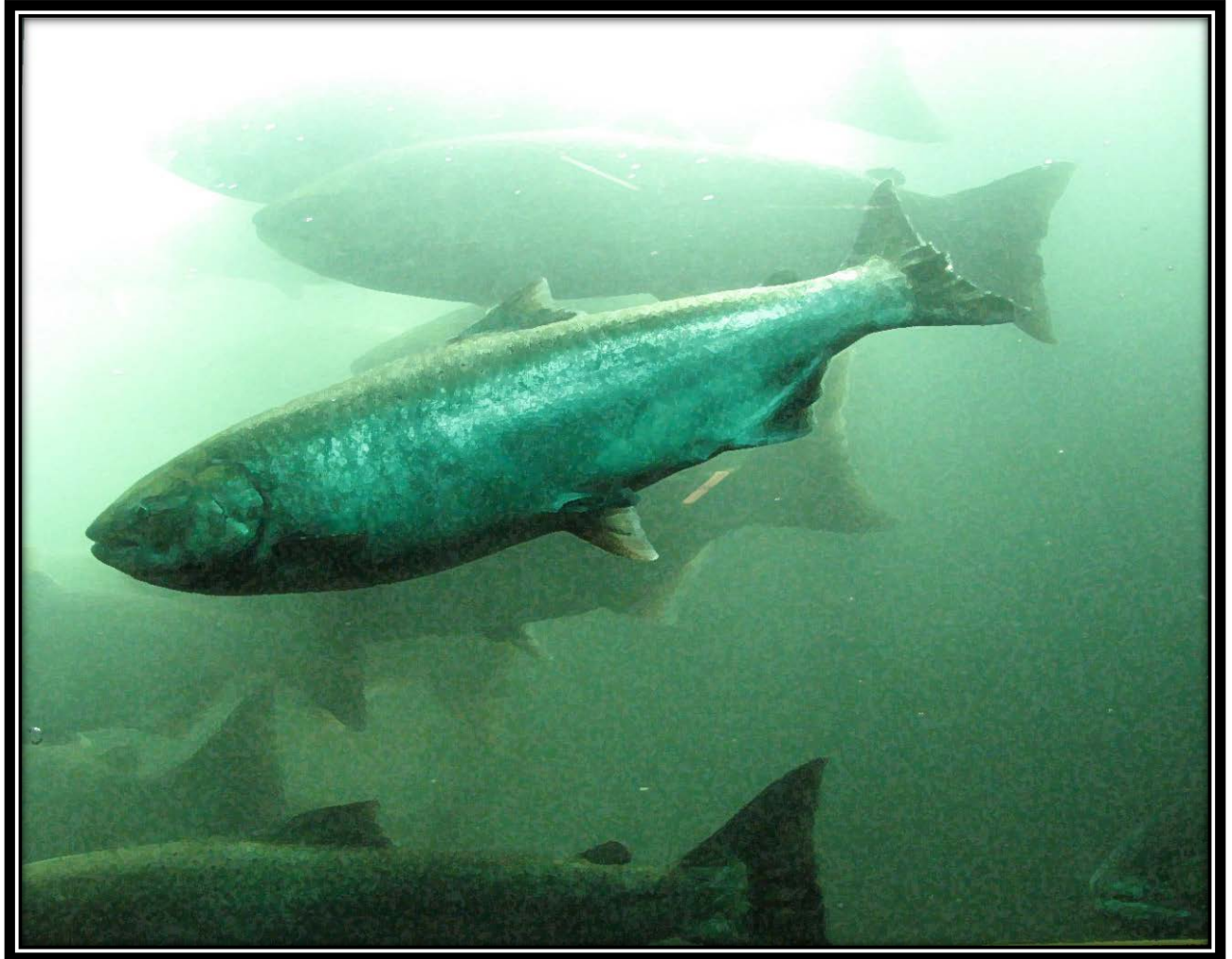




US Army Corps
of Engineers®
Portland District
Walla Walla District

Annual Fish Passage Report 2018



Columbia and Snake River Projects

2018

**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**

TABLE OF CONTENTS

General

Plate 1. Columbia and Snake River Projects	1
Table 1. Fish Escapement at Main Stem Dams Columbia and Snake Rivers: 2014 – 2018....	2
Table 2. Fish Escapement at Mid-Columbia River Dams: 2014– 2018	3
Table 3. Steelhead over Columbia and Snake River Dams 1953 – 2018: by Run-Year	4-5
Table 4. Steelhead over Mid-Columbia River Dams 1959 – 2018: by Run-Year	6

Columbia River **Corps of Engineers Projects**

BONNEVILLE DAM

Plate 2. Bonneville Dam General Site Map, Fish Passage Facilities.....	7
Fish Counting Schedule	8
Fish Facilities Operation Schedule	8
Fishway Activities.....	8-10
Table 5. Monthly Totals of Salmonids, Shad, and Lamprey: 2018	11
Table 6-17. Monthly Discharge, Water Quality Data, and Fish Count January through December: 2018.....	12-23
Table 18-22. Monthly Night Counts (May-September) for Salmonids, Shad, and Lamprey: 2018.....	24-28
Table 23a. Yearly Totals of Salmonids: 1938 – 2018	29-30
Table 23b. Yearly Totals of Salmonids (Daytime Counts): 1938 – 2018	31-32
Table 24. Monthly Count of Chinook Salmon: 1938 – 2018	33-34
Table 25. Monthly Count of Sockeye Salmon: 1938 – 2018	35-36
Table 26. Monthly Count of Coho Salmon: 1938 – 2018	37-38
Table 27. Monthly Count of Steelhead: 1938 – 2018	39-40
Table 28. Monthly Count of Shad: 1938 – 2018	41-42
Table 29a. Monthly Count of Lamprey 1939 –2018	43
Table 29b. Monthly Count of Lamprey 2009 – 2018 (24 hour passage).....	44
Table 29c. Monthly Count of Lamprey LPS and flume passage.....	44

THE DALLES DAM

Plate 3. The Dalles Dam General Site Map, Fish Passage Facilities.....	45
Fish Counting Schedule	46
Fishway Operating Schedule	46

TABLE OF CONTENTS
(Continued)

Fishway Activities 46-47

Table 30. Monthly Totals of Salmonids, Shad, and Lamprey: 201848

Table 31-41. Monthly Discharge, Water Quality, and Fish Counts January through
December: 2018 49-59

Table 42-45. Monthly Night Counts (June-September) for Salmonids, Shad, and
Lamprey: 2018..... 60-63

Table 46. Yearly totals of Salmonids: 1957 – 201864

Table 47. Monthly Count of Chinook Salmon: 1957 – 201865

Table 48. Monthly Count of Sockeye Salmon: 1957 – 201866

Table 49. Monthly Count of Coho Salmon: 1957 – 201867

Table 50. Monthly Count of Steelhead: 1957 – 201868

JOHN DAY DAM

Plate 4. John Day Dam General Site Map, Fish Passage Facilities69

Fish Counting Schedule70

Fishway Operating Schedule70

Fishway Activities 70-71

Table 51. Monthly Totals of Salmonids, Shad, and Lamprey: 201872

Table 52-62. Monthly Discharge, Water Quality, and Fish Counts January through
December: 2018 73-83

Table 63-66. Monthly Night Counts (June-September) for Salmonids, Shad, and
Lamprey: 2018..... 84-87

Table 67. Yearly totals of Salmonids: 1968 – 201888

Table 68. Monthly Count of Chinook Salmon: 1968 – 201889

Table 69. Monthly Count of Sockeye Salmon: 1968 – 201890

Table 70. Monthly Count of Coho Salmon: 1968 – 201891

Table 71. Monthly Count of Steelhead: 1968 – 201892

McNARY DAM

Plate 5. McNary Dam General Site Map, Fish Passage Facilities93

Fish Counting Schedule94

Fish Ladder Operating Schedule.....94

Fishway Activities 94-95

Table 72. Monthly Totals of Salmonids, Shad, and Lamprey: 201896

Table 73-83. Monthly Discharge, Water Quality, and Fish Counts January through
December: 2018 97-107

TABLE OF CONTENTS
(Continued)

Table 84-87. Monthly Night Counts (June-September) for Salmonids, Shad, and Lamprey: 2018.....108-111

Table 88. Yearly totals of Salmonids: 1954 – 2018112

Table 89. Monthly Count of Chinook Salmon: 1954 – 2018 113-114

Table 90. Monthly Count of Sockeye Salmon: 1954 – 2018 115-116

Table 91. Monthly Count of Coho Salmon: 1954 – 2018 117-118

Table 92. Monthly Count of Steelhead: 1954 – 2018 119-120

Snake River
Corps of Engineers Projects

ICE HARBOR DAM

Plate 6. Ice Harbor Dam General Site Map, Fish Passage Facilities121

Fish Counting Schedule122

Fish Ladder Operating Schedule.....122

Fishway Activities122

Table 93. Monthly Totals of Salmonids, Shad, and Lamprey: 2018123

Table 94-104. Monthly Discharge, Water Quality, and Fish Counts January through December: 2018..... 124-134

Table 105. Yearly totals of Salmonids: 1962 – 2018135

Table 106. Monthly Count of Chinook Salmon: 1962 – 2018136

Table 107. Monthly Count of Steelhead: 1962 – 2018137

LOWER MONUMENTAL DAM

Plate 7. Lower Monumental Dam General Site Map, Fish Passage Facilities138

Fish Counting Schedule139

Fish Ladder Operating Schedule.....139

Fishway Activities139

Table 108. Monthly Totals of Salmonids, Lamprey, Sturgeon, and Bull Trout: 2018.....140

Table 109-117. Monthly Discharge, Water Quality, and Fish Counts January through December: 2018..... 141-149

Table 118. Yearly totals of Salmonids: 1969 – 2018150

Table 119. Monthly Count of Chinook Salmon: 1969 – 2018151

TABLE OF CONTENTS
(Continued)

Table 120. Monthly Count of Steelhead: 1969 – 2018152

LITTLE GOOSE DAM

Plate 8. Little Goose Dam General Site Map, Fish Passage Facilities153

Fish Counting Schedule154

Fish Ladder Operating Schedule.....154

Fishway Activities 154-155

Table 121. Monthly Totals of Salmonids, Shad, and Lamprey: 2018156

Table 122-130. Monthly Discharge, Water Quality, and Fish Counts January through
December: 2018..... 157-165

Table 131. Yearly totals of Salmonids: 1970 – 1981, 1991 – 2018166

Table 132. Monthly Count of Chinook Salmon: 1970 – 1981, 1991 – 2018167

Table 133. Monthly Count of Steelhead: 1970 – 1981, 1991 – 2018168

LOWER GRANITE DAM

Plate 9. Lower Granite Dam General Site Map, Fish Passage Facilities169

Fish Counting Schedule170

Fish Ladder Operating Schedule.....170

Fishway Activities170

Table 134. Monthly Totals of Salmonids, Shad, and Lamprey: 2018171

Table 135-145. Monthly Discharge, Water Quality, and Fish Counts January through
December: 2018..... 172-182

Table 146-149. Monthly Night Counts (June-September) for Salmonids, Shad, and
Lamprey: 2018.....183-186

Table 150. Yearly totals of Salmonids: 1975 – 2018187

Table 151. Monthly Count of Chinook Salmon: 1975 – 2018188

Table 152. Monthly Count of Steelhead: 1975 – 2018189

TABLE OF CONTENTS
(Continued)

Mid - Columbia River
Public Utility District Projects

PRIEST RAPIDS AND WANAPUM DAMS

Fishway Counting Schedule190
Fish Ladder Operating and Maintenance Schedule190
Fishway Activities 190-191

Table 153. Monthly Totals of Salmonids, Shad, and Lamprey: 2018192
Table 154-161. Monthly Discharge, Water Quality, and Fish Counts April through
November: 2018..... 193-200
Table 162. Yearly totals of Salmonids: 1982 – 2018201
Table 163. Monthly Count of Steelhead: 1960 – 2018202

ROCK ISLAND DAM

Fish Counting Schedule203
Fish Ladder Operating Schedule.....203
Fishway Activities203

Table 164. Monthly Totals of Salmonids and Lamprey: 2018204
Table 165-172. Monthly Discharge, Water Quality, and Fish Counts April through
November: 2018..... 205-212
Table 173. Monthly Count of Steelhead: 1981 – 2018213

ROCKY REACH DAM

Fish Counting Schedule214
Fish Ladder Operating Schedule.....214
Fishway Activities214

Table 174. Monthly Totals of Salmonids and Lamprey: 2018215
Table 175-182. Monthly Discharge, Water Quality, and Fish Counts April through
November: 2018..... 216-223
Table 183. Monthly Count of Steelhead: 1981 – 2018224

TABLE OF CONTENTS
(Continued)

WELLS DAM

Fish Counting Schedule225
Fish Ladder Operating Schedule.....225
Juvenile Passage Facilities..... 225-226

Table 184. Monthly Totals of Salmonids and Lamprey: 2018227
Table 185-191. Monthly Discharge, Water Quality, and Fish Counts May through
November: 2018..... 228-234
Table 192. Monthly Count of Steelhead: 1976 – 2018.....235

Plate 1 Columbia and Snake River Projects

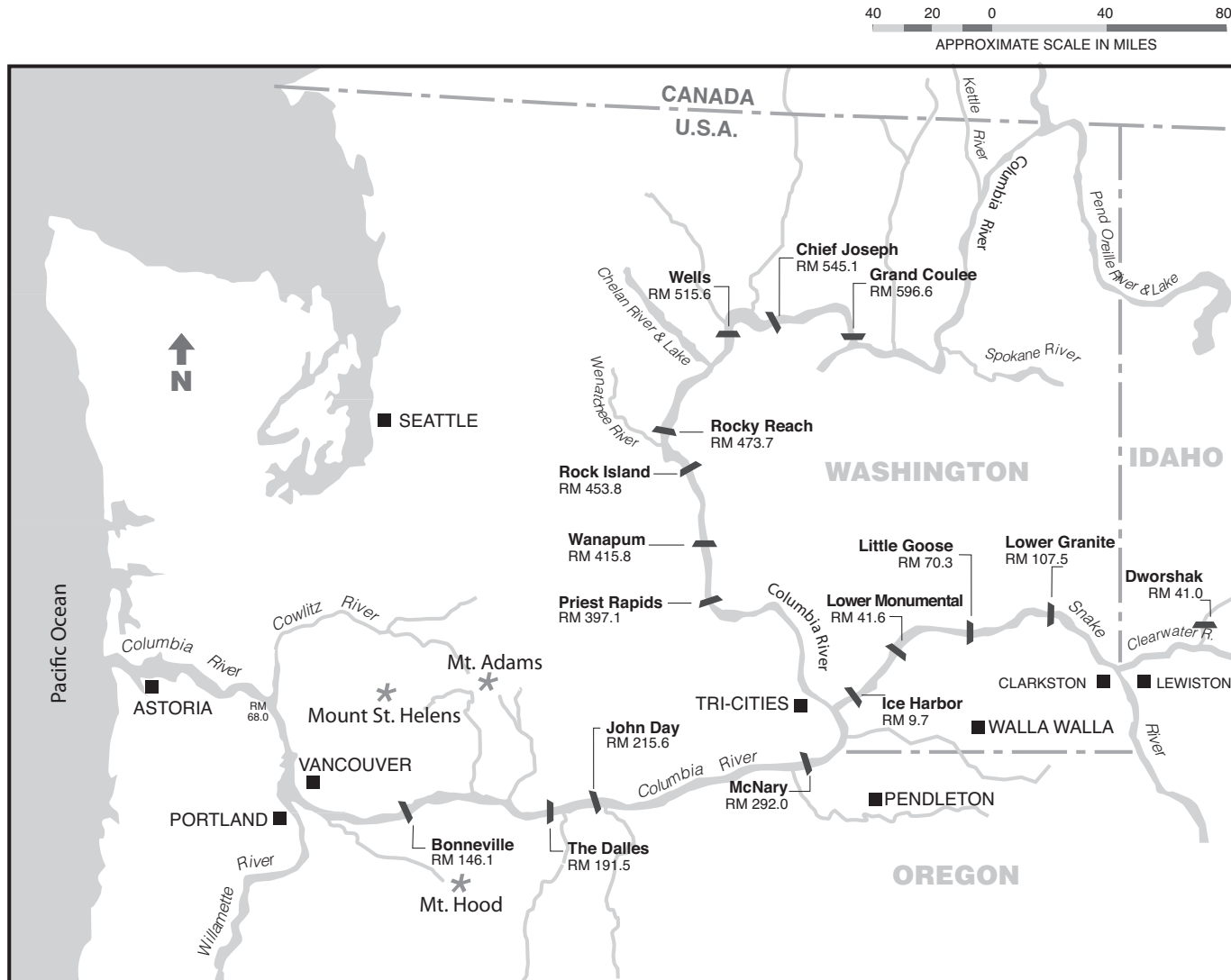


TABLE 1

FISH ESCAPEMENT AT MAIN STEM DAMS ON THE COLUMBIA AND SNAKE RIVERS: 2014-2018

SPECIES	BONNEVILLE	THE DALLES	JOHN DAY	M McNARY	ICE HARBOR	LOWER MONUMENTAL	LITTLE GOOSE	LOWER GRANITE
2014								
CHINOOK*	1,339,262	905,449	766,191	715,072	192,966	193,042	185,367	195,166
Spring*	214,171	164,222	142,300	123,180	91,726	93,962	91,615	92,899
Summer*	135,076	115,659	103,688	104,996	21,907	24,200	24,535	21,774
Fall*	990,015	625,568	520,203	486,896	79,333	74,880	69,217	80,493
Jacks	186,947	133,342	116,443	109,165	34,846	45,828	37,789	40,645
STEELHEAD	323,169	255,691	200,838	209,772	151,468	155,613	144,980	162,256
SOCKEYE	614,177	586,188	557,531	546,012	2,392	2,804	2,811	2,786
COHO*	291,849	157,646	115,840	112,587	16,077	19,411	21,468	18,648
Adults	277,078	146,803	107,853	98,553	15,330	16,599	17,917	18,095
Jacks	14,771	10,843	7,987	14,034	747	2,812	3,551	553
SHAD	2,603,269	**	**	937,826	90,790	**	**	1,206
LAMPREY	31,952	11,662	8,577	1,783	721	221	115	82
2015								
CHINOOK*	1,449,612	1,068,378	891,578	822,516	219,408	213,045	202,671	203,258
Spring*	233,562	206,423	177,529	164,918	122,207	120,208	113,677	113,252
Summer*	179,465	139,373	119,756	105,010	24,215	22,599	19,958	19,180
Fall*	1,036,585	722,582	594,293	552,588	72,986	70,238	69,036	70,826
Jacks	113,487	115,226	82,816	71,109	18,560	29,376	23,579	24,126
STEELHEAD	264,696	217,018	179,506	177,137	128,521	129,813	126,271	139,383
SOCKEYE	510,705	429,797	366,364	279,744	1,052	888	587	440
COHO*	41,297	26,959	21,828	19,901	1,492	1,353	1,986	1,688
Adults	36,455	23,777	18,762	16,523	1,307	1,014	1,671	1,449
Jacks	4,842	3,182	3,066	3,378	185	339	315	239
SHAD	1,815,001	**	**	999,552	220,757	**	**	84,833
LAMPREY	38,636	12,400	8,370	1,748	764	264	58	50
2016								
CHINOOK*	773,874	585,090	507,088	448,571	137,810	135,313	128,488	128,833
Spring*	148,319	115,503	101,921	93,515	72,513	72,381	68,959	67,530
Summer*	130,425	104,564	97,974	90,395	15,518	14,804	14,399	14,223
Fall*	495,130	365,023	307,193	264,661	49,779	48,128	45,130	47,080
Jacks	76,162	69,544	55,724	38,722	19,633	23,648	19,606	19,959
STEELHEAD	185,520	145,027	130,626	118,763	94,473	94,189	87,338	100,086
SOCKEYE	342,497	288,401	289,976	261,696	898	1,024	962	816
COHO*	47,358	22,909	19,635	12,013	2,141	3,293	2,392	3,170
Adults	41,882	21,007	17,019	10,899	1,997	2,804	1,827	2,841
Jacks	5,476	1,902	2,616	1,114	144	489	565	329
SHAD	1,770,303	**	**	1,003,755	264,827	**	**	42,486
LAMPREY	52,323	11,557	9,769	1,612	875	240	192	106
2017								
CHINOOK*	554,899	389,976	313,886	277,496	78,076	80,253	77,071	81,318
Spring*	101,726	70,795	59,150	51,313	35,255	36,815	34,933	35,613
Summer*	98,692	78,523	67,779	61,984	11,371	11,604	12,840	12,579
Fall*	354,481	240,658	186,957	164,199	31,450	31,834	29,298	33,126
Jacks	66,406	49,602	41,269	23,741	14,093	18,122	16,282	18,579
STEELHEAD	116,429	95,233	83,253	79,006	61,961	66,499	59,259	76,684
SOCKEYE	87,693	64,058	66,041	58,022	392	346	288	228
COHO*	79,099	36,591	34,246	23,201	5,737	7,587	7,891	8,801
Adults	74,347	33,457	29,080	21,637	5,328	6,536	6,810	8,177
Jacks	4,752	3,134	5,166	1,564	409	1,051	1,081	624
SHAD	3,135,401	**	**	1,610,611	368,693	**	**	28,771
LAMPREY	82,572	30,696	23,404	2,549	1,438	409	472	346
2018								
CHINOOK*	379,582	264,735	227,583	207,506	62,101	70,462	63,903	64,122
Spring*	94,346	62,719	55,615	47,898	34,792	38,418	34,320	34,109
Summer*	65,406	53,083	47,128	45,162	6,368	6,860	8,047	8,123
Fall*	219,830	148,933	124,840	114,446	20,941	25,184	21,536	21,890
Jacks	43,773	30,671	28,248	19,630	5,604	11,903	7,469	8,591
STEELHEAD	101,626	80,674	71,010	66,146	44,398	50,031	45,584	49,122
SOCKEYE	193,816	152,101	168,469	155,480	382	398	280	276
COHO*	47,041	24,426	19,371	13,928	1,516	2,058	1,752	2,389
Adults	38,695	21,949	16,486	12,142	1,248	1,552	1,434	1,497
Jacks	8,346	2,477	2,885	1,786	268	506	318	892
SHAD	6,059,933	**	**	3,871,859	807,491	**	**	49,709
LAMPREY	43,427	10,515	8,542	1,566	1,017	432	61	207

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.
Note: Counts are daytime window counts.

TABLE 2

FISH ESCAPEMENT AT MID COLUMBIA RIVER DAMS: 2014 - 2018

SPECIES	PRIEST RAPIDS	ROCK ISLAND	ROCKY REACH	WELLS
2014				
CHINOOK*	242,755	145,104	103,168	83,506
Spring*	26,391	33,493	17,343	17,921
Summer*	83,323	82,283	65,140	55,244
Fall*	133,041	29,328	20,685	10,341
Jacks	19,897	16,681	12,865	11,054
STEELHEAD	19,843	15,037	10,587	7,735
SOCKEYE	608,142	581,121	492,892	490,804
COHO*	36,685	47,587	13,170	9,149
Adults	34,532	47,345	13,101	9,073
Jacks	2,153	242	69	76
SHAD	8,179	**	**	**
LAMPREY	7,586	2,451	3,799	7
2015				
CHINOOK*	206,103	168,005	131,102	103,358
Spring*	29,286	42,263	19,896	21,491
Summer*	81,689	88,426	79,053	65,440
Fall*	95,128	37,316	32,153	16,427
Jacks	10,947	6,551	4,685	5,732
STEELHEAD	14,316	14,051	10,894	9,143
SOCKEYE	301,272	264,678	216,389	187,055
COHO*	5,036	4,499	2,140	1,173
Adults	4,411	4,360	2,016	1,125
Jacks	625	139	124	48
SHAD	17,043	**	**	**
LAMPREY	6,749	2,165	2,134	0
2016				
CHINOOK*	147,777	122,277	86,252	65,822
Spring*	17,846	27,449	13,080	12,622
Summer*	85,414	77,927	60,496	47,138
Fall*	44,517	16,901	12,676	6,062
Jacks	9,337	6,207	4,645	4,029
STEELHEAD	6,498	7,166	5,728	4,844
SOCKEYE	311,072	310,341	235,925	216,036
COHO*	1,987	2,489	418	423
Adults	1,781	2,359	391	392
Jacks	206	130	27	31
SHAD	11,361	**	**	**
LAMPREY	8,139	3,939	3,553	7
2017				
CHINOOK*	96,655	82,070	62,842	43,458
Spring*	8,051	12,055	7,372	7,409
Summer*	54,741	56,504	44,122	31,203
Fall*	33,863	13,511	11,348	4,846
Jacks	4,858	3,321	2,685	2,471
STEELHEAD	5,804	5,265	3,988	3,755
SOCKEYE	66,670	73,218	46,701	42,299
COHO*	8,719	13,200	5,432	3,847
Adults	8,120	13,090	5,373	3,790
Jacks	599	110	59	57
SHAD	8,090	**	**	**
LAMPREY	26,012	21,137	23,986	287
2018				
CHINOOK*	70,814	59,079	49,173	34,841
Spring*	8,016	13,280	8,716	8,476
Summer*	42,345	37,144	33,118	23,242
Fall*	20,453	8,655	7,339	3,123
Jacks	5,351	3,862	2,920	2,469
STEELHEAD	4,918	5,229	4,238	3,914
SOCKEYE	189,884	172,008	162,684	153,637
COHO*	5,186	9,014	4,424	2,946
Adults	4,856	8,391	4,009	2,812
Jacks	330	623	415	134
SHAD	79,326	**	**	**
LAMPREY	11,758	4,998	5,218	175

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 1953-2018

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 - 2018

BY RUN-YEAR (JUNE 1 - MAY 31)

RUN-YEAR	THE DALLES	JOHN DAY	MCNARY	ICE HARBOR	LOWER MONUMENTAL	LITTLE GOOSE**	LOWER GRANITE
1953-54			8,252 *				
1954-55			72,913				
1955-56			84,434				
1956-57	3,531 *		40,660				
1957-58	128,124		105,136				
1958-59	120,170		87,413				
1959-60	155,892		111,288				
1960-61	110,955		95,556				
1961-62	134,740		104,679	9,474 *			
1962-63	163,125		163,333	108,186			
1963-64	118,899		113,676	76,788			
1964-65	110,509		99,872	58,025			
1965-66	142,376		120,469	62,566			
1966-67	144,267		144,461	64,987			
1967-68	122,231	6,598	83,948	47,536			
1968-69	147,844	122,649	107,806	85,273	16,240 *		
1969-70	111,617	81,623	74,933	58,172	63,269	9,256 *	
1970-71	99,319	81,238	68,598	54,445	58,430	54,257	
1971-72	151,329	117,402	110,450	66,196	68,704	70,867	
1972-73	135,730	149,704	95,837	63,584	66,650	63,033	
1973-74	100,924	93,951	62,158	37,245	38,288	37,099	
1974-75	71,336	40,868	26,191	12,170	14,851	13,818	2,789 *
1975-76	57,695	33,640	25,150	15,895	17,236	15,177	16,592
1976-77	83,194	59,368	54,409	24,140	21,801	21,109	22,562
1977-78	133,096	102,193	86,962	54,911	48,160	47,617	57,029
1978-79	58,995	43,554	34,580	27,252	19,849	24,050	26,473
1979-80	86,317	59,825	54,213	26,790	20,073	23,816	28,758
1980-81	93,309	77,113	63,957	47,778	32,599	36,680	37,996
1981-82	112,265	96,663	62,955	43,274	37,755	36,896	42,420
1982-83	116,178	105,438	72,246	70,236	60,775	**	72,384
1983-84	172,033	157,602	126,706	90,030	82,555		88,760
1984-85	221,299	204,595	142,246	101,008	92,947		104,417
1985-86	274,826	245,087	181,635	123,187	104,400		116,147
1986-87	280,671	234,651	193,096	142,273	121,107		129,983
1987-88	219,822	172,290	151,587	77,565	64,717		71,280
1988-89	197,669	163,283	150,361	98,950	81,324		87,137
1989-90	236,584	193,951	170,014	149,361	131,050	**	131,420
1990-91	128,123	107,117	94,522	54,370	44,518	1,070	56,865
1991-92	199,244	158,790	168,156	122,874	97,454	96,421	99,052
1992-93	233,430	197,715	197,739	166,654	136,820	118,949	128,265
1993-94	123,449	94,080	90,359	68,568	65,883	58,747	59,768
1994-95	111,378	92,362	92,568	49,450	48,231	46,258	47,302
1995-96	146,152	123,319	114,813	91,938	89,953	77,417	79,126
1996-97	162,447	156,924	124,820	101,384	96,785	82,573	86,898
1997-98	164,657	159,442	129,772	104,220	85,959	74,845	86,617
1998-99	116,262	156,628	98,606	84,135	65,173	62,641	70,721
1999-00	157,062	165,239	84,413	84,253	73,135	65,505	73,811
2000-01	205,801	219,433	131,330	126,989	113,454	102,074	116,490
2001-02	504,704	489,215	401,881	286,874	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
2013-14	190,819	157,974	143,740	114,091	109,422	95,223	107,954
2014-15	255,224	200,671	209,654	151,336	168,423	144,911	165,803
2015-16	216,916	179,273	176,870	128,742	129,481	128,189	136,069
2016-17	145,946	130,770	120,815	94,173	94,198	93,482	102,005
2017-18	95,703	83,105	80,309	62,197	66,262	58,993	74,026
Total	11,050,744	8,699,787	8,618,586	5,814,510	5,062,773	3,909,607	4,804,452
10-Year Average	253,043	231,142	202,550	156,279	157,220	146,144	158,591

*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, 2012-18.

TABLE 4

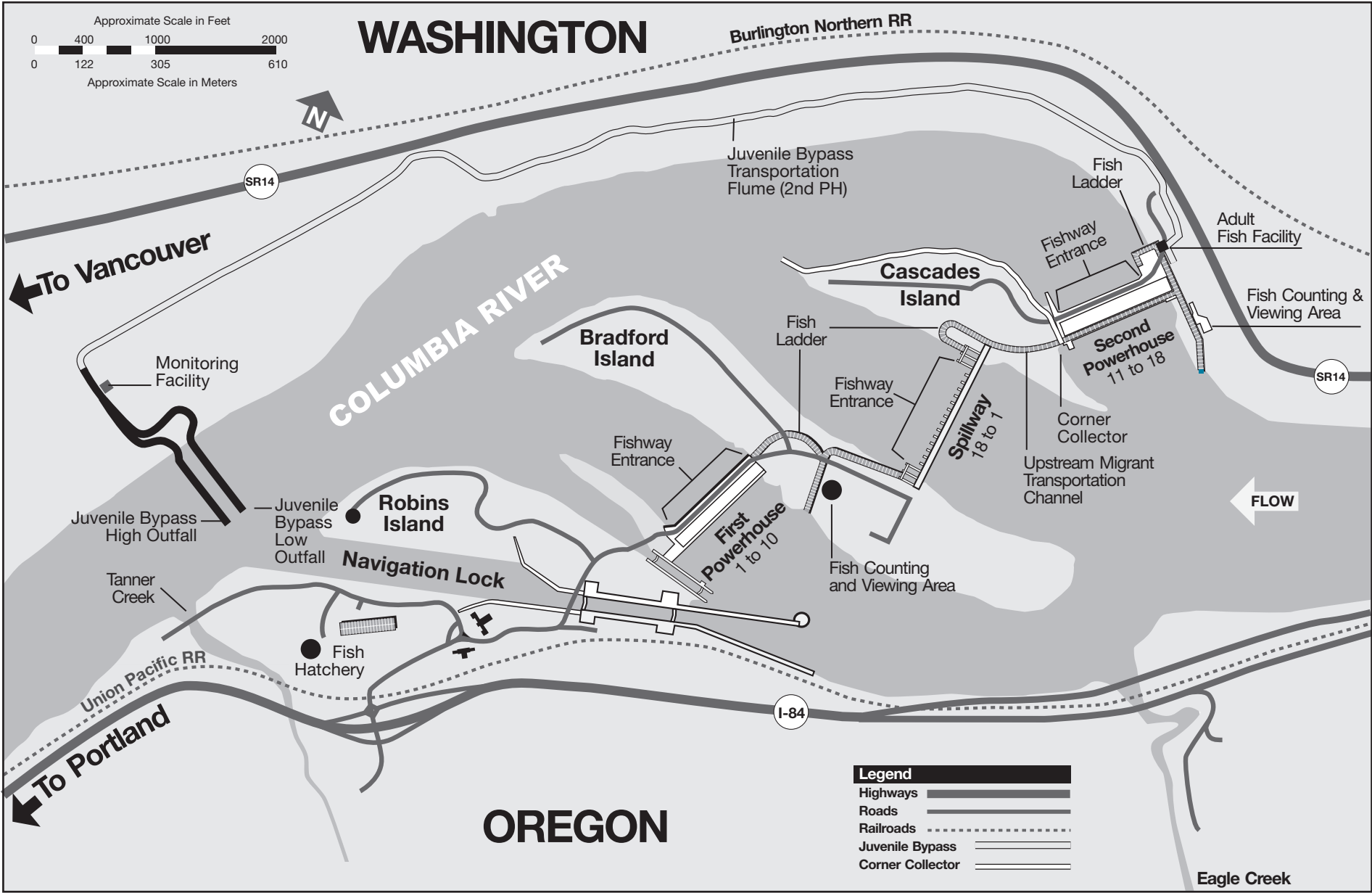
STEELHEAD OVER MID COLUMBIA RIVER DAMS 1959 - 2018

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
2013-14	15,072	11,671	9,296	7,280
2014-15	19,766	14,893	10,450	7,650
2015-16	14,303	13,962	10,871	9,165
2016-17	6,507	7,182	5,762	4,820
2017-18	5,804	5,269	3,951	3,835
Total	731,815	519,935	383,128	330,647
10-Year Average	18,266	16,356	12,965	10,270

*Partial year

Plate 2 Bonneville Lock and Dam



BONNEVILLE DAM

FISH COUNTING SCHEDULE

Jan 01 – Mar 31 Video 0400–2000 hours (PST)
 Apr 01 – Nov 30 Visual 0500–2100 hours (DST)
 May 15 – Sep 30 Night Video 2100–0500 hours (DST)
 Dec 01 – Dec 31 Video 0400–2000 hours (PST)

*In 2018, Daylight Saving Time (DST) is in effect March 11 – November 4 and hours are adjusted forward 1 hour from Pacific Standard Time (PST). DST = PST+1.

FISH FACILITIES OPERATION SCHEDULE

Fish Facility	OOS Date 2017	In Service Date 2018	OOS Date 2018	Reason for Outage
BI Ladder	24-Nov	27-Feb	NA	2017-18 IWW period
A-branch	24-Nov	27-Feb	NA	2017-18 IWW period
B-branch	24-Nov	27-Feb	NA	2017-18 IWW period
CI Ladder	NA	NA	NA	No outage due to CI subsidence/bridge de-rating
WA Shore Ladder	NA	NA	1-Dec	2018-19 IWW period
UMT	NA	NA	1-Dec	2018-19 IWW period
BI LPS	31-Oct	6-Mar	31-Oct	End of Season / Maintenance
CI LPS	31-Oct	16-Apr	31-Oct	End of Season / Maintenance
WA AWS LPS	31-Oct	24-Apr	31-Oct	End of Season / Maintenance
NDE LFS/LPS	24-Aug	*4/10/2019	14-Sep	Low number of fish collected
BI Wetted Wall	NA	17-Mar		Operation Issues, low usage
B2CC	1-Sep	7-Apr	1-Sep	Opens with kelt trigger / closes with spill
DSM	27-Oct	20-Feb	19-Dec	Winter maintenance
AFF	15-Nov	24-Apr	7-Nov	End of Season / Maintenance
SMF	31-Oct	2-Mar	31-Oct	End of Season / Maintenance

*The NDE LFS/LPS was only operational M-Th until 20-May.

