	60.1
Oct 28			3,252	152	11	1		23	0	3	89.0	6.9	59.4
Oct 29			2,348	73	11	1		21	-2	4	95.6	7.0	58.6
Oct 30			2,556	103	17	0		26	1	4	86.2	7.3	
Oct 31			2,414	43	5	1		36	-2	3	74.4	6.1	
<b>TOTALS</b>			<b>94,576</b>	<b>4,051</b>	<b>2,309</b>	<b>320</b>		<b>1,993</b>	<b>-35</b>	<b>203</b>			
<b>AVG.</b>			<b>3,051</b>	<b>131</b>	<b>74</b>	<b>10</b>		<b>64</b>	<b>-1</b>	<b>7</b>	<b>78.7</b>	<b>6.6</b>	<b>60.7</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	13,725	1,298
SUMMER	71,083	3,174
FALL	253,862	18,058
<b>TOTAL</b>	<b>338,670</b>	<b>22,530</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY
3,531	478	163,078	14,900	21,594	5,959

TABLE 159

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT- FISH COUNTS

NOVEMBER 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK							
Nov 1			1,567	24	4			15	0	0	80.3	6.1	57.7
Nov 2			2,320	110	0			23	0	1	71.9	6.6	57.4
Nov 3			1,557	98	1			15	0	3	72.8	6.2	56.7
Nov 4			815	33	2			11	1	0	88.2	6.3	56.3
Nov 5			841	40	1			7	0	1	83.2	6.4	56.1
Nov 6			769	40	2			3	-4	1	94.7	7.0	55.8
Nov 7			600	44	0			4	0	1	89.3	6.8	55.4
Nov 8			525	16	1			3	0	0	80.5	7.0	54.9
Nov 9			188	5	0			2	0	0	90.3	7.7	54.5
Nov 10			244	19	0			7	-2	0	87.0	6.8	54.3
Nov 11			133	5	0			4	0	1	79.5	6.9	54.3
Nov 12			130	13	1			6	-1	0	92.2	7.4	54.3
Nov 13			127	8	0			4	-1	1	99.0	7.2	54.1
Nov 14			133	7	0			5	-1	0	84.6	6.6	54.0
Nov 15			113	2	0			2	0	0	77.2	2.1	53.6
Nov 16											96.7	0.0	
Nov 17											100.5	0.0	
Nov 18											91.8	0.0	
Nov 19											70.2	0.0	
Nov 20											92.0	0.0	
Nov 21											103.1	4.8	
Nov 22											97.6	2.8	
Nov 23											98.3	0.0	
Nov 24											73.7	0.0	
Nov 25													
Nov 26													
Nov 27													
Nov 28													
Nov 29													
Nov 30													
<b>TOTALS</b>			10,062	464	12			111	-8	9			
<b>AVG.</b>			671	31	1			7	-1	1	87.3	4.4	55.3

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	13,725	1,298
SUMMER	71,083	3,174
FALL	263,924	18,522
<b>TOTAL</b>	<b>348,732</b>	<b>22,994</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY
3,543	478	163,078	15,011	21,586	5,968

TABLE 160

**YEARLY TOTALS OF SALMONIDS COUNTED OVER PRIEST RAPIDS DAM  
1982 - 2013**

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	54,552	5,460	82,963	0	142,975
1994	32,892	6,706	12,385	0	51,983
1995	30,548	4,358	9,186	3	44,095
1996	27,325	8,324	29,422	5	65,076
1997	33,036	8,948	45,412	26	87,422
1998	29,415	5,837	10,769	18	46,039
1999	57,054	8,277	16,432	55	81,818
2000	91,223	11,331	89,547	378	192,479
2001	139,929	30,090	111,326	11,189	292,534
2002	161,510	15,895	47,883	1,555	226,843
2003	160,433	17,652	36,551	5,216	219,852
2004	134,620	18,727	124,943	5,624	283,914
2005	109,429	12,472	74,563	1,260	197,724
2006	87,086	10,408	26,710	3,813	128,017
2007	65,962	15,183	24,645	12,310	118,100
2008	104,001	16,725	196,835	6,022	323,583
2009	114,137	40,093	153,466	11,293	318,989
2010	123,576	26,476	357,058	2,655	509,765
2011	116,914	20,757	145,070	23,392	306,133
2012	138,487	17,230	408,257	9,957	573,931
2013	371,726	15,011	163,078	4,020	553,835
<b>Totals</b>	<b>2,701,120</b>	<b>512,583</b>	<b>2,944,804</b>	<b>101,840</b>	<b>6,260,347</b>
<b>10-Year Average</b>	<b>136,594</b>	<b>19,308</b>	<b>167,463</b>	<b>8,035</b>	<b>331,399</b>

\*Jacks included

TABLE 161

MONTHLY COUNT OF STEELHEAD  
PRIEST RAPIDS DAM: 1960 - 2013

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				34	41	125	993	1,733	2,013	471	40		5,450
1994				7	13	78	902	1,286	3,087	1,269	64		6,706
1995				4	20	30	540	1,316	2,062	363	23		4,358
1996				9	14	35	546	3,234	3,810	627	49		8,324
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	4,426	10,368	12,136	2,607	202		30,090
2002				22	15	134	3,225	7,442	4,101	874	82		15,895
2003				7	2	95	2,924	5,198	8,009	1,362	55		17,652
2004				7	79	516	3,438	2,687	10,905	1,042	53		18,727
2005				7	7	150	1,691	2,986	5,715	1,805	111		12,472
2006				18	26	87	983	2,934	5,583	723	54		10,408
2007				10	41	51	1,217	5,201	6,581	1,960	122		15,183
2008				25	100	452	3,572	5,409	6,004	1,038	125		16,725
2009				24	34	78	2,330	13,537	19,965	4,034	91		40,093
2010				63	23	229	6,634	9,933	8,150	1,333	111		26,476
2011				14	27	29	1,089	10,012	7,780	1,740	66		20,757
2012				64	26	149	1,879	6,586	7,024	1,364	138		17,230
2013				24	28	124	1,219	4,678	6,834	1,993	111		15,011
TOTAL	40	56	288	4,205	9,055	7,607	73,593	211,882	298,197	75,617	4,709	63	685,312
10-Year Average				26	39	187	2,405	6,396	8,454	1,703	98		19,308

## ROCK ISLAND DAM

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### **Fish Counting Schedule**

Jan 1 – Apr 13	No video recording or fish counting during this period.
Apr 14 – Nov 15	Video recording 24 hours per day/7 days a week. Video counting daily from 0700 to 1530 hours Pacific Standard Time.
Nov 16 – Dec 31	No video recording or fish counting during this period.

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### **Fish Ladder Operating Schedule**

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

Jan 1 – Feb 26	Fishway out of service for 2012/2013 annual maintenance period.
Feb 27 – Dec 31	Fishway in service.

#### ***Middle Ladder***

Jan 1 – Jan 4	Fishway out of service for 2012/2013 annual maintenance period.
Jan 5 – Dec 31	Fishway in service.

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

Jan 1 – Jan 6	Fishway in service.
Jan 7 – Feb 1	Fishway out of service for 2012/2013 annual maintenance period.
Feb 2 – Dec 1	Fishway in service.
Dec 2 – Dec 31	Fishway out of service for 2013/2014 annual maintenance period.

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### **Fish Facility Activities**

The Rock Island Bypass Trap was operated by Chelan County PUD Natural Resource Department employees from 1 April through 31 August 2013. Juvenile fish were sampled daily during that time period. The annual bypass (biological) evaluation included the collection of species composition and fish condition data.

The adult fish PIT tag system was operational throughout the 2013 adult fish migration. PIT tag detections from all three fishways were uploaded daily to PTAGIS.

TABLE 162

MONTHLY TOTALS OF SALMONIDS AND LAMPREY COUNTED OVER ROCK ISLAND DAM  
2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				58	10,666	19,607	50,069	16,677	23,646	28,643	8,887		158,253
STEELHEAD				49	57	79	703	3,764	4,817	1,891	141		11,501
SOCKEYE						12,947	143,776	2,462	17	17	0		159,219
COHO									135	2,431	47		2,613
PINK													0
<b>TOTAL</b>				<b>107</b>	<b>10,723</b>	<b>32,633</b>	<b>194,548</b>	<b>22,903</b>	<b>28,615</b>	<b>32,982</b>	<b>9,075</b>		<b>331,586</b>
<b>LAMPREY</b>						4	47	761	1,281	63	1		2,157
<b>BULL TROUT</b>				1	28	54	33	4	1				121

TABLE 163

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

ROCK ISLAND PROJECT- FISH COUNTS

APRIL 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Apr 1												92.0	0.0	42.6
Apr 2												89.5	0.0	43.1
Apr 3												126.2	0.0	43.6
Apr 4												136.4	0.6	43.6
Apr 5												134.8	1.4	43.3
Apr 6												131.2	2.1	43.2
Apr 7												125.5	0.0	43.2
Apr 8												148.0	15.4	43.3
Apr 9												169.9	32.2	43.5
Apr 10												177.9	44.1	43.4
Apr 11												190.4	52.7	43.1
Apr 12												185.6	19.3	43.1
Apr 13												179.1	20.2	43.0
Apr 14	1							5	5	0		178.3	26.5	43.1
Apr 15	1							4	3	0		180.4	29.9	43.0
Apr 16	1							2	2	0		190.0	29.9	43.1
Apr 17	0							4	2	0		181.4	30.1	43.3
Apr 18	2							5	3	0		165.1	26.8	43.6
Apr 19	0							1	0	1		158.9	20.1	44.0
Apr 20	1							0	0	0		139.0	14.2	44.3
Apr 21	1							1	1	0		136.6	15.7	44.7
Apr 22	5							2	2	0		154.9	19.2	45.0
Apr 23	3							9	2	0		167.1	16.0	45.0
Apr 24	0							2	0	0		163.5	16.1	45.1
Apr 25	5							5	3	0		160.0	17.3	45.5
Apr 26	9							1	0	0		154.3	15.0	46.0
Apr 27	5							1	1	0		145.3	15.3	46.5
Apr 28	9							2	2	0		132.8	14.4	47.0
Apr 29	8							4	4	0		145.3	16.1	47.3
Apr 30	7							1	1	0		159.0	18.2	47.4
<b>TOTAL</b>	<b>58</b>							<b>49</b>	<b>31</b>	<b>1</b>				
<b>AVG.</b>	<b>3</b>							<b>3</b>	<b>2</b>	<b>0</b>		<b>153.3</b>	<b>17.6</b>	<b>44.2</b>

TABLE 164

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCK ISLAND PROJECT- FISH COUNTS