FISHWAY ACTIVITIES

The following are fishway modifications for the 2017/2018 passage year:

POWERHOUSE ONE ADULT

2018. Installed HOBO temperature monitors.

POWERHOUSE ONE LAMPREY

2018. Tested reduced nighttime entrance velocities at PH1 and B-branch entrances.

2018. Field tested the Bradford Is. Wetted Wall (BIWW).

2018. Installed HOBO temperature monitors.

2017/18. Modified the Bradford Is. LPS exit. Objective was to allow for adjustable slope and to release lamprey further from the adult ladder exit thus reducing fallback.

2017/18. Orifice slots drilled in lower serpentine weir walls (weirs 1, 3, and 5); trial rest boxes installed.

CASCADES ISLAND LAMPREY

2018. Installed HOBO temperature monitors.

2017/18. FDX PIT systems installed.

POWERHOUSE TWO JUVENILE

2018. Removal of FGE flow control plates from all units.

2018. Installed HOBO temperature monitors.

2018. Major electrical upgrades to the SMF PLC.

POWERHOUSE TWO LAMPREY

2018. Replaced the two winch deployed AFF lamprey traps for a permanently installed single ramp trap.

2018. Installed HOBO temperature monitors.

2018. WA AWS LPS exit “plunge box” 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 follow procedures outlined in the FPP and detailed in the Fish Salvage Plan to minimize impacts on fish. Adult salmonids and adult lamprey are generally released into the forebay above the new navigation lock. Juvenile salmonids, juvenile lamprey, and sturgeon are generally released below the dam at the Hamilton Island boat launch. 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.

Date	Location	Fish Salvaged	Release Site
12-Dec	A-Branch Diffuser Pits	~20 adult Pacific Lamprey, 4 juvenile lamprey, 9 juvenile salmonids, ~40 juvenile suckers, catfish, Centrarchids, and Cyprinids.	Forebay
14-Dec	MU 15 Tail Logs	5 sculpin & 1 juvenile lamprey.	Tailrace
19-Dec	MU 10 Scroll Case	~120 American Shad, ~80 juvenile salmonids, 1 sculpin, & 3 juvenile Centrarchids.	Tailrace
19-Dec	MU 10 Draft Tube	1 sculpin, & ~15 juvenile salmonids.	Tailrace
9-Jan	MU 11 Scroll Case	7 juvenile salmonids, & 1 Cyprinid.	Tailrace
9-Jan	MU 11 Draft Tube	1 sculpin, & ~15 juvenile salmonids.	Tailrace
25-Jan	MU 18 Tail Logs	1 sculpin, & 4 juvenile lamprey.	Tailrace
28-Feb	MU 10 Tail Logs	~20 sculpin, ~15 juvenile lamprey, & 1 Centrarchid.	Tailrace
6-Mar	Nav Lock Sill Basin	2 sculpins, 2 crayfish, & 1 Centrarchid.	Forebay
3-Apr	MU 4 Scroll Case	~24 juvenile salmonids.	Tailrace
3-Apr	MU 4 Draft Tube	2 juvenile salmonids.	Tailrace
5-Jun	CI LPS	10 adult Pacific Lamprey.	Forebay
5-Jun	MU 4 Tail Logs	1 White Sturgeon, 1 adult Pacific Lamprey, ~15 juvenile lamprey, & 7 sculpin.	Tailrace
17-Jul	MU 8 Tail Logs	2 sculpins.	Tailrace
2-Oct	MU 13 Draft Tube	10 White Sturgeon.	Forebay
7-Nov	AFF	1 juvenile salmonid, ~10 juvenile lamprey, ~500 American Shad, & ~100 sucker & Cyprinids.	Tailrace

TABLE 5

MONTHLY TOTALS OF SALMONID, SHAD, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER BONNEVILLE DAM.
2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*	2	0	21	6,307	88,020	46,985	18,421	56,313	142,313	19,615	1,756	70	379,823
STEELHEAD	238	410	1,029	912	1,109	4,462	26,758	29,041	31,273	6,928	579	181	102,920
SOCKEYE					40	143,354	50,079	339	4				193,816
COHO*							3	7,331	26,965	9,940	3,187	2,041	49,467
CHUM										5	168	7	180
PINK							3	1					4
TOTAL	240	410	1,050	7,219	89,169	194,801	95,264	93,025	200,555	36,488	5,690	2,299	726,210
SHAD					94,960	5,610,352	336,809	17,812					6,059,933
LAMPREY													
Window count	-5	5	0	0	2,944	20,661	13,707	5,402	707	7	-1	-8	43,419
†LPS count				1	736	36,820	16,389	4,909	1,525	40			60,420
STURGEON									14	6			20
BULL TROUT													0

*Jacks included.

note: Counts were taken from 0400-2000 PST Jan 1 - Dec 31. Live counting occurred Apr 1 - Nov 30.
Video counting occurred Jan 1 - Mar 31 and Dec 1-31.

†Lamprey passage systems (LPS) counts are 24-hour counts, for operations refer to the BON narrative.

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

BONNEVILLE PROJECT - FISH COUNTS														JANUARY 2018			
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
Jan 1	0				1	-1		5	4				0	167.2	0.5	7.0	41.0
Jan 2	1				0	0		4	1				0	182.4	0.5	3.0	40.0
Jan 3	0				-1	0		3	1				0	192.6	0.5	7.0	40.0
Jan 4	0				0	0		5	2			-1	0	185.7	0.5	7.0	39.0
Jan 5	0				0	0		10	3				0	193.1	0.5	7.0	39.0
Jan 6	0				0	0		3	2			-1	0	173.6	0.5	7.0	40.0
Jan 7	0				0	0		1	0				0	150.4	0.5	7.0	40.0
Jan 8	1				0	0		4	3				0	192.9	0.5	7.0	40.0
Jan 9	0				0	0		2	0				0	197.1	0.5	7.0	40.0
Jan 10	0				0	0		2	0			-1	0	187.5	0.5	7.0	40.0
Jan 11	0				0	0		23	13				0	201.0	0.5	0.0	39.0
Jan 12	0				0	0		27	10				0	230.4	3.7	3.0	39.0
Jan 13	0				1	0		11	8				0	231.6	1.8	4.0	39.0
Jan 14	0				0	0		6	0				0	214.9	0.5	6.0	40.0
Jan 15	0				0	0		14	5				0	207.3	0.5	7.0	39.0
Jan 16	0				0	0		6	3				0	213.0	0.5	7.0	40.0
Jan 17	0				0	0		8	3			-1	0	216.4	0.5	6.0	40.0
Jan 18	0				0	0		8	2				0	209.5	0.5	5.0	40.0
Jan 19	0				0	0		9	4				0	210.2	0.4	7.0	40.0
Jan 20	0				0	0		15	8				0	208.0	0.6	6.0	40.0
Jan 21	0				0	0		4	1				0	215.0	0.6	6.5	40.0
Jan 22	0				0	0		9	6			-1	0	200.9	0.5	7.0	40.0
Jan 23	0				0	0		2	1				0	214.7	0.5	7.0	40.0
Jan 24	0				0	0		4	2				0	217.8	0.7	7.0	40.0
Jan 25	0				0	0		4	4				0	221.0	0.9	7.0	40.0
Jan 26	0				0	0		1	1				0	206.9	0.5	5.0	40.0
Jan 27	0				0	0		6	3				0	207.1	0.5	5.0	40.0
Jan 28	0				0	0		9	3				0	214.7	0.5	5.0	40.0
Jan 29	0				0	0		12	5				0	221.7	0.5	5.0	40.0
Jan 30	0				0	0		15	8				0	207.5	0.6	4.0	40.0
Jan 31	0				0	0		6	0				0	221.0	0.5	5.0	40.0
TOTAL	2				1	-1		238	106			-5					
AVG	0				0	0		8	3			0		203.7	0.7	5.8	39.8

Note: January 1 to March 31 counts were from video review. 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 2018				
DATE	CHINOOK ADULT			CHINOOK		COHO		unclipped					DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD			LAMPREY	STURGEON	SECCHI
Feb 1							12	6				0		231.9	0.5	5.0	40.0
Feb 2							10	4				0		230.3	0.6	6.5	40.0
Feb 3							20	4				0		227.5	0.6	6.0	41.0
Feb 4							30	14				0		226.5	0.8	6.0	41.0
Feb 5							11	7				-1		245.2	14.9	6.0	41.0
Feb 6							18	6				0		259.8	0.5	4.0	42.0
Feb 7							9	4				0		224.4	24.6	5.0	42.0
Feb 8							14	8				0		263.7	68.8	5.0	41.0
Feb 9							15	7				0		265.5	51.8	5.0	41.0
Feb 10							44	19				0		264.6	17.8	5.0	42.0
Feb 11							41	16				0		291.3	32.6	5.0	42.0
Feb 12							21	8				0		279.4	26.6	3.0	42.0
Feb 13							9	0				7		254.0	1.1	3.0	41.0
Feb 14							19	8				0		252.8	1.5	5.0	41.0
Feb 15							15	4				0		248.4	0.0	5.0	41.0
Feb 16							11	5				0		242.6	0.0	4.5	41.0
Feb 17							15	5				0		239.6	0.0	0.0	41.0
Feb 18							9	7				0		253.1	0.6	4.5	40.0
Feb 19							3	2				0		245.3	0.3	5.0	40.0
Feb 20							9	5				0		243.3	4.4	5.0	39.0
Feb 21							10	7				0		233.5	0.6	4.0	39.0
Feb 22							6	2				0		235.8	0.6	5.0	39.0
Feb 23							7	4				0		231.6	0.5	5.0	39.0
Feb 24							3	2				-1		228.8	0.6	5.0	39.0
Feb 25							20	11				0		223.8	0.6	5.0	39.0
Feb 26							6	3				0		215.8	0.6	5.0	39.0
Feb 27							12	3				0		218.1	1.1	5.0	39.0
Feb 28							11	4				0		210.0	1.2	5.0	39.0
TOTAL							410	175				5					
AVG							15	6				0		242.4	9.1	4.7	40.4

Note: January 1 to March 31 counts were from video review. 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 2018

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
Mar 1	0			0				11	8						225.3	1.2	5.0	38.0
Mar 2	0			0				25	8						225.4	1.2	5.0	39.0
Mar 3	0			0				16	3						221.7	1.2	5.0	39.0
Mar 4	0			0				21	7						197.2	1.2	6.0	39.0
Mar 5	0			0				10	6						221.5	1.2	5.0	39.0
Mar 6	0			0				16	3						214.6	1.2	7.0	39.0
Mar 7	0			0				11	2						188.5	1.2	6.0	39.0
Mar 8	0			0				7	4						191.4	1.2	6.0	39.0
Mar 9	1			0				25	11						196.8	1.2	6.0	39.0
Mar 10	0			0				29	11						212.5	1.3	7.0	39.0
Mar 11	0			0				38	16						208.1	1.3	7.0	40.0
Mar 12	1			0				39	11						214.6	1.3	7.0	40.0
Mar 13	0			0				34	12						203.6	1.2	7.0	41.0
Mar 14	0			0				49	15						199.9	1.2	7.0	41.0
Mar 15	0			0				39	13						205.2	1.2	6.0	42.0
Mar 16	1			0				53	18						205.0	1.2	7.0	42.0
Mar 17	0			0				29	15						213.9	1.3	6.0	42.0
Mar 18	2			0				82	33						198.5	1.3	6.0	42.0
Mar 19	1			0				87	29						209.1	1.3	6.0	42.0
Mar 20	0			0				25	13						203.1	1.2	7.0	43.0
Mar 21	1			0				21	11						203.8	1.3	7.0	43.0
Mar 22	1			0				17	6						205.8	1.2	5.0	44.0
Mar 23	1			0				11	8						208.8	1.2	6.0	44.0
Mar 24	4			0				29	8						212.6	1.3	5.0	44.0
Mar 25	0			0				21	10						186.4	1.2	5.0	44.0
Mar 26	1			0				21	5						194.8	1.2	5.0	44.0
Mar 27	0			0				34	12						204.0	0.9	6.0	44.0
Mar 28	1			0				76	26						198.0	3.6	5.0	44.0
Mar 29	1			0				38	20						204.6	1.2	5.0	44.0
Mar 30	1			0				47	26						186.7	1.4	5.0	45.0
Mar 31	3			1				68	28						192.9	1.5	6.0	45.0
TOTAL	20			1				1,029	398									
AVG	1			0				33	13						205.0	1.3	5.9	41.6

Note: January 1 to March 31 counts were from video review. 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 2018					
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
Apr 1	4			1				40	19					192.8	1.2	5.0	45.0	
Apr 2	3			0				43	21					191.5	1.3	5.0	45.0	
Apr 3	6			0				32	15					211.4	1.3	5.0	45.0	
Apr 4	3			0				24	11					207.7	1.4	5.5	45.0	
Apr 5	6			0				49	20					224.6	1.3	6.0	45.0	
Apr 6	27			0				106	47					225.1	1.4	6.0	45.0	
Apr 7	18			1				74	43					253.4	20.4	4.0	46.0	
Apr 8	6			1				41	20					264.3	31.8	5.0	46.0	
Apr 9	4			0				28	9					272.4	40.0	6.0	46.0	
Apr 10	2			0				18	10					287.0	127.3	5.0	46.0	
Apr 11	24			0				26	12					285.0	124.9	4.5	46.0	
Apr 12	14			0				24	10					274.0	120.3	4.0	47.0	
Apr 13	20			0				25	18					297.1	121.2	4.0	47.0	
Apr 14	27			0				17	11					288.5	123.6	4.5	47.0	
Apr 15	37			0				28	12					296.2	123.7	4.0	47.0	
Apr 16	27			0				18	8					282.1	123.3	5.0	47.0	
Apr 17	39			0				19	18					292.7	121.4	4.0	47.0	
Apr 18	27			0				17	7					322.3	120.8	4.0	47.0	
Apr 19	51			1				23	14					317.5	119.8	4.0	47.0	
Apr 20	38			0				10	4					300.1	119.9	4.0	47.0	
Apr 21	60			0				13	4					304.9	119.6	3.0	47.0	
Apr 22	86			2				27	8					279.7	120.2	4.0	47.0	
Apr 23	97			1				16	4					289.5	119.7	4.0	49.0	
Apr 24	167			5				23	11					294.4	119.6	4.0	50.0	
Apr 25	181			6				27	6					283.9	119.5	4.0	50.0	
Apr 26	283			6				23	6					287.6	122.4	4.0	50.0	
Apr 27	804			11				29	13					296.4	121.1	4.0	51.0	
Apr 28	1,357			18				43	7					291.4	120.3	3.0	51.0	
Apr 29	1,812			16				24	10					324.7	147.9	3.0	51.0	
Apr 30	1,002			6				25	7					346.7	167.7	3.0	51.0	
TOTAL	6,232			75				912	405									
AVG	208			3				30	14					276.2	90.8	4.4	47.3	
RUN YEAR		CHINOOK	CHINOOK						unclipped									
TOTALS TO DATE		ADULT	JACK					STEELHEAD	STEELHEAD									
SPRING		6,250	76					1,610	686									

TABLE 10
 MONTHLY FISH PASSAGE SUMMARY REPORT
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT - FISH COUNTS

MAY 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	unclipped						DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD					LAMPREY	STURGEON
May 1	633			9			0	33	11			0	0		342.1	164.5	3.0	51.0
May 2	978			15			0	32	14			0	0		334.9	160.6	4.5	52.0
May 3	2,705			68			0	36	15			0	0		342.1	155.1	4.0	52.0
May 4	4,421			111			0	27	7			0	0		328.0	130.0	4.0	53.0
May 5	5,392			153			0	26	10			0	0		356.1	149.3	5.0	53.0
May 6	5,109			163			0	36	7			1	0		368.0	161.6	3.5	54.0
May 7	7,287			344			0	50	13			1	0		382.0	191.2	4.0	54.0
May 8	5,233			315			0	47	19			12	7		409.8	202.7	4.0	55.0
May 9	2,649			209			0	37	7			15	10		418.7	202.9	3.0	55.0
May 10	1,879			199			0	41	16			18	13		429.5	214.0	3.0	55.0
May 11	1,578			149			0	61	22			14	35		448.4	228.8	3.5	55.0
May 12	852			132			0	32	10			20	22		474.0	257.3	3.0	55.0
May 13	1,274			155			0	36	14			32	30		486.0	271.0	3.0	55.0
May 14	1,840			332			0	32	9			37	29		468.3	269.5	3.0	54.0
May 15	2,962			348			0	36	14			360	121		465.7	285.6	3.0	55.0
May 16	4,572			468			0	31	10			1,023	108		495.6	310.6	3.0	56.0
May 17	2,736			427			0	33	4			647	271		489.3	294.6	3.0	56.0
May 18	1,487			282			0	33	10			654	133		493.4	298.1	2.0	56.0
May 19	1,514			233			0	27	7			1,707	80		489.9	295.0	2.0	56.0
May 20	3,124			367			0	27	11			2,281	62		483.8	285.6	2.0	56.0
May 21	3,760			364			0	27	16			1,254	46		489.7	290.2	2.5	57.0
May 22	2,616			304			0	33	9			2,239	75		486.5	293.0	2.5	57.0
May 23	4,009			351			1	32	12			9,563	54		474.5	282.8	2.5	57.0
May 24	2,738			237			0	30	9			4,493	125		489.8	290.4	2.5	58.0
May 25	2,237			157			2	32	5			9,272	315		484.5	269.6	3.5	59.0
May 26	2,017			118			3	34	16			6,189	174		474.7	255.8	3.0	58.0
May 27	1,134			79			0	25	11			5,738	119		474.7	257.6	3.0	58.0
May 28	1,297			77			2	36	15			7,329	224		469.1	257.5	3.0	58.0
May 29	1,411			66			12	50	22			17,838	423		444.6	247.9	2.0	59.0
May 30	1,106			69			10	52	18			10,744	260		445.0	241.6	3.0	59.0
May 31	1,090			79			10	45	17			13,479	208		415.8	212.8	3.0	59.0
TOTAL	81,640			6,380			40	1,109	380			94,960	2,944					
AVG	2,634			206			1	36	12			3,063	95		440.5	239.6	3.1	55.7
RUN YEAR	CHINOOK	CHINOOK																
TOTALS TO DATE	ADULT	JACK																
SPRING	87,890	6,456					40	2,719	1,066			94,960	2,944					

TABLE 11

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

BONNEVILLE PROJECT - FISH COUNTS

JUNE 2018

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				SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM							
Jun 1		1,325		66			28	55	19			21,441	301		388.0	179.4	2.0	58.0
Jun 2		1,148		58			64	55	24			59,590	277		422.0	207.8	2.0	59.0
Jun 3		1,396		53			107	65	28			170,623	399		370.5	160.3	3.0	60.0
Jun 4		1,403		95			176	49	17			65,876	258		369.4	159.8	3.5	60.0
Jun 5		996		68			246	65	27			157,536	259		344.7	138.9	3.5	60.0
Jun 6		1,140		55			361	62	23			197,540	334		348.8	141.8	3.5	60.0
Jun 7		1,158		68			432	61	26			294,371	478		333.5	123.8	3.5	60.0
Jun 8		1,408		81			737	101	39			104,673	459		299.2	120.2	4.0	60.0
Jun 9		1,631		87			1,099	89	24			76,395	270		302.7	120.3	3.5	60.0
Jun 10		1,769		96			1,000	94	46			89,080	232		293.1	120.2	4.0	60.0
Jun 11		1,440		71			1,187	93	39			61,458	102		294.6	120.6	4.0	60.0
Jun 12		1,484		86			1,497	127	49			215,700	93		301.0	120.9	4.0	60.0
Jun 13		967		46			2,090	61	28			202,335	460		260.0	121.4	4.0	60.0
Jun 14		1,271		65			2,762	78	37			210,065	390		242.4	120.6	4.0	60.0
Jun 15		1,615		112			3,749	103	42			185,092	317		229.8	120.4	4.0	60.0
Jun 16		2,031		131			5,546	153	70			148,896	349		221.3	95.8	4.0	61.0
Jun 17		1,842		85			4,463	118	52			242,022	295		217.3	95.4	5.0	61.0
Jun 18		2,030		84			7,132	136	54			379,739	643		211.2	90.7	5.5	62.0
Jun 19		1,759		104			8,423	138	72			294,307	888		225.1	95.8	6.0	62.0
Jun 20		1,458		98			7,672	180	78			373,447	883		231.3	99.6	6.0	62.0
Jun 21		1,762		104			10,673	196	102			349,260	1,763		224.1	95.2	6.5	63.0
Jun 22		1,998		154			10,850	187	85			330,587	1,584		211.6	90.5	6.0	64.0
Jun 23		1,757		102			10,076	160	76			311,992	2,353		236.5	95.7	4.0	64.0
Jun 24		1,617		119			10,427	189	93			262,076	1,393		246.6	100.5	7.0	64.0
Jun 25		1,497		118			13,140	232	119			226,854	2,051		246.5	95.0	0.0	65.0
Jun 26		1,683		107			8,207	273	127			163,669	1,356		263.1	91.3	6.0	65.0
Jun 27		1,436		114			8,393	303	146			214,056	864		264.3	96.0	5.0	65.0
Jun 28		1,282		87			8,661	351	183			81,511	632		253.7	100.5	6.0	65.0
Jun 29		997		74			7,057	339	165			60,002	509		253.8	95.7	5.0	65.0
Jun 30		1,006		91			7,099	349	179			60,159	469		243.5	90.3	5.0	65.0
TOTAL		44,306		2,679			143,354	4,462	2,069			5,610,352	20,661					
AVG		1,477		89			4,778	149	69			187,012	689		278.3	116.8	4.3	61.7

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	87,890	6,456
SUMMER	44,306	2,679
TOTAL	132,196	9,135

unclipped		
SOCKEYE	STEELHEAD	STEELHEAD
143,394	7,181	3,135

SHAD	LAMPREY
5,705,312	23,605

TABLE 12

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

BONNEVILLE PROJECT - FISH COUNTS

JULY 2018

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped			SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER						STEELHEAD	PINK	CHUM						SECCHI	DEG F
Jul 1		831	55	0	0	5,203	306	167	0		31,551	503		214.6	94.8	6.0	66.0
Jul 2		1,086	77	0	0	5,868	356	189	0		16,416	678		175.7	100.3	5.0	66.0
Jul 3		708	68	0	0	3,953	303	145	0		10,893	282		202.4	95.4	6.0	66.0
Jul 4		964	82	0	0	5,435	349	197	1		24,779	338		170.7	89.8	5.0	66.0
Jul 5		1,059	105	0	0	4,754	525	279	0		38,941	333		149.5	91.5	5.0	66.0
Jul 6		827	73	0	0	4,323	548	295	0		19,274	905		176.8	99.7	6.0	67.0
Jul 7		888	94	0	0	4,508	712	383	0		19,607	661		160.8	95.3	6.0	67.0
Jul 8		745	53	0	0	2,982	632	318	0		22,945	267		166.4	90.0	7.0	67.0
Jul 9		766	57	0	0	2,038	776	386	0		15,808	538		167.1	94.3	6.0	68.0
Jul 10		694	80	0	0	1,806	820	456	0		17,998	209		165.2	100.0	6.0	68.0
Jul 11		532	70	0	0	927	521	251	0		10,025	225		194.1	95.3	7.0	68.0
Jul 12		598	54	0	0	1,176	665	335	0		16,016	279		198.0	89.6	6.0	68.0
Jul 13		500	71	0	0	1,153	897	432	0		18,812	849		166.8	94.7	7.0	68.0
Jul 14		550	47	0	0	798	781	358	0		10,136	1,227		182.8	100.4	6.0	69.0
Jul 15		619	46	0	0	686	1,011	468	0		12,343	585		175.3	95.2	7.0	69.0
Jul 16		439	42	0	0	530	977	404	0		12,940	670		193.1	89.7	7.0	69.0
Jul 17		449	37	0	0	453	1,040	446	0		9,045	466		186.3	94.5	7.0	69.0
Jul 18		347	25	0	0	486	930	410	0		7,152	572		167.4	100.0	7.0	69.0
Jul 19		282	27	0	0	363	904	408	0		3,964	346		177.0	95.9	7.0	70.0
Jul 20		323	42	0	0	399	752	331	0		2,367	285		148.6	90.4	6.0	70.0
Jul 21		397	40	0	0	284	709	341	0		2,715	202		180.9	94.7	6.0	69.0
Jul 22		448	53	0	0	363	653	318	1		3,286	461		154.9	99.0	7.0	69.0
Jul 23		336	52	0	0	421	908	492	0		1,558	317		167.7	93.7	7.0	70.0
Jul 24		410	47	0	0	314	895	463	0		1,765	400		191.1	90.1	7.0	70.0
Jul 25		293	41	1	0	244	1,561	739	0		2,016	333		168.2	94.5	7.0	70.0
Jul 26		286	37	0	0	177	1,667	771	0		1,024	350		166.5	100.1	7.0	71.0
Jul 27		291	56	0	0	142	1,443	570	0		652	512		164.3	96.1	7.0	71.0
Jul 28		318	37	0	0	98	1,533	577	0		626	208		162.4	90.7	7.0	71.0
Jul 29		267	36	1	0	83	1,354	471	0		754	203		175.4	94.4	7.0	72.0
Jul 30		270	19	0	1	54	1,303	444	1		744	181		173.6	100.0	7.0	72.0
Jul 31		228	47	0	0	58	927	352	0		657	322		162.8	95.9	7.0	72.0
TOTAL		16,751	1,670	2	1	50,079	26,758	12,196	3		336,809	13,707					
AVG		540	54			1,615	863	393			10,865	442		174.4	95.0	6.5	68.8

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY
TOTALS TO DATE	87,890	6,456	2	1	193,473	33,939	15,331	3	6,042,121	37,312
SPRING	87,890	6,456								
SUMMER	61,057	4,349								
TOTAL	148,947	10,805								

TABLE 13

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

BONNEVILLE PROJECT - FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped			SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER						FALL	STEELHEAD	PINK						CHUM	SECCHI	DEG F
Aug 1			233	42	0	1	43	1,102	471	0			1,625	168	146.6	88.5	7.0	72.0
Aug 2			185	35	0	0	49	1,104	448	0			1,906	288	132.0	87.5	6.5	72.0
Aug 3			138	27	0	0	37	1,081	449	0			2,905	192	123.9	80.0	6.0	72.0
Aug 4			151	39	0	0	19	976	398	0			1,714	234	130.9	85.3	6.0	72.0
Aug 5			203	44	0	0	27	946	359	0			1,832	160	151.0	90.2	6.0	72.0
Aug 6			365	51	0	0	21	1,231	506	0			941	174	161.8	96.1	7.0	72.0
Aug 7			256	36	0	0	19	1,489	590	0			1,075	254	153.4	100.6	7.0	72.0
Aug 8			231	45	1	1	14	1,690	535	0			879	78	138.6	95.4	7.0	72.0
Aug 9			229	49	2	2	29	1,713	479	0			600	249	140.3	91.5	7.0	73.0
Aug 10			198	48	5	1	14	1,300	347	0			328	401	161.5	96.5	5.0	74.0
Aug 11			282	25	3	0	6	756	238	0			245	199	145.4	101.1	6.0	74.0
Aug 12			338	51	5	4	2	666	201	0			117	150	125.5	82.6	5.0	74.0
Aug 13			354	38	10	1	5	477	180	0			318	156	124.2	80.7	7.0	73.0
Aug 14			501	61	11	0	5	629	182	0			270	115	138.6	93.8	7.0	72.0
Aug 15			648	85	30	4	5	423	155	0			716	77	148.4	99.5	7.0	72.0
Aug 16			862	70	52	7	6	647	220	0			152	340	139.9	95.9	7.0	72.0
Aug 17			557	65	26	5	5	495	159	0			137	226	121.0	77.7	6.0	72.0
Aug 18			718	80	28	7	4	552	175	0			222	213	119.0	76.0	6.0	72.0
Aug 19			846	90	30	6	5	540	169	0			245	180	112.4	69.5	6.0	72.0
Aug 20			1,504	175	97	9	3	804	227	0			382	281	125.9	80.0	6.0	72.0
Aug 21			2,165	233	122	5	0	873	231	0			423	162	145.1	92.0	6.0	72.0
Aug 22			1,865	257	131	13	2	687	177	0			129	154	156.6	97.9	6.0	71.0
Aug 23			1,572	208	100	8	6	622	137	0			47	332	140.7	96.8	7.0	72.0
Aug 24			2,931	383	142	10	2	697	181	0			26	168	139.3	95.3	7.0	72.0
Aug 25			3,189	504	232	31	2	626	191	0			59	75	137.9	93.3	7.0	72.0
Aug 26			2,854	354	260	41	2	594	184	0			128	75	161.5	96.0	7.0	70.0
Aug 27			4,367	549	657	60	0	764	224	0			68	15	132.2	88.4	6.0	70.0
Aug 28			4,359	622	807	112	5	839	233	1			93	68	126.2	82.9	6.0	69.0
Aug 29			4,917	629	1,084	114	1	1,405	355	0			119	72	143.6	90.3	7.0	69.0
Aug 30			7,842	839	1,514	146	1	1,970	385	0			71	46	138.2	94.9	6.0	69.0
Aug 31			5,100	619	1,256	138	0	1,343	249	0			40	100	129.5	86.3	6.0	70.0
TOTAL			49,960	6,353	6,605	726	339	29,041	9,035	1			17,812	5,402				
AVG			1,612	205	213	23	11	937	291				575	174	138.4	89.8	6.4	71.7
RUN YEAR TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK			COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK			SHAD	LAMPREY				
SPRING	87,890	6,456			6,607	727	193,812	62,980	24,366	4			6,059,933	42,714				
SUMMER	61,057	4,349																
FALL	49,960	6,353																
TOTAL	198,907	17,158																

TABLE 14

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

BONNEVILLE PROJECT - FISH COUNTS

SEPTEMBER 2018

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
Sep 1			6,527	770	1,048	156	0	1,233	232			170	0	100.8	1.5	6.0	70.0
Sep 2			4,326	725	836	189	0	1,620	297			124	0	101.7	1.5	7.0	69.0
Sep 3			6,650	871	1,360	164	1	1,642	300			39	2	100.7	1.3	6.0	68.0
Sep 4			5,815	975	1,312	231	0	1,511	298			39	3	107.5	1.4	7.0	68.0
Sep 5			6,982	1,064	1,349	227	1	1,358	249			28	0	108.0	1.4	6.0	68.0
Sep 6			6,780	1,114	1,334	238	2	1,409	264			26	1	108.7	1.4	7.0	68.0
Sep 7			4,241	657	918	209	0	1,003	195			40	1	107.8	1.3	7.0	68.0
Sep 8			5,928	754	876	199	0	1,081	219			33	0	88.4	1.4	5.0	68.0
Sep 9			4,022	591	661	258	0	915	175			25	0	85.2	1.3	7.0	68.0
Sep 10			4,564	634	686	138	0	998	164			45	0	88.4	1.3	6.0	68.0
Sep 11			6,931	690	1,106	192	0	1,716	436			34	0	97.0	1.3	7.0	68.0
Sep 12			4,883	629	816	148	0	1,180	268			33	0	99.9	1.1	6.0	68.0
Sep 13			3,521	637	638	147	0	890	183			38	0	82.3	1.4	6.5	68.0
Sep 14			1,976	355	590	75	0	833	174			28	0	102.9	1.3	7.0	67.0
Sep 15			4,191	637	740	124	0	1,323	276			8	1	99.7	1.3	6.0	67.0
Sep 16			2,909	431	584	97	0	865	160			12	4	87.7	1.3	7.0	67.0
Sep 17			4,642	1,043	1,032	188	0	1,734	278			3	-1	109.3	1.2	7.0	67.0
Sep 18			1,627	375	493	172	0	540	120			-17	0	90.7	1.2	7.0	66.0
Sep 19			1,579	465	398	181	0	509	128			-7	1	87.8	1.3	6.0	66.0
Sep 20			3,447	591	631	235	0	740	164			3	0	77.7	1.2	7.0	66.0
Sep 21			4,913	1,462	855	236	0	1,520	298			-12	0	89.3	1.3	7.0	65.0
Sep 22			4,047	862	451	119	0	897	210			12	1	76.6	1.2	7.0	65.0
Sep 23			2,966	723	428	193	0	790	186			-3	0	72.0	1.2	7.0	65.0
Sep 24			5,015	1,182	764	161	0	1,030	188			-1	0	96.6	4.2	7.0	65.0
Sep 25			3,628	1,023	408	142	0	1,155	246			5	1	120.3	1.3	7.0	65.0
Sep 26			1,805	588	269	104	0	655	142			4	0	108.9	1.2	7.0	65.0
Sep 27			1,410	462	316	113	0	583	139			-1	0	101.4	1.2	7.0	65.0
Sep 28			1,085	362	220	113	0	451	105			0	0	95.8	1.2	7.0	65.0
Sep 29			1,408	403	448	123	0	586	124			-1	0	82.0	1.2	7.0	64.0
Sep 30			2,679	741	396	130	0	506	133			0	0	91.1	1.2	7.0	64.0
TOTAL			120,497	21,816	21,963	5,002	4	31,273	6,351			707	14				
AVG			4,017	727	732	167	0	1,042	212			24	0	95.5	1.4	6.7	66.7

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	STURGEON
TOTALS TO DATE	87,890	6,456	28,570	5,729	193,816	94,253	30,717	4	6,059,933	43,421	14
SPRING	87,890	6,456	28,570	5,729	193,816	94,253	30,717	4	6,059,933	43,421	14
SUMMER	61,057	4,349									
FALL	170,457	28,169									
TOTAL	319,404	38,974									

TABLE 15

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

BONNEVILLE PROJECT - FISH COUNTS

OCTOBER 2018

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			2,321	498	466	130		722	165		0		5	0	82.4	1.2	7.0	64.0
Oct 2			1,327	343	167	61		478	120		0		5	2	78.5	1.2	7.0	64.0
Oct 3			1,121	347	226	163		485	139		0		5	0	87.3	1.2	7.0	64.0
Oct 4			615	204	198	108		397	108		0		-2	0	91.5	1.2	7.0	64.0
Oct 5			783	227	182	90		445	112		0		2	0	93.1	1.2	7.0	63.0
Oct 6			933	365	233	89		368	91		0		0	0	75.9	1.2	7.0	63.0
Oct 7			736	271	315	81		380	94		0		2	1	72.4	1.1	7.0	63.0
Oct 8			742	263	227	61		343	88		0		1	0	73.4	1.1	7.0	63.0
Oct 9			520	157	272	78		375	88		0		1	0	83.7	1.2	7.0	62.0
Oct 10			470	224	380	106		390	106		0		3	0	91.8	1.2	7.0	62.0
Oct 11			207	104	121	99		200	73		0		2	0	95.8	1.2	7.0	62.0
Oct 12			259	128	116	64		235	77		0		-1	1	94.5	1.1	7.0	62.0
Oct 13			218	111	161	87		223	72		0		0	0	89.8	1.2	7.0	61.0
Oct 14			158	96	102	66		183	54		0		0	0	90.2	1.2	7.0	61.0
Oct 15			147	91	92	50		194	58		0		0	0	104.3	1.1	7.0	60.0
Oct 16			148	97	142	72		144	46		0		0	0	94.5	1.2	7.0	59.0
Oct 17			113	72	167	71		128	31		0		-1	0	88.9	1.1	7.0	59.0
Oct 18			115	60	198	45		151	50		0		0	0	87.6	1.2	7.0	59.0
Oct 19			640	163	258	77		225	57		0		0	0	104.4	1.1	7.0	58.0
Oct 20			232	78	112	50		99	24		1		-1	0	86.4	1.1	7.0	59.0
Oct 21			64	40	86	90		42	11		0		-11	0	77.4	1.1	7.0	59.0
Oct 22			653	101	304	84		109	36		0		0	1	93.1	1.1	7.0	58.0
Oct 23			145	39	114	44		79	12		0		0	0	105.2	1.1	7.0	58.0
Oct 24			512	95	292	72		72	16		0		0	1	126.3	0.3	7.0	58.0
Oct 25			356	83	229	51		59	30		0		0	0	113.7	1.1	7.0	58.0
Oct 26			249	36	115	37		60	12		0		-5	0	118.9	1.1	7.0	58.0
Oct 27			240	81	593	79		54	17		1		0	0	108.8	1.1	7.0	58.0
Oct 28			125	46	325	39		44	22		1		0	0	89.4	1.1	7.0	58.0
Oct 29			540	59	614	68		96	46		0		-1	0	102.0	1.1	7.0	58.0
Oct 30			284	45	505	76		98	53		1		0	0	103.1	1.0	7.0	58.0
Oct 31			90	28	293	47		50	24		1		3	0	95.5	1.0	7.0	58.0
TOTAL			15,063	4,552	7,605	2,335		6,928	1,932		5		7	6				