MAY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
May 1	2			0				0	0	0		168.4	14.4	47.2
May 2	8			0				0	0	0		157.8	14.5	47.1
May 3	12			0				0	0	0		155.5	13.9	47.3
May 4	23			1				3	3	0		142.7	11.5	47.7
May 5	45			0				0	0	0		136.0	13.3	48.4
May 6	236			3				4	4	0		154.3	16.2	49.1
May 7	194			1				1	1	0		168.0	18.0	49.9
May 8	200			7				3	3	0		186.4	17.9	50.3
May 9	213			5				3	3	0		169.1	22.2	50.3
May 10	276			12				1	1	0		218.0	25.7	50.5
May 11	236			7				4	2	0		205.5	52.1	50.5
May 12	528			37				1	1	1		189.7	29.0	50.5
May 13	596			57				2	1	0		190.0	35.3	50.3
May 14	226			39				2	1	1		188.0	18.4	49.9
May 15	279			33				3	3	0		187.9	19.9	50.0
May 16	463			64				1	1	0		181.8	30.5	50.3
May 17	258			95				0	0	1		199.7	40.5	50.6
May 18	367			127				3	3	0		193.9	43.2	50.4
May 19	584			180				1	0	0		207.0	47.0	51.2
May 20	566			352				3	2	4		200.6	36.4	52.0
May 21	590			214				1	0	2		202.2	20.4	52.1
May 22	264			130				0	0	2		214.5	20.0	51.7
May 23	161			59				1	1	1		201.3	20.0	51.5
May 24	218			145				0	0	3		191.7	20.9	51.4
May 25	156			172				1	1	2		211.0	19.8	52.2
May 26	245			162				3	2	2		209.8	19.6	52.3
May 27	515			143				6	5	1		210.3	21.4	52.5
May 28	288			95				2	1	2		213.4	24.0	52.6
May 29	270			81				3	2	2		184.6	21.0	53.2
May 30	126			63				4	4	0		145.6	20.8	53.7
May 31	128			109				1	1	4		149.7	19.0	54.0
<b>TOTAL</b>	<b>8,273</b>			<b>2,393</b>				<b>57</b>	<b>46</b>	<b>28</b>				

AVG. 267

77

2

1

1

185.0 24.1 50.7

RUN YEAR

TOTALS TO DATE

	CHINOOK ADULT	CHINOOK JACK
SPRING	8,331	2,393

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT
0	106	77	29



TABLE 165

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCK ISLAND PROJECT- FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Jun 1	170			55			0	0	0	0	0	153.9	14.3	54.4
Jun 2	132			59			1	0	0	2	0	182.1	17.3	55.0
Jun 3	466			59			0	1	1	2	0	168.1	24.1	55.2
Jun 4	142			27			0	1	1	1	0	181.9	24.0	55.4
Jun 5	103			42			0	1	1	2	0	187.2	38.1	55.8
Jun 6	99			12			0	0	0	4	0	171.1	36.1	56.2
Jun 7	105			30			0	4	2	4	0	159.7	36.4	56.4
Jun 8	190			12			0	1	1	4	0	156.6	35.4	56.5
Jun 9	325			50			2	1	1	5	0	142.8	34.5	56.8
Jun 10	248			53			3	2	1	3	0	155.0	36.5	57.0
Jun 11	216			37			8	1	1	3	0	162.3	34.8	57.0
Jun 12	230			27			7	2	1	1	0	187.0	34.4	56.7
Jun 13	286			28			6	1	1	1	0	174.1	35.2	56.0
Jun 14	176			16			35	1	1	1	0	170.1	34.5	55.7
Jun 15	427			54			25	3	3	1	0	156.8	31.5	56.0
Jun 16	733			38			43	1	1	2	0	152.2	29.7	56.8
Jun 17	966			108			68	4	4	1	0	168.1	33.0	57.3
Jun 18	849			69			132	2	2	2	0	162.7	33.8	57.1
Jun 19	753			43			174	3	3	1	0	150.7	33.7	57.0
Jun 20	1,005			52			316	3	3	2	0	143.5	33.5	56.8
Jun 21	519			29			372	4	4	4	0	180.6	33.9	56.3
Jun 22	473			45			359	2	2	0	0	201.8	30.9	56.4
Jun 23	1,660			68			598	3	1	0	0	201.5	36.2	56.8
Jun 24		1,305		37			753	0	0	1	1	204.0	38.1	56.5
Jun 25		548		34			678	4	2	1	1	201.2	41.0	56.8
Jun 26		1,303		87			1,186	3	3	1	0	207.3	40.3	57.4
Jun 27		972		39			1,508	6	4	2	0	212.9	40.1	57.8
Jun 28		972		25			1,570	8	6	3	0	222.1	40.0	58.4
Jun 29		1,744		24			2,068	8	4	0	0	216.9	42.2	59.1
Jun 30		1,216		15			3,035	9	5	0	2	229.9	42.3	59.6
<b>TOTAL</b>	<b>10,273</b>	<b>8,060</b>		<b>1,274</b>			<b>12,947</b>	<b>79</b>	<b>59</b>	<b>54</b>	<b>4</b>			
<b>AVG.</b>	<b>447</b>	<b>1,151</b>		<b>42</b>			<b>432</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>178.8</b>	<b>33.9</b>	<b>56.7</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	18,604	3,406
SUMMER	8,060	261
<b>TOTALS</b>	<b>26,664</b>	<b>3,667</b>

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
12,947	185	136	83	4

TABLE 166

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

ROCK ISLAND PROJECT- FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Jul 1		3,687		62			3,686	5	4	1	2	219.6	37.0	60.1
Jul 2		3,145		80			7,803	9	5	1	1	219.4	42.3	60.7
Jul 3		2,337		54			8,591	9	8	1	1	219.4	45.7	60.9
Jul 4		3,203		121			7,558	12	10	0	0	191.5	37.5	61.4
Jul 5		2,529		66			7,574	20	11	4	1	199.8	32.6	61.6
Jul 6		2,910		56			7,521	17	10	2	0	207.0	36.9	61.7
Jul 7		2,025		64			7,303	18	14	1	0	195.2	36.3	61.4
Jul 8		1,823		46			7,897	10	6	2	0	174.3	36.8	61.5
Jul 9		1,609		58			7,960	31	15	0	0	165.8	37.7	61.7
Jul 10		1,651		56			6,270	11	5	0	3	153.4	34.8	62.2
Jul 11		1,839		78			7,169	25	21	1	1	160.0	36.2	62.5
Jul 12		1,885		59			6,448	18	12	5	1	172.9	38.1	62.3
Jul 13		2,390		83			5,990	18	5	1	0	166.3	34.8	62.0
Jul 14		1,400		50			5,782	18	11	2	1	163.8	32.4	62.5
Jul 15		1,651		43			5,632	27	19	1	4	157.6	33.5	62.6
Jul 16		1,423		64			4,516	28	22	0	0	157.8	32.7	62.4
Jul 17		1,106		44			4,227	20	14	0	0	155.1	32.4	62.4
Jul 18		960		82			4,690	23	9	0	1	158.4	30.4	63.1
Jul 19		1,365		65			4,192	23	15	0	1	164.1	30.9	63.6
Jul 20		743		40			3,286	19	9	2	0	143.2	28.5	63.9
Jul 21		1,264		65			3,788	19	10	2	1	124.8	27.5	64.3
Jul 22		830		45			3,208	25	18	2	1	148.1	28.2	64.7
Jul 23		1,210		53			3,075	19	12	1	2	133.8	28.7	65.2
Jul 24		1,196		33			2,410	35	26	0	1	134.1	28.3	65.6
Jul 25		573		37			2,132	39	28	2	7	141.3	28.6	65.7
Jul 26		897		48			1,579	36	22	1	4	132.5	28.6	65.6
Jul 27		859		41			1,112	48	32	1	4	122.4	26.0	65.7
Jul 28		592		23			825	42	27	0	8	115.9	25.5	65.6
Jul 29		443		31			528	13	10	0	2	131.1	28.8	65.9
Jul 30		441		15			669	43	29	0	0	145.2	28.5	66.0
Jul 31		398		23			355	23	18	0	0	144.3	28.6	65.8
<b>TOTAL</b>		<b>48,384</b>		<b>1,685</b>			<b>143,776</b>	<b>703</b>	<b>457</b>	<b>33</b>	<b>47</b>			
<b>AVG.</b>		<b>1,561</b>		<b>54</b>			<b>4,638</b>	<b>23</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>161.9</b>	<b>32.7</b>	<b>63.2</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	18,604	3,406
SUMMER	56,444	1,946
<b>TOTALS</b>	<b>75,048</b>	<b>5,352</b>

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
156,723	888	593	116	51

TABLE 167

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

ROCK ISLAND PROJECT- FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Aug 1		393		33			458	64	33	0	0	124.0	27.6	65.1
Aug 2		564		46			364	113	74	0	4	135.8	24.6	64.5
Aug 3		430		51			299	74	51	0	4	134.6	21.2	64.8
Aug 4		371		97			278	85	60	0	9	134.7	21.3	65.2
Aug 5		558		54			198	88	56	0	16	135.1	24.2	65.8
Aug 6		558		88			163	89	52	0	23	126.1	24.1	66.2
Aug 7		437		107			141	73	53	0	21	125.0	25.6	65.8
Aug 8		384		104			144	99	76	0	14	132.7	25.9	66.8
Aug 9		584		197			84	95	52	0	20	123.0	24.3	67.1
Aug 10		296		188			88	104	65	0	11	102.3	20.9	67.4
Aug 11		237		155			30	79	52	0	45	107.0	20.3	67.6
Aug 12		273		106			26	69	34	2	50	122.5	25.6	67.9
Aug 13		446		92			41	142	104	2	41	118.9	25.5	67.6
Aug 14		317		105			29	104	53	0	23	121.9	25.6	67.7
Aug 15		272		129			17	120	66	0	41	134.7	25.5	67.8
Aug 16		286		85			19	91	45	0	23	131.7	25.9	67.6
Aug 17		277		97			21	159	89	0	28	112.2	21.2	67.2
Aug 18		321		468			12	190	114	0	19	104.2	20.2	67.2
Aug 19		397		797			7	239	146	0	24	106.3	0.0	67.3
Aug 20		270		495			2	178	104	0	23	130.6	0.0	67.4
Aug 21		221		458			4	193	116	0	25	126.4	0.0	67.3
Aug 22		250		349			6	181	91	0	28	116.6	0.0	67.4
Aug 23		177		203			3	130	67	0	17	81.0	1.9	67.2
Aug 24		130		258			6	110	62	0	21	94.9	0.0	67.2
Aug 25		194		286			5	132	73	0	19	104.4	0.0	67.0
Aug 26		196		290			2	128	69	0	18	112.5	0.0	67.0
Aug 27		151		338			4	186	93	0	25	109.0	0.0	66.9
Aug 28		122		271			5	140	69	0	18	107.9	0.0	67.1
Aug 29		137		456			2	118	64	0	32	108.9	0.0	67.4
Aug 30		132		353			4	79	42	0	53	113.9	0.0	67.7
Aug 31		192		348			0	112	60	0	66	103.6	0.0	67.7
<b>TOTAL</b>		<b>9,573</b>		<b>7,104</b>			<b>2,462</b>	<b>3,764</b>	<b>2,185</b>	<b>4</b>	<b>761</b>			