AVG			486	147	245	75		223	62		0		0	0	93.5	1.1	7.0	60.4
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RUN YEAR TOTALS TO DATE	CHINOOK		COHO	COHO	unclipped							
	ADULT	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON
SPRING	87,890	6,456	36,175	8,064	193,816	101,181	32,649	4	5	6,059,933	43,428	20
SUMMER	61,057	4,349										
FALL	185,520	32,721										
TOTAL	334,467	43,526										

TABLE 16

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

BONNEVILLE PROJECT - FISH COUNTS

NOVEMBER 2018

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
Nov 1			180	37	312	49		66	34		1		0		99.5	1.0	7.0	57.0
Nov 2			354	52	341	41		74	26		0		0		122.1	1.0	7.0	57.0
Nov 3			353	56	694	44		35	12		2		0		128.4	1.0	7.0	57.0
Nov 4			111	28	308	29		29	11		6		-1		125.8	1.0	7.0	57.0
Nov 5			41	6	126	20		25	9		0		0		125.0	1.1	7.0	57.0
Nov 6			65	8	260	28		69	24		4		0		124.9	1.0	5.0	57.0
Nov 7			35	23	154	23		24	8		2		0		127.9	1.0	7.0	56.0
Nov 8			18	10	39	11		20	10		2		0		128.2	1.0	6.0	56.0
Nov 9			13	6	16	4		11	2		2		0		128.9	1.1	7.0	55.0
Nov 10			18	4	22	6		15	4		3		0		129.0	1.0	7.0	54.0
Nov 11			25	2	38	4		23	12		6		0		137.5	1.0	7.0	54.0
Nov 12			77	5	53	8		12	3		10		0		143.4	1.0	6.0	53.0
Nov 13			29	8	87	6		20	8		13		0		138.2	1.0	5.5	52.0
Nov 14			11	4	59	6		11	5		9		0		131.4	1.0	6.0	52.0
Nov 15			12	-2	11	3		11	3		7		0		130.6	1.0	6.0	52.0
Nov 16			24	6	27	2		7	2		1		0		131.1	1.0	6.0	52.0
Nov 17			17	0	24	2		8	2		9		0		134.2	1.0	7.0	52.0
Nov 18			15	0	12	1		8	2		2		0		134.6	1.0	7.0	52.0
Nov 19			5	-1	10	2		4	1		3		0		134.7	1.0	7.0	51.0
Nov 20			9	1	7	3		15	6		3		0		133.3	1.0	7.0	50.0
Nov 21			3	3	4	1		10	4		3		0		128.9	1.0	7.0	50.0
Nov 22			4	3	3	0		10	3		9		0		123.6	1.0	7.0	49.0
Nov 23			11	0	13	2		7	1		41		0		117.3	1.0	7.0	49.0
Nov 24			23	2	35	3		10	2		11		0		120.1	1.0	7.0	49.0
Nov 25			13	0	40	6		2	1		4		0		123.2	1.0	7.0	49.0
Nov 26			2	1	3	2		4	2		0		0		126.5	1.0	7.0	48.0
Nov 27			0	1	3	2		3	1		5		0		120.8	1.0	7.0	48.0
Nov 28			2	-1	18	-1		13	6		8		0		121.6	1.0	6.0	48.0
Nov 29			15	0	133	9		21	4		2		0		127.0	1.0	6.0	48.0
Nov 30			9	0	17	2		12	3		0		0		124.4	1.0	7.0	47.0
TOTAL			1,494	262	2,869	318		579	211		168		-1					
AVG			50	9	96	11		19	7		6		0		127.4	1.0	6.7	52.3

RUN YEAR	CHINOOK	CHINOOK	COHO	COHO	unclipped							
TOTALS TO DATE	ADULT	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON
SPRING	87,890	6,456	38,695	8,346	193,816	101,626	32,820	4	173	6,059,933	43,427	20
SUMMER	61,057	4,349										
FALL	186,862	32,968										
TOTAL	335,809	43,773										

Note: 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 2018

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
Dec 1			2	-3	3	0		2	1		2		0		124.3	1.0	7.0	47.0
Dec 2			3	-1	1	2		3	1		0		0		125.8	1.0	7.0	47.0
Dec 3			4	1	10	3		2	1		0		0		129.0	1.0	7.0	47.0
Dec 4			4	0	0	0		8	3		0		0		130.7	1.0	6.5	47.0
Dec 5			5	0	1	1		9	1		1		0		132.5	1.0	7.0	47.0
Dec 6			3	1	1	0		5	3		0		0		138.3	1.0	7.0	45.0
Dec 7			3	0	1	0		3	1		0		0		140.6	1.0	7.0	44.0
Dec 8			1	0	2	0		8	2		0		0		141.2	1.0	7.0	43.0
Dec 9			0	0	2	0		2	0		0		-1		138.0	0.9	7.0	44.0
Dec 10			1	0	1	1		11	3		0		0		132.8	1.0	7.0	44.0
Dec 11			8	1	5	0		9	7		0		0		132.2	1.0	7.0	44.0
Dec 12			10	3	457	28		6	1		1		0		129.5	0.9	7.0	44.0
Dec 13			2	1	275	35		18	5		3		1		133.6	0.3	7.0	45.0
Dec 14			3	1	23	0		0	0		0		-1		134.0	1.0	7.0	45.0
Dec 15			1	0	8	3		3	1		0		-2		128.8	1.0	7.0	45.0
Dec 16			3	-1	2	1		5	2		0		-1		128.4	1.0	7.0	45.0
Dec 17			0	1	2	3		4	3		0		0		125.6	1.0	7.0	45.0
Dec 18			5	0	393	23		4	0		0		0		121.6	1.0	7.0	45.0
Dec 19			1	1	596	74		9	1		0		0		121.9	1.0	7.0	44.0
Dec 20			2	0	37	10		1	0		0		0		120.3	1.0	6.0	44.0
Dec 21			0	0	6	6		9	5		0		0		116.6	1.0	6.0	44.0
Dec 22			2	0	5	1		6	3		0		0		120.9	1.0	7.0	44.0
Dec 23			1	0	3	0		3	2		0		-1		120.6	1.0	7.0	44.0
Dec 24			0	0	3	1		11	3		0		0		131.1	1.0	7.0	44.0
Dec 25			0	0	4	2		5	2		0		0		113.3	1.0	7.0	44.0
Dec 26			1	0	1	1		8	2		0		-1		113.1	1.0	7.0	44.0
Dec 27			0	0	-1	0		6	1		0		-1		116.7	1.0	7.0	44.0
Dec 28			0	0	0	0		5	2		0		0		132.8	1.0	7.0	44.0
Dec 29			0	0	0	-1		4	1		0		-1		120.8	1.0	7.0	44.0
Dec 30			0	0	2	2		4	3		0		0		116.8	1.0	7.0	44.0
Dec 31			0	0	1	1		8	3		0		0		124.9	1.0	7.0	44.0
TOTAL			65	5	1,844	197		181	63		7		-8					
AVG			2	0	59	6		6	2						127.0	0.9	6.9	44.7

RUN YEAR	CHINOOK		COHO		unclipped								
	TOTALS TO DATE	ADULT	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	PINK	CHUM	SHAD	LAMPREY	STURGEON
SPRING	87,890	6,456		38,695	8,346	193,816	101,626	32,820	4	180	6,059,933	43,427	20
SUMMER	61,057	4,349											
FALL	186,862	32,968											
TOTAL	335,809	43,773											

Note: December 1 to 31 counts were from video review. The counts are 16-hour counts and occurred between 0400-2000 PST. Visual counting ended November 30. 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

May-18

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	unclipped			PINK	CHUM	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD			
May 1												
May 2												
May 3												
May 4												
May 5												
May 6												
May 7												
May 8												
May 9												
May 10												
May 11												
May 12												
May 13												
May 14												
May 15	270			11			0	3	0			57
May 16	138			10			0	1	0			101
May 17	58			12			0	2	1			-16
May 18	50			0			0	2	1			11
May 19	89			44			0	0	0			-12
May 20	254			29			0	2	2			58
May 21	118			14			0	4	2			16
May 22	258			17			0	6	2			64
May 23	157			2			0	0	0			73
May 24	115			5			0	4	1			187
May 25	74			1			0	0	0			27
May 26	37			0			0	3	1			133
May 27	45			3			2	4	2			108
May 28	43			0			0	4	1			232
May 29	40			1			0	2	1			144
May 30	24			2			0	4	2			-5
May 31	43			-1			0	5	2			656
TOTAL	1,813			150			2	46	18			1,834
AVG	107			9			0	3	1			108

Note: night counts are video counts from 2000 to 0400 PST.

TABLE 19

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT - NIGHT FISH COUNTS

Jun-18

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped	PINK	CHUM	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK			STEELHEAD			
Jun 1		35		1			0	5	2			653
Jun 2		36		0			1	7	3			482
Jun 3		109		9			4	1	0			791
Jun 4		36		1			4	1	0			336
Jun 5		49		2			16	1	0			59
Jun 6		31		1			19	1	0			-268
Jun 7		56		24			5	6	2			435
Jun 8		38		1			20	3	1			24
Jun 9		57		22			16	12	3			1,578
Jun 10		15		0			33	9	2			-59
Jun 11		29		0			43	2	1			106
Jun 12		39		3			83	2	0			110
Jun 13		27		1			83	5	2			95
Jun 14		28		5			111	7	2			917
Jun 15		65		3			169	12	5			-328
Jun 16		15		2			177	12	6			-311
Jun 17		38		3			179	5	1			220
Jun 18		51		3			329	5	3			191
Jun 19		72		3			523	3	1			524
Jun 20		57		2			659	3	1			547
Jun 21		45		4			533	5	2			805
Jun 22		48		5			563	17	3			180
Jun 23		53		2			562	13	4			-184
Jun 24		48		15			808	8	3			715
Jun 25		27		3			572	20	9			541
Jun 26		15		3			481	8	5			-608
Jun 27		52		1			455	10	-1			268
Jun 28		26		5			381	15	7			345
Jun 29		23		1			327	11	4			492
Jun 30		18		2			322	9	3			300
TOTAL		1,238		127			7,478	218	74			8,956
AVG		41		4			249	7	2			299

Note: night counts are video counts from 2000 to 0400 PST.
4 hours night count video @ BONW missing on June 18

TABLE 20

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT - NIGHT FISH COUNTS

Jul-18

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY
	SPRING	SUMMER	FALL									
Jul 1		23		6			353	6	2			201
Jul 2		22		1			331	8	2			-62
Jul 3		22		1			307	15	6			145
Jul 4		16		3			322	8	4			-158
Jul 5		20		2			259	10	2			6
Jul 6		18		1			318	10	4			375
Jul 7		20		2			359	13	7			78
Jul 8		11		4			228	14	9			311
Jul 9		9		0			105	5	2			-87
Jul 10		1		0			88	5	5			159
Jul 11		6		3			98	11	6			38
Jul 12		12		0			116	16	10			343
Jul 13		5		0			79	9	0			1,020
Jul 14		17		1			75	12	4			487
Jul 15		0		2			62	1	2			73
Jul 16		7		0			43	15	10			737
Jul 17		5		1			64	31	15			596
Jul 18		5		0			53	16	8			134
Jul 19		7		1			31	9	5			546
Jul 20		2		1			27	5	2			486
Jul 21		15		0			46	14	7			714
Jul 22		9		1			44	16	2			10
Jul 23		15		0			34	9	5			485
Jul 24		7		1			44	17	10			14
Jul 25		7		12			11	14	10			536
Jul 26		-2		-2			16	7	7			36
Jul 27		17		2			21	31	10			-96
Jul 28		8		1			18	17	11			355
Jul 29		8		5			7	30	11			222
Jul 30		11		0			5	24	15			433
Jul 31		10		1			8	35	14			450
TOTAL		333		50			3,572	433	207			8,587
AVG		11		2			115	14	7			277

Note: night counts are video counts from 2000 to 0400 PST.

TABLE 21

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT - NIGHT FISH COUNTS

Aug-18

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK						
Aug 1			9	0	0	0	6	16	6			126
Aug 2			12	0	0	0	8	19	10			858
Aug 3			15	1	0	0	2	21	7			44
Aug 4			14	-1	0	0	5	14	5			771
Aug 5			9	2	0	0	1	12	7			382
Aug 6			16	1	0	0	1	16	10			742
Aug 7			15	0	0	0	0	13	7			-32
Aug 8			9	0	0	0	1	21	11			163
Aug 9			11	0	0	0	0	49	15			-485
Aug 10			34	1	0	0	1	39	17			2
Aug 11			25	7	0	0	0	-4	-2			-93
Aug 12			19	4	0	0	0	9	2			39
Aug 13			16	0	0	0	0	6	5			7
Aug 14			19	0	0	0	2	10	-1			63
Aug 15			35	1	1	0	1	12	4			268
Aug 16			58	2	0	0	0	19	5			409
Aug 17			60	2	0	0	12	23	12			319
Aug 18			54	0	0	0	1	19	10			139
Aug 19			55	1	2	0	3	27	8			80
Aug 20			76	2	1	1	1	22	6			95
Aug 21			105	1	1	1	0	30	6			411
Aug 22			132	11	0	0	11	20	3			340
Aug 23			148	2	3	0	1	23	5			103
Aug 24			100	0	7	1	0	21	6			17
Aug 25			108	17	6	4	0	21	7			22
Aug 26			192	15	18	3	1	25	9			-29
Aug 27			137	9	13	4	0	34	13			65
Aug 28			178	17	1	3	1	57	14			0
Aug 29			242	17	4	2	1	55	10			130
Aug 30			165	21	6	4	0	58	10			176
Aug 31			110	29	13	2	0	33	11			-44
TOTAL			2,178	162	76	25	60	740	238			5,088
AVG			70	5	2	1	2	24	8			164

Note: night counts are video counts from 2000 to 0400 PST.

TABLE 22

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

BONNEVILLE PROJECT - NIGHT FISH COUNTS

Sep-18

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT						
Sep 1			153	47	12	1	0	62	12		38
Sep 2			270	48	29	5	0	95	9		-27
Sep 3			188	23	33	4	1	43	9		7
Sep 4			227	18	15	6	0	42	4		-24
Sep 5			89	18	12	4	1	31	4		14
Sep 6			86	15	-1	0	0	54	12		101
Sep 7			122	20	16	3	0	34	11		52
Sep 8			109	4	11	3	0	33	7		64
Sep 9			75	10	17	3	0	57	13		38
Sep 10			30	6	15	0	0	25	5		15
Sep 11			108	25	19	1	0	36	4		34
Sep 12			74	24	18	4	0	67	10		-2
Sep 13			58	11	12	5	0	50	12		28
Sep 14			23	3	7	3	0	44	12		39
Sep 15			57	9	8	2	0	60	13		28
Sep 16			19	4	7	1	0	30	8		6
Sep 17			52	5	4	2	0	26	5		-3
Sep 18			43	4	3	1	0	19	1		-334
Sep 19			67	17	8	7	0	44	15		-26
Sep 20			15	11	9	2	0	17	5		30
Sep 21			224	66	37	7	0	76	19		-1
Sep 22			58	14	1	1	0	24	5		4
Sep 23			106	19	6	11	0	25	8		18
Sep 24			211	27	25	17	0	45	7		9
Sep 25			67	19	10	4	0	42	11		2
Sep 26			40	13	4	5	0	19	7		6
Sep 27			37	14	8	2	0	25	4		1
Sep 28			68	17	27	10	0	11	1		0
Sep 29			30	7	6	2	0	29	7		8
Sep 30			106	24	20	12	0	29	3		1
TOTAL			2,812	542	398	128	2	1,194	243		126
AVG			94	18	13	4	0	40	8		4

Note: night counts are video counts from 2000 to 0400 PST.

TABLE 23a

YEARLY TOTALS OF SALMONIDS COUNTED OVER BONNEVILLE DAM

1938 - 2018

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
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

TABLE 23a
(continued)

YEARLY TOTALS OF SALMONIDS COUNTED OVER BONNEVILLE
DAM 1938 - 2018

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	CHUM	PINK	TOTAL SALMONID
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
2014	1,363,284	338,533	656,103	302,559	122	1	2,660,602
2015	1,497,536	276,422	545,196	43,128	176	55	2,362,513
2016	799,259	194,364	357,863	48,249	47	3	1,399,785
2017	574,244	121,843	90,042	82,327	21	42	868,519
2018	389,228	105,552	204,930	50,095	180	4	749,989
Total	37,651,643	17,126,896	9,180,485	4,278,753	41,174	7,569	68,286,520
10-Year Average	915,003	290,307	331,778	116,723	106	455	1,654,371

*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 2013-18 include nighttime video counts.

TABLE 23b

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

1938 - 2018

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
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

TABLE 23b
(continued)

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

1938 - 2018

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	CHUM	PINK	TOTAL SALMONID
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
2014	1,339,659	326,001	614,179	294,534	122	1	2,574,496
2015	1,450,683	268,730	510,706	42,267	176	55	2,272,617
2016	774,172	188,146	342,498	47,509	47	3	1,352,375
2017	555,440	117,878	87,693	80,756	21	42	841,830
2018	379,823	102,920	193,816	49,467	180	4	726,210
Total	37,348,941	16,956,727	9,044,873	4,243,112	41,174	7,557	67,642,384
10-Year Average	899,918	286,396	320,021	115,351	106	454	1,622,247

*Jacks included

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

TABLE 24

MONTHLY COUNT OF CHINOOK SALMON													SPRING	SUMMER	FALL	
BONNEVILLE DAM - 1938 - 2018														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
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

TABLE 24

(Continued)

MONTHLY COUNT OF CHINOOK SALMON												BONNEVILLE DAM - 1938-2018			SPRING	SUMMER	FALL
YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	Jan 1 - May 31	Jun 1 - Jul 31	Aug 1 - Dec 31	
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	
2014	5		539	79,330	134,303	86,196	48,880	94,236	824,408	69,438	2,275	49	1,339,659	214,177	135,076	990,406	
2015		9	1,679	139,344	92,762	113,020	66,445	153,178	770,647	108,532	4,889	178	1,450,683	233,794	179,465	1,037,424	
2016	7	5	230	34,636	113,482	84,051	46,374	141,622	330,003	22,076	1,656	30	774,172	148,360	130,425	495,387	
2017		1	15	3,357	98,361	66,919	31,773	58,495	260,765	32,105	3,578	71	555,440	101,734	98,692	355,014	
2018	2	0	21	6,307	88,020	46,985	18,421	56,313	142,313	19,615	1,756	70	379,823	94,350	65,406	220,067	
TOTAL	138	436	104,026	4,590,871	4,257,932	3,115,750	2,052,976	4,460,283	17,695,347	1,154,207	66,693	2,138	37,500,797	8,953,403	5,168,726	23,378,668	
10-Year Average			361	51,050	121,740	81,745	39,709	114,292	443,625	45,127	2,206		899,918	173,156	121,453	605,308	

*Jacks included

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

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

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

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

2003 - 2014 counts include 16 hour video counts between 0400-2000 PST January 1 - March 31 and November 1 - December 31.

2015-2018 visual fish counting extended to November 30. Video counts between 0400-2000 PST January 1 - March 31 and December 1-31.

TABLE 25

MONTHLY COUNT OF SOCKEYE SALMON
BONNEVILLE DAM 1938 - 2018

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
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

TABLE 25
(Continued)

MONTHLY COUNT OF SOCKEYE SALMON
BONNEVILLE DAM 1938 - 2018

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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
2014	2			2	50	316,243	296,595	1,276	11				614,179
2015		1			314	357,048	151,589	1,685	67	3	-1		510,706
2016	1				451	283,893	57,186	955	9	2	1		342,498
2017					68	62,372	24,971	274	8				87,693
2018					40	143,354	50,079	339	4				193,816
TOTAL	3	1	76	545	9,666	4,840,536	4,158,920	50,192	2,803	142	37	1	9,062,922
10-Year Average					130	218,685	100,623	571	13				320,021

1994 counts include nighttime video counts during the hours of 2100-0500 PST June 1 - 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 - December 31.

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

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

2003-2014 counts include video counts which took place between 0400-2000 PST January 1 - March 31 and November 1- December 31.

2015-2018 Visual counting extended to November 30. Video counts between 0400-2000 PST January 1 - March 31 and December 1-31.

TABLE 26
MONTHLY COUNT OF COHO SALMON
BONNEVILLE DAM 1938 - 2018

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
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

TABLE 26

(Continued)

**MONTHLY COUNT OF COHO SALMON
BONNEVILLE DAM 1938 - 2018**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	JACKS
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
2014	3						0	6,085	185,680	85,640	16,840	286	294,534	14,803
2015							1	3,029	27,481	8,122	3,431	203	42,267	4,865
2016								2,807	30,250	13,491	952	9	47,509	5,489
2017								3,088	47,178	25,314	4,923	253	80,756	4,820
2018							3	7,331	26,965	9,940	3,187	2,041	49,467	8,579
TOTAL	22	31	6	1	0	179	5,547	364,041	2,870,064	925,043	96,521	3,580	4,265,035	731,710
10 Year Average							3	9,205	65,313	36,434	4,088		115,351	7,197

*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.

2003-14 counts include 16 hour video counts between 0400-2000 PST January 1 through March 31

and November 1 through December 31.

Correction to 2014 total Jacks.

2015-2018 visual counting through November 30. Video counts between 0400-2000 PST January 1 - March 31 and December 1-31.

TABLE 27

MONTHLY COUNT OF STEELHEAD
BONNEVILLE DAM 1938 -2018

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
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

TABLE 27
(Continued)
MONTHLY COUNT OF STEELHEAD
BONNEVILLE DAM 1938 - 2018

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	Jan 1- Aug 25	Aug 26- Dec 31
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
2014	238	235	2,120	1,274	1,829	10,422	85,879	115,167	94,401	11,740	1,902	794	326,001	198,289	127,712
2015	611	809	1,780	939	1,078	6,114	60,690	113,906	64,735	13,899	2,905	1,264	268,730	171,198	97,532
2016	314	892	1,569	922	1,565	9,751	47,117	50,639	62,868	11,182	1,029	298	188,146	106,010	82,136
2017	42	297	1,327	783	792	1,916	17,643	53,829	35,198	5,296	374	381	117,878	63,673	54,205
2018	238	410	1,029	912	1,109	4,462	26,758	29,041	31,273	6,928	579	181	102,920	57,044	45,876
TOTAL	12,008	12,903	88,379	205,065	189,984	586,436	4,827,133	6,253,163	4,357,422	464,389	71,052	19,860	17,087,794	11,069,435	6,021,411
10-Year Average			1,547	1,261	1,618	8,468	74,179	123,250	63,238	10,096	1,295		286,396	192,319	94,077

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.

2003 - 2014 counts include 16 hour video counts between 0400-2000 PST January 1 through March 31

and November 1 through December 31.

2015-2018 visual fish counting extended to November 30. Video counts between 0400-2000 PST January 1 through March 31.

TABLE 28
MONTHLY COUNT OF SHAD at
BONNEVILLE DAM 1938 - 2018

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
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

(Continued)

MONTHLY COUNT OF SHAD at
BONNEVILLE DAM 1938 - 2018

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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
2014					487,086	2,084,362	31,012	809					2,603,269
2015					192,809	1,450,924	169,229	2,039					1,815,001
2016					53,855	1,541,004	169,585	5,859					1,770,303
2017					16,950	2,641,858	468,807	7,786					3,135,401
2018					94,960	5,610,352	336,809	17,812					6,059,933
TOTAL				14	457	8,785,405	75,641,751	9,561,985	188,278	4,136	593	36	94,182,655
10 Year - Average					160,624	2,169,657	158,410	4,505					2,493,196

TABLE 29
MONTHLY COUNT OF LAMPREY at
BONNEVILLE DAM 1939¹ - 1969, 1997 - 2018

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, lamprey do not always use the fish ladder and may pass over a dam through several routes including the navigation lock, the auxiliary water supply, and specific lamprey passage structures.

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1939				732	9,027	95,814	103,726	14,403	3,349	71	0		227,122
1940				338	24,551	40,642	67,760	20,554	2,217	40	0		156,102
1941				1,428	7,449	6,960	34,952	12,801	1,305	57	2		64,954
1942				13	1,302	3,457	28,641	16,270	2,619	40	19		52,361
1943				0	1,684	3,539	14,332	26,508	5,017	14	2		51,096
1944				22	2,189	1,411	19,288	11,853	1,342	86	18		36,209
1945				56	1,676	4,365	16,395	11,533	2,407	56	0		36,488
1946				57	684	13,834	42,772	15,820	1,565	93	0		74,825
1947				158	9,183	7,563	54,032	17,680	3,566	2,141	3		94,326
1948			1	82	295	13,744	79,507	44,511	4,948	725	2		143,815
1949				5	1,105	5,678	41,438	8,264	1,372	40	7	19	57,928
² 1950					207	1,073	6,702	22,128	2,436	140	7		32,693
1951				1	4	11,001	8,554	25,078	420	51	1		45,110
1952					8	3,674	13,854	7,462	1,194	11			26,203
1953				79	946	727	17,917	26,053	1,381	25	1		47,129
1954				33	201	1,001	10,303	26,535	2,824	89			40,986
1955					210	764	16,368	21,765	3,341	154	1		42,603
1956					24	657	36,987	10,181	1,949	113			49,911
1957				19	185	17,698	28,506	5,907	699	17			53,031
1958				132	877	8,092	79,548	7,448	1,036	171	1,115		98,419
1959				23	67	6,273	123,104	79,976	4,006	1,626	8		215,083
1960				8	1,521	12,185	125,962	30,751	7,329	142			177,898
1961				30	649	16,786	200,722	126,438	20,110	70			364,805
1962				1	441	13,573	49,868	30,253	7,103	166	21		101,426
1963				21	20,827	5,803	28,348	24,639	7,702	597			87,937
1964			2	8	2,575	17,796	39,223	41,214	3,167	347	5		104,337
1965				54	6,674	8,886	71,027	16,949	4,617	772	8		108,987
1966				168	6,562	11,772	25,813	20,543	2,207	844	5		67,914
1967				211	4,416	6,348	38,591	14,792	1,570	225	18		66,171
1968				92	14,698	18,389	57,011	17,611	949	275	4		109,029
1969				44	24,386	230,096	87,769	32,908	4,126	170	10		379,509
*** Counting lamprey was stopped after 1969. It was resumed again in 1997. ***													
1997				4	1,691	³ #####	³ 1,939	9,783	8,643	770	0		³ 20,891
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
2014				2	2,599	7,944	15,598	4,802	943	62	4	-1	31,953
2015				0	936	11,478	15,814	9,280	927	111	168	2	38,716
2016	-1			10	3,429	8,808	26,671	12,130	1,162	111	4	0	52,324
2017					4,219	31,381	35,958	9,623	1,348	42	1	-8	82,564
2018	-5	5	0	0	2,944	20,661	13,707	5,402	707	7	-1	-8	43,419
TOTAL				3	4,117	183,043	868,637	1,914,310	931,810	155,100	12,703	1,422	4,050,267
10-Year Average				5	1,767	9,991	14,564	6,028	1,100	66	16		33,534

¹No data are available for 1938.

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

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

TABLE 29b

MONTHLY COUNT OF LAMPREY PASSAGE at BONNEVILLE DAM - 24 hour passage
2009 - 2018

Total window counts (day plus night).

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2009					818	3,735	8,749	1,281	-297	-14	2	-3	14,271
2010					11	4,092	8,465	5,874	1,184	44	-6	1	19,665
2011	1				281	2,733	18,683	11,876	3,490	112	-5	7	37,178
2012				20	1,141	18,853	31,878	17,599	9,153	81	-10	1	78,716
2013					1,294	11,261	22,808	10,837	4,122	102	1	3	50,428
2014				2	2,599	14,079	30,817	16,837	-198	62	4	-1	64,201
2015					936	-41,470	-51,937	6,652	2,777	111	168	2	-82,761
2016	-1			10	4,380	6,342	33,487	18,358	1,275	111	4	0	63,966
2017					5,918	44,383	83,314	30,376	4,773	42	1	-8	168,799
2018	-5	5	0	0	4,778	29,617	22,294	10,490	833	7	-1	-8	68,010
TOTAL	-5	5	0	32	22,156	93,625	208,558	130,180	27,112	658	158	-6	482,473

TABLE 29c

MONTHLY COUNT OF LAMPREY PASSAGE at BONNEVILLE DAM - LPS & flume passage
2017 - 2018

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2017	oos	oos	oos	oos	1,749	42,985	55,955	15,667	4,075	31	oos	oos	120,462
2018	oos	oos	oos	1	736	36,820	16,389	4,909	1,525	40	oos	oos	60,420
TOTAL				1	2,485	79,805	72,344	20,576	5,600	71			180,882

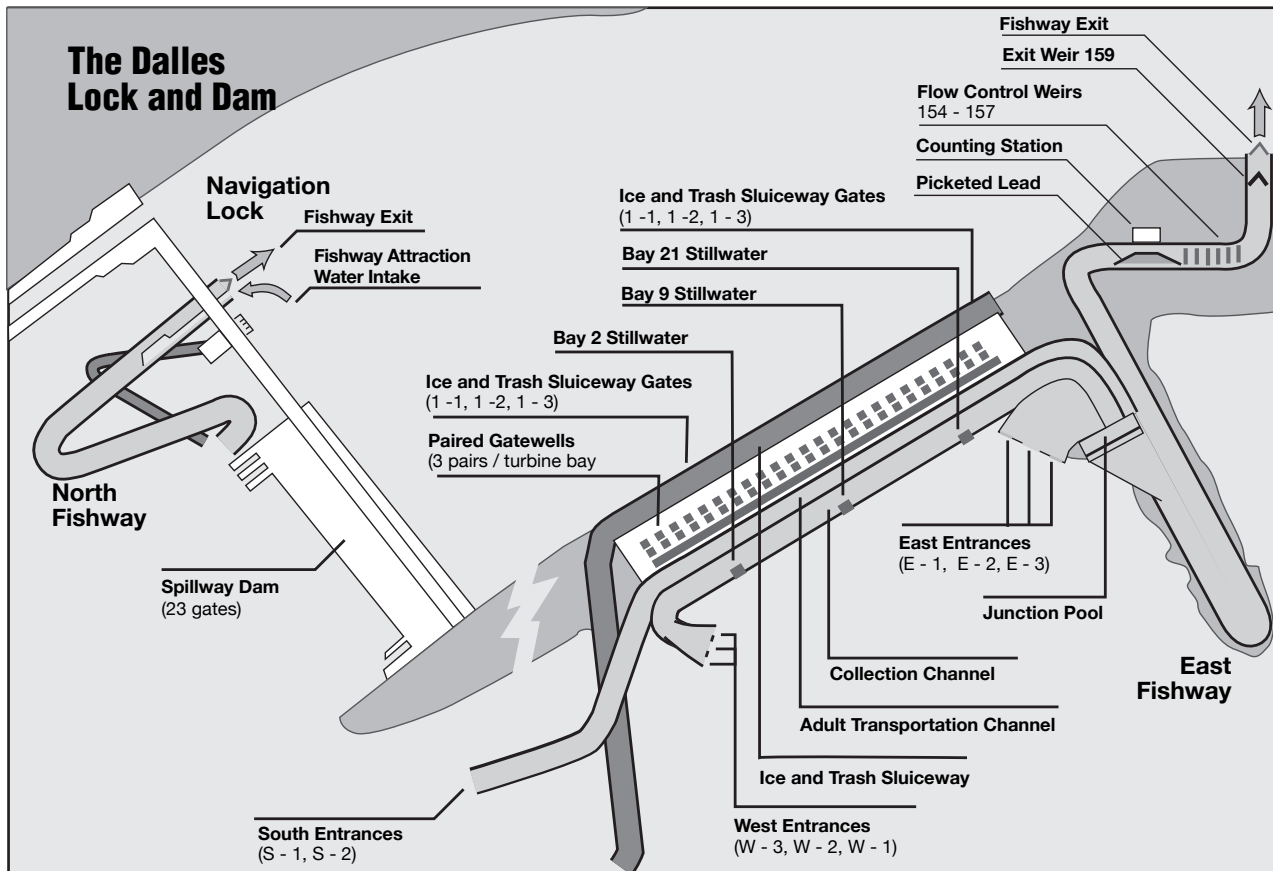
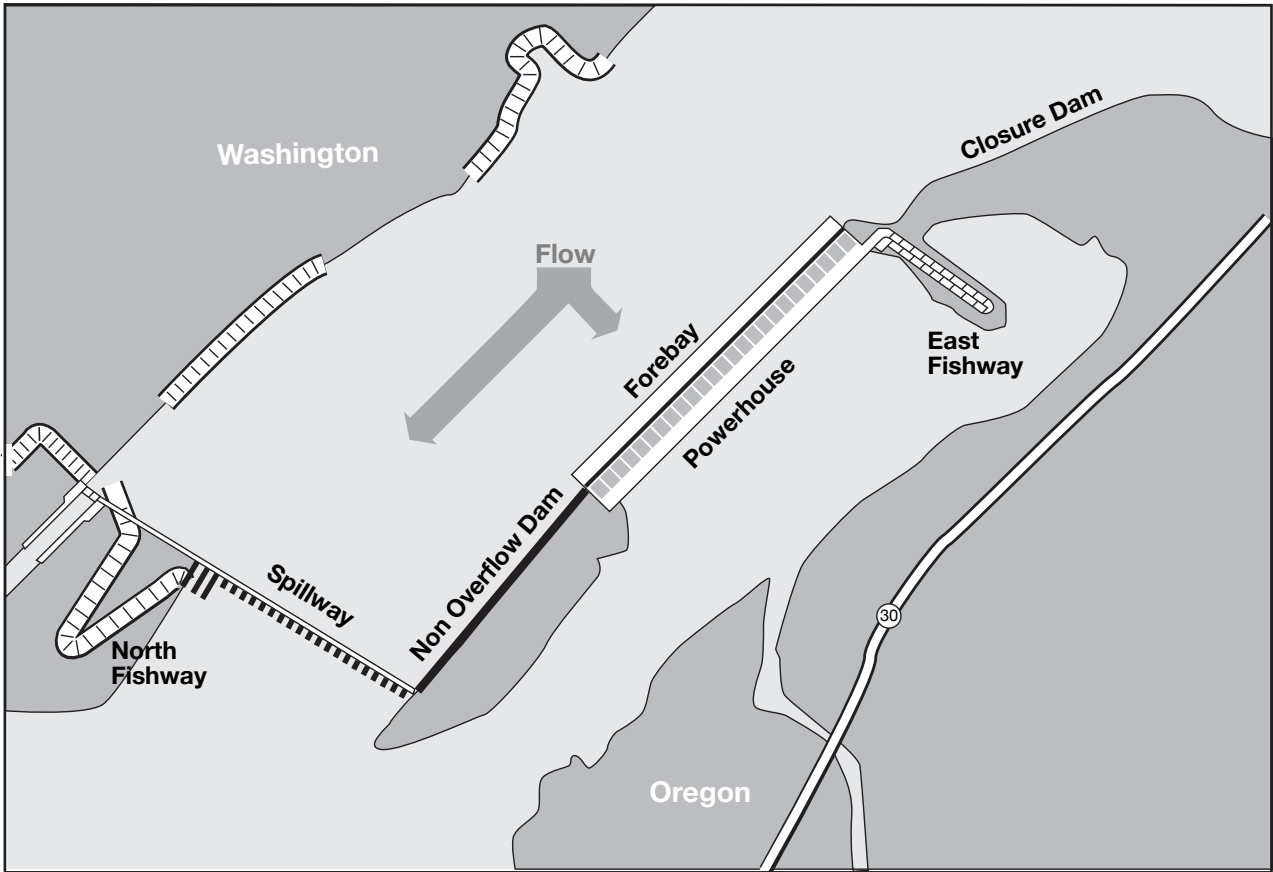
Note: Lamprey passage systems (LPSs) operational between May 1st and October 31st.