AVG.	309	229	79	121	70	0	25	117.5	13.9	66.9
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	18,604	3,406
SUMMER	66,017	9,050
<b>TOTALS</b>	<b>84,621</b>	<b>12,456</b>

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
159,185	4,652	2,778	120	812

TABLE 168

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

ROCK ISLAND PROJECT- FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Sep 1		193		353	0	0	6	85	44	0	70	63.4	0.0	67.8
Sep 2			189	275	0	0	1	98	57	0	72	56.4	0.0	68.2
Sep 3			180	248	0	0	0	78	46	1	44	83.6	0.0	68.5
Sep 4			180	240	0	0	0	99	58	0	70	82.4	0.0	68.8
Sep 5			191	281	0	0	0	123	60	0	55	73.8	0.0	68.9
Sep 6			96	78	0	0	1	55	28	0	52	62.1	0.0	68.8
Sep 7			118	141	0	0	0	72	32	0	272	64.1	0.0	68.5
Sep 8			119	145	0	0	2	99	46	0	137	59.5	0.0	68.3
Sep 9			214	219	0	0	1	105	66	0	60	86.1	0.0	68.3
Sep 10			465	225	0	0	0	127	75	0	41	81.1	0.0	68.4
Sep 11			446	149	0	0	0	128	66	0	46	78.2	0.0	68.2
Sep 12			394	112	0	0	0	164	86	0	40	85.0	0.0	68.1
Sep 13			451	149	1	0	0	186	102	0	24	78.1	0.0	68.7
Sep 14			479	157	3	0	1	204	97	0	42	74.9	0.0	68.9
Sep 15			464	140	1	0	0	171	88	0	57	78.0	0.0	69.1
Sep 16			838	148	0	0	0	254	120	0	33	85.9	0.0	68.7
Sep 17			1,484	157	0	0	1	370	171	0	32	69.2	0.0	68.4
Sep 18			1,018	161	1	0	2	286	143	0	17	66.1	0.0	68.0
Sep 19			1,153	130	2	0	0	276	133	0	13	75.7	0.0	67.7
Sep 20			1,225	147	2	0	0	248	111	0	14	63.0	0.0	67.3
Sep 21			706	87	4	0	0	125	49	0	6	75.6	0.0	67.3
Sep 22			808	124	7	0	1	149	77	0	16	62.0	0.0	67.2
Sep 23			1,035	146	5	2	0	206	98	0	14	71.9	0.0	66.7
Sep 24			887	103	17	0	0	160	68	0	14	76.1	0.0	66.2
Sep 25			1,096	106	2	1	0	168	80	0	10	71.1	0.0	65.9
Sep 26			917	91	6	1	0	179	66	0	8	79.7	0.0	65.8
Sep 27			1,109	131	6	1	0	188	71	0	4	77.8	0.0	65.1
Sep 28			804	118	14	1	0	154	59	0	6	60.3	0.0	64.6
Sep 29			795	119	26	3	1	137	52	0	4	53.2	0.0	64.0
Sep 30			831	81	25	4	0	123	56	0	8	76.2	0.0	63.4
<b>TOTAL</b>		193	18,692	4,761	122	13	17	4,817	2,305	1	1,281			
<b>AVG.</b>			645	159	4	0	1	161	77	0	43	72.3	0.0	67.5

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	18,604	3,406
SUMMER	66,210	9,403
FALL	18,692	4,408
<b>TOTALS</b>	<b>103,506</b>	<b>17,217</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
122	13	159,202	9,469	5,083	121	2,093

TABLE 169

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCK ISLAND PROJECT- FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F	
	SPRING	SUMMER	FALL	JACK	ADULT									JACK
Oct 1			490	95	28	5	0	100	54		19	67.6	0.0	62.7
Oct 2			308	66	27	0	0	97	52		8	76.8	0.0	62.2
Oct 3			400	80	56	3	0	127	51		4	71.2	0.0	61.8
Oct 4			239	72	46	4	0	97	54		0	70.9	0.0	61.5
Oct 5			339	115	69	4	0	107	59		0	58.5	0.0	61.3
Oct 6			195	67	79	10	1	69	35		6	61.0	0.0	61.3
Oct 7			257	53	52	6	0	90	40		3	60.4	0.0	61.4
Oct 8			342	75	98	10	0	74	32		6	70.5	0.0	61.3
Oct 9			540	74	114	12	1	120	62		0	86.3	0.0	61.4
Oct 10			375	56	180	19	4	102	48		4	63.8	0.0	61.3
Oct 11			316	57	125	11	0	89	45		0	64.9	0.0	60.9
Oct 12			291	55	176	17	1	59	36		1	64.8	0.0	61.0
Oct 13			367	46	164	17	3	61	37		0	60.6	0.0	60.9
Oct 14			439	54	140	6	0	59	29		0	82.1	0.0	61.1
Oct 15			544	69	214	21	4	68	31		0	80.5	0.0	61.2
Oct 16			433	44	163	11	1	63	39		1	97.9	0.0	61.1
Oct 17			456	59	94	1	1	81	41		3	91.6	0.0	61.2
Oct 18			750	51	88	12	0	45	20		2	86.4	0.0	61.1
Oct 19			560	50	60	8	0	47	20		1	86.5	0.0	61.3
Oct 20			824	38	45	8	0	35	15		0	86.0	0.0	61.2
Oct 21			757	46	42	9	0	30	9		0	82.7	0.0	61.0
Oct 22			678	44	23	4	0	29	12		1	71.2	0.0	61.2
Oct 23			1,159	44	17	13	0	38	9		1	79.2	0.0	61.1
Oct 24			1,616	47	25	6	0	39	17		0	78.6	0.0	60.9
Oct 25			1,847	84	16	4	0	39	16		1	75.9	0.0	60.7
Oct 26			2,102	53	14	1	0	29	12		1	78.7	0.0	60.4
Oct 27			1,997	37	13	5	0	21	8		1	72.5	0.0	60.0
Oct 28			3,407	52	11	1	0	19	6		0	85.4	0.0	59.5
Oct 29			1,390	37	4	1	1	21	7		0	88.6	0.0	58.7
Oct 30			1,741	29	2	3	0	19	13		0	84.7	0.0	58.3
Oct 31			1,712	23	10	4	0	17	8		0	73.5	0.0	57.9
<b>TOTAL</b>			<b>26,871</b>	<b>1,772</b>	<b>2,195</b>	<b>236</b>	<b>17</b>	<b>1,891</b>	<b>917</b>		<b>63</b>			

AVG.			867	57	71	8	1	61	30		2	76.1	0.0	60.9
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	18,604	3,406
SUMMER	66,210	9,403
FALL	45,563	6,180
<b>TOTALS</b>	<b>130,377</b>	<b>18,989</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
2,317	249	159,219	11,360	6,000	121	2,156

TABLE 170

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

ROCK ISLAND PROJECT- FISH COUNTS

NOVEMBER 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Nov 1			1,368	27	5	0	0	13	6		0	81.0	0.0	57.7
Nov 2			1,930	23	4	0	0	16	8		0	72.6	0.0	57.5
Nov 3			1,261	29	10	0	0	12	6		0	65.8	0.0	56.9
Nov 4			1,134	9	3	0	0	3	1		0	84.7	0.0	56.4
Nov 5			950	13	4	0	0	7	2		0	88.1	0.0	56.2
Nov 6			708	10	3	0	0	9	2		0	94.3	0.0	55.8
Nov 7			478	8	2	1	0	8	6		0	90.7	0.0	55.7
Nov 8			225	9	2	0	0	17	7		0	83.7	0.0	55.3
Nov 9			162	4	1	0	0	9	0		0	86.2	0.0	55.2
Nov 10			224	5	0	1	0	10	4		0	75.4	0.0	55.0
Nov 11			112	3	1	0	0	9	4		0	87.6	0.0	54.9
Nov 12			81	2	3	0	0	10	7		0	89.9	0.0	54.6
Nov 13			59	2	2	0	0	6	4		0	80.5	0.0	54.7
Nov 14			25	3	1	1	0	3	2		0	90.1	0.0	54.7
Nov 15			21	2	3	0	0	9	3		1	97.5	0.0	54.4
Nov 16												97.8	0.0	54.2
Nov 17												82.6	0.0	53.8
Nov 18												87.4	0.0	53.3
Nov 19												75.8	0.0	53.1
Nov 20												96.3	0.0	52.5
Nov 21												95.5	0.0	51.7
Nov 22												99.6	0.0	51.1
Nov 23												93.7	0.0	50.6
Nov 24												104.5	0.0	50.2
Nov 25												101.0	0.0	50.0
Nov 26												108.3	0.0	50.0
Nov 27												100.7	0.0	49.8
Nov 28												98.5	0.0	49.6
Nov 29												101.0	0.0	49.6
Nov 30												98.1	0.0	49.5
<b>TOTAL</b>			8,738	149	44	3	0	141	62		1			
<b>AVG.</b>			583	10	3	0	0	9	4			90.3	0.0	55.7

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	18,604	3,406
SUMMER	66,210	9,403
FALL	54,301	6,329
<b>TOTALS</b>	<b>139,115</b>	<b>19,138</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
2,361	252	159,219	11,501	6,062	121	2,157

TABLE 171

**MONTHLY COUNT OF STEELHEAD  
ROCK ISLAND DAM 1981 - 2013**

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
2003				17	17	51	1,664	4,233	9,339	2,061	127		17,509
2004				50	108	363	2,518	2,983	11,794	1,658	73		19,547
2005				30	29	135	1,423	3,362	5,925	1,422	83		12,409
2006				44	19	23	693	2,332	5,175	1,032	64		9,382
2007				27	25	33	830	4,378	5,943	1,888	172		13,296
2008				163	109	292	2,749	5,868	5,819	1,206	82		16,288
2009				62	41	47	1,502	10,229	22,154	3,565	200		37,800
2010				103	21	100	3,994	8,946	7,472	1,441	102		22,179
2011				42	32	11	849	8,146	8,153	1,711	80		19,024
2012				98	75	108	1,410	6,186	5,959	1,464	154		15,454
2013				49	57	79	703	3,764	4,817	1,891	141		11,501
<b>Total</b>				<b>2,136</b>	<b>2,354</b>	<b>3,834</b>	<b>46,567</b>	<b>143,268</b>	<b>213,653</b>	<b>60,762</b>	<b>5,777</b>		<b>478,351</b>
<b>10-Year Average</b>				<b>67</b>	<b>52</b>	<b>119</b>	<b>1,667</b>	<b>5,619</b>	<b>8,321</b>	<b>1,728</b>	<b>115</b>		<b>17,688</b>

## ROCKY REACH DAM

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### **Fish Counting Schedule**

Jan 1 - Apr 13	No video recording or fish counting during this period.
Apr 14 - Nov 15	Video recording 24 hours per day/7 days a week. Video counting daily from 0700 to 1530 hours Pacific Standard Time.
Nov 16 - Dec 31	No video recording or fish counting during this period.