Lamprey Passage System counts are 24-hour mechanical counts, corrected.

During the operation of the wetted wall, located upstream of the Bradford Island count station, lampreys using the wall could be counted passing at both the window and the LPS potentially inflating the counts by an estimated 3,000 lampreys.

Estimated lamprey passage at Bonneville Dam in 2018 including both 24 hour window counts and LPS & flume = 128,430

Plate 3 The Dalles Lock and Dam



THE DALLES DAM

FISH COUNTING SCHEDULE

Jan 1 – 12, Jan 31 – Feb 28 Video counting daily 0400-2000 hours Pacific Standard Time (PST)
Apr 1 – Oct 31 Visual counting daily 0400-2000 hours PST
June 15 – Sep 30 Night video counting 2000-0400 hours PST

INTRODUCTION

The Dalles Dam has specific requirements for Columbia River fish passage that are specified in the annual Fish Passage Plan. The Dalles Dam has two fish ladders for upstream adult fish passage, as well as an ice trash sluiceway and spillway used for downstream steelhead kelt and juvenile fish passage. The following document is a summary of all fish related activities that occurred at The Dalles Dam in 2018. In addition Northern Wasco Co PUD has a turbine that supplies the auxiliary water to the north fishway, which has a complete juvenile bypass system. Information on this systems operation can be acquired through the 2018 Pacific States Marine Fish Commission monitoring report.

FISHWAY OPERATION

The following information includes fish passage system operation for calendar year 2018. Total length of time for annual fishway outages can be determined by referring to previous years' annual reports. These fishways were closed or dewatered for maintenance when they were not in operation.

East Adult Fishway

Jan 1 – Mar 7 Dewatered for winter maintenance
Mar 8 – Nov 31 In full operation with attraction water
Aug 7 Attraction water off half day for required ROV grating inspection
Dec 3 – Dec 31 Dewatered for winter maintenance

North Adult Fishway

Jan 1 – Jan 12 In full operation with attraction water
Jan 13 – Jan 30 Dewatered for annual maintenance
Jan 31 – Dec 31 In full operation with attraction water
Aug 7 Attraction water off half day for required ROV grating inspection

Ice/Trash Sluiceway (Juvenile)

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

Spillway

Jan 1 – April 9 Closed, all gates on seal
April 10 – Aug 31 Variable spill to gas cap
Sept 1 – Dec 31 Closed, all gates on seal

FISHWAY DEWATERING

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.

Fishway 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, redbreast=rs, large scale sucker=lss

Date	Event	Chinook	Steelhead	Sockeye	Coho	Lamprey	Shad	Sturgeon	Other	Comments	Morts
1/16/2018	N upper	0	4j	0	0	9	0	1	0		0
1/17/2018	N lower	0	0	0	0	0	0	0	0	0	
2/7/2018	E lower		0	0	0	0	0	2	3	Walleye	0
12/3/2018	E upper	1j	1a, 9j	0	0	1a, 2j	~600	2	2	walleye	most shad
12/6/2018	E lower	2a	1a, 1j	0	0	47a, 5j	10	12	1	beaver	all shad

RESEARCH

The following are a list of fish related research and contract personnel that were on site during the 2018 passage season;

CRITFC – Captured adult Pacific lamprey as part of the on-going project to restore lamprey to various tributaries. Umatilla, Nez Perce and Yakama Nation were allotted lamprey for propagation. 1700 lamprey were captured.

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

Oregon Dept of Fish and Wildlife –Captured, tagged, and collected biological data from northern pikeminnow as part of an evaluation of the Northern Pikeminnow Management Program.

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

Pacific States Marine Fish Commission – FERC required sampling at the Northern Wasco County PUD intake structure as per the Cooperative Agreement between Pacific States Marine Fisheries Commission and Wasco County PUD.

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

U.S. Dept of Agriculture – Provided avian hazing of piscivorous birds to reduce avian predation on juvenile salmonids May to August via pyrotechnics during juvenile passage season.

U. S. Geological Survey – Total Dissolved Gas (TDG) and water temperature monitoring.

Yakama Nation - Captured adult Pacific lamprey as part of the on-going project to restore lamprey to various tributaries. Yakama Nation worked with the Nez Perce and CTUIR to help with lamprey collection efforts. Yakama Nation captured 219 lamprey by Sept 16.

University of Idaho captured and released of adult Pacific lamprey in order to monitor upstream migratory movements outfitted with radio- and PIT-tags at Bonneville Dam. tagged lamprey for testing lower entrance flows 6/1 to 8/31. Entrances were opened and fish turbines were reduced in order to change from salmon to lamprey criteria.

Portland district water quality section placed temperature string in front of both ladder exits to look for cooler water gradients from the forebay to perhaps tap into this column of cooler water due to environmental concerns of potential overheating summer ladder conditions. Data still being analyzed.

TABLE 30

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

2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*	5	4		1,346	57,605	41,198	15,174	25,579	101,404	22,429			264,744
STEELHEAD	12	31		97	38	1,439	10,258	9,648	46,076	13,118			80,717
SOCKEYE					4	102,292	49,412	324	66	3			152,101
COHO*	3	1						1,769	18,394	4,263			24,430
CHUM													0
PINK													0
TOTAL	20	36		1,443	57,647	144,929	74,844	37,320	165,940	39,813			521,992
LAMPREY				-2	13	3,495	4,685	1,788	524	12			10,515
STURGEON					5	10	19	8	1	5			48
BULL TROUT													0

*Jacks included

Shad no longer counted at The Dalles Dam.

TABLE 31
 MONTHLY FISH PASSAGE SUMMARY REPORT
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT - FISH COUNTS													JANUARY 2018				
DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL		unclipped	PINK	CHUM	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD							SECCHI	DEG F
Jan 1	1				0			1	0					148.4	0.0	5.0	41.1
Jan 2	1				0			3	0					143.7	0.0	5.0	40.8
Jan 3	0				0			2	0					170.6	0.0	5.0	40.5
Jan 4	-1				0			1	0					176.4	0.0	5.0	40.3
Jan 5	0				0			0	0					177.6	0.0	5.0	40.2
Jan 6	1				-1			0	-1					172.3	0.0	5.0	40.1
Jan 7	0				0			1	0					163.0	0.0	5.0	40.2
Jan 8	1				0			1	0					137.9	0.0	5.0	40.1
Jan 9	0				0			0	0					178.8	0.0	5.0	39.9
Jan 10	0				0			0	0					185.6	0.0	5.0	39.7
Jan 11	0				0			1	0					171.8	0.0	5.0	39.6
Jan 12	2				0			1	1					190.3	0.0	5.0	39.7
Jan 13	-1				0			0	0					200.8	0.0	5.0	40.0
Jan 14	1				2			1	0					209.9	0.0	5.0	40.1
Jan 15	0				2			0	0					190.3	0.0	5.0	40.2
Jan 16	0				0			0	0					196.5	0.0	5.0	40.4
Jan 17														196.6	0.0	5.0	40.7
Jan 18														198.0	0.0	5.0	41.0
Jan 19														203.9	0.0	5.0	41.1
Jan 20														193.9	0.0	5.0	41.1
Jan 21														197.9	0.0	no data	41.1
Jan 22														192.9	0.0	no data	41.0
Jan 23														186.9	0.0	no data	41.0
Jan 24														196.0	0.0	no data	41.0
Jan 25														198.5	0.0	no data	41.0
Jan 26														186.2	0.0	no data	40.8
Jan 27														187.4	0.0	no data	40.8
Jan 28														187.0	0.0	5.0	40.9
Jan 29														188.8	0.0	5.0	40.9
Jan 30														190.1	0.0	5.0	40.9
Jan 31	0			0	0			0	0					185.9	0.0	5.0	40.8
TOTAL	5			0	3			12	0								
AVG.	0			0	0			1	0					184.0	0.0	5.0	40.5

Note: Both ladders out of service from Jan 17-30,

TABLE 32

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

THE DALLES PROJECT - FISH COUNTS

FEBRUARY 2018

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
Feb 1	0				0			1	1					199.8	0.0	5.0	40.8
Feb 2	0				1			1	0					211.4	0.0	5.0	41.0
Feb 3	0				0			0	0					212.7	0.0	5.0	41.4
Feb 4	0				0			3	0					197.5	0.0	5.0	41.7
Feb 5	0				0			1	1					208.4	0.0	5.0	41.9
Feb 6	0				0			2	0					222.4	0.0	5.0	41.8
Feb 7	1				0			4	0					239.5	0.0	5.0	41.9
Feb 8	0				0			1	0					210.2	4.6	5.0	42.1
Feb 9	0				0			4	3					245.6	30.2	5.0	42.2
Feb 10	0				0			2	0					238.3	43.8	5.0	42.1
Feb 11	0				0			2	0					246.9	44.1	4.0	41.9
Feb 12	1				0			1	0					274.9	44.1	no data	41.6
Feb 13	2				0			1	1					249.3	8.0	3.5	41.4
Feb 14	0				0			1	1					238.5	0.0	3.5	41.2
Feb 15	0				0			3	4					229.0	0.0	no data	41.1
Feb 16	0				0			1	0					227.3	0.0	4.0	40.8
Feb 17	0				0			0	0					226.9	0.0	4.0	40.7
Feb 18	0				0			0	0					220.1	0.0	3.0	40.3
Feb 19	0				0			0	0					240.3	0.0	4.0	39.9
Feb 20	0				0			1	1					230.1	0.0	4.0	39.6
Feb 21	0				0			-1	0					228.6	0.0	3.5	39.5
Feb 22	0				0			1	1					216.1	0.0	4.5	39.3
Feb 23	0				0			0	0					220.4	0.0	4.0	38.9
Feb 24	0				0			0	0					216.1	0.0	3.5	38.8
Feb 25	0				0			1	1					218.1	0.0	3.5	38.9
Feb 26														203.2	0.0	4.0	38.6
Feb 27	0				0			1	1					203.5	0.0	4.5	38.5
Feb 28	0				0			0	0					202.7	0.0	4.0	38.5
TOTAL	4				1			31	15								
AVG.	0				0			0	1					224.2	6.2	4.3	40.6

Note: From January 1-February 28, counts were from video tape. The counts are 16-hour counts and occurred between 0400-2000 PST.

No count data for February 26.

TABLE 33

DISCHARGE AND WATER QUALITY DATA

THE DALLES PROJECT 2018

MARCH

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
Mar 1	200.7	0.0	4.0	38.7
Mar 2	203.4	7.5	4.0	38.9
Mar 3	206.8	0.0	4.0	38.8
Mar 4	199.5	7.3	5.0	38.8
Mar 5	182.0	0.0	4.5	39.1
Mar 6	205.1	7.7	4.0	39.2
Mar 7	195.3	0.0	4.5	39.3
Mar 8	173.3	7.5	5.0	39.5
Mar 9	174.4	0.0	5.0	40.1
Mar 10	182.6	0.0	5.0	40.3
Mar 11	194.0	0.0	5.0	40.6
Mar 12	191.8	0.0	5.0	41.0
Mar 13	194.6	0.0	5.0	41.4
Mar 14	193.7	0.0	5.0	41.8
Mar 15	186.1	0.0	5.0	42.1
Mar 16	188.6	0.0	5.0	42.4
Mar 17	186.1	0.0	5.0	42.8
Mar 18	199.0	0.0	4.5	43.0
Mar 19	191.4	0.0	4.5	43.3
Mar 20	191.0	0.0	4.0	43.5
Mar 21	182.7	0.0	4.5	43.7
Mar 22	189.9	0.0	5.0	43.8
Mar 23	192.6	0.0	5.0	43.7
Mar 24	189.2	0.0	4.5	43.8
Mar 25	185.2	0.0	4.0	44.1
Mar 26	181.5	0.0	4.0	44.1
Mar 27	182.4	0.0	4.0	44.2
Mar 28	183.4	0.0	3.5	44.6
Mar 29	180.9	0.0	3.5	44.8
Mar 30	186.5	0.0	2.5	45.1
Mar 31	171.2	0.0	3.5	45.3
AVG.	189.2	1.0	4.4	42.0

TABLE 34

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

THE DALLES PROJECT - FISH COUNTS

APRIL 2018

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
Apr 1	1			0			7	5				0		175.6	14.8	4.5	45.2
Apr 2	2			0			5	3				0		174.2	14.8	3.5	45.2
Apr 3	4			0			5	0				0		174.2	41.0	4.0	45.3
Apr 4	0			0			1	1				0		198.0	30.3	3.5	45.5
Apr 5	1			0			5	0				0		189.6	43.4	3.0	45.7
Apr 6	5			0			3	1				0		206.0	50.6	4.0	45.9
Apr 7	2			0			2	0				0		221.3	58.0	4.0	46.2
Apr 8	6			1			9	1				0		228.9	66.3	3.0	46.3
Apr 9	7			0			6	1				0		236.5	72.1	3.5	46.2
Apr 10	4			1			8	4				0		237.6	123.4	3.0	46.5
Apr 11	4			0			1	0				0		258.6	122.0	3.5	46.6
Apr 12	1			0			3	0				0		253.2	117.3	3.5	46.7
Apr 13	6			0			4	1				0		240.6	112.6	3.5	46.8
Apr 14	2			0			5	0				-2		275.1	110.7	3.5	47.2
Apr 15	3			0			1	0				0		265.2	105.0	4.0	47.5
Apr 16	5			1			2	1				0		267.0	99.5	4.0	47.8
Apr 17	8			0			6	1				0		247.4	100.2	4.0	47.7
Apr 18	5			0			4	0				0		268.0	108.6	3.5	47.9
Apr 19	14			0			3	1				0		290.7	100.2	3.5	48.3
Apr 20	13			0			0	0				0		290.1	96.5	3.5	48.8
Apr 21	18			0			6	4				0		274.9	89.7	3.0	49.4
Apr 22	6			0			2	1				0		274.9	89.6	3.5	49.4
Apr 23	28			1			1	0				0		250.8	88.0	3.0	49.7
Apr 24	31			0			2	2				0		267.8	81.5	4.0	50.1
Apr 25	58			1			1	1				0		261.8	74.0	3.5	50.6
Apr 26	64			2			0	0				0		260.7	68.6	3.5	51.0
Apr 27	90			0			0	0				0		266.5	63.7	3.0	51.4
Apr 28	176			11			0	0				0		273.6	69.1	3.5	51.4
Apr 29	200			6			4	0				0		265.9	122.1	3.5	51.7
Apr 30	548			10			1	1				0		315.9	133.6	3.0	52.0
TOTAL	1,312			34			97	29				-2					
AVG.	44			1			3	1				0		247.0	82.2	3.5	48.0

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 35

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

THE DALLES PROJECT - FISH COUNTS

MAY 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	CHUM	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD							SECCHI	DEG F
May 1	633			10			0	0	0			0	0	330.0	136.8	3.5	52.4
May 2	486			10			0	0	0			0	0	315.0	158.2	3.5	52.8
May 3	696			6			0	0	0			0	0	312.9	144.1	3.0	53.2
May 4	572			20			0	1	0			0	0	323.9	116.2	3.5	53.7
May 5	1,249			42			0	0	0			0	0	301.1	130.0	3.4	54.0
May 6	1,970			86			0	0	0			0	0	331.5	146.3	3.5	54.4
May 7	2,952			62			0	2	0			0	0	341.4	197.9	3.5	54.4
May 8	2,905			103			0	0	0			0	1	371.2	225.9	3.0	54.5
May 9	3,500			221			0	11	5			0	0	401.4	215.2	2.0	54.5
May 10	3,006			215			0	1	0			0	0	404.7	231.0	3.0	54.5
May 11	2,224			221			0	1	1			1	0	413.2	254.7	3.0	54.4
May 12	1,208			102			0	1	1			0	0	434.0	297.4	3.0	54.6
May 13	1,019			118			0	2	0			0	0	469.5	302.3	3.0	54.5
May 14	1,234			96			0	0	0			0	0	470.8	292.1	3.0	55.2
May 15	1,314			112			0	5	4			0	0	460.7	293.7	3.0	55.8
May 16	1,472			184			0	0	0			0	0	467.8	295.7	2.5	55.9
May 17	1,591			246			0	2	2			0	0	480.8	281.2	2.5	56.0
May 18	1,912			283			0	0	0			0	0	479.4	270.0	2.5	56.2
May 19	1,674			254			0	1	1			0	0	483.0	270.0	2.5	56.4
May 20	1,317			265			0	1	1			0	0	480.0	270.0	2.0	56.5
May 21	1,286			204			0	1	0			0	0	480.1	270.0	2.5	56.6
May 22	1,728			280			0	1	0			0	0	482.0	264.1	2.5	56.9
May 23	1,838			209			0	1	0			0	0	479.0	290.9	2.5	57.5
May 24	2,686			319			0	2	2			1	0	472.8	310.0	2.5	58.1
May 25	3,518			212			0	0	0			0	0	479.4	300.8	3.0	58.1
May 26	2,239			145			0	0	0			0	0	474.7	292.7	2.5	58.0
May 27	1,811			196			0	1	1			0	1	464.3	284.8	2.5	58.3
May 28	1,558			100			2	1	0			3	2	464.4	277.6	2.5	58.6
May 29	1,391			100			0	2	2			5	0	448.1	261.8	2.0	58.7
May 30	951			58			0	0	0			1	0	433.1	243.5	2.0	58.7
May 31	1,116			70			2	1	1			2	1	434.9	213.6	2.5	59.0
TOTAL	53,056			4,549			4	38	21			13	5				
AVG.	1,711			147			0	1	1			0	0	425.3	243.2	2.8	55.9
RUN YEAR		CHINOOK ADULT	CHINOOK JACK				SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD			LAMPREY	STURGEON				
TOTALS TO DATE	SPRING	54,368	4,583				4	135	50			11	5				

TABLE 36

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

THE DALLES PROJECT - FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL		unclipped		PINK	CHUM	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD	SECCHI							DEG F	
Jun 1	1,062			72			5	2	0				0	0	391.2	196.3	2.5	59.0
Jun 2	927			92			12	7	2				4	0	367.9	204.9	2.5	59.3
Jun 3	1,569			46			28	4	2				9	1	404.9	114.2	3.0	59.2
Jun 4		992		52			68	3	2				2	1	347.9	120.0	3.0	59.1
Jun 5		1,209		50			72	2	2				0	0	353.3	109.3	3.0	59.2
Jun 6		1,362		61			219	5	1				6	0	319.8	120.9	3.0	59.6
Jun 7		1,069		70			302	11	4				10	1	329.9	104.8	3.0	59.9
Jun 8		995		67			354	10	8				13	0	302.7	95.0	3.0	60.2
Jun 9		1,157		94			459	16	5				30	0	279.9	105.0	3.5	60.4
Jun 10		1,085		58			629	15	11				10	0	278.5	105.0	3.5	60.1
Jun 11		1,474		118			896	28	14				23	0	270.5	105.0	3.0	60.2
Jun 12		1,434		59			641	16	8				16	0	277.2	105.0	3.5	60.5
Jun 13		1,429		74			1,177	18	7				25	0	284.6	105.0	3.5	60.5
Jun 14		1,009		35			889	19	8				19	1	230.6	105.0	3.5	60.5
Jun 15		938		49			1,591	-7	10				14	1	218.5	105.0	3.5	60.7
Jun 16		1,858		110			2,919	34	14				28	0	214.1	80.6	3.5	61.1
Jun 17		1,656		91			4,588	44	30				23	0	201.6	77.6	3.5	61.4
Jun 18		1,482		52			3,824	42	23				25	0	193.5	78.8	4.0	62.0
Jun 19		1,501		114			4,148	58	29				55	0	197.3	83.4	4.0	62.4
Jun 20		1,196		84			5,479	54	24				106	0	209.4	82.6	5.0	63.2
Jun 21		1,300		120			5,721	51	19				132	0	207.1	83.5	5.0	63.8
Jun 22		1,239		104			8,196	94	38				149	2	209.1	77.4	5.0	64.1
Jun 23		1,636		106			7,594	67	43				369	-1	194.4	86.3	5.0	64.3
Jun 24		1,877		110			6,979	93	48				171	0	216.6	92.7	4.5	64.7
Jun 25		1,912		129			10,035	112	47				309	1	236.6	90.3	5.0	65.3
Jun 26		966		82			7,534	93	55				215	1	228.9	96.7	5.0	65.0
Jun 27		1,195		95			8,716	108	60				470	1	242.7	98.4	5.0	65.5
Jun 28		1,048		82			6,445	124	59				341	0	248.2	94.5	5.0	65.7
Jun 29		859		120			5,788	121	43				583	1	236.0	94.6	5.0	65.9
Jun 30		1,275		91			6,984	195	115				338	0	236.4	85.6	4.5	66.1
TOTAL	3,558	35,153		2,487			102,292	1,439	731				3,495	10				
AVG.	1,186	1302		83			3,410	48	24				117	0	264.3	103.4	3.9	62.0

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	57,926	4,793
SUMMER	35,153	2,277
TOTAL	93,079	7,070

SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD
102,296	1,574	781

LAMPREY	STURGEON
3,506	15

TABLE 37

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT - FISH COUNTS

JULY 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL					DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM			LAMPREY	STURGEON	KCFS	KCFS
Jul 1		994		91			7,043	205	86			291	0	213.2	75.2	4.5	66.2
Jul 2		760		66			4,769	247	136			320	0	187.7	63.6	5.0	66.0
Jul 3		515		65			3,377	219	89			205	0	159.7	73.2	5.0	65.6
Jul 4		505		52			3,791	153	73			155	1	183.5	59.0	5.0	66.2
Jul 5		601		86			4,743	192	88			243	0	147.8	57.8	5.0	66.5
Jul 6		928		76			4,782	297	138			339	2	144.1	63.3	4.5	67.0
Jul 7		842		62			3,608	277	146			157	0	158.4	58.4	4.5	66.7
Jul 8		877		70			3,978	326	180			123	0	146.1	61.6	4.5	66.8
Jul 9		645		43			2,878	344	174			100	0	153.5	57.7	5.0	67.0
Jul 10		559		50			1,690	381	180			139	0	145.3	63.7	5.0	66.9
Jul 11		533		38			1,237	310	149			132	0	159.1	73.5	5.0	67.2
Jul 12		333		54			713	337	151			222	2	184.2	70.9	5.0	67.9
Jul 13		359		60			1,078	325	163			154	3	178.1	59.7	5.0	68.3
Jul 14		459		38			964	419	200			123	0	148.7	67.9	5.0	68.3
Jul 15		442		44			734	436	210			101	2	170.4	59.3	5.5	68.6
Jul 16		473		51			532	443	194			144	1	148.1	73.1	5.0	69.4
Jul 17		372		27			381	410	201			129	0	182.0	64.9	5.0	69.7
Jul 18		375		29			413	390	189			131	0	162.1	61.0	5.0	69.6
Jul 19		281		33			359	435	181			106	2	153.9	62.6	4.0	69.6
Jul 20		240		34			291	362	179			165	0	158.4	56.9	5.5	69.4
Jul 21		223		19			242	323	136			85	1	142.3	67.0	6.0	69.4
Jul 22		258		32			212	353	174			60	0	167.9	50.5	5.0	70.1
Jul 23		355		51			253	392	156			88	0	125.6	64.6	5.0	70.5
Jul 24		294		50			328	399	197			188	2	162.5	71.2	5.0	70.8
Jul 25		302		38			259	341	170			225	1	177.7	56.3	5.0	70.8
Jul 26		281		26			207	261	125			83	0	140.9	60.4	5.0	71.0
Jul 27		206		33			146	324	180			108	2	150.7	63.9	6.0	71.2
Jul 28		220		35			163	392	215			162	-1	159.6	57.8	6.0	71.4
Jul 29		187		28			91	421	214			89	0	144.1	62.4	6.0	71.9
Jul 30		181		24			89	320	137			38	1	155.9	67.0	5.0	72.4
Jul 31		149		20			61	224	92			80	0	167.3	62.5	5.0	72.8
TOTAL		13,749		1,425			49,412	10,258	4,903			4,685	19				
AVG		444		46			1,594	331	158			151	1	160.6	63.4	5.1	68.9
RUN YEAR		CHINOOK	CHINOOK					TOTAL	unclipped			LAMPREY	STURGEON				
TOTALS TO DATE		ADULT	JACK				SOCKEYE	STEELHEAD	STEELHEAD								
SPRING		57,926	4,793				151,708	11,832	5,684			8,191	34				
SUMMER		48,902	3,702														
TOTAL		106,828	8,495														

TABLE 38

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

THE DALLES PROJECT - FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	TOTAL	unclipped	PINK	CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT		JACK	STEELHEAD					STEELHEAD	KCFS	KCFS	SECCHI	DEG F	
Aug 1		150		24	0	0	37	197	83				148	1	157.6	50.5	5.0	72.5
Aug 2		128		32	0	0	44	194	96				210	0	127.0	48.5	5.0	72.0
Aug 3		116		29	0	0	20	142	63				139	0	121.3	42.6	5.0	71.7
Aug 4			139	27	0	0	25	179	95				68	0	106.4	48.9	6.0	71.4
Aug 5			91	18	0	0	18	167	81				89	0	122.2	46.3	5.0	72.0
Aug 6			99	24	0	0	15	107	60				32	1	116.2	59.6	5.0	72.5
Aug 7			179	30	0	0	15	210	101				25	0	149.0	50.7	5.0	72.7
Aug 8			182	32	0	0	9	169	83				70	0	126.8	54.2	5.0	72.9
Aug 9			151	32	0	0	19	169	81				87	2	135.7	52.9	5.0	73.0
Aug 10			126	22	0	0	6	189	81				77	0	133.3	59.0	5.0	72.8
Aug 11			122	21	0	0	9	147	68				63	0	147.0	49.8	5.0	72.3
Aug 12			139	36	1	0	6	178	72				67	0	124.8	43.4	5.0	71.8
Aug 13			221	27	1	0	5	133	61				42	0	108.2	46.8	5.0	72.2
Aug 14			283	41	0	0	1	112	47				43	0	116.2	52.7	5.0	72.5
Aug 15			320	33	0	0	3	135	56				27	0	131.2	56.5	5.0	72.6
Aug 16			343	41	2	0	3	88	35				58	0	142.2	49.2	5.0	72.6
Aug 17			417	46	4	1	15	78	33				52	1	123.5	42.7	6.0	72.1
Aug 18			504	51	22	2	5	156	55				21	1	107.1	39.8	6.0	71.5
Aug 19			510	44	2	0	9	235	101				14	1	100.1	38.4	6.0	71.7
Aug 20			580	41	10	3	4	170	83				22	0	96.8	49.4	5.0	72.2
Aug 21			877	64	9	5	9	183	73				46	0	123.6	53.5	5.0	72.2
Aug 22			1,034	72	12	0	1	162	60				69	0	132.9	56.9	5.0	72.3
Aug 23			968	95	28	1	6	215	77				70	0	141.9	49.1	5.0	72.1
Aug 24			938	130	19	2	6	206	62				47	1	123.1	46.4	6.0	71.0
Aug 25			1,210	144	52	3	4	301	96				26	0	116.4	54.8	6.0	70.1
Aug 26			2,168	198	125	3	2	921	335				24	0	137.5	56.6	6.0	69.7
Aug 27			1,918	238	125	8	5	924	303				46	0	141.7	46.6	5.0	69.7
Aug 28			1,629	173	144	17	2	661	212				22	0	116.6	45.9	5.0	69.9
Aug 29			1,848	277	251	15	4	795	262				24	0	114.8	52.0	5.0	69.9
Aug 30			1,989	214	323	45	1	807	237				40	0	130.1	48.3	5.0	69.5
Aug 31			3,598	346	493	41	16	1,318	343				20	0	121.2	43.6	5.0	68.9
TOTAL		394	22,583	2,602	1,623	146	324	9,648	3,495				1,788	8				
AVG.		131	807	84	52	5	10	311	113				58	0	125.6	49.5	5.2	71.6

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULTS	COHO JACKS	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD
TOTALS TO DATE							
SPRING	57,926	4,793	1,623	146	152,032	21,480	9,179
SUMMER	49,296	3,787					
FALL	22,583	2,517					
TOTAL	129,805	11,097					

LAMPREY	STURGEON
9,979	42

TABLE 39

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT - FISH COUNTS

SEPTEMBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	TOTAL	unclipped	PINK	CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT		JACK	STEELHEAD					STEELHEAD	KCFS	KCFS	SECCHI	DEG F
Sep 1			3,720	503	562	36	17	1,346	346			32	0	100.8	0.0	5.0	68.3
Sep 2			2,949	512	761	39	4	1,460	368			28	0	96.3	0.0	5.0	67.9
Sep 3			3,918	487	679	61	0	1,828	422			42	0	94.6	0.0	5.0	67.9
Sep 4			3,252	343	862	117	4	2,163	604			39	0	104.2	0.0	6.0	68.1
Sep 5			3,012	461	673	65	0	1,986	421			53	0	99.0	0.0	6.0	68.3
Sep 6			3,306	468	606	67	2	1,588	317			32	0	99.8	0.0	5.0	68.5
Sep 7			2,743	447	884	70	5	1,435	304			33	0	106.2	0.0	6.0	68.7
Sep 8			3,371	344	790	81	4	1,392	262			21	1	84.6	0.0	5.0	68.4
Sep 9			4,050	536	644	71	1	1,355	311			51	0	79.2	0.0	5.0	68.2
Sep 10			4,633	307	438	52	2	1,097	286			13	0	80.1	0.0	6.0	67.9
Sep 11			1,976	428	481	50	4	728	161			25	0	95.2	0.0	5.0	67.6
Sep 12			2,642	482	448	123	2	1,006	206			18	0	91.2	0.0	5.0	67.3
Sep 13			3,611	548	520	30	1	1,464	279			18	0	72.1	0.0	5.0	67.1
Sep 14			3,047	606	472	52	1	1,915	347			17	0	99.4	0.0	5.0	67.0
Sep 15			2,484	425	357	44	1	1,789	422			8	0	90.3	0.0	5.0	67.0
Sep 16			1,961	397	414	59	4	1,852	348			17	0	80.7	0.0	5.0	66.9
Sep 17			3,241	283	961	62	-1	1,593	310			14	0	101.7	0.0	5.0	66.6
Sep 18			2,952	409	725	49	2	2,319	606			8	0	85.1	0.0	5.0	66.5
Sep 19			4,037	653	872	180	0	2,434	548			10	0	83.1	0.0	5.0	66.6
Sep 20			1,072	366	595	62	2	1,580	402			9	0	70.2	0.0	6.0	66.4
Sep 21			1,360	441	394	67	0	1,500	317			7	0	80.0	0.0	6.0	66.0
Sep 22			2,153	554	551	66	1	1,153	330			8	0	72.3	0.0	6.0	65.7
Sep 23			4,248	1,056	726	63	7	1,807	385			12	0	58.5	0.0	6.0	65.5
Sep 24			3,796	683	429	60	0	1,946	477			3	0	90.6	0.0	6.0	65.0
Sep 25			3,504	811	495	67	0	1,681	366			4	0	122.5	0.0	5.0	64.7
Sep 26			4,017	646	324	24	0	1,533	334			2	0	95.9	0.0	5.0	65.3
Sep 27			1,998	596	289	39	0	1,220	270			-1	0	93.2	0.0	5.0	65.4
Sep 28			1,402	404	294	66	0	1,168	269			1	0	86.4	0.0	5.0	65.5
Sep 29			864	285	198	10	1	892	252			-1	0	77.0	0.0	6.0	65.5
Sep 30			1,242	362	98	20	2	846	208			1	0	86.4	0.0	6.0	65.3
TOTAL			86,561	14,843	16,542	1,852	66	46,076	10,478			524	1				
AVG.			2,885	495	551	62	2	1,536	349			17	0	89.2	0.0	5.4	66.8

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	57,926	4,793
SUMMER	49,296	3,787
FALL	109,144	17,360
TOTAL	216,366	25,940

COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD
18,165	1,998	152,098	67,556	19,657

LAMPREY	STURGEON
10,503	43

TABLE 40

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

THE DALLES PROJECT - FISH COUNTS

OCTOBER 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	CHUM	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD							STEELHEAD	SECCHI
Oct 1			1,372	205	157	42	0	910	270		2	0	76.3	0.0	5.0	65.0
Oct 2			2,482	698	199	23	0	881	225		0	0	67.5	0.0	5.0	64.8
Oct 3			1,255	268	197	28	1	750	182		3	0	82.1	0.0	5.0	64.4
Oct 4			789	257	123	9	0	576	143		0	0	85.6	0.0	5.0	63.7
Oct 5			712	252	55	23	0	439	110		2	0	85.6	0.0	5.0	63.3
Oct 6			495	220	70	5	0	569	158		0	1	70.7	0.0	5.0	62.9
Oct 7			961	297	317	25	0	1,389	436		0	0	72.3	0.0	5.0	62.7
Oct 8			1,615	409	320	26	0	1,195	326		0	0	70.3	0.0	5.0	62.6
Oct 9			1,015	284	134	21	1	592	182		0	0	72.7	0.0	5.0	62.4
Oct 10			697	214	327	22	1	732	221		0	0	85.5	0.0	5.0	62.4
Oct 11			721	184	186	10	0	672	234		1	1	85.8	0.0	5.0	62.4
Oct 12			462	180	113	20	0	548	145		1	0	90.1	0.0	6.0	62.3
Oct 13			194	100	55	8	0	367	92		1	0	82.4	0.0	6.0	61.8
Oct 14			349	103	89	5	0	283	85		1	0	83.7	0.0	6.0	61.3
Oct 15			259	109	69	10	0	271	74		0	0	99.5	0.0	5.0	60.8
Oct 16			150	83	45	8	0	303	92		0	1	85.2	0.0	5.0	60.4
Oct 17			180	100	50	10	0	277	88		0	0	83.3	0.0	6.0	60.3
Oct 18			115	62	56	14	0	216	78		0	0	78.3	0.0	5.0	60.1
Oct 19			142	66	63	12	0	237	82		0	0	84.2	0.0	5.0	59.9
Oct 20			456	78	109	16	0	221	81		1	0	66.3	0.0	6.0	59.8
Oct 21			338	88	119	25	0	202	61		0	0	69.6	0.0	5+	59.7
Oct 22			234	66	79	5	0	216	78		0	0	90.6	0.0	5+	59.4
Oct 23			533	60	65	6	0	140	61		0	0	105.0	0.0	5+	59.1
Oct 24			225	44	61	7	0	149	53		0	0	119.6	0.0	5+	58.9
Oct 25			300	34	35	6	0	150	64		0	1	108.5	0.0	5+	58.7
Oct 26			360	66	36	8	0	132	54		0	0	113.0	0.0	5+	58.6
Oct 27			165	40	59	8	0	133	54		0	0	100.9	0.0	5+	58.5
Oct 28			309	56	75	17	0	142	49		0	0	86.1	0.0	5+	58.4
Oct 29			152	34	193	41	0	156	63		0	0	90.6	0.0	5+	58.2
Oct 30			330	26	194	7	0	137	58		0	0	85.2	0.0	5+	57.9
Oct 31			331	48	134	12	0	133	65		0	1	93.6	0.0	5+	57.7
TOTAL			17,698	4,731	3,784	479	3	13,118	3,964		12	5				
AVG.			571	153	122	15	0	423	128		0	0	86.1	0.0	5.3	60.9

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	57,926	4,793
SUMMER	49,296	3,787
FALL	126,842	22,091
TOTAL	234,064	30,671

COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY	STURGEON
21,949	2,477	152,101	80,674	23,621	0	0	10,515	48

Note: Visual counts ended October 31.

TABLE 41

DISCHARGE AND WATER QUALITY DATA
THE DALLES PROJECT 2018

NOVEMBER					DECEMBER				
DATE	DISCH	SPILL	TURBIDITY		DATE	DISCH	SPILL	TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F		KCFS	KCFS	SECCHI	DEG F
Nov 1	85.7	0.0	5+	57.6	Dec 1	115.5	0.0	5+	47.7
Nov 2	121.0	0.0	5+	57.6	Dec 2	118.7	0.0	5+	47.5
Nov 3	122.3	0.0	5+	57.3	Dec 3	111.3	0.0	5+	47.4
Nov 4	124.4	0.0	5+	57.0	Dec 4	126.9	0.0	5+	47.2
Nov 5	113.7	0.0	5+	57.0	Dec 5	124.4	0.0	5+	46.8
Nov 6	117.1	0.0	5+	56.8	Dec 6	131.8	0.0	5+	46.6
Nov 7	116.8	0.0	5+	56.4	Dec 7	128.3	0.0	5+	46.3
Nov 8	121.6	0.0	5+	56.0	Dec 8	143.3	0.0	5+	46.1
Nov 9	120.4	0.0	5+	55.7	Dec 9	134.2	0.0	5+	46.1
Nov 10	126.0	0.0	5+	55.4	Dec 10	130.1	0.0	5+	45.9
Nov 11	119.2	0.0	5+	54.9	Dec 11	124.5	0.0	5+	45.9
Nov 12	133.0	0.0	5+	54.6	Dec 12	127.3	0.0	5+	45.8
Nov 13	135.6	0.0	5+	54.0	Dec 13	123.1	0.0	5+	45.8
Nov 14	146.8	0.0	5+	53.4	Dec 14	128.9	0.0	5+	45.7
Nov 15	124.8	0.0	5+	53.1	Dec 15	115.1	0.0	5+	45.5
Nov 16	116.6	0.0	5+	52.8	Dec 16	119.2	0.0	5+	45.3
Nov 17	118.7	0.0	5+	52.7	Dec 17	125.6	0.0	5+	45.2
Nov 18	123.3	0.0	5+	52.5	Dec 18	110.4	0.0	5+	45.2
Nov 19	126.5	0.0	5+	51.9	Dec 19	111.2	0.0	5+	45.1
Nov 20	131.2	0.0	5+	51.4	Dec 20	107.2	0.0	5+	45.1
Nov 21	128.9	0.0	5+	50.8	Dec 21	105.4	0.0	5+	44.9
Nov 22	119.0	0.0	5+	50.3	Dec 22	107.6	0.0	5+	44.5
Nov 23	114.6	0.0	5+	49.8	Dec 23	103.7	0.0	5+	44.3
Nov 24	117.3	0.0	5+	49.4	Dec 24	120.9	0.0	5+	44.4
Nov 25	120.0	0.0	5+	49.2	Dec 25	115.9	0.0	5+	44.5
Nov 26	117.5	0.0	5+	48.9	Dec 26	100.8	0.0	5+	44.5
Nov 27	118.8	0.0	5+	48.6	Dec 27	111.1	0.0	5+	44.3
Nov 28	108.7	0.0	5+	48.3	Dec 28	101.5	0.0	5+	44.1
Nov 29	111.1	0.0	5+	48.1	Dec 29	128.3	0.0	5+	44.1
Nov 30	113.7	0.0	5+	48.0	Dec 30	103.1	0.0	5+	44.0
					Dec 31	104.1	0.0	5+	43.8
AVG.	120.5	0.0	5+	53.0	AVG.	118.0	0.0	5+	45.5

TABLE 42

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT - NIGHT FISH COUNTS

June 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	CHUM	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT					
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		38		0		191	0	0		182
Jun 16		21		1		197	0	0		206
Jun 17		50		13		322	1	0		118
Jun 18		43		1		215	1	1		187
Jun 19		14		0		225	2	1		305
Jun 20		44		-1		444	4	2		282
Jun 21		10		1		319	5	2		388
Jun 22		42		0		535	2	1		415
Jun 23		59		2		672	1	1		768
Jun 24		43		26		680	3	3		495
Jun 25		56		14		793	4	2		526
Jun 26		47		21		1,038	1	1		401
Jun 27		23		3		609	3	3		680
Jun 28		40		4		453	2	0		696
Jun 29		40		3		668	6	5		449
Jun 30		26		1		349	4	3		864
TOTAL		596		89		7,710	39	25		6,962
AVG.		37		6		482	2	2		435

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

July 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	CHUM	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK					
Jul 1		16		3			356	5	2		608
Jul 2		16		2			234	7	2		606
Jul 3		23		0			551	5	2		484
Jul 4		32		1			609	11	7		213
Jul 5		26		3			390	7	3		538
Jul 6		17		12			317	7	3		607
Jul 7		21		1			302	4	4		592
Jul 8		17		1			270	8	5		666
Jul 9		14		0			158	7	4		537
Jul 10		12		1			93	2	0		486
Jul 11		15		0			141	11	4		287
Jul 12		12		2			104	8	7		330
Jul 13		6		2			94	10	6		446
Jul 14		18		0			125	8	5		344
Jul 15		17		0			83	11	7		430
Jul 16		17		0			55	17	10		608
Jul 17		2		0			27	7	3		575
Jul 18		12		1			39	15	8		261
Jul 19		21		2			85	8	4		250
Jul 20		3		5			40	7	2		370
Jul 21		6		2			63	10	6		239
Jul 22		7		2			39	6	5		153
Jul 23		15		0			36	23	17		356
Jul 24		9		0			74	16	12		395
Jul 25		11		0			52	9	3		262
Jul 26		7		0			26	10	6		351
Jul 27		9		0			27	8	6		236
Jul 28		11		2			26	10	4		419
Jul 29		6		0			24	13	9		266
Jul 30		8		0			18	6	2		339
Jul 31		7		0			3	6	5		399
TOTAL		413		42			4,461	282	163		12,653
AVG		13		1			144	9	5		408

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

August 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped STEELHEAD	PINK	CHUM	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK					
Aug 1		4		1	0	0	5	7	4		351
Aug 2		2		0	0	0	3	7	4		310
Aug 3		3		0	0	0	5	9	6		225
Aug 4			4	0	0	0	5	5	1		356
Aug 5			8	0	0	0	5	7	6		290
Aug 6			11	0	0	0	1	7	2		267
Aug 7			10	1	0	0	5	6	4		134
Aug 8			2	0	0	0	6	11	7		224
Aug 9			3	0	0	0	3	7	4		227
Aug 10			9	0	0	0	2	3	3		213
Aug 11			11	2	0	0	3	9	8		148
Aug 12			5	2	0	0	1	10	4		164
Aug 13			10	1	0	0	1	0	0		220
Aug 14			19	0	0	0	2	6	4		123
Aug 15			15	0	0	0	0	6	3		115
Aug 16			12	0	0	0	4	3	2		118
Aug 17			28	0	0	0	1	6	3		81
Aug 18			18	0	0	0	2	7	2		59
Aug 19			40	1	0	0	1	13	5		95
Aug 20			22	1	1	0	0	6	3		120
Aug 21			36	1	0	0	1	8	3		136
Aug 22			31	1	0	0	1	10	1		115
Aug 23			31	2	1	1	2	5	2		82
Aug 24			18	1	0	0	0	11	2		129
Aug 25			39	1	3	0	2	25	10		44
Aug 26			36	3	4	0	1	52	19		117
Aug 27			34	1	2	0	0	29	8		79
Aug 28			18	8	1	0	1	33	9		75
Aug 29			45	7	2	1	0	42	13		97
Aug 30			34	1	20	2	0	35	13		70
Aug 31			53	7	15	0	0	55	17		55
TOTAL		9	602	42	49	4	63	440	172		4,839
AVG.		3	22	1	2	0	2	14	6		156

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

TABLE 45

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

THE DALLES PROJECT - NIGHT FISH COUNTS

September 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	CHUM	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		SOCKEYE			
Sep 1			11	3	12	1	0	54	15		55
Sep 2			24	8	13	3	0	82	15		122
Sep 3			15	1	6	0	0	72	16		57
Sep 4			11	0	12	1	0	100	29		78
Sep 5			20	9	8	1	0	72	12		37
Sep 6			16	3	5	0	0	68	15		39
Sep 7			24	5	6	0	0	63	10		69
Sep 8			15	1	16	0	0	62	12		71
Sep 9			17	1	22	2	0	42	9		54
Sep 10			25	5	9	0	0	74	24		28
Sep 11			6	1	1	0	0	37	12		21
Sep 12			23	2	4	0	0	48	9		15
Sep 13			16	1	9	2	0	77	16		23
Sep 14			10	4	13	1	0	91	27		34
Sep 15			15	3	19	0	0	99	24		26
Sep 16			20	6	0	0	0	76	22		20
Sep 17			13	2	7	0	0	40	7		23
Sep 18			9	1	20	2	0	163	40		19
Sep 19			18	2	17	0	0	108	19		7
Sep 20			5	0	20	3	0	78	14		9
Sep 21			18	5	6	1	0	79	21		6
Sep 22			25	6	7	0	0	93	24		3
Sep 23			23	8	16	2	0	96	34		6
Sep 24			7	2	8	2	0	57	18		7
Sep 25			18	4	6	1	0	64	19		4
Sep 26			19	11	3	0	0	50	8		6
Sep 27			7	4	9	0	0	54	14		11
Sep 28			18	3	1	0	0	68	16		6
Sep 29			8	1	1	0	0	47	17		2
Sep 30			6	3	4	0	0	38	6		0
TOTAL			462	105	280	22	0	2,152	524		858
AVG.			15	4	9	1	0	72	17		29

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

TABLE 46

YEARLY TOTALS OF SALMONIDS COUNTED OVER THE DALLES DAM
1957 - 2018

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
2014	905,449	255,691	586,188	157,646	0	2	1,904,976
2015	1,068,378	217,018	429,797	26,959	0	137	1,742,289
2016	585,090	145,027	288,401	22,909	0	1	1,041,428
2017	394,690	96,803	64,058	36,911	0	7	592,469
2018	264,744	80,717	152,101	24,430	0	0	521,992
Totals	20,278,990	11,131,283	5,811,000	1,318,745	265	1,791	38,542,074
10-Year Average	639,311	233,480	271,156	51,518			1,195,608

*Jacks included

TABLE 47

MONTHLY COUNT OF CHINOOK SALMON
THE DALLES DAM 1957 - 2018

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL	JACKS
														1 JAN- 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		84	618,472	149,967	111,931	356,574	62,007
2004				272	74,705	59,127	59,859	41,935	261,434	32,361	3,085	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				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		**	18,841	79,731	70,063	37,731	99,513	513,045	79,494		898,424	101,513	106,389	690,522	141,021
2014					34,797	123,507	73,974	45,718	45,707	513,377	68,369		905,449	164,222	115,659	625,568	133,342
2015					103,729	95,758	89,752	53,573	78,324	524,977	122,265		1,068,378	206,423	139,373	722,582	115,226
2016					11,830	98,780	67,404	40,341	57,734	283,586	25,415		585,090	115,503	104,564	365,023	69,544
2017				11	660	65,479	54,335	28,049	20,970	182,869	37,614	4,622	394,690	70,806	78,523	245,361	50,114
2018		5	4	**	1,346	57,605	41,198	15,174	25,579	101,404	22,429		264,744	62,728	53,083	148,933	30,671
Total				9,829	2,195,505	2,858,690	2,026,207	1,447,203	1,889,616	8,712,411	1,119,753	19,490	20,278,990	5,200,666	3,420,954	11,655,008	3,795,498
10-Year Average				28,064	102,258	68,152	35,883	53,006	302,954	48,310			639,311	135,871	99,979	403,462	106,806

*Jacks included

**No fish count data for March in 2013 and 2018

TABLE 48

MONTHLY COUNT OF SOCKEYE SALMON
THE DALLES DAM
1957 - 2018

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			4	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
2014					13	257,785	327,001	1,330	59				586,188
2015					113	290,869	136,068	2,448	273	26			429,797
2016					113	230,899	56,414	887	83	5			288,401
2017					14	40,575	23,139	250	76	4			64,058
2018					4	102,292	49,412	324	66	3			152,101
Total				3	1,947	3,137,555	2,640,260	29,532	1,631	67	1	4	5,811,000
10-Year Average					37	168,311	102,091	655	59				271,156

TABLE 49
MONTHLY COUNT OF COHO SALMON
THE DALLES DAM: 1957-2018

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								1,082	20,090	10,202			31,374	2,283	
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	
2013								840	17,205	8,637			26,682	2,572	
2014								711	134,991	21,944			157,646	10,843	
2015								510	22,447	4,002			26,959	3,182	
2016								458	18,494	3,957			22,909	1,902	
2017								392	28,602	7,734	305	15	37,048	3,139	
2018		3	1					1,769	18,394	4,263			24,430	2,477	
Total		3	0					1,584	50,268	945,066	315,531	6,374	56	1,318,882	245,468
10-Year Average								1,941	37,104	12,441				51,531	4,244

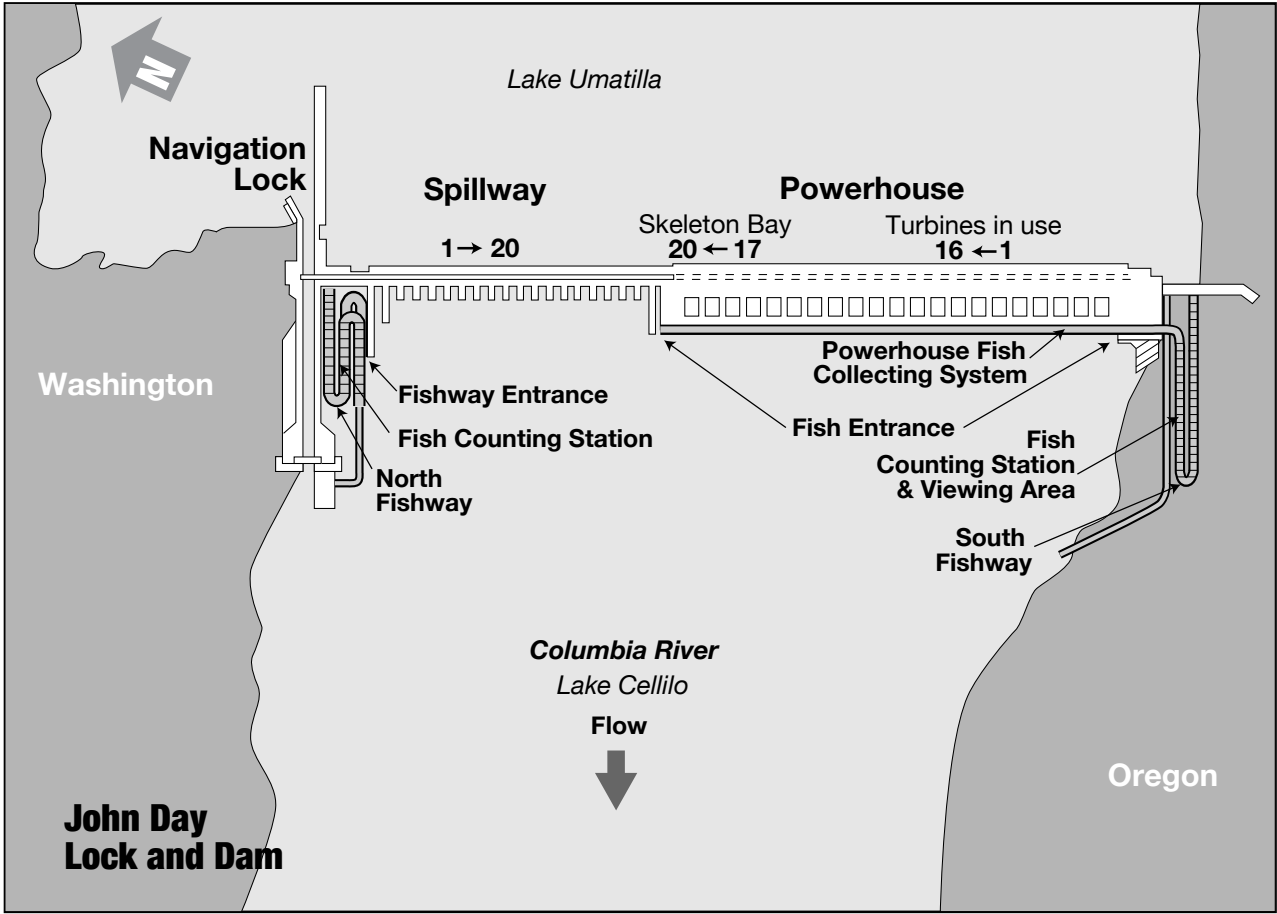
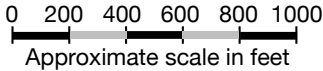
*Includes Jacks

TABLE 50

MONTHLY COUNT OF STEELHEAD
THE DALLES DAM 1957 - 2018

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
2014				361	567	4,214	48,455	38,611	134,160	29,323			255,691
2015				280	181	2,399	21,871	51,038	110,344	30,905			217,018
2016				288	71	3,496	17,437	13,969	87,341	22,425			145,027
2017			1,078	136	64	306	4,984	12,098	64,951	12,694	422	70	96,803
2018	12	31	**	97	38	1,439	10,258	9,648	46,076	13,118			80,717
Total			14,177	54,900	36,658	193,156	2,120,704	2,532,373	5,039,657	1,101,628	35,780		11,131,283
10-Year Average			634	272	3,253	39,752	56,965	106,210	25,845				233,480

Plate 4 John Day Lock and Dam



JOHN DAY DAM

FISH COUNTING SCHEDULE

Mar 1 – 31	Video counting daily 0400-2000 hours Pacific Standard Time.
Apr 1 – Oct 31	Visual counting daily 0400-2000 hours Pacific Standard Time.
June 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.

FISHWAY OPERATING SCHEDULE

NORTH ADULT FISHWAY

REGULAR OPERATION W/ AWS	January 1st - November 29th
AWS OFF HALF DAY FOR ROV INSP.	August 1st
ON ORIFICE FLOW - NO AWS OPERATION	November 30th - December 3rd
DEWATERED FOR MAINTENANCE	December 3rd - December 31st

SOUTH ADULT FISHWAY

REGULAR OPERATION W/AWS	[January 1st - January 8th] [February 28th - December 31st]
AWS OFF HALF DAY FOR ROV INSP.	August 1st
DEWATERED FOR MAINTENANCE	January 8th - February 28th

SMOLT MONITORING FACILITY

DEWATERED FOR MAINTENANCE	[January 1st - February 27th], [November 28th - December 31st]
LIMITED SAMPLING; WATER TEMP > 70F	July 23rd - September 1st
REGULAR SAMPLING MODE (every other day)	[March 1st - July 22nd] and [September 1st - September 15th]
BYPASS FOR PIT DETECTIONS	September 16th-November 28th

JUVENILE BYPASS SYSTEM

REGULAR OPERATION WITH ALL STSs DEPLOYED	March 1st - December 15th (for kelt protection)
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SPILLWAY WITH 2 TSWs (at bay 18 & 19)

ON SEAL	[January 1st - February 5th] [March 31st - April 8th]
FISH SPILL PER FPP SCHEDULE	April 10th - August 31st
1.5 KCFS, BAY 2 ONLY FOR NFL ATTRACTION	September 1st - November 30th
EARLY TSW SPILL (due to HIGH FLOWS)	N/A
ON SEAL	December 1st - December 31st

FISHWAY ACTIVITIES

FISHWAY DEWATERING PROCEDURES

During fishways dewaterings, bulkheads were installed and drain valves were opened. After the areas were dewatered, fisheries personnel entered and salvaged any stranded fish (see table below). Salvaged fish were transported to either the forebay or tailwater (depending on circumstances such as fish species, dewatering location, age class, or stress levels). Follow up inspections were performed to account for any overlooked fish. Efforts were made to provide continual water supplies throughout the operation, to minimize fish stress. Minimal fish handling practices were utilized throughout the

process. Fishway areas not listed were inspected by a Remote Operated Vehicle (ROV). There were no mortalities encountered during any of the 2018 JD Fishway dewaterings.

TURBINE DEWATERING PROCEDURES

When following operational guidelines, turbine dewatering requires minimal fish handling. If a turbine unit fails, operational guidelines cannot always be followed, which may result in stranded fish. Fish removed from these areas face higher risks, due to increased handling. Procedures are continually evaluated to determine the best methods to reduce fish stress and mortality. Currently, fish are removed from scroll cases and draft tubes with fish bags. Prior to fish salvage, transport tanks are prepped for fish transport. If fish numbers are higher than the two bags can safely handle, the transport tanks are used to remove fish. The fish are then released by crane.

2018 John Day Fish Salvage Report											
Key; adult=a, juvenile=j, carp=cp, catfish=ct, sculpin=sp, small mouth bass=smb, crappie=cr, whitefish=wf, perch=pr, bluegill=bg, walleye=we, Sturgeon=st, shad-sh, Chinook-Ch, steelhead-STH, coho-co, sockeye-so, lamprey-la Released In Good Condition=RIGC											
Date	Event	CH	STH	SO	CO	LA	Shad	Other	Comments	Mort	Cause
1/8	SFL-Upper Dewater	0	3J	0	0	180A	0	0	RIGC forebay, STH ~8", Lamprey 18-28"	0	N/A
1/23	JBS	0	2A	0	0	0	0	1-ST	RIGC STH(~27") ST(~30")	0	N/A
3/4	Nav Lock	0	0	0	0	0	0	1 SMB	Fished lateralls and conduits	0	N/A
3/15	MU 1 Scrollcase	0	0	0	0	0	0	0	None	0	N/A
9/4	MU 2 Scrollcase	0	0	0	0	0	0	0	None	0	N/A
9/4	MU 2 Draft Tube	0	0	0	0	0	0	0	None	0	N/A
11/15	MU 14 Scrollcase	0	0	0	0	0	0	0	None	0	N/A
11/15	MU 14 Draft Tube	0	0	0	0	0	0	173	173-ct (~12" - 28")	0	N/A
11/28	SMF Dewatering	60	15	0	0	2	0	2-smb, 5cp, 20ct, 2st	STH/CH(~20-30"); LA(18-28"); CT/CP (12-34") ST(24")	0	N/A
12/3	North upper	0	1J	0	0	2	few	1 STH J, 3 ST bagged	Few ST along with adult shad pushed into lower pool.	0	N/A
12/6	North lower	0	1J	0	0	8	few	1STHJ and 8 La bagged	All released into nearby tailrace.	0	N/A

RESEARCH

Oregon Dept. of Fish and Wildlife – Ongoing BPA funded research associated with the Northern Pikeminnow Management Program. The fish stomachs’ sampler collected the diet and other biological data from NPMs caught by the PSMFC dam anglers.

Oregon Department of Fish and Wildlife/ Fish Passage Center- Continued to perform the monthly, FPOM-directed inspections of all JD adult and juvenile fishways (see the FPC’s annual report.)

CRITFC- Collected adult Pacific lamprey for the tribal restocking projects. The Umatilla, Nez Perce, Warm Springs, and Yakama tribes were all involved in 2017.

Pacific States Marine Fish Commission – sampled juvenile salmonids at JD SMF 1 April through 15 September. Please see the FPC report for results and details.

TABLE 51

MONTHLY TOTALS OF SALMONIDS, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER JOHN DAY DAM
2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*
CHINOOK*			10	612	49,475	37,030	15,054	15,982	87,782	21,648	2,190	77	229,860
STEELHEAD			235	115	31	816	5,889	4,767	43,544	15,848	1,767	340	73,352
SOCKEYE					5	110,952	57,120	369	23				168,469
COHO*								630	15,055	3,686	299	132	19,802
CHUM													0
PINK													0
TOTAL			245	727	49,511	148,798	78,063	21,748	146,404	41,182	4,256	549	491,483
LAMPREY					154	1,543	4,898	1,446	507	-6			8,542
STURGEON								-1					-1
BULL TROUT													0

*Jacks Included

TABLE 52
DISCHARGE AND WATER QUALITY DATA

JOHN DAY PROJECT 2018

JANUARY					FEBRUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY		DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F				SECCHI	DEG F
Jan 1	148.9	0.0	6.0	40.9	Feb 1	201.2	0.0	6.0	40.7
Jan 2	142.5	0.0	6.0	40.6	Feb 2	212.9	0.0	6.0	40.7
Jan 3	170.4	0.0	6.0	40.3	Feb 3	212.8	0.0	4.0	40.8
Jan 4	174.7	0.0	6.0	40.1	Feb 4	199.4	0.0	4.0	41.0
Jan 5	177.4	0.0	6.0	40.1	Feb 5	210.7	37.8	6.0	41.2
Jan 6	173.7	0.0	6.0	40.0	Feb 6	224.0	65.6	6.0	41.4
Jan 7	162.0	0.0	6.0	39.9	Feb 7	239.9	46.9	6.0	41.6
Jan 8	140.4	0.0	6.0	39.7	Feb 8	221.8	76.0	6.0	41.6
Jan 9	184.4	0.0	6.0	39.5	Feb 9	250.4	64.6	6.0	41.8
Jan 10	187.7	0.0	6.0	39.3	Feb 10	255.4	45.0	4.0	41.8
Jan 11	170.9	0.0	5.0	39.4	Feb 11	250.9	73.2	4.0	41.6
Jan 12	189.9	0.0	6.0	39.7	Feb 12	288.2	94.4	4.0	41.4
Jan 13	203.1	0.0	6.0	39.9	Feb 13	252.8	110.5	4.0	41.1
Jan 14	207.8	0.0	6.0	40.1	Feb 14	241.1	110.4	5.0	40.9
Jan 15	190.5	0.0	6.0	40.2	Feb 15	240.0	110.2	4.5	40.5
Jan 16	198.4	0.0	6.0	40.4	Feb 16	240.2	116.7	5.0	40.2
Jan 17	198.8	0.0	6.0	40.7	Feb 17	236.9	112.3	5.0	40.0
Jan 18	196.9	0.0	6.0	40.9	Feb 18	225.6	116.7	4.5	39.9
Jan 19	199.0	0.0	6.0	41.0	Feb 19	247.6	108.4	6.0	39.6
Jan 20	194.3	0.0	6.0	41.1	Feb 20	238.1	105.8	6.0	39.5
Jan 21	202.0	0.0	6.0	41.1	Feb 21	235.9	95.2	6.0	39.3
Jan 22	190.2	0.0	6.0	41.0	Feb 22	225.2	94.0	5.5	39.0
Jan 23	187.3	0.0	6.0	40.9	Feb 23	223.5	96.5	5.5	38.6
Jan 24	196.8	0.0	6.0	40.9	Feb 24	225.5	96.3	5.5	38.5
Jan 25	198.3	0.0	6.0	40.7	Feb 25	226.0	80.7	5.0	38.3
Jan 26	189.0	0.0	6.0	40.6	Feb 26	209.9	81.6	5.0	38.1
Jan 27	186.8	0.0	6.0	40.6	Feb 27	208.9	85.8	5.5	38.1
Jan 28	187.9	0.0	6.0	40.6	Feb 28	209.0	80.0	5.5	38.2
Jan 29	186.2	0.0	6.0	40.6					
Jan 30	191.3	0.0	6.0	40.6					
Jan 31	185.2	0.0	6.0	40.6					
AVG.	184.3	0.0	6.0	40.4	AVG.	230.5	75.2	5.2	40.2

TABLE 53

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

DATE	JOHN DAY PROJECT - FISH COUNTS													MARCH 2018			
	CHINOOK ADULT			CHINOOK	COHO	COHO	unclipped		PINK	CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD					STEELHEAD	KCFS	KCFS	SECCHI	DEG F
Mar 1	0			0				1	1				210.9	77.2	6.0	38.3	
Mar 2	0			0				4	0				212.3	67.7	6.0	38.4	
Mar 3	0			0				0	0				213.3	59.9	6.0	38.4	
Mar 4	2			0				1	1				208.3	44.6	6.0	38.6	
Mar 5	0			0				1	1				192.1	63.8	6.0	38.8	
Mar 6	1			0				1	0				212.7	49.3	6.0	38.9	
Mar 7	0			0				1	0				199.7	29.6	6.0	39.1	
Mar 8	-1			0				1	1				179.9	29.8	6.0	39.4	
Mar 9	0			0				5	0				180.0	33.7	6.0	39.7	
Mar 10	0			0				10	4				184.3	53.0	6.0	40.1	
Mar 11	0			0				10	5				202.6	51.2	6.0	40.5	
Mar 12	0			-1				18	2				200.9	54.7	6.0	41.0	
Mar 13	0			0				13	2				203.5	53.0	6.0	41.3	
Mar 14	2			0				7	0				203.6	47.7	6.0	41.6	
Mar 15	0			0				6	4				189.1	64.9	6.0	42.0	
Mar 16	0			0				25	6				194.3	63.0	6.0	42.4	
Mar 17	0			0				6	3				197.2	54.5	6.0	42.6	
Mar 18	0			0				13	4				205.6	47.0	6.0	42.8	
Mar 19	0			0				13	1				198.3	49.9	5.5	43.0	
Mar 20	1			0				18	8				201.3	38.6	5.0	43.2	
Mar 21	0			0				8	4				187.3	53.3	5.0	43.4	
Mar 22	2			0				8	4				199.5	46.4	5.0	43.6	
Mar 23	0			0				11	8				202.3	19.8	5.0	43.7	
Mar 24	1			0				10	4				190.8	19.4	6.0	43.8	
Mar 25	0			0				6	2				190.5	15.1	6.0	43.7	
Mar 26	0			0				9	5				187.0	22.6	6.0	43.8	
Mar 27	0			0				4	2				188.2	28.2	6.0	44.0	
Mar 28	1			0				7	3				194.0	12.3	6.0	44.2	
Mar 29	0			0				7	6				183.2	17.7	6.0	44.3	
Mar 30	1			0				5	1				188.5	3.9	6.0	44.5	
Mar 31	1			0				6	3				172.9	0.0	6.0	44.8	
TOTAL	11			-1				235	85								
AVG.													195.9	41.0	5.9	41.7	

Note: From February 21 to March 31, counts were from video tape. The counts are 16-hour counts and occurred between the hours of 0400-2000 PST.