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### **Fish Ladder Operating Schedule**

Jan 1 - Feb 28	Fishway out of service for 2012/2013 annual maintenance period.
Feb 29 - Dec 31	Fishway in service.

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### **Fish Facility Activities**

The adult fish PIT tag system was operational throughout the 2013 adult fish migration. PIT tag detections from the fishway were uploaded daily to PTAGIS.

The juvenile fish bypass system was operated for fish passage from 1 April to 31 August 2013. Juvenile fish sampling occurred over the same time frame. The annual bypass (biological) evaluation included the collection of species composition and fish condition data.



TABLE 172

MONTHLY TOTALS OF SALMONIDS AND LAMPREY COUNTED OVER ROCKY REACH DAM  
2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				18	5,848	11,153	47,155	13,891	16,349	25,092	9,681		129,187
STEELHEAD				94	63	32	448	2,758	3,719	1,932	158		9,204
SOCKEYE						7,699	121,398	2,552	8	1	2		131,660
COHO									15	506	13		534
PINK													0
<b>TOTAL</b>				<b>112</b>	<b>5,911</b>	<b>18,884</b>	<b>169,001</b>	<b>19,201</b>	<b>20,091</b>	<b>27,531</b>	<b>9,854</b>		<b>270,585</b>
<b>LAMPREY</b>							<b>37</b>	<b>577</b>	<b>1,000</b>	<b>11</b>	<b>1</b>		<b>1,626</b>
<b>BULL TROUT</b>				<b>2</b>	<b>79</b>	<b>70</b>	<b>30</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>7</b>		<b>193</b>

TABLE 173

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

ROCKY REACH PROJECT- FISH COUNTS

APRIL 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Apr 1												86.8	0.0	42.3
Apr 2												83.0	0.0	42.8
Apr 3												121.0	0.0	43.3
Apr 4												129.3	3.7	43.4
Apr 5												125.3	3.2	42.9
Apr 6												118.1	3.3	43.0
Apr 7												113.0	0.8	43.1
Apr 8												142.4	18.4	43.4
Apr 9												167.3	32.4	43.4
Apr 10												176.5	43.8	43.2
Apr 11												189.1	47.9	42.9
Apr 12												181.2	26.2	43.1
Apr 13												175.6	29.2	43.1
Apr 14	0							7	6	0		177.1	29.4	43.0
Apr 15	0							9	9	0		180.2	24.7	43.0
Apr 16	0							2	2	1		188.8	27.3	43.2
Apr 17	1							9	8	0		179.1	26.9	43.3
Apr 18	0							10	8	0		160.8	17.9	43.6
Apr 19	0							7	5	0		155.2	14.6	43.9
Apr 20	0							5	4	0		132.5	0.0	44.2
Apr 21	0							3	3	1		130.9	0.0	44.6
Apr 22	0							3	3	0		151.2	11.7	44.9
Apr 23	1							6	6	0		162.1	14.6	44.8
Apr 24	2							5	2	0		158.0	10.0	45.1
Apr 25	0							8	4	0		154.9	7.9	45.4
Apr 26	2							1	1	0		147.9	0.0	45.8
Apr 27	5							8	7	0		135.4	0.0	46.4
Apr 28	1							3	2	0		127.0	0.0	46.9
Apr 29	1							3	2	0		138.6	0.0	47.4
Apr 30	5							5	5	0		153.5	3.7	47.3
<b>TOTAL</b>	<b>18</b>							<b>94</b>	<b>77</b>	<b>2</b>				
AVG.	1							6	5	0		148.1	13.3	44.1

TABLE 174  
MONTHLY FISH PASSAGE SUMMARY REPORT  
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT- FISH COUNTS											MAY 2013			
DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
May 1	4			0				4	3	0		159.5	6.0	47.1
May 2	1			0				1	0	0		150.1	2.4	46.9
May 3	4			0				2	2	0		150.0	0.2	47.1
May 4	5			0				2	1	0		132.4	0.0	47.4
May 5	9			0				3	3	0		128.2	0.0	48.2
May 6	24			0				3	3	0		143.7	0.0	49.1
May 7	82			7				5	5	1		157.6	6.5	49.8
May 8	75			1				2	2	0		172.5	21.5	50.1
May 9	80			8				3	3	0		155.0	10.7	50.3
May 10	114			4				4	3	0		207.7	42.7	50.5
May 11	126			7				5	4	1		190.6	34.5	50.4
May 12	123			16				5	4	2		174.6	24.7	50.6
May 13	200			23				1	1	1		173.3	20.2	50.3
May 14	248			49				2	2	0		172.6	8.3	50.1
May 15	191			26				2	1	0		176.8	31.9	50.1
May 16	106			53				1	1	1		172.7	11.6	50.4
May 17	170			59				1	1	3		194.3	40.9	50.5
May 18	131			98				2	2	2		186.3	29.7	50.5
May 19	254			86				2	2	6		203.6	34.1	51.5
May 20	207			199				5	5	7		197.7	22.3	52.0
May 21	320			227				1	1	3		196.1	22.0	52.2
May 22	324			106				0	0	8		211.0	31.7	51.9
May 23	200			77				0	0	4		193.8	29.7	51.7
May 24	115			74				1	1	5		190.2	25.4	52.0
May 25	131			89				0	0	6		208.8	45.7	52.4
May 26	174			54				2	2	4		206.9	41.8	52.4
May 27	208			100				0	0	9		210.2	38.6	52.8
May 28	143			190				1	1	2		209.8	58.0	53.0
May 29	106			103				1	1	3		178.1	16.7	53.5
May 30	109			46				1	1	7		137.7	0.0	53.9
May 31	99			63				1	1	4		144.8	0.0	54.1
<b>TOTAL</b>	<b>4,083</b>			<b>1,765</b>				<b>63</b>	<b>56</b>	<b>79</b>				
AVG.	132			57				2	2	3		177.0	21.2	50.7
RUN YEAR														
TOTALS TO DATE		CHINOOK ADULT	CHINOOK JACK					STEELHEAD	WILD STEELHEAD	BULL TROUT				
SPRING		4,101	1,765					157	133	81				

TABLE 175

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT- FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Jun 1	97			51			0	0	0	3		149.2	0.0	54.6
Jun 2	95			30			0	4	4	8		176.7	14.3	55.0
Jun 3	71			23			0	1	1	2		160.7	4.8	55.1
Jun 4	139			32			0	3	3	3		176.9	15.3	55.4
Jun 5	74			20			0	0	0	4		179.3	17.3	55.8
Jun 6	24			16			1	1	1	5		162.0	15.6	56.2
Jun 7	62			3			0	0	0	2		149.6	15.6	56.4
Jun 8	33			8			0	0	0	4		145.3	15.1	56.7
Jun 9	51			16			2	1	1	4		131.2	14.4	57.0
Jun 10	106			9			1	2	1	2		147.4	15.5	57.1
Jun 11	62			15			0	0	0	6		153.4	15.0	57.0
Jun 12	85			15			3	1	1	4		182.8	20.7	56.6
Jun 13	96			5			6	1	1	3		165.2	16.7	55.9
Jun 14	146			10			3	0	0	0		163.0	15.2	55.6
Jun 15	60			13			22	0	0	2		149.1	13.4	56.1
Jun 16	240			17			22	1	1	1		144.4	13.2	56.9
Jun 17	305			15			37	1	1	0		155.6	14.8	57.1
Jun 18	542			23			47	0	0	5		154.2	14.7	57.2
Jun 19	452			15			87	2	1	1		139.5	14.5	57.1
Jun 20	455			15			168	6	6	0		136.5	14.4	56.9
Jun 21	519			14			196	0	0	1		178.2	19.9	56.4
Jun 22	315			12			214	2	2	0		196.7	24.7	56.4
Jun 23	425			20			310	0	0	1		197.5	23.5	56.7
Jun 24		588		25			362	1	0	2		201.6	31.2	56.5
Jun 25		823		20			529	1	1	2		199.8	22.2	57.0
Jun 26		810		37			725	0	0	3		204.6	30.0	57.6
Jun 27		1,093		42			931	1	0	0		210.9	35.0	57.9
Jun 28		756		39			1,211	1	1	2		224.1	45.7	58.4
Jun 29		698		60			1,292	1	0	0		215.8	41.6	59.1
Jun 30		1,259		52			1,530	1	1	0		229.8	49.6	59.6
<b>TOTAL</b>	<b>4,454</b>	<b>6,027</b>		<b>672</b>			<b>7,699</b>	<b>32</b>	<b>27</b>	<b>70</b>				
<b>AVG.</b>	<b>194</b>	<b>861</b>		<b>22</b>			<b>257</b>	<b>1</b>	<b>1</b>	<b>2</b>		<b>172.7</b>	<b>20.1</b>	<b>56.7</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	8,555	2,162
SUMMER	6,027	275
<b>TOTALS</b>	<b>14,582</b>	<b>2,437</b>