TABLE 54

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT - FISH COUNTS

APRIL 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL													SECCHI	DEG F
Apr 1	1			0				7	5					181.4	0.0	6.0	45.0
Apr 2	2			0				5	4					183.9	0.0	6.0	45.0
Apr 3	0			0				5	4					176.6	0.0	6.0	45.1
Apr 4	1			0				6	6					204.2	0.0	6.0	45.2
Apr 5	0			0				3	2					199.1	0.0	6.0	45.3
Apr 6	3			0				2	1					213.3	0.0	6.0	45.5
Apr 7	4			0				4	3					228.8	0.0	4.5	45.7
Apr 8	4			0				4	2					234.7	12.0	4.5	45.5
Apr 9	2			0				9	4					246.3	14.2	4.5	45.8
Apr 10	10			1				7	6					251.7	137.8	4.5	46.2
Apr 11	2			0				7	3					271.4	136.7	4.5	46.3
Apr 12	2			0				5	3					270.0	139.9	5.0	46.4
Apr 13	5			0				8	4					257.6	141.3	5.0	46.6
Apr 14	11			0				4	1					292.3	144.0	5.0	46.9
Apr 15	4			1				5	5					281.0	145.0	5.0	47.4
Apr 16	1			1				5	4					283.7	142.9	5.0	47.5
Apr 17	8			0				4	2					264.3	143.0	5.0	47.4
Apr 18	2			1				4	2					291.2	143.1	4.5	47.8
Apr 19	12			1				4	2					302.0	142.0	4.5	48.1
Apr 20	13			0				2	0					312.8	139.8	4.0	48.7
Apr 21	16			2				3	2					295.9	139.5	3.0	48.9
Apr 22	11			0				1	1					289.3	138.1	3.0	49.2
Apr 23	11			0				3	1					267.6	133.4	3.0	49.7
Apr 24	21			0				0	0					290.7	126.8	3.0	50.0
Apr 25	22			1				1	1					280.1	116.8	3.0	50.5
Apr 26	38			1				1	1					276.2	106.7	4.0	50.9
Apr 27	49			2				4	4					284.3	96.7	4.0	51.1
Apr 28	55			2				1	1					293.5	95.4	4.0	51.1
Apr 29	112			6				0	0					286.6	128.1	4.0	51.6
Apr 30	163			8				1	0					336.8	126.7	6.0	52.0
TOTAL	585			27				115	74								
AVG.	20			1				4	2					261.6	93.0	4.6	47.7

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

TABLE 55

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

JOHN DAY PROJECT - FISH COUNTS

MAY 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped	PINK	CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT			JACK					STEELHEAD	KCFS	KCFS	SECCHI
May 1	324			7		0	0	0			0		345.9	146.1	6.0	52.3
May 2	403			17		0	1	1			0		334.6	146.7	6.0	52.6
May 3	482			24		0	0	0			0		336.5	135.4	6.0	53.1
May 4	456			10		0	0	0			0		337.3	112.6	6.0	53.4
May 5	497			7		0	0	0			0		323.8	155.0	6.0	54.0
May 6	872			26		0	0	0			1		352.8	160.2	6.0	54.1
May 7	1,481			84		0	1	1			1		366.9	181.6	4.0	54.1
May 8	1,716			84		0	5	5			5		388.7	210.9	4.0	54.2
May 9	2,158			121		0	3	2			2		424.6	219.8	4.0	54.0
May 10	2,845			138		0	0	0			2		420.9	220.2	4.5	54.2
May 11	2,632			225		0	1	1			0		429.4	246.9	4.0	54.2
May 12	1,766			212		0	1	0			0		456.7	270.2	4.0	54.1
May 13	1,491			149		0	0	0			6		489.3	262.5	4.0	54.4
May 14	1,143			141		0	0	0			4		486.0	257.8	4.0	55.2
May 15	919			116		0	1	1			10		481.0	265.7	3.5	55.5
May 16	1,012			119		0	1	1			7		487.1	275.5	3.5	55.6
May 17	1,156			158		0	0	0			5		494.8	285.1	3.0	55.7
May 18	1,357			240		0	0	0			6		498.6	285.5	3.0	55.9
May 19	1,592			213		0	0	0			5		500.5	285.6	3.0	56.1
May 20	2,158			343		0	2	2			2		500.1	285.4	3.0	56.1
May 21	1,130			216		0	1	0			2		500.2	284.3	3.0	56.3
May 22	1,441			233		0	2	2			18		500.4	280.5	3.0	56.7
May 23	1,791			321		0	1	1			1		493.5	270.1	3.0	57.4
May 24	2,258			282		0	2	1			36		497.6	270.2	3.5	57.6
May 25	2,767			324		1	0	0			5		497.5	256.3	3.5	57.8
May 26	2,336			253		0	1	0			8		486.1	228.1	3.5	57.9
May 27	1,795			185		0	2	2			1		480.5	221.5	3.0	58.1
May 28	1,822			162		0	2	1			2		485.9	199.6	3.5	58.4
May 29	1,174			112		0	1	0			0		464.3	210.9	3.0	58.6
May 30	1,048			74		2	2	0			17		453.3	217.8	3.0	58.8
May 31	779			78		2	1	0			8		451.6	159.2	2.5	58.9
TOTAL	44,801			4,674		5	31	21			154					
AVG.	1445			151		0	1	1			5		444.1	226.0	3.9	55.7
RUN YEAR		CHINOOK	CHINOOK					unclipped								
TOTALS TO DATE		ADULT	JACK			SOCKEYE	STEELHEAD	STEELHEAD			LAMPREY					
SPRING		45,386	4,701			5	146	95			154					

TABLE 56

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT - FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER													FALL	SECCHI
Jun 1	1,062		78			2	1	1			-5		404.7	144.7	2.5	58.9
Jun 2	1,031		90			9	1	0			13		396.8	156.1	3.0	59.0
Jun 3	960		79			14	5	2			5		420.1	114.0	3.0	58.8
Jun 4	1,010		65			25	2	0			4		374.3	105.0	3.0	58.8
Jun 5	1,112		41			66	7	5			-4		364.6	114.5	3.5	59.0
Jun 6		1,110	57			103	3	2			-5		344.3	126.8	3.5	59.4
Jun 7		1,141	56			205	2	0			1		354.6	91.1	3.5	59.8
Jun 8		1,068	67			340	2	0			16		323.9	91.7	3.0	60.0
Jun 9		1,007	70			410	6	1			11		295.1	95.1	3.5	60.1
Jun 10		861	84			549	10	5			20		297.6	96.7	3.0	60.0
Jun 11		817	74			776	10	7			15		292.1	103.3	3.0	60.0
Jun 12		1,402	102			917	12	9			3		297.0	114.7	3.5	60.1
Jun 13		1,362	93			1,136	16	8			4		308.5	126.7	4.0	60.0
Jun 14		1,348	72			1,298	14	12			13		242.6	133.3	4.5	60.1
Jun 15		842	30			1,136	15	8			20		234.2	140.1	4.5	60.5
Jun 16		1,145	84			2,150	12	6			12		233.8	86.3	5.0	60.8
Jun 17		1,530	84			3,296	20	11			16		215.1	82.8	5.0	61.5
Jun 18		1,505	94			5,061	49	33			27		207.3	82.8	5.0	61.9
Jun 19		1,036	85			3,775	18	9			36		214.7	67.6	5.0	62.5
Jun 20		1,094	156			4,500	28	19			63		226.0	70.4	4.5	63.3
Jun 21		1,146	87			7,169	44	25			23		224.3	89.9	5.0	63.4
Jun 22		1,265	218			8,463	46	32			70		226.1	79.2	5.0	63.8
Jun 23		1,127	140			9,253	63	39			131		205.2	70.4	5.0	64.0
Jun 24		1,097	191			10,280	38	26			114		233.3	79.9	5.0	64.7
Jun 25		1,812	189			10,285	76	45			131		254.2	98.3	5.0	64.8
Jun 26		1,354	85			9,394	57	30			149		246.5	101.1	5.0	65.3
Jun 27		876	78			8,384	47	22			215		260.7	110.0	5.5	65.8
Jun 28		1,101	54			7,554	40	46			146		266.6	79.6	5.5	65.9
Jun 29		925	184			7,386	78	36			154		253.9	101.3	5.5	65.8
Jun 30		978	119			7,016	94	48			145		253.2	88.4	5.5	66.0

TOTAL	5,175	28,949	2,906			110,952	816	487			1,543		282.4	101.4	4.3	61.8
AVG.	1035	1,158	97			3,698	27	16			51					

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	50,561	5,054
SUMMER	28,949	2,553
TOTAL	79,510	7,607

SOCKEYE	STEELHEAD	unclipped STEELHEAD	LAMPREY
110,957	962	582	1,697

TABLE 57

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

JOHN DAY PROJECT - FISH COUNTS

JULY 2018

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		1,055		133			6,539	105	74				189	228.0	60.4	5.5	66.1
Jul 2		1,084		83			6,526	130	88				189	200.9	55.6	5.5	65.8
Jul 3		622		108			4,930	118	78				203	178.3	78.7	5.5	65.8
Jul 4		617		70			3,701	146	97				197	196.4	62.1	5.0	66.4
Jul 5		486		91			4,084	89	61				281	158.8	48.2	5.0	66.2
Jul 6		524		66			4,544	98	59				129	159.7	52.6	5.0	66.1
Jul 7		754		63			4,517	146	85				148	168.7	64.2	5.0	66.2
Jul 8		746		61			3,454	171	116				94	160.5	65.7	5.0	66.4
Jul 9		834		61			3,913	203	128				105	169.6	46.7	6.0	66.6
Jul 10		671		123			3,394	226	131				222	155.3	55.0	6.0	66.8
Jul 11		543		53			1,630	225	151				246	174.4	80.1	6.0	67.2
Jul 12		362		54			1,384	188	107				169	200.0	76.1	6.0	67.8
Jul 13		311		47			983	188	111				210	194.8	48.8	6.0	67.8
Jul 14		382		66			1,365	257	122				249	162.3	57.2	6.0	68.1
Jul 15		357		39			917	329	181				302	182.7	66.5	6.0	69.3
Jul 16		507		58			924	339	205				227	165.3	77.4	6.0	69.5
Jul 17		303		34			564	244	143				146	199.5	52.8	6.0	69.3
Jul 18		420		55			585	295	158				137	175.4	52.7	6.0	69.6
Jul 19		401		30			498	354	203				172	166.5	68.2	6.0	69.9
Jul 20		284		35			361	283	143				185	170.9	61.3	6.0	69.9
Jul 21		280		30			314	190	102				125	159.2	53.6	6.0	70.0
Jul 22		137		18			236	133	73				81	178.8	41.5	6.0	70.2
Jul 23		206		39			273	194	105				110	138.9	51.1	6.0	70.6
Jul 24		239		33			318	173	86				141	171.9	57.9	6.0	70.4
Jul 25		197		40			254	152	75				85	191.9	45.6	6.0	70.6
Jul 26		253		38			267	158	90				118	151.5	50.6	6.0	70.9
Jul 27		204		23			189	160	105				85	168.8	50.6	6.0	71.2
Jul 28		214		19			163	162	103				95	169.4	48.0	6.0	71.6
Jul 29		157		19			150	132	86				61	159.6	50.5	6.0	72.1
Jul 30		131		22			80	190	108				119	168.5	54.3	6.0	72.7
Jul 31		138		24			63	111	64				78	181.1	51.1	6.0	72.4
TOTAL		13,419		1,635			57,120	5,889	3,438				4,898				
AVG		433		53			1,843	190	111				158	174.4	57.6	5.8	68.8
RUN YEAR		CHINOOK	CHINOOK						unclipped								
TOTALS TO DATE		ADULT	JACK				SOCKEYE	STEELHEAD	STEELHEAD				LAMPREY				
SPRING		50,561	5,054				168,077	6,851	4,020				6,595				
SUMMER		42,368	4,188														
TOTAL		92,929	9,242														

TABLE 58

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT. PORTLAND

JOHN DAY PROJECT - FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT								JACK	KCFS	KCFS	SECCHI
Aug 1		126		26	0	0	59	101	47		56	0	169.2	41.7	6.0	72.3
Aug 2		98		18	0	0	31	71	38		107	0	139.0	40.0	6.0	72.2
Aug 3		80		24	0	0	27	54	26		108	0	134.2	34.4	6.0	72.0
Aug 4		73		13	0	0	38	61	32		117	0	114.8	39.5	6.0	72.0
Aug 5		90		24	1	0	29	62	43		132	0	131.5	37.3	6.0	72.2
Aug 6			70	15	0	0	30	58	31		64	0	126.0	46.6	6.0	72.4
Aug 7			120	24	0	0	8	61	41		47	0	155.8	44.1	6.0	72.7
Aug 8			73	22	0	0	11	51	28		31	0	147.4	43.5	6.0	72.7
Aug 9			83	15	0	0	13	56	31		26	0	145.4	43.9	6.0	72.5
Aug 10			127	41	0	2	9	70	41		27	-1	147.2	47.2	6.0	72.4
Aug 11			89	18	0	0	18	47	29		42	0	157.4	41.1	6.0	72.3
Aug 12			88	19	0	0	7	52	28		63	0	136.4	35.8	6.0	72.4
Aug 13			48	12	1	2	3	37	19		33	0	119.4	37.0	6.0	72.6
Aug 14			77	22	1	1	4	49	26		82	0	123.5	42.9	6.0	72.7
Aug 15			95	24	0	0	2	33	19		53	0	142.8	46.1	6.0	72.6
Aug 16			126	30	0	0	1	40	14		45	0	154.2	41.0	6.0	72.3
Aug 17			252	42	0	0	2	49	13		30	0	136.7	35.5	6.0	72.0
Aug 18			109	15	0	0	4	35	23		39	0	118.3	32.1	6.0	72.0
Aug 19			284	42	6	0	3	60	29		32	0	107.2	31.8	6.0	72.0
Aug 20			205	12	4	1	3	73	34		23	0	106.4	39.1	6.0	72.3
Aug 21			336	48	2	1	8	61	22		18	0	130.0	43.1	6.0	72.5
Aug 22			412	42	1	0	2	42	14		26	0	143.5	46.3	6.0	72.3
Aug 23			619	80	1	0	2	79	25		36	0	154.3	41.0	6.0	72.0
Aug 24			970	103	9	4	6	177	78		43	0	137.1	37.1	6.0	71.4
Aug 25			897	114	11	0	6	136	50		28	0	123.5	44.5	6.0	70.9
Aug 26			1,088	119	30	6	13	248	80		41	0	148.8	45.9	6.0	70.4
Aug 27			1,691	192	46	0	12	580	199		19	0	153.4	38.2	6.0	70.0
Aug 28			1,347	156	58	15	1	423	169		20	0	126.4	43.4	6.0	69.9
Aug 29			976	100	45	11	10	398	165		15	0	145.2	42.5	6.0	69.6
Aug 30			1,622	214	145	8	6	593	195		13	0	136.3	38.8	6.0	69.2
Aug 31			1,848	237	199	19	1	910	300		30	0	129.2	34.3	6.0	68.7
TOTAL		467	13,652	1,863	560	70	369	4,767	1,889		1,446	-1				

AVG.	93	525	60	18	2	12	154	61			47	0	136.8	40.5	6.0	71.7
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	50,561	5,054
SUMMER	42,835	4,293
FALL	13,652	1,758
TOTAL	107,048	11,105

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	LAMPREY	STURGEON
560	70	168,446	11,618	5,909	8,041	-1

TABLE 59

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

JOHN DAY PROJECT - FISH COUNTS

SEPTEMBER 2018

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
Sep 1			2,823	405	385	92	12	1,139	358			28	0	114.9	0.9	6.0	68.3
Sep 2			3,504	254	467	33	1	1,162	327			26	0	98.1	0.9	6.0	68.3
Sep 3			2,869	349	707	137	2	1,131	337			11	0	101.1	1.0	6.0	68.4
Sep 4			2,373	262	462	60	1	1,096	306			34	0	98.0	0.9	6.0	68.5
Sep 5			2,262	387	547	103	0	1,219	358			37	0	104.3	0.9	6.0	68.7
Sep 6			2,025	419	447	48	1	1,185	346			17	0	96.2	0.9	6.0	68.7
Sep 7			2,377	314	460	22	1	1,127	295			39	0	100.5	1.1	6.0	68.4
Sep 8			3,651	696	958	96	0	2,116	486			30	0	104.8	0.9	6.0	68.3
Sep 9			3,390	342	659	26	1	1,499	361			33	0	84.6	1.0	6.0	68.3
Sep 10			3,364	608	883	146	1	1,477	354			25	0	77.6	0.9	6.0	68.2
Sep 11			2,333	303	338	61	0	1,078	302			30	-1	80.2	1.6	6.0	68.1
Sep 12			1,818	422	405	152	1	910	271			15	0	97.7	0.9	6.0	68.0
Sep 13			2,226	278	272	27	0	726	173			22	0	91.8	1.2	6.0	67.9
Sep 14			2,096	370	322	140	0	837	183			43	0	74.0	0.9	6.0	67.8
Sep 15			3,087	448	487	65	-1	1,555	388			11	0	97.8	0.9	6.0	67.6
Sep 16			1,937	350	365	115	0	1,667	414			11	0	91.5	0.9	6.0	67.4
Sep 17			1,592	349	348	90	0	1,655	368			23	0	80.7	1.2	6.0	67.2
Sep 18			2,764	312	282	31	0	1,452	362			31	0	97.6	2.1	6.0	67.1
Sep 19			2,321	567	331	43	0	1,904	476			6	0	93.9	0.9	6.0	66.9
Sep 20			3,306	491	518	24	0	2,449	654			9	0	81.3	1.0	6.0	66.5
Sep 21			1,307	282	490	95	1	1,848	449			3	0	70.3	0.9	6.0	66.4
Sep 22			1,351	281	374	36	1	1,836	516			9	0	81.2	0.9	6.0	66.2
Sep 23			2,130	360	446	89	1	1,779	460			6	0	71.4	0.9	6.0	65.8
Sep 24			3,843	492	236	28	0	1,571	382			7	1	59.0	0.9	6.0	65.7
Sep 25			3,213	627	438	69	0	1,946	473			1	0	91.0	0.9	6.0	65.8
Sep 26			3,556	900	358	54	0	1,608	404			1	0	122.8	0.9	6.0	65.7
Sep 27			2,874	822	316	75	0	1,613	388			-5	0	94.9	0.9	6.0	65.7
Sep 28			1,984	406	246	68	0	1,328	313			-2	0	94.7	0.9	6.0	65.6
Sep 29			1,578	339	185	108	0	1,490	391			2	0	86.9	0.7	6.0	65.5
Sep 30			1,145	248	137	53	0	1,141	260			4	0	76.6	0.8	6.0	65.4
TOTAL			75,099	12,683	12,869	2,186	23	43,544	11,155			507	0				
AVG.			2,503	423	429	73	1	1,451	372			17	0	90.5	1.0	6.0	67.2

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	50,561	5,054
SUMMER	42,835	4,293
FALL	88,751	14,441
TOTAL	182,147	23,788

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
13,429	2,256	168,469	55,162	17,064

LAMPREY	STURGEON
8,548	-1

TABLE 60

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

JOHN DAY PROJECT - FISH COUNTS

OCTOBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT								JACK	KCFS	KCFS	SECCHI	DEG F
Oct 1			1,303	324	135	74		1,050	297				84.7	0.9	6.0	65.2	
Oct 2			1,103	224	101	51		952	256				77.6	0.9	6.0	65.0	
Oct 3			2,524	411	261	33		1,312	400				63.3	0.9	6.0	64.6	
Oct 4			1,134	284	143	30		802	250				85.2	0.9	6.0	64.3	
Oct 5			827	261	107	20		737	218				85.3	0.9	6.0	63.8	
Oct 6			664	199	75	29		640	167				84.7	1.1	6.0	63.6	
Oct 7			662	175	91	70		758	246				71.4	0.8	6.0	63.4	
Oct 8			803	200	230	73		1,159	384				70.2	0.8	6.0	63.3	
Oct 9			1,326	479	281	28		1,278	396				70.6	0.8	6.0	63.2	
Oct 10			890	176	259	7		862	288				73.9	1.0	6.0	62.9	
Oct 11			612	281	147	16		676	218				88.7	0.8	6.0	62.5	
Oct 12			663	130	171	2		665	252				88.3	0.8	6.0	62.0	
Oct 13			428	149	122	20		590	202				88.3	0.8	6.0	61.7	
Oct 14			208	70	35	6		365	131				81.3	0.8	6.0	61.4	
Oct 15			255	79	44	12		318	97				85.0	0.8	6.0	61.1	
Oct 16			270	101	66	9		290	89				99.1	1.3	6.0	60.9	
Oct 17			164	70	31	12		202	94				85.8	0.8	6.0	60.6	
Oct 18			180	67	24	2		273	105				81.5	0.8	6.0	60.4	
Oct 19			105	45	31	3		199	68				79.4	0.8	6.0	60.2	
Oct 20			90	51	40	10		271	96				82.1	0.8	6.0	60.0	
Oct 21			336	36	34	2		227	94				67.0	0.8	6.0	59.8	
Oct 22			308	122	75	6		251	90				68.4	0.8	6.0	59.6	
Oct 23			200	61	30	17		193	78				91.1	0.8	6.0	59.3	
Oct 24			423	94	72	17		181	69				102.7	0.8	6.0	59.0	
Oct 25			246	42	52	20		160	77				119.8	0.8	6.0	58.7	
Oct 26			352	73	66	14		204	91				108.2	0.7	6.0	58.5	
Oct 27			315	80	78	7		205	88				112.8	0.8	6.0	58.5	
Oct 28			196	42	36	8		297	177				103.6	0.6	6.0	58.3	
Oct 29			231	55	72	11		333	182				83.8	0.8	6.0	58.1	
Oct 30			115	36	56	10		226	140				89.4	0.7	6.0	57.9	
Oct 31			255	43	92	10		172	76				85.2	0.7	6.0	57.7	
TOTAL			17,188	4,460	3,057	629		15,848	5,416								
AVG.			554	144	99	20		511	175				85.8	0.8	6.0	61.1	

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	50,561	5,054
SUMMER	42,835	4,293
FALL	105,939	18,901
TOTAL	199,335	28,248

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
16,486	2,885	168,469	71,010	22,480

LAMPREY	STURGEON
8,542	-1

Note: Visual counts ended October 31.

TABLE 61

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT - FISH COUNTS

NOVEMBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT										JACK	SECCHI
Nov 1			378	20	36	0	138	56			0	0	90.4	0.7	6.0	57.7
Nov 2			207	10	16	1	158	53			0	0	86.8	0.7	6.0	57.6
Nov 3			168	6	12	0	253	153			0	0	119.4	0.7	6.0	57.4
Nov 4			253	14	13	0	278	162			0	0	125.3	0.7	6.0	57.2
Nov 5			296	32	29	3	241	121			0	0	112.0	1.3	6.0	57.2
Nov 6			160	25	27	11	152	85			0	0	118.4	0.7	6.0	56.9
Nov 7			76	7	15	6	83	37			0	0	114.9	0.7	6.0	56.6
Nov 8			53	5	19	3	63	27			-1	0	122.5	0.0	6.0	56.4
Nov 9			43	10	7	1	57	26			0	0	121.3	0.7	6.0	56.2
Nov 10			21	7	2	1	47	23			0	0	126.4	0.7	6.0	55.8
Nov 11			22	3	13	3	43	9			0	0	119.0	0.7	6.0	55.4
Nov 12			25	9	3	0	24	10			0	0	134.7	0.7	6.0	54.9
Nov 13			25	8	5	0	32	14			0	1	138.3	0.8	6.0	54.3
Nov 14			89	16	9	2	23	6			0	-1	133.3	0.7	6.0	53.8
Nov 15			35	1	6	1	19	9			0	0	123.4	0.7	6.0	53.3
Nov 16			17	1	8	1	13	9			0	0	119.6	0.7	6.0	53.1
Nov 17			9	0	2	0	15	8			0	0	120.8	0.7	6.0	52.8
Nov 18			22	2	5	0	11	5			0	0	121.8	0.7	6.0	52.4
Nov 19			14	1	1	1	12	4			0	0	127.8	0.7	6.0	52.0
Nov 20			11	3	4	0	10	5			0	0	129.0	0.8	6.0	51.5
Nov 21			10	3	0	0	6	3			0	0	129.8	0.7	6.0	51.0
Nov 22			10	1	1	0	3	0			0	0	121.6	0.7	6.0	50.2
Nov 23			3	1	2	0	5	3			0	0	118.2	0.7	6.0	49.7
Nov 24			8	1	4	1	6	5			0	0	116.9	0.7	6.0	49.4
Nov 25			8	-1	3	0	8	5			0	0	119.8	0.7	6.0	49.2
Nov 26			11	0	7	-2	7	2			1	0	118.8	0.6	6.0	48.8
Nov 27			5	0	3	0	5	3			0	0	117.7	0.7	6.0	48.5
Nov 28			6	0	3	0	6	0			0	0	109.3	0.7	6.0	48.2
Nov 29			6	3	2	1	20	9			0	0	108.9	0.7	6.0	48.0
Nov 30			5	6	6	2	29	14			0	0	116.5	0.7	6.0	47.9
TOTAL			1,996	194	263	36	1,767	866			0	0				
AVG.			67	6	9	1	59	29			0	0	119.4	0.7	6.0	53.1

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	LAMPREY	STURGEON
TOTALS TO DATE	50,561	5,054	16,486	2,885	168,469	71,010	22,480	8,542	-1
SPRING	42,835	4,293							
SUMMER	105,939	18,901							
FALL	199,335	28,248							
TOTAL									

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 62

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT - FISH COUNTS

DECEMBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped	PINK	CHUM	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT			JACK							STEELHEAD	SECCHI
Dec 1			5	2	7	-3		24	9				116.3	0.0	6.0	47.8
Dec 2			10	0	4	0		7	1				115.0	0.0	6.0	47.6
Dec 3			7	0	2	0		10	7				112.7	0.0	6.0	47.5
Dec 4			4	0	1	0		3	2				123.8	0.0	6.0	47.3
Dec 5			9	1	0	0		3	1				126.5	0.0	6.0	47.2
Dec 6			1	-1	0	0		3	2				132.1	0.0	6.0	47.0
Dec 7			0	0	-1	0		8	4				126.3	0.0	6.0	46.8
Dec 8			3	0	0	0		0	0				142.5	0.0	6.0	46.6
Dec 9			1	0	0	0		1	0				132.7	0.0	6.0	46.3
Dec 10			5	-1	1	0		4	3				128.8	0.0	6.0	46.2
Dec 11			-1	-1	1	0		1	0				124.9	0.0	6.0	46.2
Dec 12			7	0	0	-1		3	0				125.6	0.0	6.0	46.1
Dec 13			3	1	2	0		2	0				119.2	0.0	6.0	45.9
Dec 14			0	0	1	0		1	1				126.5	0.0	6.0	45.6
Dec 15			3	0	3	0		9	6				114.1	0.0	6.0	45.5
Dec 16			4	0	2	0		7	5				118.9	0.0	6.0	45.3
Dec 17			2	0	3	3		2	1				118.7	0.0	6.0	45.2
Dec 18			0	4	3	0		4	2				111.3	0.0	6.0	45.1
Dec 19			0	0	5	-1		9	6				110.2	0.0	6.0	45.0
Dec 20			1	0	3	1		10	5				103.9	0.0	6.0	44.9
Dec 21			2	3	6	5		32	16				103.2	0.0	6.0	44.8
Dec 22			0	0	19	6		38	10				104.7	0.0	6.0	44.7
Dec 23			1	0	16	8		41	26				102.0	0.0	6.0	44.7
Dec 24			0	0	7	1		8	5				118.4	0.0	6.0	44.7
Dec 25			0	0	2	0		29	19				113.2	0.0	6.0	44.6
Dec 26			0	0	1	1		24	9				100.4	0.0	6.0	44.5
Dec 27			2	0	0	1		20	12				106.9	0.0	6.0	44.3
Dec 28			0	0	0	1		15	10				102.3	0.0	6.0	44.1
Dec 29			0	0	2	0		10	3				125.7	0.0	6.0	44.0
Dec 30			0	0	10	0		4	1				101.2	0.0	6.0	43.8
Dec 31			0	0	10	0		8	6				100.2	0.0	6.0	43.8
TOTAL			69	8	110	22		340	172							
AVG.			2	0	4	1		11	6				116.4	0.0	6.0	45.6

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	CHUM	LAMPREY	STURGEON
TOTALS TO DATE											
SPRING	50,561	5,054	16,486	2,885	168,469	71,010	22,480	0	0	8,542	-1
SUMMER	42,835	4,293									
FALL	105,939	18,901									
TOTAL	199,335	28,248									

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 63

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT - NIGHT FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped		PINK	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT			JACK	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		17		0		47	0	0			54
Jun 16		18		0		130	2	2			96
Jun 17		27		0		240	0	0			102
Jun 18		70		7		402	0	0			96
Jun 19		26		1		350	2	0			167
Jun 20		24		0		266	1	0			173
Jun 21		35		3		710	0	0			131
Jun 22		27		0		752	1	0			109
Jun 23		19		6		1,109	3	1			272
Jun 24		31		1		700	0	0			347
Jun 25		37		8		767	1	1			145
Jun 26		34		0		776	0	0			332
Jun 27		39		2		1,146	1	0			436
Jun 28		21		2		404	5	3			393
Jun 29		25		0		587	6	6			394
Jun 30		26		4		970	0	0			442
TOTAL		476		34		9,356	22	13			3,689
AVG.		30		2		585	1	1			231

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

JULY 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	LAMPREY
	SPRING	SUMMER	FALL								
Jul 1		12		4			791	0	0		472
Jul 2		7		4			612	1	1		441
Jul 3		13		0			277	7	3		388
Jul 4		13		1			356	2	1		654
Jul 5		16		2			480	0	0		307
Jul 6		17		3			492	3	3		273
Jul 7		9		3			332	3	2		322
Jul 8		3		0			386	2	2		373
Jul 9		10		0			290	1	0		356
Jul 10		13		0			230	0	-1		362
Jul 11		2		0			105	2	1		437
Jul 12		5		0			64	5	3		424
Jul 13		5		0			89	0	0		440
Jul 14		3		0			150	3	2		432
Jul 15		10		0			120	3	1		379
Jul 16		8		1			71	3	3		123
Jul 17		6		0			84	2	2		154
Jul 18		4		0			93	4	2		245
Jul 19		5		1			110	5	1		346
Jul 20		5		0			71	5	3		350
Jul 21		0		0			53	14	13		220
Jul 22		2		0			33	1	1		219
Jul 23		6		0			55	3	3		189
Jul 24		5		0			33	3	3		209
Jul 25		3		0			52	1	0		161
Jul 26		5		0			36	14	11		238
Jul 27		2		0			63	5	4		269
Jul 28		5		0			28	4	3		187
Jul 29		1		0			19	9	7		241
Jul 30		6		0			25	2	1		232
Jul 31		3		0			19	1	1		172
TOTAL		204		19			5,619	108	76		9,615

AVG

7

1

181

3

2

310

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

TABLE 65

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT - NIGHT FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	LAMPREY	
	SPRING	SUMMER									FALL
Aug 1		6		0	0	0	11	5	4		142
Aug 2		2		1	1	0	17	3	1		166
Aug 3		4		0	0	0	6	0	0		171
Aug 4		1		0	0	0	4	1	1		219
Aug 5		5		0	0	1	5	1	0		190
Aug 6			4	0	0	0	6	4	3		167
Aug 7			2	0	0	0	3	-1	-1		156
Aug 8			4	0	0	0	0	4	1		87
Aug 9			4	1	0	0	2	1	0		109
Aug 10			4	-1	0	0	2	1	0		95
Aug 11			1	0	0	0	4	0	0		171
Aug 12			4	0	0	0	3	1	1		138
Aug 13			3	0	0	0	2	5	2		113
Aug 14			6	0	0	0	0	0	0		134
Aug 15			3	2	0	0	2	0	0		138
Aug 16			3	0	0	0	1	3	2		77
Aug 17			5	1	0	0	1	1	1		124
Aug 18			7	0	0	0	2	1	1		95
Aug 19			3	0	0	0	0	1	1		45
Aug 20			6	0	0	0	1	3	2		63
Aug 21			9	1	0	0	0	1	1		92
Aug 22			5	0	0	0	0	0	0		93
Aug 23			6	0	1	0	0	10	4		78
Aug 24			14	2	5	0	0	12	6		51
Aug 25			11	0	0	0	0	14	8		52
Aug 26			27	1	4	0	0	26	11		34
Aug 27			13	2	4	1	0	35	18		36
Aug 28			11	0	1	1	0	28	15		39
Aug 29			8	0	3	0	0	16	6		31
Aug 30			8	1	4	0	0	41	7		62
Aug 31			17	2	6	1	0	44	9		62
TOTAL		18	188	13	29	4	72	261	104		3,230
AVG.		4	7	0	1	0	2	8	3		104

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

TABLE 66

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

JOHN DAY PROJECT - NIGHT FISH COUNTS

SEPTEMBER 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped	PINK	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK			STEELHEAD		
Sep 1			9	1	11	1	0	58	21		29
Sep 2			4	0	7	3	0	42	8		30
Sep 3			10	0	4	1	0	40	9		39
Sep 4			6	0	11	0	0	59	8		59
Sep 5			21	0	14	0	0	81	22		65
Sep 6			9	2	3	0	0	51	8		61
Sep 7			10	2	19	4	0	79	19		69
Sep 8			10	1	27	3	0	88	19		80
Sep 9			7	3	24	2	0	91	20		99
Sep 10			12	2	15	1	0	47	10		43
Sep 11			9	1	12	0	0	78	13		68
Sep 12			10	2	9	1	0	39	7		79
Sep 13			10	2	5	0	0	45	10		83
Sep 14			16	10	2	0	0	57	5		12
Sep 15			7	1	2	1	0	69	12		31
Sep 16			10	0	6	1	0	84	17		45
Sep 17			8	0	3	1	0	79	11		38
Sep 18			9	2	5	0	0	83	19		28
Sep 19			16	0	4	0	0	82	18		29
Sep 20			9	1	13	1	0	106	28		14
Sep 21			8	3	10	4	0	49	17		8
Sep 22			20	2	9	3	0	98	38		2
Sep 23			15	5	13	1	0	116	21		4
Sep 24			21	0	8	2	0	141	26		25
Sep 25			1	2	1	0	0	87	28		39
Sep 26			13	0	6	1	0	67	14		20
Sep 27			6	1	5	0	0	60	16		19
Sep 28			4	4	2	0	0	68	13		2
Sep 29			2	1	1	0	0	55	15		7
Sep 30			9	0	5	0	0	57	13		16
TOTAL			301	48	256	31	0	2,156	485		1,143
AVG.			10	2	9	1	0	72	16		38

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

TABLE 67

YEARLY TOTALS OF SALMONIDS COUNTED OVER
JOHN DAY DAM
1968 - 2018

YEAR	CHINOOK*	STEELHEAD	SOCKEYE	COHO*	PINK	TOTAL
1968	233,654	121,256	87,847	38,233	1	480,991
1969	276,051	86,348	39,847	13,589	1	415,836
1970	222,506	82,440	78,133	19,543	0	402,622
1971	193,881	115,977	72,232	40,830	0	422,920
1972	225,631	141,628	51,793	17,533	0	436,585
1973	249,492	101,440	64,744	13,359	8	429,043
1974	167,888	43,756	33,121	14,651	1	259,417
1975	159,079	32,651	50,774	6,305	45	248,854
1976	175,911	59,808	30,446	5,806	6	271,977
1977	194,931	102,558	85,701	1,123	3	384,316
1978	174,852	44,188	13,778	8,355	0	241,173
1979	118,154	55,877	43,630	5,061	6	222,728
1980	100,664	78,199	50,675	1,924	0	231,462
1981	114,359	95,172	46,146	2,562	0	258,239
1982	144,082	108,603	37,970	4,063	0	294,718
1983	139,866	154,425	91,917	1,640	0	387,848
1984	188,373	201,154	107,951	2,080	0	499,558
1985	337,624	247,093	124,941	1,652	0	711,310
1986	346,700	238,010	46,327	1,933	0	632,970
1987	327,752	170,654	75,529	3,355	0	577,290
1988	277,251	164,650	48,095	6,813	0	496,809
1989	208,254	193,460	39,374	9,663	0	450,751
1990	156,313	107,849	42,077	3,023	0	309,262
1991	118,921	160,257	63,760	8,021	1	350,960
1992	132,025	195,194	69,731	2,633	0	399,583
1993	141,705	95,642	61,218	2,995	0	301,560
1994	126,645	93,075	11,170	2,842	0	233,732
1995	107,277	123,246	8,667	2,117	0	241,307
1996	130,602	156,002	25,698	4,279	0	316,581
1997	185,240	157,038	35,830	4,229	0	382,337
1998	130,028	158,547	9,837	8,497	0	306,909
1999	163,282	165,314	14,809	13,232	1	356,638
2000	269,371	220,328	88,372	23,969	0	602,040
2001	510,987	483,409	107,869	51,181	0	1,153,446
2002	447,729	390,300	41,915	9,272	0	889,216
2003	472,340	305,042	35,417	38,765	18	851,582
2004	447,891	233,431	113,497	35,522	0	830,341
2005	322,991	232,103	69,770	36,205	12	661,081
2006	290,161	231,355	35,387	38,374	3	595,281
2007	215,876	237,517	24,277	39,421	0	517,091
2008	342,952	277,162	193,409	44,898	0	858,421
2009	451,974	581,645	157,402	71,739	-1	1,262,759
2010	534,247	283,812	324,128	23,272	0	1,165,459
2011	497,771	257,345	143,605	65,668	698	965,087
2012	444,136	162,083	394,166	33,859	15	1,034,259
2013	710,149	155,742	155,498	18,139	64	1,039,604
2014	766,218	203,232	557,531	115,841	0	1,642,822
2015	891,578	179,506	366,364	21,828	10	1,459,286
2016	507,088	130,626	289,976	19,635	2	947,327
2017	313,886	83,253	66,041	34,246	1	497,427
2018	229,860	73,352	168,469	19,802	0	491,483
TOTALS	14,636,198	8,772,754	4,996,861	1,013,577	895	29,420,298
10-Year Average	534,691	211,060	262,318	42,403	79	1,050,551