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT
7,699	189	160	151

TABLE 176

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT- FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Jul 1		1,108		28			1,981	4	2	2	0	218.6	50.6	60.1
Jul 2		2,925		112			2,865	10	5	0	0	219.5	42.6	60.5
Jul 3		2,504		83			5,071	7	7	2	0	219.2	49.2	60.9
Jul 4		1,834		42			6,580	4	2	1	0	186.7	28.3	61.4
Jul 5		2,881		57			7,337	13	9	1	0	199.6	37.9	61.6
Jul 6		2,246		87			5,577	10	5	3	0	206.7	27.2	61.5
Jul 7		2,384		104			5,784	10	5	1	0	190.8	19.4	61.1
Jul 8		1,859		73			5,714	8	5	1	0	169.5	30.9	61.3
Jul 9		1,606		68			6,072	6	4	2	0	163.4	21.0	61.6
Jul 10		1,599		104			6,321	16	9	1	2	147.9	15.8	62.0
Jul 11		1,438		129			4,975	10	7	0	0	160.1	22.1	62.4
Jul 12		1,707		75			5,411	6	4	1	0	170.1	24.1	62.1
Jul 13		1,764		127			5,487	2		1	2	162.4	15.5	62.2
Jul 14		2,069		129			4,935	13	8	0	1	158.9	14.4	62.4
Jul 15		1,505		100			4,903	14	8	0	1	154.5	13.6	62.3
Jul 16		1,469		82			4,633	10	3	1	0	153.3	14.0	62.1
Jul 17		1,341		83			4,174	21	16	0	1	152.9	15.3	62.3
Jul 18		1,024		84			3,837	10	8	1	2	155.9	13.9	63.1
Jul 19		1,070		72			4,275	17	13	1	1	160.5	13.0	63.5
Jul 20		1,199		86			3,969	10	4	2	1	139.4	11.7	63.9
Jul 21		922		70			3,591	11	6	1	0	122.7	11.6	64.2
Jul 22		1,081		46			3,233	17	10	0	1	143.6	12.1	64.7
Jul 23		982		61			3,338	23	12	2	0	134.1	12.3	65.1
Jul 24		1,143		74			2,696	17	11	1	3	131.7	11.7	65.4
Jul 25		1,192		70			2,311	17	11	2	1	140.7	11.9	65.3
Jul 26		653		56			1,946	29	16	0	1	130.4	12.2	65.4
Jul 27		820		51			1,504	15	11	1	2	118.7	10.8	65.5
Jul 28		911		43			985	28	13	0	1	114.0	11.4	65.6
Jul 29		670		29			781	35	19	0	4	128.1	11.8	65.8
Jul 30		472		32			556	28	15	2	3	141.6	12.0	65.8
Jul 31		495		25			556	27	11	0	10	142.5	12.4	65.5
<b>TOTALS</b>		<b>44,873</b>		<b>2,282</b>			<b>121,398</b>	<b>448</b>	<b>259</b>	<b>30</b>	<b>37</b>			

AVG.	1448	74	3,916	14	9	1	1	159.3	19.7	63.1
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	8,555	2,162
SUMMER	50,900	2,557
<b>TOTAL</b>	<b>59,455</b>	<b>4,719</b>

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
129,097	637	419	181	37

TABLE 177

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT- FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO		SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL		ADULT	JACK								
Aug 1		418		35			344	23	17	0	5	123.2	11.7	64.6
Aug 2		365		38			372	18	13	0	1	131.4	11.1	64.5
Aug 3		411		21			330	38	28	0	2	130.1	9.2	64.8
Aug 4		411		40			261	68	36	0	3	130.1	9.9	65.1
Aug 5		418		98			222	65	35	0	3	131.7	10.8	65.7
Aug 6		567		39			189	60	33	0	2	125.2	11.0	65.9
Aug 7		517		68			157	51	27	0	6	124.3	11.6	66.2
Aug 8		365		80			164	63	37	0	15	131.8	11.2	66.8
Aug 9		384		83			110	51	38	0	16	118.9	11.1	67.0
Aug 10		427		125			81	54	35	0	20	101.6	9.3	67.2
Aug 11		329		95			82	52	29	0	15	103.0	8.9	67.7
Aug 12		352		40			28	87	47	0	25	118.3	11.7	67.6
Aug 13		255		80			44	37	22	0	34	119.2	11.2	67.6
Aug 14		405		45			40	84	47	0	39	119.6	11.4	67.7
Aug 15		376		72			21	99	62	0	38	135.7	11.2	67.7
Aug 16		294		64			31	93	57	0	40	129.9	15.6	67.4
Aug 17		281		176			20	92	57	0	32	109.4	9.4	67.1
Aug 18		214		119			11	55	25	0	16	101.6	9.0	67.1
Aug 19		282		108			14	163	85	1	20	104.1	11.2	67.4
Aug 20		330		663			6	152	90	0	21	128.2	10.8	67.2
Aug 21		286		379			5	151	82	0	28	124.5	10.6	67.4
Aug 22		230		599			7	212	110	0	15	112.2	0.0	67.1
Aug 23		206		150			1	124	74	0	24	77.6	0.0	67.2
Aug 24		219		87			1	147	72	0	15	91.6	0.0	67.0
Aug 25		133		125			1	101	53	0	28	100.3	0.0	66.9
Aug 26		151		100			1	115	41	0	14	110.0	0.0	66.9
Aug 27		173		80			1	95	53	0	20	108.0	0.0	66.8
Aug 28		156		193			2	94	51	0	21	106.2	0.0	67.2
Aug 29		94		261			4	123	57	0	17	107.4	0.0	67.4
Aug 30		125		263			1	115	43	0	22	109.1	0.0	67.7
Aug 31		134		257			1	76	31	0	20	98.9	0.0	67.7
<b>TOTAL</b>		<b>9,308</b>		<b>4,583</b>			<b>2,552</b>	<b>2,758</b>	<b>1,487</b>	<b>1</b>	<b>577</b>			

AVG.	300	148	82	89	48	0	19	114.9	7.4	66.8
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	8,555	2,162
SUMMER	60,208	7,140
<b>TOTALS</b>	<b>68,763</b>	<b>9,302</b>

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
131,649	3,395	1,906	182	614

TABLE 178

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT- FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Sep 1		115		176	0	0	0	67	35	0	33	58.6	0.0	68.1
Sep 2			152	177	0	0	0	72	41	0	34	55.9	0.0	68.3
Sep 3			148	71	0	0	2	86	39	0	39	79.1	0.0	68.6
Sep 4			127	94	0	0	1	63	36	0	30	80.5	0.0	68.7
Sep 5			149	126	0	0	1	79	43	0	49	70.8	0.0	68.7
Sep 6			98	118	0	0	0	47	23	0	21	59.5	0.0	68.7
Sep 7			59	54	0	0	0	81	43	0	69	59.6	0.0	68.5
Sep 8			82	74	0	0	0	56	24	0	128	55.1	0.0	68.4
Sep 9			194	61	0	0	1	61	26	0	111	83.3	2.2	68.3
Sep 10			174	118	0	0	0	71	36	0	83	78.7	0.0	68.1
Sep 11			430	180	0	0	0	115	68	0	78	74.8	0.0	67.9
Sep 12			312	95	0	0	0	100	55	0	60	82.8	0.0	68.4
Sep 13			265	84	0	0	0	113	67	0	39	74.5	0.0	68.8
Sep 14			261	128	0	0	0	172	75	0	43	70.5	0.0	68.9
Sep 15			320	75	0	0	0	144	91	0	35	74.3	4.5	68.7
Sep 16			613	120	0	0	0	168	84	2	30	82.4	1.0	68.6
Sep 17			673	98	0	0	0	200	89	0	19	65.9	0.0	68.6
Sep 18			1,220	107	0	0	1	280	144	0	16	65.0	0.0	68.2
Sep 19			813	104	1	0	0	215	103	0	14	72.1	0.0	67.6
Sep 20			828	110	0	0	0	226	95	0	13	61.3	0.0	67.4
Sep 21			803	56	0	0	0	138	78	0	3	72.2	0.0	67.6
Sep 22			546	46	0	0	0	99	55	0	10	58.3	0.0	67.4
Sep 23			885	71	1	0	0	173	85	0	10	71.7	0.0	66.8
Sep 24			710	69	0	0	0	118	68	0	6	72.8	0.0	66.4
Sep 25			408	68	0	0	0	112	39	0	12	67.8	0.0	66.3
Sep 26			832	75	1	0	0	118	52	0	4	76.9	0.0	65.8
Sep 27			596	86	3	0	0	130	57	0	3	74.7	0.0	65.2
Sep 28			723	84	2	1	1	142	43	0	3	57.0	0.0	64.7
Sep 29			776	84	3	1	1	141	38	0	0	48.5	0.0	64.6
Sep 30			190	38	2	0	0	132	53	0	5	70.9	0.0	64.1
<b>TOTAL</b>		115	13,387	2,847	13	2	8	3,719	1,785	2	1,000			
<b>AVG.</b>			462	95	0	0	0	124	60	0	33	69.2	0.3	67.5

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	8,555	2,162
SUMMER	60,323	7,316
FALL	13,387	2,671
<b>TOTALS</b>	<b>82,265</b>	<b>12,149</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
13	2	131,657	7,114	3,691	184	1,614

TABLE 179

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

ROCKY REACH PROJECT- FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	WILD	BULL	LAMPREY	DISCH	SPILL	DEG F	
	SPRING	SUMMER	FALL	JACK	ADULT			JACK	STEELHEAD					TROUT
Oct 1			47	27	1	0	0	68	25	0	1	60.8	0.0	63.5
Oct 2			675	128	1	0	0	149	66	0	0	72.1	0.0	62.8
Oct 3			426	115	6	0	0	129	55	0	1	65.2	0.0	62.2
Oct 4			254	53	11	0	0	108	50	0	2	65.4	0.0	61.9
Oct 5			303	66	16	0	0	108	40	0	1	55.8	0.0	62.0
Oct 6			288	94	11	0	0	74	39	0	0	56.4	0.0	62.2
Oct 7			335	47	10	1	0	88	47	0	2	55.1	0.0	62.3
Oct 8			360	55	19	0	1	65	30	0	0	66.1	0.0	62.2
Oct 9			350	68	24	0	0	93	43	0	0	81.9	5.8	62.0
Oct 10			293	77	25	0	0	77	37	0	0	59.5	0.0	61.8
Oct 11			310	75	31	7	0	119	37	0	0	60.2	0.0	61.8
Oct 12			249	29	27	0	0	109	61	0	0	60.3	0.0	61.8
Oct 13			277	60	63	1	0	53	25	0	1	58.5	0.0	61.8
Oct 14			372	71	31	3	0	85	35	0	0	79.9	6.2	61.8
Oct 15			393	44	22	1	0	55	26	1	1	78.8	3.7	61.6
Oct 16			516	49	27	2	0	66	27	0	0	92.7	9.1	61.6
Oct 17			405	81	36	3	0	48	18	0	0	87.9	6.0	61.6
Oct 18			483	70	13	1	0	75	24	0	0	86.8	2.2	61.7
Oct 19			539	44	13	0	0	60	30	0	0	83.2	8.9	61.7
Oct 20			582	51	23	2	0	40	15	0	1	81.0	2.4	61.7
Oct 21			624	45	4	0	0	27	13	0	0	78.1	0.0	61.6
Oct 22			859	34	19	7	0	29	13	0	1	69.7	1.6	61.6
Oct 23			713	50	8	0	0	28	13	1	0	75.8	0.0	61.4
Oct 24			1,013	69	2	0	0	21	2	0	0	75.5	0.0	61.2
Oct 25			1,599	45	3	3	0	32	7	0	0	73.2	0.0	61.0
Oct 26			1,538	85	4	2	0	26	13	0	0	75.4	0.0	60.7
Oct 27			1,256	50	8	2	0	24	9	0	0	69.6	0.0	60.3
Oct 28			2,333	66	4	4	0	39	14	0	0	82.4	0.8	59.6
Oct 29			2,758	37	3	0	0	9	1	0	0	86.1	0.0	59.2
Oct 30			1,646	28	0	0	0	14	9	0	0	82.2	0.0	58.7
Oct 31			1,451	35	2	0	0	14	3	0	0	71.3	0.0	58.3
<b>TOTAL</b>			<b>23,247</b>	<b>1,848</b>	<b>467</b>	<b>39</b>	<b>1</b>	<b>1,932</b>	<b>827</b>	<b>2</b>	<b>11</b>			
<b>AVG.</b>			<b>750</b>	<b>60</b>	<b>15</b>	<b>1</b>	<b>0</b>	<b>62</b>	<b>27</b>	<b>0</b>	<b>0</b>	<b>72.5</b>	<b>1.5</b>	<b>61.4</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	8,555	2,162
SUMMER	60,323	7,316
FALL	36,634	4,519
<b>TOTALS</b>	<b>105,512</b>	<b>13,997</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
480	41	131,658	9,046	4,518	186	1,625



TABLE 180

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

ROCKY REACH PROJECT- FISH COUNTS

NOVEMBER 2013

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	WILD		BULL	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	STEELHEAD	STEELHEAD	TROUT					
Nov 1			1,794	61	0	0	0	9	5	0	0	80.1	0.0	58.0
Nov 2			1,188	25	0	0	0	7	3	0	0	69.3	0.0	57.6
Nov 3			1,883	43	2	2	1	21	7	1	1	64.4	0.0	57.3
Nov 4			1,186	17	0	0	0	13	7	1	0	83.1	0.0	57.0
Nov 5			1,009	23	1	0	1	5	2	0	0	86.8	0.0	56.6
Nov 6			892	24	1	0	0	3	1	1	0	93.1	1.0	56.4
Nov 7			574	14	1	1	0	11	5	1	0	87.6	0.5	55.9
Nov 8			328	9	0	4	0	7	5	1	0	81.8	0.0	55.9
Nov 9			186	11	0	0	0	14	4	0	0	83.5	0.0	55.7
Nov 10			64	5	0	0	0	6	1	0	0	72.0	0.0	55.4
Nov 11			117	12	0	0	0	10	4	0	0	86.6	5.0	55.0
Nov 12			126	2	0	0	0	15	10	0	0	88.1	1.5	54.9
Nov 13			20	3	1	0	0	19	8	0	0	77.6	0.0	55.1
Nov 14			37	3	0	0	0	11	4	1	0	88.1	0.0	55.0
Nov 15			20	5	0	0	0	7	1	1	0	96.0	8.0	55.0
Nov 16												95.6	6.7	54.6
Nov 17												80.7	2.7	54.1
Nov 18												85.0	0.0	53.7
Nov 19												72.1	0.0	53.5
Nov 20												89.9	1.4	52.9
Nov 21												94.2	0.0	52.2
Nov 22												98.7	0.0	51.6
Nov 23												92.3	2.1	51.2
Nov 24												102.5	16.2	50.7
Nov 25												101.4	7.4	50.6
Nov 26												107.2	8.7	50.5
Nov 27												99.8	3.1	50.3
Nov 28												97.2	0.0	50.2
Nov 29												102.0	4.7	50.1
Nov 30												96.0	1.0	49.9
<b>TOTAL</b>			9,424	257	6	7	2	158	67	7	1			
AVG.			628	17	0	0	0	11	4	0	0	88.4	2.3	53.9

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	8,555	2,162
SUMMER	60,323	7,316
FALL	46,058	4,776
<b>TOTALS</b>	<b>114,936</b>	<b>14,254</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
486	48	131,660	9,204	4,585	193	1,626

TABLE 181

**MONTHLY COUNT OF STEELHEAD  
ROCKY REACH DAM: 1981 - 2013**

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
2003				46	4	40	1,154	3,393	6,649	2,211	153		13,650
2004				177	142	244	1,847	2,571	7,748	1,650	201		14,580
2005				278	85	60	762	2,430	4,589	1,423	83		9,710
2006				117	34	14	401	1,774	4,557	1,028	199		8,124
2007				93	75	46	507	2,777	4,247	2,227	174		10,146
2008				308	201	303	1,882	4,429	4,776	1,406	566		13,871
2009				302	134	49	967	7,355	17,011	3,509	220		29,547
2010				285	85	49	2,318	7,265	6,024	1,511	334		17,871
2011				327	263	25	516	5,368	6,566	2,105	110		15,280
2012				525	203	104	908	4,731	4,846	1,554	229		13,100
2013				94	63	32	448	2,758	3,719	1,932	158		9,204
<b>Total</b>				<b>3,751</b>	<b>2,705</b>	<b>2,625</b>	<b>28,159</b>	<b>99,353</b>	<b>156,098</b>	<b>52,799</b>	<b>6,355</b>		<b>351,845</b>
<b>10-Year Average</b>				<b>251</b>	<b>129</b>	<b>93</b>	<b>1,056</b>	<b>4,146</b>	<b>6,408</b>	<b>1,835</b>	<b>227</b>		<b>14,143</b>

# WELLS DAM

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## FISH COUNTING SCHEDULE

The adult counting schedule at Wells Dam is from May 1 through November 15, though passage data is recorded each day of the year, and that data is available from Douglas PUD upon request. Fish are counted by reviewing digital-video files from previous days. From 1967 through 1997, counts were reported for a 16-hour period (0500-2100 PST). Since 1998, 24-hour counts (0000-2400) have been reported. Chinook are arbitrarily separated into three populations based upon date of passage through the ladders: Spring Chinook – May 1 through June 28, summer Chinook – June 29 through August 28, and fall Chinook – August 29 through November 15.

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## FISH LADDER OPERATING SCHEDULE

Other than during routine wintertime inspection and maintenance (performed on only one ladder at a time), the two fishways at Wells Dam operated continuously during 2013.

### East Ladder Maintenance

4 December 2012 through 23 January 2013, outage for inspection, maintenance, and installation of HDX/FDX PIT-tag detection in Pool 19. This completed the installation of HDX/FDX PIT-tag detection systems in the fishways at Wells Dam (installed in Pool 19 of the West Ladder in February 2012), complementing the existing FDX PIT-tag detection system.

### West Ladder Maintenance

29 January through 20 February 2013, outage for inspection and maintenance. 11 December 2013 to 16 January 2014 (estimated date), outage for inspection and maintenance.

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## JUVENILE PASSAGE FACILITIES

The juvenile bypass system at Wells Dam capitalizes on the hydrocombine design by using flow to the turbines to attract fish to bypass spillways located between turbine silos and above turbine intakes. During the juvenile outmigration, bypass baffles and barriers are installed in spillway intake slots to partially constrict the five even-numbered spillways. This configuration provides up to 11,000 cfs of bypass flow in addition to any involuntary spill through unmodified odd-numbered spillways.

During periods when plant discharge exceeds the combined turbine and bypass capacity, excess water is passed through non-bypass spillways and bypass bays as necessary for complying with Federal Energy Regulatory Commission (FERC) requirements for maintaining minimum automatic-gate-opening capacity under the *Wells Project Emergency Action Plan* and Washington Department of Ecology (Ecology) requirements for compliance with total dissolved gas (TDG) standards as directed by the FERC-approved *Total Dissolved Gas Abatement Plan* for the Wells Project. When necessary, gates on non-bypass spillways are opened and bypass

barriers and baffles on bypass spillways are removed sequentially with increasing flow in a prescribed order that concentrates involuntary spill in the center of the project over the discharge from active turbine units to minimize TDG. As discharge declines, bypass barriers are reinstalled and non-bypass spill gates closed in the reverse order in which they were removed and opened. To implement these compliance measures in 2013, Douglas PUD removed bypass barriers from Spillway 6 on May 23 and reinstalled them on May 30; then removed them again on July 1 and reinstalled them on July 11

Douglas PUD operated the Wells bypass system in 2013 as guided by the Wells Habitat Conservation Plan (HCP) Coordinating Committee-approved *2013 Bypass Operating Plan*. The plan was intended to provide non-turbine passage during 95 percent of the juvenile Plan Species migration passing Wells Dam. Bypass operations were initiated on April 9 at 00:00 hours, and operated continuously until terminated at 24:00 hours on August 19, for a total of 133 days. Douglas PUD achieved the HCP requirement to provide bypass operations during 95 percent of the juvenile salmon and steelhead migration passing Wells Dam by providing bypass passage during 98.29 percent of the yearling Chinook migration, 99.21 percent of the steelhead migration, 99.99 percent of the sockeye migration, 100 percent of the coho migration, and 99.33 percent of the sub-yearling Chinook migration passing Wells Dam in 2013.

TABLE 11 G

MONTHLY TOTALS OF SALMONIDS AND LAMPREY COUNTED OVER WELLS DAM  
2013

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*					4,489	7,443	42,155	10,158	5,925	7,935	4657		82,762
STEELHEAD					64	28	247	2,180	2,767	1,792	144		7,222
SOCKEYE						4,738	120,887	4,328	33	7			129,993
COHO									4	545	28		577
<b>TOTAL</b>					<b>4,553</b>	<b>12,209</b>	<b>163,289</b>	<b>16,666</b>	<b>8,729</b>	<b>10,279</b>	<b>4,829</b>		<b>220,554</b>
<b>LAMPREY</b>							12	5	4				21
<b>BULL TROUT</b>					29	65	11	2	1	0	1		109