*Jacks included

2006 - Total includes 1 chum

2013 - Total includes 12 chum

TABLE 68

MONTHLY COUNT OF CHINOOK SALMON
JOHN DAY DAM 1968 - 2018

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*	SPRING	SUMMER	FALL	JACKS	
														Apr 1- Jun 5	Jun 6- Aug 5	Aug 6- Oct 31		
1968				29,973	46,272	30,702	42,212	16,726	62,709	4,851	209		233,654	77,482	75,494	80,678	67,284	
1969			6	4,266	72,966	35,899	31,071	18,523	103,778	9,542			276,051	81,724	64,732	129,595	93,928	
1970				35,750	35,248	20,439	21,542	24,784	80,969	3,774			222,506	72,555	43,093	106,858	74,090	
1971				13,995	40,620	24,364	25,692	10,403	73,157	5,650			193,881	56,625	50,030	87,226	61,380	
1972				28,535	41,882	15,833	27,484	14,208	90,181	7,508			225,631	71,569	44,542	109,520	82,646	
1973				67,467	27,091	18,972	15,067	16,995	89,913	13,987			249,492	96,710	34,206	118,576	73,687	
1974				5,174	38,058	8,115	18,985	8,112	77,296	12,148			167,888	46,191	25,865	95,832	61,669	
1975				7,727	27,989	11,058	21,359	18,250	65,367	7,329			159,079	37,716	32,179	89,184	62,403	
1976				10,428	32,985	17,836	18,506	10,114	72,467	13,575			175,911	45,419	36,037	94,455	62,793	
1977				55,061	19,422	15,674	13,764	7,853	71,302	11,855			194,931	75,782	29,194	89,955	60,386	
1978				34,735	35,206	15,104	16,764	8,149	52,975	11,919			174,852	72,723	30,371	71,758	36,289	
1979				8,224	12,568	9,537	13,580	14,128	50,977	8,566	574		118,154	21,981	23,572	72,601	41,364	
1980				7,995	18,311	7,125	12,522	9,063	37,023	8,625			100,664	27,202	19,664	53,798	25,877	
1981				18,178	18,325	7,292	8,992	8,524	44,626	8,422			114,359	37,677	15,813	60,869	34,547	
1982				3,396	30,444	11,031	7,359	10,881	67,271	13,700			144,082	36,530	16,360	91,192	56,966	
1983				7,123	25,391	7,990	7,064	8,195	66,078	18,025			139,866	33,480	14,834	91,552	43,440	
1984				4,329	26,561	9,706	12,892	15,422	96,399	22,255	809		188,373	32,035	22,795	133,543	69,874	
1985				27,539	42,487	15,585	9,663	27,387	178,322	34,192	2,449		337,624	72,389	23,489	241,746	149,281	
1986			21	38,075	37,959	13,227	9,703	10,797	194,928	41,990			346,700	77,884	22,051	246,765	133,827	
1987				33,985	26,852	13,641	8,948	24,363	196,596	23,367			327,752	62,313	22,244	243,195	53,794	
1988				33,323	20,170	14,731	9,648	37,002	147,553	14,824			277,251	55,195	23,569	198,487	51,330	
1989				12,510	23,983	12,793	10,124	35,985	101,794	11,065			208,254	37,773	23,868	146,613	25,092	
1990				23,689	18,854	11,209	9,199	13,542	71,508	8,312			156,313	43,127	20,532	92,654	22,195	
1991				7,419	13,668	8,868	8,390	4,879	64,950	10,747			118,921	21,847	16,872	80,202	28,646	
1992				27,538	16,623	9,452	5,263	7,677	58,140	7,332			132,025	45,457	13,910	72,658	22,084	
1993				26,309	28,204	13,295	6,311	10,703	51,667	5,216			141,705	56,144	18,364	67,197	9,621	
1994				4,436	4,937	6,305	6,397	13,345	79,538	11,687			126,645	9,745	12,935	103,965	18,867	
1995				2,034	3,378	4,977	6,273	14,694	61,273	14,648			107,277	5,776	11,476	90,025	24,192	
1996				1,860	18,616	7,419	6,356	18,550	68,198	9,603			130,602	21,599	13,148	95,855	12,071	
1997				13,579	45,408	16,551	8,328	10,355	81,039	9,980			185,240	62,580	21,769	100,891	1,588	
1998				9,279	12,439	10,076	7,535	11,073	62,107	17,519			130,028	22,177	17,780	90,071	13,745	
1999				3,008	16,517	10,206	14,226	20,201	86,380	12,744			163,282	20,498	24,714	118,070	19,611	
2000				48,176	47,705	19,201	13,579	44,377	86,737	9,596			269,371	98,710	31,056	139,605	56,892	
2001				187,104	74,233	46,449	33,904	20,506	128,230	20,561			510,987	270,385	74,235	166,367	57,877	
2002				36,677	99,270	69,941	44,890	37,086	143,126	16,739			447,729	142,290	110,969	194,470	37,568	
2003			3,951	61,184	45,880	62,159	45,782	22,222	201,192	28,666	1,238	66	472,340	111,642	105,615	249,828	54,680	
2004			127	62,999	50,288	55,728	30,998	24,383	192,606	29,301	1,410	51	447,891	118,520	83,060	244,723	47,708	
2005			15	13,680	39,563	45,107	28,340	15,637	158,917	21,319	411	2	322,991	58,742	69,439	194,382	37,622	
2006				420	49,051	50,206	28,688	14,821	118,233	27,015	1,710	17	290,161	52,406	77,964	158,064	28,507	
2007			3	13,080	40,896	30,282	19,378	12,140	81,091	17,462	1,256	288	215,876	57,042	47,908	109,379	61,316	
2008				14,050	77,177	58,652	22,929	29,293	126,961	13,890			342,952	96,697	77,329	168,926	60,788	
2009				5,282	112,503	75,623	31,549	51,444	155,522	20,051			451,974	126,539	99,136	226,299	164,110	
2010				69,747	108,746	64,519	30,528	29,389	197,139	34,179			534,247	191,240	83,430	259,577	69,502	
2011				2,856	131,343	70,070	46,154	26,983	182,441	37,924			497,771	143,224	110,919	243,628	138,591	
2012				5,071	100,761	47,139	30,572	27,013	205,132	28,448			444,136	114,410	71,229	258,497	108,693	
2013				12,822	68,212	62,206	35,505	48,428	411,708	68,664	2,559	45	710,149	85,948	94,962	526,635	137,790	
2014			6	23,812	110,984	66,933	41,310	26,053	429,579	67,520			766,218	142,300	103,688	520,203	116,443	
2015				73,181	94,629	77,299	46,700	53,294	429,186	117,289			891,578	177,529	119,756	594,293	82,816	
2016				7,999	87,686	63,313	39,073	35,950	247,376	25,691			507,088	101,921	97,974	307,193	55,724	
2017				413	52,174	47,364	25,966	11,340	138,707	37,922			313,886	59,150	67,779	186,957	41,269	
2018			10	612	49,475	37,030	15,054	15,982	87,782	21,648	2,190	77	229,860	55,615	47,128	124,840	28,248	
TOTAL				4,154	1,246,104	2,320,010	1,484,233	1,052,118	1,027,224	6,428,146	1,058,842	14,815	14,636,198	3,742,215	2,439,078	8,439,452	2,980,711	
10-Year																		
Average				20,180	91,651	61,150	34,241	32,588	248,457	45,934			534,691	119,788	89,600	324,812	94,319	
*Jacks included																		

TABLE 69

**MONTHLY COUNT OF SOCKEYE SALMON
JOHN DAY DAM
1968 - 2018**

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
2014					6	230,010	325,778	1,712	25	0			557,531
2015					60	252,165	109,674	3,917	510	38			366,364
2016					65	226,742	62,085	988	96	0			289,976
2017					21	39,962	25,744	186	109	19			66,041
2018					5	110,952	57,120	369	23	0			168,469
TOTAL					283	2,683,530	2,286,634	24,839	1,436	138	1		4,996,861
10-Year Average					22	154,982	106,353	874	83				262,318

TABLE 70
MONTHLY COUNT OF COHO SALMON
JOHN DAY DAM 1968 - 2018

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
2014	1						0	151	95,529	20,160			115,841
2015							0	287	17,531	4,010			21,828
2016								103	14,537	4,995			19,635
2017								90	25,508	8,648			34,246
2018								630	15,055	3,686	299	132	19,802
TOTAL				0	2	1	119	22,224	682,105	299,790	9,084	251	1,013,577
10-Year Average								1,040	28,674	12,583			42,403

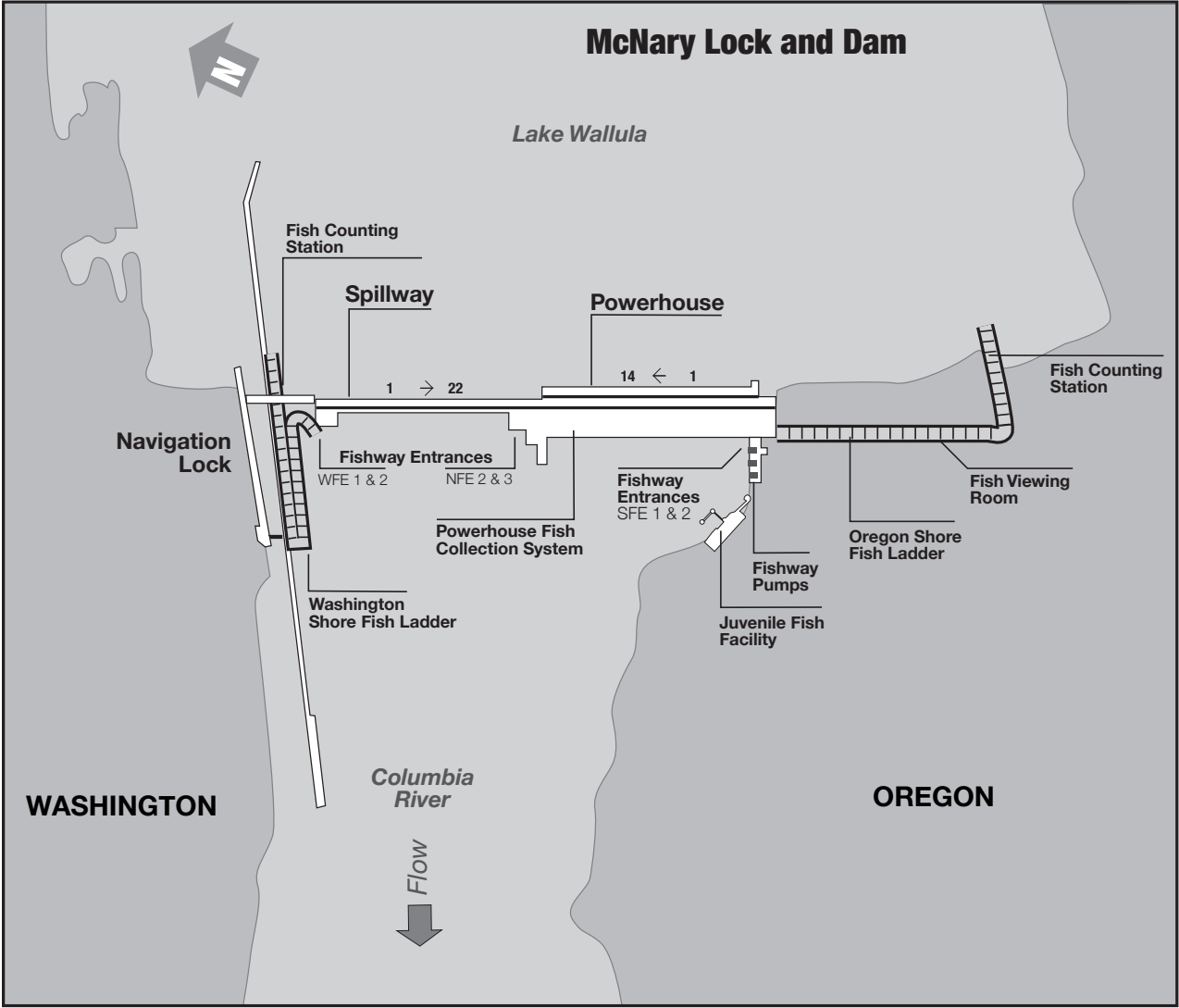
*Jacks included

TABLE 71

MONTHLY COUNT OF STEELHEAD
JOHN DAY DAM 1968 - 2018

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1968				3,939	2,659	151	6,094	26,824	68,791	11,405	1,393		121,256
1969			314	3,986	3,691	714	12,004	13,267	40,082	12,290			86,348
1970				1,987	1,279	253	7,373	19,412	46,036	6,100			82,440
1971				1,472	592	263	17,459	19,693	63,868	12,630			115,977
1972				1,523	1,966	356	17,656	20,502	78,138	21,487			141,628
1973				8,019	3,546	785	12,134	15,608	46,566	14,782			101,440
1974				1,713	2,363	1,361	9,713	8,419	12,479	7,708			43,756
1975				760	428	648	6,251	8,583	9,977	6,004			32,651
1976				929	1,248	1,868	9,254	17,964	22,754	5,791			59,808
1977				1,319	418	2,341	18,366	7,088	56,134	16,892			102,558
1978				741	631	1,601	5,573	6,911	22,896	5,835			44,188
1979				602	136	253	8,012	10,717	16,202	18,072	1,883		55,877
1980				4,131	555	577	5,850	18,114	34,700	14,272			78,199
1981				2,061	1,539	2,515	15,999	18,283	34,098	20,677			95,172
1982				3,393	1,698	1,167	10,168	19,693	50,725	21,759			108,603
1983				1,492	434	560	15,088	31,453	83,215	22,183			154,425
1984				3,316	1,787	2,101	21,442	19,743	100,437	46,506	5,822		201,154
1985				6,821	1,723	3,583	19,631	64,456	109,488	37,227	4,164		247,093
1986			3,611	2,040	887	2,362	37,732	31,576	107,002	52,800			238,010
1987				3,926	-747	942	23,614	34,203	69,585	39,131			170,654
1988				4,290	525	2,188	17,649	25,741	81,859	32,398			164,650
1989				2,940	508	2,445	18,254	22,548	104,521	42,244			193,460
1990				3,339	600	1,902	10,544	9,445	42,888	39,131			107,849
1991				2,547	660	1,256	12,827	18,310	87,277	37,380			160,257
1992				1,334	406	2,337	10,732	17,326	143,823	19,236			195,194
1993				3,453	808	2,845	9,434	11,018	46,447	21,637			95,642
1994				2,286	413	1,647	6,961	7,140	44,175	30,453			93,075
1995				1,498	488	1,757	7,755	26,450	45,087	40,211			123,246
1996				1,597	462	1,576	11,885	42,853	67,171	30,458			156,002
1997				2,171	810	2,021	12,847	22,179	75,119	41,891			157,038
1998				4,367	1,018	2,460	9,827	9,053	67,322	64,500			158,547
1999				2,702	764	1,975	17,083	42,160	72,719	27,911			165,314
2000				2,607	784	4,500	23,496	37,827	113,619	37,495			220,328
2001				1,946	550	11,031	52,946	50,723	230,803	135,410			483,409
2002				7,330	972	5,875	42,167	59,430	170,893	103,633			390,300
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
2014	181	696	1,517	363	422	2,906	27,211	18,916	116,932	34,088			203,232
2015				421	197	1,924	8,535	27,537	106,510	34,382			179,506
2016				335	50	2,175	10,933	6,283	82,654	28,196			130,626
2017				482	47	181	3,072	3,724	57,876	17,871			83,253
2018			235	115	31	816	5,889	4,767	43,544	15,848	1,767	340	73,352
TOTAL	181	1,420	25,467	119,424	42,549	122,015	945,898	1,423,815	4,318,734	1,715,030	53,805	4,416	8,772,754
10-YR Average				1,118	275	2,565	25,132	42,273	102,360	36,385			211,060

Plate 5 McNary Lock and Dam



McNARY DAM

FISH COUNTING SCHEDULE

Washington Ladder Schedule

1 January, 30 January – 28 February	Video counts daily (0400-2000 hours PST).
1 March – 31 March	No counting.
1 April – 31 October	Visual counts daily (0400-2000 hours PST).
15 June – 30 September	Nightly video lamprey counts (2000-0400 hours PST).
1 November – 31 December	No counting.

Oregon Ladder Schedule

1 – 31 January & 27 – 28 February	Video counts daily (0400-2000 hours PST).
1 March – 31 March	No counting.
1 April – 31 October	Visual counts daily (0400-2000 hours PST).
15 June – 30 September	Nightly video lamprey counts (2000-0400 hours PST).
1 November – 31 December	No counting.

FISH LADDER OPERATING SCHEDULE

Washington Ladder

2 – 29 January	Ladder dewatered for annual maintenance.
1 January, 30 January – 31 December	Ladder in service.

Oregon Ladder

1 – 31 January	Ladder in service.
1 – 26 February	Ladder dewatered for annual maintenance.
27 February – 31 December	Ladder in service.

FISHWAY ACTIVITIES

Temperature monitoring occurred in both ladders from 1 April to 29 September.

Washington ladder maintenance activities in January consisted of maintenance on all above water systems and completion of the tilting weir drive system rehabilitation. The entrance pool was dewatered for the first time since 2008 and the diffuser grating was physically inspected. No issues were found.

The Wasco County PUD system did not provide axillary water from 2 to 29 January.

Oregon ladder maintenance activities in February consisted of maintenance on all above water systems and completion of the tilting weir drive system rehabilitation. Due to budget constraints, floating orifice gate (FOGs) rehabilitation has been delayed. The diffuser grating was not

inspected. Due to the 1000 cubic feet per second (cfs) auxiliary conduit discharge valves requiring rehabilitation, the conduit was not removed from service this year. The fish pumps were out of service from 1 to 26 February for annual maintenance.

From 26 March to 10 December, the juvenile bypass channel was operated for both juvenile and adult fallback passage. From 11 to 19 December, the system was in emergency bypass during ESBS removal. From 1 January to 25 March and 20 to 31 December, the system was out of service for maintenance. When in emergency bypass or out of service, the system does not provide auxiliary flow to the Oregon ladder's north powerhouse entrances.

TABLE 72

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

2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL*
CHINOOK*	0	1		166	39,647	35,532	16,695	10,538	80,583	24,345			207,507
STEELHEAD	176	10		178	0	459	4,872	3,247	37,714	19,676			66,332
SOCKEYE					2	91,285	63,831	349	13	0			155,480
COHO*								88	9,985	3,855			13,928
CHUM													0
PINK													0
TOTAL	176	11		344	39,649	127,276	85,398	14,222	128,295	47,876			443,247
SHAD					394	2,342,081	1,519,764	9,620					3,871,859
LAMPREY				16	34	175	849	326	156	10			1,566
STURGEON							1						1
BULL TROUT													0

*Jacks Included

TABLE 73

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT - FISH COUNTS													JANUARY 2018				
DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL		unclipped	PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	STEELHEAD							SECCHI	DEG F
Jan 1							1	1					136.6	0.0	6+	41.0	
Jan 2							4	1					165.2	0.0	6.0	41.0	
Jan 3							3	3					173.2	0.0	3.1	40.0	
Jan 4							6	2					178.9	0.0	2.0	40.0	
Jan 5							4	1					173.3	0.0	3.2	40.0	
Jan 6							10	4					152.3	0.0	4.3	40.0	
Jan 7							7	4					153.3	0.0	n/a	40.0	
Jan 8							5	1					185.1	0.0	5.2	40.0	
Jan 9							1	1					191.9	0.0	5.0	40.0	
Jan 10							6	3					159.6	0.0	4.6	40.0	
Jan 11							6	4					182.8	0.0	4.0	40.0	
Jan 12							7	1					202.4	14.8	4.3	40.0	
Jan 13							9	5					204.0	16.3	4.5	41.0	
Jan 14							11	4					204.0	14.9	4.5	41.0	
Jan 15							3	-1					204.0	15.1	5.0	41.0	
Jan 16							7	0					203.3	15.3	5.0	41.0	
Jan 17							9	4					202.6	10.6	4.0	41.0	
Jan 18							6	3					192.8	0.0	4.5	41.0	
Jan 19							3	1					191.2	0.0	4.0	41.0	
Jan 20							12	4					203.3	0.0	5.0	41.0	
Jan 21							6	3					198.4	0.0	5.0	41.0	
Jan 22							4	1					187.9	0.0	5.1	41.0	
Jan 23							1	0					193.9	0.0	n/a	41.0	
Jan 24							9	4					193.8	0.0	5.1	40.0	
Jan 25							10	7					183.3	0.0	4.8	40.0	
Jan 26							6	4					179.6	0.0	5.0	40.0	
Jan 27							5	3					187.9	0.0	5.0	40.0	
Jan 28							12	6					187.7	0.0	5.2	40.0	
Jan 29							1	1					195.9	7.7	5.4	40.0	
Jan 30							1	0					190.7	0.0	5.0	40.0	
Jan 31							1	2					192.0	2.2	n/a	40.0	
TOTAL							176	77									
AVG.							6	2					185.5	3.1	4.6	40.4	

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 74

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

MCNARY PROJECT - FISH COUNTS

FEBRUARY 2018

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			SECCHI	DEG F
Feb 1	0						0	0						201.8	14.7	5.5	40.0
Feb 2	0						0	0						213.6	24.3	5.5	40.0
Feb 3	0						0	0						194.3	1.5	5.0	40.0
Feb 4	0						1	0						195.0	0.8	5.2	40.0
Feb 5	1						0	0						232.4	43.5	5.0	40.0
Feb 6	0						4	2						238.8	48.8	3.4	41.0
Feb 7	0						1	0						233.9	47.3	3.8	41.0
Feb 8	0						0	0						252.9	51.5	2.7	41.0
Feb 9	0						0	0						255.0	25.3	2.6	41.0
Feb 10	0						2	1						255.4	28.6	n/a	41.0
Feb 11	0						0	0						264.6	39.7	2.8	41.0
Feb 12	0						0	0						258.8	34.0	2.5	40.0
Feb 13	0						1	0						245.4	24.0	4.0	40.0
Feb 14	0						0	0						248.2	19.4	4.4	39.0
Feb 15	0						0	0						233.8	14.3	4.9	39.0
Feb 16	0						0	0						239.1	10.1	4.7	39.0
Feb 17	0						0	0						235.6	6.7	3.6	39.0
Feb 18	0						0	0						255.5	26.4	3.2	39.0
Feb 19	0						0	0						240.7	11.9	2.5	39.0
Feb 20	0						0	0						240.9	23.4	3.3	39.0
Feb 21	0						0	0						225.1	14.6	3.5	38.0
Feb 22	0						0	0						226.3	14.1	3.0	38.0
Feb 23	0						0	0						223.9	8.2	4.0	38.0
Feb 24	0						1	1						230.6	3.2	3.5	37.0
Feb 25	0						0	0						202.8	0.0	3.5	38.0
Feb 26	0						0	0						204.2	0.0	3.5	37.0
Feb 27	0						0	0						207.9	0.0	4.9	37.0
Feb 28	0						0	0						209.4	0.0	5.0	38.0

TOTAL 1

10 4

230.9 19.2 3.9 39.3

AVG. 0

0 0

TABLE 75

DISCHARGE AND WATER QUALITY DATA

MCNARY PROJECT 2018

MARCH

DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Mar 1	212.2	0.0	6+	38.0
Mar 2	209.0	0.0	5.7	38.0
Mar 3	201.3	0.0	5.6	38.0
Mar 4	193.7	0.0	5.6	39.0
Mar 5	204.3	0.0	4.7	39.0
Mar 6	185.5	0.0	5.4	39.0
Mar 7	181.2	0.0	5.2	40.0
Mar 8	180.7	0.0	5.1	40.0
Mar 9	171.8	0.0	5.0	40.0
Mar 10	195.2	0.0	5.1	40.0
Mar 11	207.4	0.0	5.4	40.0
Mar 12	196.1	0.0	5.4	41.0
Mar 13	189.3	0.0	5.0	41.0
Mar 14	183.7	0.0	5.2	41.0
Mar 15	186.0	0.0	5.2	41.0
Mar 16	189.3	0.0	4.5	41.0
Mar 17	192.5	0.0	4.2	42.0
Mar 18	180.4	0.0	3.8	42.0
Mar 19	185.3	0.0	4.0	42.0
Mar 20	179.4	0.0	3.9	42.0
Mar 21	195.1	0.0	5.0	42.0
Mar 22	200.7	0.0	4.5	43.0
Mar 23	172.7	0.0	4.8	43.0
Mar 24	170.3	0.0	4.8	43.0
Mar 25	182.7	0.0	4.8	43.0
Mar 26	187.6	0.0	4.2	43.0
Mar 27	190.5	0.0	4.5	43.0
Mar 28	184.7	0.0	3.8	43.0
Mar 29	184.1	0.0	3.3	43.0
Mar 30	171.1	0.0	4.4	44.0
Mar 31	169.9	0.0	4.6	44.0
AVG.	188.2	0.0	4.8	41.2

TABLE 76

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT - FISH COUNTS

APRIL 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	SHAD	LAMPREY	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		SOCKEYE						STEELHEAD	STEELHEAD
Apr 1	-1			0			4	3			0	169.7	0.0	4.5	45.0
Apr 2	0			0			4	1			0	179.5	20.1	4.3	45.0
Apr 3	0			0			12	7			0	190.6	31.8	4.6	44.0
Apr 4	1			0			6	5			0	213.6	57.6	4.2	44.0
Apr 5	1			0			7	1			0	225.9	60.6	4.5	44.0
Apr 6	0			0			3	1			0	234.1	60.2	5.0	44.0
Apr 7	1			0			4	3			1	234.1	60.2	5.5	45.0
Apr 8	-1			0			3	2			0	246.9	73.0	5.0	45.0
Apr 9	0			0			5	2			1	249.8	89.6	5.0	45.0
Apr 10	1			0			13	9			2	268.0	184.0	4.5	45.0
Apr 11	4			0			12	6			0	254.9	194.9	4.0	46.0
Apr 12	5			0			12	5			0	260.8	195.1	3.8	46.0
Apr 13	1			0			7	5			0	279.3	195.1	3.6	46.0
Apr 14	2			0			6	2			0	275.9	195.9	3.6	47.0
Apr 15	5			0			11	5			0	273.5	198.0	3.7	47.0
Apr 16	6			0			13	9			0	260.6	198.1	3.7	47.0
Apr 17	4			-1			2	1			0	287.2	198.1	3.8	47.0
Apr 18	4			0			10	4			0	295.8	198.0	3.3	47.0
Apr 19	2			0			1	-1			0	294.8	197.9	3.4	47.0
Apr 20	3			1			6	0			8	294.1	197.7	4.3	47.0
Apr 21	5			0			6	5			0	287.0	197.9	4.5	48.0
Apr 22	10			0			7	5			0	265.3	198.0	4.1	48.0
Apr 23	3			0			6	1			4	284.6	198.1	3.9	48.0
Apr 24	8			0			0	1			0	279.5	196.3	n/a	49.0
Apr 25	12			0			3	2			0	276.8	187.0	3.3	49.0
Apr 26	4			0			2	0			0	286.1	171.6	3.4	50.0
Apr 27	6			0			2	1			0	295.8	158.4	4.0	51.0
Apr 28	25			0			5	0			0	297.6	145.3	3.9	51.0
Apr 29	29			1			6	2			0	333.9	172.1	3.9	51.0
Apr 30	25			0			0	0			0	337.5	175.0	4.0	51.0
TOTAL	165			1			178	87			16				
AVG.	6			0			6	3			1	264.4	146.9	4.1	47.0

Note: Live 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 77

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

MCNARY PROJECT - FISH COUNTS

MAY 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	TURBIDITY DEG F
	SPRING	SUMMER	FALL													
May 1	30			0			0	5	2		0	1	324.7	162.9	4.3	52.0
May 2	60			0			0	3	4		0	0	330.5	172.5	4.2	52.0
May 3	84			4			0	1	1		0	0	341.3	174.9	4.0	53.0
May 4	364			10			0	0	-1		0	0	323.4	149.8	4.1	52.0
May 5	322			6			0	-1	1		0	0	359.1	197.1	3.5	53.0
May 6	262			1			0	-2	0		0	0	365.4	205.4	3.9	52.0
May 7	277			11			0	0	0		0	0	394.5	242.4	4.5	52.0
May 8	488			17			0	-5	-5		0	0	419.4	259.0	4.7	52.0
May 9	862			27			0	0	0		0	0	417.8	257.7	3.5	53.0
May 10	1,400			29			0	0	-1		0	0	427.7	268.8	3.2	53.0
May 11	2,007			77			0	2	2		0	0	451.0	309.8	3.1	53.0
May 12	2,283			71			0	3	2		0	0	488.4	344.5	3.0	53.0
May 13	1,431			68			0	0	0		0	0	477.2	339.5	3.2	53.0
May 14	1,284			84			0	-4	-4		0	0	474.1	362.9	3.2	53.0
May 15	1,334			102			0	-1	0		0	0	490.2	369.8	3.0	54.0
May 16	1,498			121			1	0	0		0	0	497.6	361.5	n/a	54.0
May 17	963			91			0	-1	1		0	0	493.7	335.2	2.4	55.0
May 18	1,176			89			0	1	1		0	-1	497.5	335.2	2.4	55.0
May 19	1,067			55			0	0	0		0	0	497.0	334.8	2.3	55.0
May 20	936			74			0	3	1		2	0	492.4	335.1	1.9	56.0
May 21	1,434			157			0	-1	0		0	0	489.9	334.9	n/a	56.0
May 22	1,765			183			0	-2	-2		0	0	488.0	335.0	2.2	57.0
May 23	1,309			148			0	1	1		1	0	494.3	335.3	3.0	57.0
May 24	1,173			163			0	0	0		1	1	501.1	342.3	2.8	57.0
May 25	2,236			272			0	0	0		1	0	487.8	327.9	2.6	57.0
May 26	2,191			250			0	1	1		1	1	479.9	320.7	2.6	57.0
May 27	2,208			209			0	0	0		0	1	482.2	323.6	2.7	57.0
May 28	2,256			240			0	0	0		0	5	454.0	295.4	2.4	58.0
May 29	1,319			111			1	-5	-7		22	7	449.6	297.7	2.1	58.0
May 30	1,617			195			0	0	0		10	12	443.5	294.5	2.3	58.0
May 31	1,051			95			0	2	1		356	7	395.1	233.1	2.8	59.0
TOTAL	36,687			2,960			2	0	-2		394	34				

AVG.	1,183			95			0	0	0		13	1	442.8	289.0	3.1	54.7
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
TOTALS TO DATE							
SPRING	36,852	2,961	2	178	85	394	50

TABLE 78

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT - FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER												FALL	SECCHI
Jun 1	1,005		82			0	1	0		64	2	404.8	230.4	2.8	58.0
Jun 2	790		72			5	-1	-1		42	3	412.5	239.4	2.1	58.0
Jun 3	739		60			2	1	0		643	6	380.7	207.4	2.3	59.0
Jun 4	822		59			2	-3	-4		3,791	0	356.1	191.2	2.4	59.0
Jun 5	1,000		79			11	0	0		4,635	1	352.0	189.6	3.2	59.0
Jun 6	989		62			25	2	2		5,401	2	347.7	192.8	3.1	59.0
Jun 7	1,149		46			52	2	1		10,106	2	322.6	167.4	3.0	60.0
Jun 8	1,080		51			60	1	1		16,689	-1	301.1	145.1	3.0	59.0
Jun 9		974	48			175	-1	1		19,776	1	307.9	147.5	3.6	59.0
Jun 10		1,012	45			226	6	4		26,614	2	295.1	145.1	3.7	60.0
Jun 11		734	65			318	1	0		28,550	0	298.3	148.3	3.2	59.0
Jun 12		911	59			418	2	1		40,060	1	303.0	156.5	3.8	60.0
Jun 13		893	52			531	8	1		39,300	5	258.7	163.0	4.0	60.0
Jun 14		1,281	53			958	10	6		57,598	10	230.3	173.5	n/a	60.0
Jun 15		1,177	42			928	14	12		80,712	13	235.3	179.9	4.5	60.0
Jun 16		964	30			1,152	9	6		91,397	2	224.2	112.0	4.5	61.0
Jun 17		1,250	44			1,457	20	16		95,494	5	210.1	105.1	4.5	61.0
Jun 18		1,332	48			1,888	10	4		109,370	2	222.1	110.9	4.0	62.0
Jun 19		1,068	57			2,646	4	2		109,776	8	224.9	112.4	5.0	63.0
Jun 20		1,211	57			4,313	8	6		115,320	6	233.2	116.5	5.0	62.0
Jun 21		1,321	48			4,085	25	13		135,846	3	233.7	117.0	n/a	63.0
Jun 22		1,256	80			4,800	18	11		152,695	3	218.0	109.1	5.2	64.0
Jun 23		976	49			5,829	12	8		125,241	5	240.0	120.2	5.3	64.0
Jun 24		1,408	78			6,999	45	27		135,282	18	249.8	125.2	5.5	65.0
Jun 25		1,416	66			9,155	36	18		141,828	8	259.1	125.2	5.3	65.0
Jun 26		1,717	97			9,662	38	24		126,550	17	255.1	127.8	5.2	65.0
Jun 27		1,760	94			10,088	48	26		165,855	8	275.0	165.2	5.0	65.0
Jun 28		1,391	81			9,425	34	18		196,814	13	268.1	134.0	4.5	65.0
Jun 29		1,055	71			8,484	61	31		167,869	12	247.5	123.8	5.0	65.0
Jun 30		1,019	57			7,591	48	28		138,763	18	243.2	121.7	5.1	65.0
TOTAL	7,574	26,126	1,832			91,285	459	262		2,342,081	175				

AVG.	947	1,188	61			3,043	15	9		78,069	6	280.3	150.1	4.1	61.5
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	44,426	3,472
SUMMER	26,126	1,321
TOTAL	70,552	4,793

SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
91,287	637	347	2,342,475	225

TABLE 79

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

MCNARY PROJECT - FISH COUNTS

JULY 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	SHAD	LAMPREY	DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD						STEELHEAD	KCFS	KCFS
Jul 1		1,096		42			6,958	79	36		174,369	24	205.3	102.7	n/a	65.0
Jul 2		927		48			6,192	61	38		140,614	26	189.5	94.6	n/a	65.0
Jul 3		944		76			5,735	71	39		132,309	13	194.3	97.2	n/a	64.0
Jul 4		958		60			5,303	84	38		135,151	24	170.8	85.6	5.5	64.0
Jul 5		675		35			4,020	62	30		99,106	41	168.6	84.6	5.3	64.0
Jul 6		750		63			3,616	72	36		169,308	24	181.5	90.8	5.5	65.0
Jul 7		578		31			3,827	95	55		86,755	40	168.4	84.3	n/a	64.0
Jul 8		555		62			4,290	118	60		115,986	16	175.0	87.5	5.4	65.0
Jul 9		742		78			3,730	89	47		86,487	18	168.1	84.3	4.4	66.0
Jul 10		840		48			4,391	115	68		52,288	41	185.0	92.7	n/a	66.0
Jul 11		873		50			3,128	160	99		50,885	29	200.2	100.2	5.0	67.0
Jul 12		662		29			2,688	163	96		50,563	31	206.8	103.5	6+	67.0
Jul 13		511		29			1,889	168	91		52,152	20	180.5	90.3	6+	67.0
Jul 14		392		11			1,248	116	64		35,419	34	180.2	90.3	6+	67.0
Jul 15		425		30			877	208	122		27,291	40	184.6	92.4	6+	68.0
Jul 16		325		25			1,067	169	89		27,620	54	200.5	100.4	6+	68.0
Jul 17		380		24			931	133	67		16,664	52	185.1	92.8	6+	69.0
Jul 18		466		35			772	218	125		14,876	34	182.1	91.3	6+	69.0
Jul 19		429		38			559	244	125		13,070	24	184.9	92.5	6+	69.0
Jul 20		387		35			470	303	159		5,441	35	172.7	86.5	6+	69.0
Jul 21		436		13			362	320	171		7,179	16	174.0	87.3	6+	69.0
Jul 22		297		19			285	239	126		3,871	28	160.9	80.7	6+	69.0
Jul 23		265		13			191	222	105		3,297	44	171.7	86.2	6+	69.0
Jul 24		153		7			199	169	84		3,833	14	200.0	100.4	6+	70.0
Jul 25		229		13			190	173	80		2,391	13	179.0	90.4	6+	69.0
Jul 26		225		27			197	183	94		2,334	21	174.1	87.2	6+	70.0
Jul 27		187		15			162	165	67		2,323	11	183.6	91.9	6+	70.0
Jul 28		275		33			193	173	83		3,030	10	171.9	85.8	6+	70.0
Jul 29		219		29			134	173	90		1,866	27	173.0	86.6	6+	71.0
Jul 30		241		19			116	165	104		1,650	28	185.3	92.7	7+	71.0
Jul 31		201		15			111	162	98		1,636	17	180.3	90.1	6+	71.0
TOTAL		15,643		1,052			63,831	4,872	2,586		1,519,764	849				

AVG.		505		34			2,059	157	83		49,025	27	181.9	91.1	6+	67.6
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	44,426	3,472
SUMMER	41,769	2,373
TOTAL	86,195	5,845

SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
155,118	5,509	2,933	3,862,239	1,074

*Note: one sturgeon counted on 7/23.