\*Jacks included

TABLE 183

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

MAY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
May 1	2			0				3	3	0		155.4	10.0	46.6
May 2	0			0				2	2	0		153.6	10.0	46.7
May 3	1			0				6	5	0		149.9	10.0	47.2
May 4	6			0				5	4	0		129.2	10.0	48.1
May 5	1			0				6	6	0		130.8	9.3	48.9
May 6	1			0				1	1	0		145.4	9.9	49.3
May 7	2			0				2	2	0		159.9	14.1	49.2
May 8	8			0				4	2	0		168.8	23.0	49.7
May 9	66			7				5	4	0		184.5	20.8	49.8
May 10	41			4				1	1	0		208.7	42.0	49.9
May 11	53			5				3	2	0		188.9	35.5	50.1
May 12	90			10				0	0	0		175.4	28.0	50.0
May 13	17			3				1	1	0		167.6	25.9	49.9
May 14	51			2				1	1	1		173.8	10.0	49.9
May 15	77			16				1	1	0		172.4	11.1	50.2
May 16	212			27				0	0	1		177.5	21.8	50.1
May 17	211			48				3	2	0		196.0	40.6	50.1
May 18	151			46				3	3	1		185.8	35.0	51.3
May 19	161			45				1	1	0		204.2	43.7	51.7
May 20	67			88				1	1	3		197.6	35.0	52.1
May 21	168			118				1	1	0		197.3	31.3	52.1
May 22	149			158				1	1	0		213.7	35.9	51.9
May 23	246			277				0	0	1		193.4	20.0	52.1
May 24	206			214				1	1	2		213.4	36.0	52.4
May 25	116			119				1	1	2		212.6	37.4	52.4
May 26	115			115				0	0	2		207.2	38.3	52.7
May 27	59			110				1	1	3		211.1	38.5	53.0
May 28	21			112				3	3	3		199.0	28.7	53.2
May 29	60			128				2	2	2		181.4	19.2	53.7
May 30	46			91				1	1	3		132.4	10.0	53.7
May 31	130			212				4	4	5		153.1	10.0	54.2
<b>TOTAL</b>	<b>2,534</b>			<b>1,955</b>				<b>64</b>	<b>57</b>	<b>29</b>				
<b>AVG.</b>	<b>82</b>			<b>63</b>				<b>2</b>	<b>2</b>	<b>1</b>		<b>178.7</b>	<b>24.2</b>	<b>50.7</b>
<b>RUN YEAR</b>														
<b>TOTALS TO DATE</b>		<b>CHINOOK ADULT</b>	<b>CHINOOK JACK</b>					<b>STEELHEAD</b>	<b>WILD STEELHEAD</b>	<b>BULL TROUT</b>				
<b>SPRING</b>		2,534	1,955					64	57	29				

TABLE 184

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

WELLS PROJECT- FISH COUNTS

JUNE 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Jun 1	88			99			0	1	1	4		157.1	10.0	54.6
Jun 2	75			98			0	2	2	4		179.1	13.3	54.8
Jun 3	17			85			0	0	0	3		160.2	11.3	54.9
Jun 4	49			42			0	1	1	1		177.7	16.0	55.3
Jun 5	50			62			0	3	3	6		183.2	11.4	55.6
Jun 6	93			62			0	2	2	1		162.0	10.0	55.8
Jun 7	69			43			0	0	0	5		146.7	10.0	56.2
Jun 8	37			27			0	1	1	4		142.5	10.0	56.5
Jun 9	26			20			0	1	1	1		128.5	10.0	56.5
Jun 10	20			15			0	1	1	2		152.1	10.0	56.3
Jun 11	27			15			0	0	0	2		155.7	10.0	56.0
Jun 12	28			22			2	0	0	1		187.4	18.9	55.4
Jun 13	65			37			2	1	1	3		164.8	10.0	55.3
Jun 14	46			17			2	2	2	4		160.7	10.0	55.9
Jun 15	32			15			4	1	0	3		153.3	10.0	56.4
Jun 16	68			28			6	0	0	0		140.8	10.0	56.5
Jun 17	30			14			7	0	0	1		158.4	13.1	56.7
Jun 18	113			15			24	1	1	4		151.7	10.0	57.0
Jun 19	205			31			22	2	1	3		136.0	10.0	56.6
Jun 20	307			39			32	0	0	1		138.2	10.0	56.2
Jun 21	371			21			82	0	0	2		181.0	23.6	56.2
Jun 22	208			15			112	2	1	2		183.4	19.7	56.2
Jun 23	354			24			201	0	0	3		189.5	22.3	56.5
Jun 24	93			6			140	0	0	2		194.7	18.5	57.0
Jun 25	328			42			240	1	1	0		202.2	19.4	57.5
Jun 26	594			36			412	2	1	0		207.1	27.1	57.8
Jun 27	670			40			423	1	1	1		211.6	23.7	58.1
Jun 28	536			55			659	1	1	1		225.7	40.3	58.7
Jun 29		917		94			1,010	0	0	1		217.6	38.6	59.2
Jun 30		744		64			1,358	2	1	0		224.2	50.5	59.7

<b>TOTAL</b>	4,599	1,661		1,183			4,738	28	23	65				
<b>AVG.</b>	164	831		39			158	1	1	2		172.4	16.9	56.5

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,133	2,980
SUMMER	1,661	158
<b>TOTAL</b>	<b>8,794</b>	<b>3,138</b>

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT
4,738	92	80	94

TABLE 185

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

JULY 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Jul 1		905		55			1,321	3	2	2	0	214.8	42.6	60.1
Jul 2		798		90			1,433	3	2	1	0	219.8	45.1	60.3
Jul 3		1,632		140			1,957	5	4	0	0	214.0	50.5	60.9
Jul 4		2,556		174			3,120	1	1	1	0	184.9	25.5	61.1
Jul 5		1,919		140			5,913	3	3	2	0	200.0	24.0	60.9
Jul 6		1,874		158			6,471	5	2	0	0	210.4	34.1	60.6
Jul 7		1,732		131			5,412	2	2	0	0	190.3	20.2	60.8
Jul 8		1,977		163			5,270	9	4	0	0	165.9	10.0	61.1
Jul 9		1,489		186			5,235	5	2	0	0	163.3	10.0	61.6
Jul 10		2,065		268			6,396	5	5	0	0	146.7	10.0	61.9
Jul 11		1,549		93			5,741	5	0	1	0	163.5	10.5	61.7
Jul 12		1,328		137			6,043	11	3	0	0	167.9	10.0	62.1
Jul 13		1,086		116			4,535	5	2	0	0	164.9	10.0	61.9
Jul 14		1,337		107			5,622	6	4	0	0	159.1	10.0	61.7
Jul 15		1,663		102			5,244	5	3	0	0	157.5	10.2	61.5
Jul 16		1,014		73			5,237	4	2	0	0	149.1	11.5	62.1
Jul 17		1,552		83			4,837	11	7	1	0	153.5	10.7	62.7
Jul 18		1,452		125			5,100	6	1	0	0	156.8	10.5	62.9
Jul 19		944		106			4,507	12	8	0	0	155.4	10.1	63.4
Jul 20		1,001		101			4,265	10	5	0	0	137.1	9.4	63.6
Jul 21		1,237		70			4,525	2	1	0	2	121.3	8.5	64.1
Jul 22		910		46			3,851	12	8	0	1	140.0	10.0	64.5
Jul 23		945		52			3,307	8	6	1	3	137.4	9.8	64.6
Jul 24		1,018		52			3,152	12	8	1	2	134.3	9.2	64.5
Jul 25		842		30			2,829	6	4	1	1	142.0	9.5	64.8
Jul 26		619		66			2,441	11	7	0	1	131.9	10.0	64.8
Jul 27		536		54			2,281	11	5	0	0	117.9	9.8	65.0
Jul 28		1,145		73			2,000	22	14	0	0	116.8	9.6	65.2
Jul 29		954		28			1,202	18	5	0	0	128.1	9.9	65.2
Jul 30		701		34			879	13	8	0	2	141.2	9.4	64.7
Jul 31		300		22			761	16	11	0	0	143.4	10.0	64.2

TOTAL

39,080

3,075

120,887

247

139

11

12

AVG.

1261

99

3900

8

4

0

0

159.0

15.5

62.7

RUN YEAR

CHINOOK ADULT

CHINOOK JACK

SOCKEYE

STEELHEAD

WILD STEELHEAD

BULL TROUT

LAMPREY

TOTALS TO DATE

7,133

2,980

125,625

339

219

105

12

SUMMER

40,741

3,233

TOTAL

47,874

6,213



TABLE 186

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

WELLS PROJECT- FISH COUNTS

AUGUST 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Aug 1		378		18			576	14	5	0	2	122.7	10.0	64.5
Aug 2		458		26			556	24	7	0	0	129.3	10.0	64.6
Aug 3		278		50			398	13	8	0	0	131.6	10.0	64.9
Aug 4		601		34			461	24	14	0	-1	130.2	10.3	65.3
Aug 5		532		54			383	22	12	0	0	129.9	9.0	65.5
Aug 6		298		23			346	39	16	0	2	126.2	9.5	66.1
Aug 7		619		65			240	63	33	0	1	125.5	9.4	66.3
Aug 8		514		68			160	38	19	0	0	132.5	9.5	66.6
Aug 9		382		41			184	48	29	0	0	117.2	8.9	66.9
Aug 10		231		21			137	23	16	0	0	103.7	7.7	67.0
Aug 11		412		43			118	59	32	0	0	103.9	8.5	66.7
Aug 12		404		41			131	49	33	0	0	114.5	8.2	66.7
Aug 13		312		30			89	60	34	0	0	120.4	9.2	66.7
Aug 14		306		44			60	75	49	0	0	118.8	9.5	66.7
Aug 15		186		21			36	36	15	0	0	132.0	9.8	66.9
Aug 16		170		38			45	48	29	0	0	134.1	9.0	66.7
Aug 17		204		44			43	73	39	0	0	107.1	7.7	66.9
Aug 18		347		48			63	70	27	1	0	103.5	7.7	67.0
Aug 19		211		29			31	67	43	0	0	107.9	9.1	67.1
Aug 20		221		23			32	78	37	0	0	123.7	0.0	66.9
Aug 21		382		34			25	87	44	0	0	119.7	0.0	66.8
Aug 22		291		43			21	145	73	0	0	111.6	0.0	66.7
Aug 23		238		63			80	166	94	0	0	79.8	0.0	66.8
Aug 24		181		39			39	172	95	0	0	90.7	0.0	66.7
Aug 25		161		32			15	123	60	0	0	100.4	0.0	66.7
Aug 26		126		16			18	100	56	0	0	105.9	0.0	66.9
Aug 27		148		21			4	109	53	0	1	106.8	0.0	67.2
Aug 28		119		22			3	88	39	1	0	106.7	0.0	67.4
Aug 29			142	29			9	85	39	0	0	104.6	0.0	67.5
Aug 30			106	30			2	101	48	0	0	105.0	0.0	67.7
Aug 31			94	16			23	81	37	0	0	91.2	0.0	67.9
<b>TOTAL</b>		<b>8,710</b>	<b>342</b>	<b>1,106</b>			<b>4,328</b>	<b>2,180</b>	<b>1,135</b>	<b>2</b>	<b>5</b>			

AVG.	311	114	36				140	70	37	0	0	114.1	5.6	66.6
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,133	2,980
SUMMER	49,451	4,264
FALL	342	75
<b>TOTAL</b>	<b>56,926</b>	<b>7,319</b>

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
129,953	2,519	1,354	107	17

TABLE 187

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

SEPTEMBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	WILD	BULL	LAMPREY	DISCH	SPILL	DEG F	
	SPRING	SUMMER	FALL	JACK	ADULT			JACK	STEELHEAD		TROUT	KCFS		KCFS
Sep 1			98	12	0		2	100	51	0	0	56.6	0.0	68.0
Sep 2			76	15	0		1	70	43	0	0	62.0	0.0	68.3
Sep 3			171	17	0		3	59	33	0	0	78.5	0.0	68.3
Sep 4			165	14	0		0	76	34	0	0	80.5	0.0	68.3
Sep 5			96	20	0		2	58	28	0	0	68.5	0.0	68.3
Sep 6			128	22	0		0	59	24	0	0	60.0	0.0	68.3
Sep 7			37	11	0		4	58	23	0	0	60.6	0.0	67.8
Sep 8			265	49	0		1	62	31	0	2	55.0	0.0	67.4
Sep 9			46	8	0		1	60	31	0	1	81.1	0.6	67.6
Sep 10			36	13	0		0	50	23	0	0	75.7	0.0	68.2
Sep 11			92	26	0		2	53	27	0	0	73.4	0.0	68.4
Sep 12			90	21	0		3	81	37	0	0	81.9	0.0	68.2
Sep 13			307	26	0		2	116	57	0	0	74.8	0.0	68.2
Sep 14			74	23	0		2	77	36	0	0	68.4	0.0	68.4
Sep 15			123	31	0		1	133	63	1	0	76.3	1.1	68.5
Sep 16			99	22	0		1	81	43	0	0	77.5	0.0	68.3
Sep 17			160	33	0		0	110	55	0	0	67.2	0.0	68.2
Sep 18			347	43	0		0	145	65	0	0	63.6	0.0	68.1
Sep 19			359	37	0		2	136	59	0	0	71.3	0.0	67.8
Sep 20			412	45	0		1	185	85	0	0	61.4	0.0	67.4
Sep 21			281	34	0		0	179	72	0	0	71.2	0.0	67.5
Sep 22			240	25	0		0	143	58	0	0	56.1	0.0	67.3
Sep 23			217	38	0		1	74	34	0	0	74.3	0.0	66.8
Sep 24			216	23	0		1	69	30	0	1	68.4	0.0	65.9
Sep 25			157	35	1		1	121	47	0	0	65.2	0.0	65.8
Sep 26			126	30	0		0	83	23	0	0	77.5	0.0	65.8
Sep 27			363	43	0		1	85	39	0	0	74.6	0.0	65.6
Sep 28			64	25	0		0	91	43	0	0	53.1	0.0	65.1
Sep 29			114	41	1		0	87	38	0	0	49.0	0.0	64.5
Sep 30			159	25	2		1	66	25	0	0	69.2	0.0	63.7
<b>TOTAL</b>			<b>5,118</b>	<b>807</b>	<b>4</b>		<b>33</b>	<b>2,767</b>	<b>1,257</b>	<b>1</b>	<b>4</b>			
<b>AVG.</b>			<b>171</b>	<b>27</b>	<b>0</b>		<b>1</b>	<b>92</b>	<b>42</b>	<b>0</b>	<b>0</b>	<b>68.4</b>	<b>0.1</b>	<b>67.3</b>

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,133	2,980
SUMMER	49,451	4,264
FALL	5,460	882
<b>TOTAL</b>	<b>62,044</b>	<b>8,126</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
4	0	129,986	5,286	2,611	108	21

TABLE 188

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

OCTOBER 2013

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	WILD	BULL	LAMPREY	DISCH	SPILL	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT			JACK	STEELHEAD				
Oct 1			117	30	0	0	1	86	29		55.8	0.0	63.1
Oct 2			56	7	5	0	0	85	29		72.8	0.0	62.9
Oct 3			69	16	3	0	0	68	29		63.1	0.0	62.9
Oct 4			191	21	2	0	0	139	57		63.6	0.0	63.2
Oct 5			79	18	8	0	0	87	35		55.7	0.0	63.2
Oct 6			146	25	15	0	0	101	47		56.0	0.0	63.2
Oct 7			119	21	8	0	1	77	32		52.0	0.0	63.1
Oct 8			159	14	11	0	0	73	35		66.2	0.0	62.9
Oct 9			141	13	10	0	0	68	30		77.6	0.0	62.9
Oct 10			125	24	13	0	1	75	31		54.2	0.0	63.0
Oct 11			163	27	14	0	1	84	31		63.7	0.0	63.0
Oct 12			181	29	38	1	0	63	31		56.1	0.0	62.8
Oct 13			78	13	27	2	0	102	40		59.2	0.0	62.5
Oct 14			73	15	28	0	1	65	33		80.4	0.0	62.6
Oct 15			78	8	51	1	0	84	33		81.0	0.0	62.4
Oct 16			96	11	39	2	0	52	27		87.0	0.0	62.6
Oct 17			117	13	26	0	0	58	27		85.9	0.0	62.7
Oct 18			99	19	44	0	0	59	31		85.8	0.0	62.5
Oct 19			95	15	49	0	0	57	31		84.5	0.0	62.3
Oct 20			99	14	20	0	0	58	25		74.3	0.0	62.3
Oct 21			94	11	16	2	2	38	21		70.3	0.0	62.1
Oct 22			140	12	16	1	0	24	11		74.7	0.0	62.0
Oct 23			143	17	15	0	0	15	5		72.5	0.0	61.8
Oct 24			323	30	8	0	0	29	8		72.9	0.0	61.5
Oct 25			340	20	16	0	0	24	4		76.8	0.0	61.2
Oct 26			415	29	29	0	0	27	5		73.6	0.0	60.9
Oct 27			511	20	5	0	0	19	8		69.5	0.0	60.5
Oct 28			772	36	5	0	0	23	4		80.3	0.0	59.9
Oct 29			660	19	3	0	0	23	10		84.1	0.0	59.4
Oct 30			856	21	4	0	0	17	8		74.8	0.0	58.6
Oct 31			813	19	8	0	0	12	2		68.6	0.0	58.5
<b>TOTAL</b>			<b>7,348</b>	<b>587</b>	<b>536</b>	<b>9</b>	<b>7</b>	<b>1,792</b>	<b>749</b>				

AVG.			237	19	17	0	0	58	24		70.7	0.0	62.0
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,133	2,980
SUMMER	49,451	4,264
FALL	12,808	1,469
<b>TOTAL</b>	<b>69,392</b>	<b>8,713</b>

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
540	9	129,993	7,078	3,360	108	21

TABLE 189

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

NOVEMBER 2013

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Nov 1			766	14	4			13	11	0		84.7	0.0	58.3
Nov 2			650	16	2			8	0	0		60.8	0.0	58.2
Nov 3			478	7	2			12	8	0		60.2	0.0	57.9
Nov 4			594	6	3			7	3	0		81.8	0.0	57.4
Nov 5			733	6	7			15	4	0		86.8	0.0	57.1
Nov 6			542	9	0			9	2	1		94.1	0.0	57.0
Nov 7			260	19	2			9	3	0		85.2	0.0	56.8
Nov 8			238	17	3			10	4	0		80.1	0.0	56.3
Nov 9			124	2	1			10	4	0		79.5	0.0	55.9
Nov 10			60	4	2			6	2	0		69.0	0.0	55.9
Nov 11			38	2	0			7	3	0		89.0	0.0	55.8
Nov 12			25	4	1			5	0	0		86.3	0.0	55.8
Nov 13			22	3	1			7	2	0		73.1	0.0	55.7
Nov 14			9	0	0			9	5	0		87.7	0.0	55.6
Nov 15			7	2	0			17	10	0		95.5	0.0	55.2
Nov 16												93.9	0.0	54.8
Nov 17												72.3	0.0	54.4
Nov 18												82.0	0.0	54.0
Nov 19												72.2	0.0	53.7
Nov 20												87.2	0.0	53.2
Nov 21												93.5	0.0	52.4
Nov 22												94.0	0.0	52.0
Nov 23												92.5	0.0	51.7
Nov 24												97.6	0.0	51.4
Nov 25												100.5	0.0	51.3
Nov 26												103.0	0.0	51.3
Nov 27												95.2	0.0	51.1
Nov 28												92.4	0.0	50.9
Nov 29												103.6	0.0	50.8
Nov 30												91.0	0.0	50.7
<b>TOTALS</b>			4,546	111	28			144	61	1				
<b>AVG.</b>			303	7	2			10	4	0		86.2	0.0	54.4

RUN YEAR	TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
SPRING		7,133	2,980							
SUMMER		49,451	4,264			129,993	7,222	3,421	109	21
FALL		17,354	1,580							
<b>TOTAL</b>		<b>73,938</b>	<b>8,824</b>							

TABLE 190

**MONTHLY COUNT OF STEELHEAD  
WELLS DAM: 1976 - 2013**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1976					44	37	56	530	1964	1856	156		4,643
1977					37	22	38	1,034	818	2,849	526		5,324
1978					177	32	12	399	432	528			1,580
1979					72	2	22	1,212	938	1,040	355		3,641
1980					202	24	15	382	1,032	1,358	413		3,426
1981					139	23	107	212	1,702	1,401	513		4,097
1982					149	7	67	814	2,428	3,733	730		7,928
1983					26	2	145	1,891	10,728	5,294	1,327		19,413
1984					153	32	766	5,024	6,545	3,298	778		16,596
1985					220	401	2,675	3,387	9,822	2,821	541		19,867
1986					65	102	1,515	4,994	3,833	2,391	403		13,303
1987					13	29	413	1,897	1,668	1,236	237		5,493
1988					85	103	357	1,273	1,797	785			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
2003					21	10	456	2,346	4,618	2,320	192		9,963
2004					74	56	916	1,709	5,039	1,401	122		9,317
2005					63	14	366	1,590	3,287	1,738	145		7,203
2006					28	16	138	922	4,017	1,248	305		6,674
2007					45	18	250	1,605	3,332	2,033	217		7,500
2008					145	167	861	2,792	3,740	1,580	523		9,808
2009					70	37	502	4,777	15,992	3,813	252		25,443
2010					95	34	1,085	4,524	5,235	1,581	375		12,929
2011					123	4	242	3,274	5,873	2,377	176		12,069
2012					101	56	557	3,294	4,001	1,554	215		9,778
2013					64	28	247	2,180	2,767	1,792	144		7,222
<b>TOTAL</b>					<b>2,620</b>	<b>1,605</b>	<b>16,893</b>	<b>72,403</b>	<b>135,751</b>	<b>65,176</b>	<b>10,607</b>		<b>305,055</b>
<b>10-Year Average</b>					<b>81</b>	<b>43</b>	<b>516</b>	<b>2,667</b>	<b>5,328</b>	<b>1,912</b>	<b>247</b>		<b>10,794</b>

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