TABLE 80

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT - FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	SHAD	LAMPREY	DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		SOCKEYE				STEELHEAD	STEELHEAD	KCFS	KCFS	SECCHI
Aug 1		122		16	0	0	57	151	92		482	23	151.5	75.9	7+	71.0
Aug 2		158		27	0	0	54	183	103		318	14	149.9	75.0	n/a	71.0
Aug 3		180		25	0	0	30	176	77		394	18	121.1	60.7	7+	71.0
Aug 4		111		14	0	0	25	89	42		1,188	22	138.2	69.1	7+	71.0
Aug 5		93		20	0	0	22	79	34		492	13	136.0	68.1	6+	71.0
Aug 6		57		10	0	0	15	50	26		636	16	156.5	78.3	n/a	71.0
Aug 7		91		16	0	0	11	61	30		1,068	19	159.5	79.8	6+	71.0
Aug 8		68		12	0	0	15	47	25		314	20	148.8	74.5	6+	71.0
Aug 9			53	3	0	0	14	46	24		235	13	163.6	81.8	6+	71.0
Aug 10			51	12	0	0	3	39	23		809	12	168.5	84.4	6+	71.0
Aug 11			81	13	0	0	5	49	31		240	5	143.8	72.3	6+	71.0
Aug 12			76	16	0	0	6	59	31		229	15	122.2	61.4	6+	71.0
Aug 13			92	23	0	0	8	68	34		563	10	133.9	67.2	6.0	71.0
Aug 14			79	9	0	0	3	41	23		545	6	156.7	78.8	6+	71.0
Aug 15			64	12	0	0	3	52	25		282	2	156.7	78.9	6+	71.0
Aug 16			61	14	0	0	5	48	27		223	8	137.8	69.2	6+	71.0
Aug 17			101	28	0	0	7	47	24		77	3	122.5	61.4	6+	71.0
Aug 18			131	14	0	0	4	39	17		169	11	117.0	58.7	6+	71.0
Aug 19			200	32	0	0	1	34	12		168	13	120.8	60.6	6+	70.0
Aug 20			117	21	0	0	0	29	12		612	18	136.2	68.2	n/a	70.0
Aug 21			244	41	0	0	0	48	29		133	3	145.7	72.9	n/a	70.0
Aug 22			180	29	0	0	4	54	34		121	3	168.7	84.3	6+	70.0
Aug 23			418	47	0	0	6	82	36		41	7	152.9	76.6	6+	70.0
Aug 24			364	32	0	0	2	75	28		78	6	128.4	64.4	6.0	69.0
Aug 25			505	41	0	0	4	59	20		37	5	168.2	84.2	6.0	69.0
Aug 26			964	72	0	0	4	126	51		41	7	149.8	75.3	6+	69.0
Aug 27			818	62	0	1	9	145	70		52	6	126.9	63.7	6+	68.0
Aug 28			918	101	2	0	16	149	61		17	9	137.2	68.9	6+	69.0
Aug 29			981	75	11	0	6	200	67		15	6	159.4	80.1	6+	68.0
Aug 30			1,183	128	36	5	4	413	177		29	6	133.3	67.0	6+	68.0
Aug 31			920	92	33	0	6	509	192		12	7	113.6	57.0	6.0	67.0

TOTAL	880	8,601	1,057	82	6	349	3,247	1,477		9,620	326					
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AVG.	110	374	34	3	0	11	105	48		310	11	142.8	71.6	6+	70.2
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	44,426	3,472
SUMMER	42,649	2,513
FALL	8,601	917
TOTAL	95,676	6,902

COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD
82	6	155,467	8,756	4,410

SHAD	LAMPREY
3,871,859	1,400

TABLE 81

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

MCNARY PROJECT - FISH COUNTS

SEPTEMBER 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	SHAD	LAMPREY	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		SOCKEYE				STEELHEAD	KCFS	KCFS	SECCHI
Sep 1			1,679	128	117	7	0	603	221		7	104.5	0.1	6+	68.0
Sep 2			1,906	151	222	6	2	751	255		7	105.8	0.0	6+	68.0
Sep 3			2,770	164	223	11	0	857	285		12	100.4	0.0	6+	68.0
Sep 4			3,095	178	306	30	1	875	275		4	103.4	0.0	6+	68.0
Sep 5			2,084	165	261	24	0	816	199		10	105.8	0.0	6+	68.0
Sep 6			2,139	151	243	20	2	718	185		7	105.1	0.0	6+	68.0
Sep 7			1,944	213	177	28	0	762	208		11	108.3	0.0	6+	68.0
Sep 8			2,300	249	326	33	0	1,259	367		4	84.2	0.0	6+	68.0
Sep 9			2,598	266	374	33	1	1,659	508		7	78.3	0.0	6+	68.0
Sep 10			3,543	355	513	30	0	1,624	409		4	90.5	0.0	6+	68.0
Sep 11			2,959	406	633	24	0	1,907	515		2	96.1	0.0	6+	68.0
Sep 12			2,124	314	440	11	1	1,115	268		3	90.7	0.0	6+	68.0
Sep 13			2,358	310	472	20	0	1,229	342		5	79.3	0.0	5.0	68.0
Sep 14			1,830	286	334	33	0	997	300		6	99.0	0.0	5.0	68.0
Sep 15			2,068	248	300	60	1	912	226		6	89.0	0.0	6+	68.0
Sep 16			2,769	347	304	60	1	965	223		9	83.2	0.0	6+	67.0
Sep 17			3,320	262	272	80	0	1,171	240		6	98.8	0.0	6+	67.0
Sep 18			2,128	245	203	70	1	1,218	255		10	97.4	0.0	6+	67.0
Sep 19			1,774	221	242	65	0	1,123	253		6	82.2	0.0	6+	66.0
Sep 20			2,709	394	273	68	0	1,784	470		4	73.3	0.0	6+	66.0
Sep 21			1,836	254	247	6	1	1,510	360		4	76.3	0.0	6+	66.0
Sep 22			2,574	370	266	1	0	1,757	456		5	72.2	0.0	6+	66.0
Sep 23			1,722	355	428	7	0	2,476	637		3	70.3	0.0	6+	66.0
Sep 24			1,588	325	322	3	0	2,124	593		5	85.2	0.0	6+	65.0
Sep 25			2,228	267	321	66	0	1,282	343		1	128.2	0.0	6+	65.0
Sep 26			3,136	364	280	64	1	1,050	295		2	93.9	0.0	6+	65.0
Sep 27			3,101	323	282	60	0	1,326	337		2	93.5	0.0	6+	65.0
Sep 28			2,771	389	218	20	0	1,289	300		0	89.1	0.0	6+	65.0
Sep 29			2,784	402	220	34	0	1,259	303		3	76.2	0.0	6+	65.0
Sep 30			2,302	342	162	30	1	1,296	315		1	79.5	0.0	6+	64.0
TOTAL			72,139	8,444	8,981	1,004	13	37,714	9,943		156				

AVG.			2,405	281	299	33	0	1,257	331		5	91.3	0.0	6+	66.8
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	44,426	3,472
SUMMER	42,649	2,513
FALL	80,740	9,361
TOTAL	167,815	15,346

COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY
9,063	1,010	155,480	46,470	14,353	0	3,871,859	1,556

TABLE 82

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

MCNARY PROJECT - FISH COUNTS

OCTOBER 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	SHAD	LAMPREY	DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		SOCKEYE				STEELHEAD	KCFS	KCFS	SECCHI	DEG F
Oct 1			1,785	358	259	94	0	1,548	404			0	81.6	0.0	6+	64.0
Oct 2			1,301	300	181	43	0	1,137	289			2	76.0	0.0	6+	65.0
Oct 3			1,452	309	146	88	-1	1,823	459			1	95.0	0.0	6+	65.0
Oct 4			1,296	251	118	46	1	1,233	352			2	99.7	0.0	n/a	63.0
Oct 5			1,695	245	150	38	0	711	192			1	81.7	0.0	6+	63.0
Oct 6			1,159	233	166	23	0	1,046	324			0	71.3	0.0	6+	62.0
Oct 7			458	98	59	10	0	435	152			0	70.0	0.0	7+	62.0
Oct 8			1,259	330	93	41	0	810	257			1	70.8	0.0	6+	62.0
Oct 9			679	182	67	1	0	690	193			0	81.4	0.2	5,2	62.0
Oct 10			507	128	42	6	0	655	169			1	99.4	0.0	6+	61.0
Oct 11			1,470	233	127	9	0	715	236			0	108.6	0.0	6+	61.0
Oct 12			1,248	238	203	46	0	1,329	383			0	85.4	0.0	6+	61.0
Oct 13			948	215	188	29	0	1,249	361			0	87.8	0.0	6+	60.0
Oct 14			775	161	153	23	0	873	261			0	88.4	0.0	6+	60.0
Oct 15			486	140	129	23	0	688	242			0	96.5	0.0	6+	60.0
Oct 16			315	119	98	19	0	622	170			0	85.7	0.0	6+	60.0
Oct 17			173	47	107	55	0	421	143			0	76.7	0.0	6+	60.0
Oct 18			253	66	67	18	0	338	104			0	76.9	0.0	n/a	59.0
Oct 19			172	76	33	3	0	340	114			0	87.4	0.0	6+	59.0
Oct 20			197	68	46	17	0	288	93			2	67.9	0.0	6+	59.0
Oct 21			117	56	31	5	0	252	79			0	73.9	0.0	6+	59.0
Oct 22			117	51	31	13	0	206	72			0	94.5	0.0	6+	59.0
Oct 23			257	34	105	28	0	266	94			0	102.3	0.0	6+	59.0
Oct 24			251	40	84	21	0	274	91			0	111.2	0.0	6+	59.0
Oct 25			240	48	40	5	0	366	136			0	90.4	0.0	6+	59.0
Oct 26			366	59	79	22	0	237	79			0	97.1	0.0	6+	58.0
Oct 27			161	58	63	17	0	235	85			0	93.6	0.0	6+	58.0
Oct 28			239	30	66	11	0	235	107			0	87.3	0.0	6+	58.0
Oct 29			243	29	52	11	0	129	61			0	85.4	0.0	6+	58.0
Oct 30			200	48	54	8	0	226	113			0	92.8	0.0	6+	58.0
Oct 31			242	34	42	3	0	299	143			0	119.7	0.0	6+	58.0
TOTAL			20,061	4,284	3,079	776	0	19,676	5,958			10				
AVG.			647	138	99	25	0	635	192			0	88.3	0.0	6+	60.4

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	44,426	3,472
SUMMER	42,649	2,513
FALL	100,801	13,645
TOTAL	187,876	19,630

COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY
12,142	1,786	155,480	66,146	20,311	0	3,871,859	1,566

Note: Official Fall Chinook run ended October 31.

TABLE 83

DISCHARGE AND WATER QUALITY DATA

MCNARY PROJECT 2018

NOVEMBER					DECEMBER				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F	DATE	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Nov 1	90.2	0.0	n/a	58.0	Dec 1	102.5	0.0	6+	48.0
Nov 2	94.4	0.0	n/a	58.0	Dec 2	94.0	0.0	6+	48.0
Nov 3	118.8	0.0	n/a	58.0	Dec 3	129.6	0.0	6+	49.0
Nov 4	117.8	0.0	6+	58.0	Dec 4	126.1	0.0	6+	49.0
Nov 5	127.9	0.0	6+	57.0	Dec 5	137.8	0.0	6+	48.0
Nov 6	117.0	0.0	n/a	57.0	Dec 6	133.8	0.0	6+	48.0
Nov 7	115.5	0.0	6+	57.0	Dec 7	150.1	0.0	6+	47.0
Nov 8	136.5	0.0	6+	56.0	Dec 8	143.4	0.0	n/a	47.0
Nov 9	122.0	0.0	6+	56.0	Dec 9	142.2	0.0	6+	47.0
Nov 10	139.9	0.0	6+	55.0	Dec 10	123.2	0.0	6+	46.0
Nov 11	147.9	0.0	7+	55.0	Dec 11	134.8	0.0	6+	46.0
Nov 12	129.1	0.0	6+	54.0	Dec 12	114.6	0.0	6+	46.0
Nov 13	119.0	0.0	7+	53.0	Dec 13	118.0	0.0	6+	46.0
Nov 14	115.9	0.0	6+	52.0	Dec 14	101.2	0.0	6+	46.0
Nov 15	122.0	0.0	6+	52.0	Dec 15	107.9	0.0	6+	46.0
Nov 16	119.7	0.0	6+	52.0	Dec 16	101.9	0.0	6+	46.0
Nov 17	122.0	0.0	6+	52.0	Dec 17	111.4	0.0	6+	45.0
Nov 18	131.4	0.0	n/a	51.0	Dec 18	109.3	0.0	6+	45.0
Nov 19	131.7	0.0	6+	51.0	Dec 19	103.0	0.0	6+	45.0
Nov 20	140.6	0.0	n/a	51.0	Dec 20	108.5	0.0	6+	45.0
Nov 21	132.9	0.0	6+	50.0	Dec 21	102.5	0.0	6+	45.0
Nov 22	127.8	0.0	7+	50.0	Dec 22	101.5	0.0	6+	45.0
Nov 23	114.3	0.0	7+	49.0	Dec 23	112.0	0.0	6+	45.0
Nov 24	128.4	0.0	7+	49.0	Dec 24	114.6	0.0	n/a	45.0
Nov 25	120.0	0.0	7+	49.0	Dec 25	89.2	0.0	n/a	45.0
Nov 26	115.0	0.0	6+	49.0	Dec 26	100.3	0.0	6+	45.0
Nov 27	106.6	0.0	6+	49.0	Dec 27	109.7	0.0	6+	44.0
Nov 28	102.5	0.0	6+	49.0	Dec 28	145.6	0.0	n/a	44.0
Nov 29	117.6	0.0	6+	48.0	Dec 29	99.3	0.0	6+	44.0
Nov 30	117.4	0.0	6+	48.0	Dec 30	96.3	0.0	6+	44.0
					Dec 31	99.8	0.0	6+	44.0
AVG.	121.4	0.0	6+	52.8	AVG.	115.0	0.0	6+	45.9

TABLE 84

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT - NIGHT FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	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										
Jun 15		33		6			31	0	0	8
Jun 16		12		2			85	0	0	8
Jun 17		15		0			131	1	0	10
Jun 18		24		0			317	0	0	0
Jun 19		44		1			270	0	0	18
Jun 20		38		0			361	0	0	10
Jun 21		24		0			506	0	0	14
Jun 22		27		0			940	0	0	17
Jun 23		28		0			1,208	0	0	25
Jun 24		68		0			749	0	0	15
Jun 25		17		0			1,186	0	0	9
Jun 26		27		0			1,766	0	0	6
Jun 27		22		1			1,392	0	0	10
Jun 28		39		0			1,240	1	1	28
Jun 29		17		0			1,134	1	0	35
Jun 30		15		0			1,340	0	0	26
TOTAL		450		10			12,656	3	1	239

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

JULY 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	LAMPREY	
	SPRING	SUMMER	FALL	JACK	ADULT	JACK					SOCKEYE
Jul 1		26		1			1,096	2	0		37
Jul 2		26		0			684	1	0		41
Jul 3		18		1			956	0	0		64
Jul 4		23		0			586	3	1		81
Jul 5		39		0			461	0	0		69
Jul 6		8		0			544	9	2		37
Jul 7		11		0			575	3	0		17
Jul 8		9		2			510	1	0		37
Jul 9		15		0			619	0	0		38
Jul 10		5		0			478	1	1		39
Jul 11		11		1			419	1	0		44
Jul 12		41		0			256	40	1		22
Jul 13		23		0			190	69	0		49
Jul 14		5		0			186	0	0		58
Jul 15		9		0			137	5	0		53
Jul 16		61		0			118	59	0		55
Jul 17		9		0			145	2	1		46
Jul 18		14		0			113	5	0		45
Jul 19		49		0			47	18	0		91
Jul 20		13		0			93	2	2		41
Jul 21		11		0			60	3	0		42
Jul 22		9		0			88	3	1		55
Jul 23		2		0			40	6	0		28
Jul 24		3		0			50	1	0		36
Jul 25		10		0			59	1	0		58
Jul 26		28		0			27	26	0		64
Jul 27		12		0			44	2	2		34
Jul 28		12		0			33	1	0		51
Jul 29		14		1			14	9	0		54
Jul 30		10		0			15	9	0		52
Jul 31		15		0			10	9	0		42
TOTAL		541		6			8,653	291	11		1,480

AVG. 17 0 279 9 0 48

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

TABLE 86

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT - NIGHT FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	TOTAL	unclipped	PINK	LAMPREY
	SPRING	SUMMER	JACK	ADULT	JACK		STEELHEAD	STEELHEAD		
Aug 1		28	0	0		10	11	0		41
Aug 2		22	0	0		10	1	0		28
Aug 3		10	0	0		5	1	0		59
Aug 4		5	0	0		2	0	0		45
Aug 5		10	0	0		2	3	0		39
Aug 6		5	0	0		6	2	2		20
Aug 7		6	0	0		1	1	0		27
Aug 8		6	0	0		1	3	0		57
Aug 9			7	0	0	0	3	0		52
Aug 10			4	0	0	1	1	0		27
Aug 11			1	0	0	1	2	2		27
Aug 12			2	3	0	0	2	2		56
Aug 13			10	0	0	2	0	0		29
Aug 14			17	0	0	1	1	0		27
Aug 15			3	0	0	0	1	1		21
Aug 16			6	0	0	5	2	0		28
Aug 17			3	0	0	1	0	0		16
Aug 18			1	0	0	0	3	3		35
Aug 19			4	1	0	0	0	0		24
Aug 20			5	0	0	0	2	2		29
Aug 21			2	0	0	0	1	0		13
Aug 22			13	2	0	2	2	0		7
Aug 23			10	0	0	0	3	3		10
Aug 24			17	1	0	0	4	4		15
Aug 25			16	0	0	0	1	0		8
Aug 26			27	2	0	0	11	11		22
Aug 27			21	0	0	3	5	5		8
Aug 28			14	0	0	2	5	1		7
Aug 29			18	0	4	1	11	8		1
Aug 30			6	0	0	0	15	15		14
Aug 31			16	2	0	0	11	11		20
TOTAL		92	223	11	4	56	108	70		812

AVG. 12 10 0 0 2 3 2 26

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

TABLE 87

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

MCNARY PROJECT - NIGHT FISH COUNTS

SEPTEMBER 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	TOTAL	unclipped	PINK	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		STEELHEAD	STEELHEAD		
Sep 1			13	2	0	0	0	51	51		14
Sep 2			21	0	3	0	0	18	8		27
Sep 3			17	1	0	0	0	50	50		11
Sep 4			5	2	0	0	0	70	70		22
Sep 5			56	1	1	0	1	47	25		19
Sep 6			28	1	2	0	0	32	15		12
Sep 7			17	4	0	0	0	67	67		12
Sep 8			14	3	0	0	0	73	73		5
Sep 9			18	1	0	0	0	67	67		4
Sep 10			45	1	4	0	0	86	21		3
Sep 11			17	1	1	0	0	99	99		4
Sep 12			18	0	3	0	0	79	79		7
Sep 13			40	2	1	0	0	27	5		5
Sep 14			5	4	0	0	0	30	30		7
Sep 15			13	0	0	0	0	43	43		8
Sep 16			24	2	6	0	0	49	11		7
Sep 17			40	4	11	0	0	37	12		3
Sep 18			4	1	1	0	0	53	16		4
Sep 19			74	1	2	0	0	42	9		1
Sep 20			74	2	6	0	0	35	10		11
Sep 21			28	3	16	0	0	43	14		6
Sep 22			40	1	28	2	0	93	21		0
Sep 23			26	5	22	0	0	105	34		1
Sep 24			17	2	11	0	0	116	19		1
Sep 25			21	5	1	1	0	97	23		1
Sep 26			17	3	26	2	0	74	26		1
Sep 27			8	1	12	0	0	95	17		0
Sep 28			10	2	9	1	0	56	15		0
Sep 29			22	1	0	0	0	56	9		1
Sep 30			16	0	0	0	0	109	46		0
TOTAL			748	56	166	6	1	1,899	985		197

AVG. 25 2 6 0 63 33 7

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

TABLE 88

YEARLY TOTALS OF SALMONIDS COUNTED OVER McNARY DAM
1954 - 2018

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
2014	715,072	209,772	546,012	112,587	1,583,443
2015	822,516	177,137	279,744	19,901	1,299,298
2016	449,621	118,763	261,696	12,013	842,093
2017	282,735	82,472	58,022	23,607	446,836
2018	207,507	66,332	155,480	13,928	443,247
Totals	15,213,969	8,768,502	5,505,389	877,853	30,365,713
10-Year Average	481,895	187,259	231,373	31,138	931,664

*Jacks included

TABLE 89

**MONTHLY COUNT OF CHINOOK SALMON
McNARY DAM: 1954 - 2018**

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 89

(Continued)

MONTHLY COUNT OF CHINOOK SALMON
McNARY DAM: 1954 - 2018

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
2014				10,091	102,818	63,317	47,458	18,523	395,599	77,266			715,072	123,180	104,996	486,896
2015				54,895	97,690	62,853	47,043	37,795	381,931	140,309			822,516	164,918	105,010	552,588
2016				5,606	78,622	57,638	39,343	24,867	212,562	30,983			449,621	94,565	90,395	264,661
2017			-1	195	39,803	45,382	26,396	7,238	111,360	47,122	5,058	182	282,735	51,313	61,984	164,199
2018	0	1	**	166	39,647	35,532	16,695	10,538	80,583	24,345			207,507	47,898	45,162	114,446
Total	7	0	994	1,064,768	2,731,569	1,820,520	1,601,210	896,784	5,737,893	1,339,471	19,807	951	15,213,974	4,167,123	3,281,816	7,778,821
10-Year Average				12,850	83,122	55,489	34,814	22,076	216,726	56,154			481,895	110,253	82,332	291,512

*Jacks included

TABLE 90
MONTHLY COUNT OF SOCKEYE SALMON
McNARY DAM: 1954 - 2018

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 90

(Continued)

**MONTHLY COUNT OF SOCKEYE SALMON
McNARY DAM: 1954 - 2018**

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
2014					0	178,748	365,457	1,760	43	4			546,012
2015					42	183,645	91,482	3,454	982	139			279,744
2016				1	10	190,659	70,113	864	47	2			261,696
2017					1	29,957	27,893	117	47	7	0		58,022
2018					2	91,285	63,831	349	13	0			155,480
Total				2	276	1,932,028	3,463,889	94,627	10,607	3,954	5	1	5,505,389
10-Year Average						114,766	115,609	857	119				231,373

TABLE 91

**MONTHLY COUNT OF COHO SALMON
McNARY DAM: 1954 - 2018**

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 91

(Continued)

MONTHLY COUNT OF COHO SALMON

McNARY DAM; 1954 - 2018

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
2014								36	86,736	25,815			112,587
2015						18	0	162	13,928	5,793			19,901
2016								169	8,859	2,985			12,013
2017								3	15,134	8,064	406	0	23,607
2018								88	9,985	3,855			13,928
TOTAL	1	0	1	14	68	515	23,250	616,807	230,347	6,762	88		877,853
10-Year Average							306	20,527	10,203				31,138

*Jacks included

TABLE 92

MONTHLY COUNT OF STEELHEAD
McNARY DAM: 1954-2018

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 92

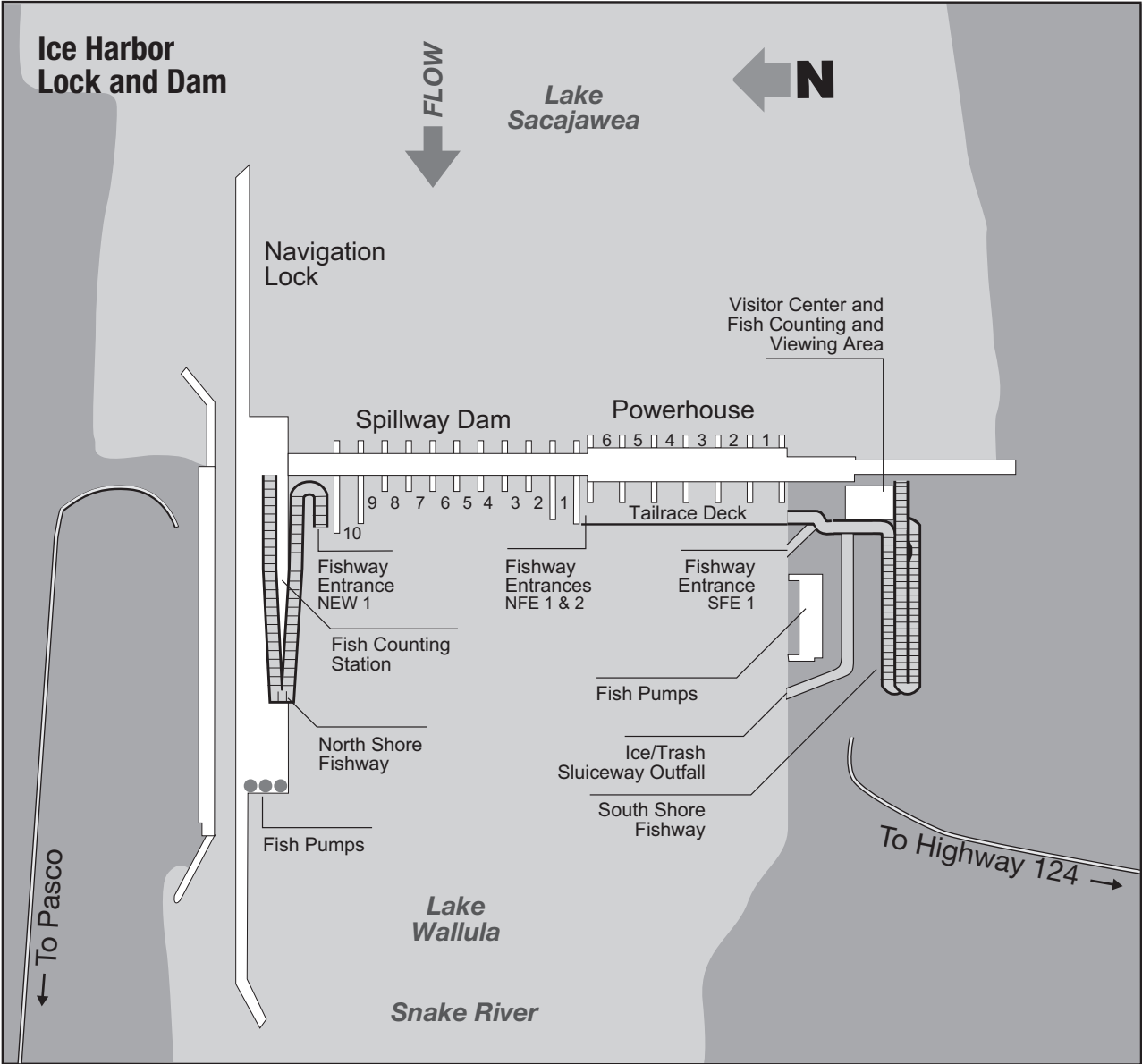
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**MONTHLY COUNT OF STEELHEAD
McNARY DAM: 1954 - 2018**

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
2014				519	341	2,269	23,228	21,019	119,067	43,329			209,772
2015				589	153	1,325	6,295	24,569	101,373	42,833			177,137
2016				471	4	1,359	8,818	6,325	67,132	34,654			118,763
2017			1,869	643	15	80	1,967	2,739	50,813	22,749	1,344	253	82,472
2018	176	10	**	178	0	459	4,872	3,247	37,714	19,676			66,332
Total	1,371	1,023	38,601	120,215	42,457	87,024	774,933	1,465,980	4,198,493	1,945,205	75,555	17,645	8,768,502
10-Year Avg.				1,140	196	1,490	16,454	33,451	91,484	41,631			187,259

Plate 6 Ice Harbor Lock and Dam

0 200 400
approximate scale in feet



ICE HARBOR DAM

FISH COUNTING SCHEDULE

1 January – 28 February	No counting
1 March – 31 March	Video review of daily period covering 0400-2000 hours PST
1 April – 31 October	Visual counting daily from 0400-2000 hours PST
1 November – 31 December	Video review of daily period covering 0400-2000 hours PST

FISH LADDER OPERATING SCHEDULE

North Ladder

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

South Ladder

1 January – 5 February	Ladder in service
6 February – 28 February	Ladder dewatered for annual maintenance
1 March – 31 December	Ladder in service

FISHWAY ACTIVITIES

Water temperatures were recorded hourly, from 1 April to 3 October, from both fish ladder exit pools, the south fish ladder junction pool, the first bend upstream of the north fish ladder collection channel, and the downstream end of the juvenile fish collection channel.

The removable spillway weir (RSW) operated for fish passage from 3 April to 18 August. The RSW was closed before the end of the spill season (31 August) due to low river flows.

The Juvenile Fish Facility was operated for juvenile fish bypass and adult fallbacks from 22 March to 21 December. Juvenile fish were sampled from 2 April – 12 July, twice per week.

Pacific Northwest National Laboratory researchers used the adult fish trap to trap adult spring chinook ascending the south fish ladder. The fish were tagged with passive integrated transponder tags and acoustic tags, then released to the river at Levey Park, and their movements tracked upstream for a Little Goose Dam fish passage study.

TABLE 93

MONTHLY TOTALS OF SALMONIDS, SHAD, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER ICE HARBOR DAM
2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*			5	81	26,169	13,430	1,288	2,985	14,816	3,332	698	40	62,844
STEELHEAD			634	587	81	263	2,007	895	24,184	16,381	2,789	441	48,262
SOCKEYE						121	250	10	1				382
COHO*								2	836	678	56	8	1,580
PINK													0
TOTAL			639	668	26,250	13,814	3,545	3,892	39,837	20,391	3,543	489	113,068
SHAD					15	515,915	287,155	4,406					807,491
LAMPREY			2	1	3	99	586	216	97	15			1,019
STURGEON													0
BULL TROUT													0

*Jacks included

TABLE 94
DISCHARGE AND WATER QUALITY DATA
ICE HARBOR PROJECT 2018

DATE	JANUARY			
	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Jan 1	54.1	0.0	10.1	38.0
Jan 2	47.8	1.0	10.1	38.0
Jan 3	43.5	0.2	9.7	38.0
Jan 4	38.2	0.0	9.7	38.0
Jan 5	38.6	0.0	9.7	38.0
Jan 6	39.0	0.0	9.7	38.0
Jan 7	40.3	0.0	9.7	38.0
Jan 8	42.4	0.0	9.7	38.0
Jan 9	41.1	0.0	5.0	38.0
Jan 10	45.6	3.0	2.1	38.0
Jan 11	51.8	9.2	3.2	38.0
Jan 12	54.7	12.0	3.2	38.0
Jan 13	59.7	16.4	4.6	38.0
Jan 14	66.1	23.0	4.6	38.0
Jan 15	66.0	22.0	7.0	38.0
Jan 16	51.2	15.8	7.2	38.0
Jan 17	50.2	19.4	7.2	38.0
Jan 18	52.0	21.2	1.8	38.0
Jan 19	53.6	22.8	1.8	38.0
Jan 20	62.3	31.2	1.8	38.0
Jan 21	58.4	27.3	1.8	38.0
Jan 22	48.0	16.9	1.8	38.0
Jan 23	51.5	20.2	2.1	39.0
Jan 24	50.4	19.4	2.1	39.0
Jan 25	44.6	11.2	2.1	39.0
Jan 26	46.7	5.3	2.1	39.0
Jan 27	52.0	9.4	3.2	41.0
Jan 28	53.8	10.7	3.2	41.0
Jan 29	49.5	6.1	3.2	41.0
Jan 30	46.1	0.1	3.2	41.0
Jan 31	48.2	0.0	3.2	41.0

AVG.

49.9	10.4	5.0	38.6
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DATE	FEBRUARY			
	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Feb 1	54.8	0.0	4.8	42.0
Feb 2	50.5	0.0	4.9	42.0
Feb 3	55.0	0.0	4.9	42.0
Feb 4	65.9	10.7	4.9	41.0
Feb 5	90.2	33.0	4.9	41.0
Feb 6	81.6	25.4	4.9	41.0
Feb 7	81.7	25.4	4.9	41.0
Feb 8	72.6	16.8	5.9	41.0
Feb 9	69.2	13.7	5.9	41.0
Feb 10	67.5	11.9	5.9	42.0
Feb 11	61.2	5.3	5.0	42.0
Feb 12	60.6	5.2	5.0	42.0
Feb 13	61.8	6.2	5.0	42.0
Feb 14	56.1	0.0	5.0	42.0
Feb 15	55.5	0.0	5.0	42.0
Feb 16	56.1	0.0	5.0	42.0
Feb 17	59.8	3.7	5.0	42.0
Feb 18	64.7	9.3	6.3	42.0
Feb 19	60.9	6.0	6.3	42.0
Feb 20	59.8	5.0	6.3	42.0
Feb 21	55.7	0.9	6.3	42.0
Feb 22	49.7	0.0	4.3	42.0
Feb 23	53.6	0.0	4.3	41.0
Feb 24	53.9	0.0	4.3	40.0
Feb 25	48.8	0.0	4.3	40.0
Feb 26	50.7	0.0	4.3	39.0
Feb 27	49.8	0.0	4.3	39.0
Feb 28	47.1	0.0	4.3	39.0

AVG.

60.5	6.4	5.1	41.3
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TABLE 95

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

ICE HARBOR PROJECT - FISH COUNTS

MARCH 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD								
Mar 1	4							4	0			2		54.0	0.0	4.3	39.0
Mar 2	0							10	2			0		51.3	0.0	3.8	39.0
Mar 3	0							6	6			0		51.0	0.0	3.9	39.0
Mar 4	0							4	2			0		53.9	0.0	3.9	39.0
Mar 5	0							7	1			0		47.1	0.0	3.9	39.0
Mar 6	0							3	1			0		48.9	0.0	6.8	40.0
Mar 7	0							10	3			0		44.9	0.0	6.8	40.0
Mar 8	0							8	2			0		52.5	0.0	6.9	40.0
Mar 9	0							6	1			0		55.2	0.0	6.9	40.0
Mar 10	0							14	5			0		55.2	0.0	6.9	40.0
Mar 11	0							16	3			0		68.3	12.7	7.0	40.0
Mar 12	0							22	8			0		62.8	6.8	7.0	40.0
Mar 13	0							27	8			0		64.2	8.5	7.0	40.0
Mar 14	0							23	8			0		68.5	12.4	7.0	41.0
Mar 15	0							28	6			0		76.8	20.5	7.0	42.0
Mar 16	0							30	9			0		64.4	8.7	7.0	42.0
Mar 17	0							28	9			0		55.0	0.0	7.0	43.0
Mar 18	0							7	0			0		68.4	12.9	7.0	43.0
Mar 19	0							20	9			0		75.2	25.4	7.0	43.0
Mar 20	0							28	8			0		65.3	13.8	7.0	43.0
Mar 21	0							39	13			0		61.4	8.1	4.5	44.0
Mar 22	0							22	6			0		63.9	8.4	4.6	44.0
Mar 23	0							24	5			0		67.8	12.6	4.6	44.0
Mar 24	0							41	15			0		74.1	18.9	3.9	45.0
Mar 25	0							34	7			0		70.2	14.9	3.9	45.0
Mar 26	0							32	12			0		63.3	14.8	3.9	45.0
Mar 27	0							31	15			0		62.2	13.1	3.8	45.0
Mar 28	0							29	10			0		65.3	12.9	3.8	45.0
Mar 29	1							33	11			0		60.7	2.9	3.8	45.0
Mar 30	0							12	6			0		63.7	6.1	3.8	45.0
Mar 31	0							36	12			0		72.8	14.8	3.8	45.0
TOTAL	5							634	203			2					

AVG.								20	7					61.6	8.0	5.4	42.1
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Note: March 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. March fish counts are not added to "Run Year" totals.

TABLE 96
MONTHLY FISH PASSAGE SUMMARY REPORT
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

APRIL 2018

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
	SPRING	SUMMER					FALL	STEELHEAD								
Apr 1	0		0				17	5			0		64.0	9.8	3.8	45.0
Apr 2	0		0				33	15			0		62.1	8.1	3.8	45.0
Apr 3	0		0				31	10			0		69.2	58.8	3.8	45.0
Apr 4	0		0				20	9			0		72.3	61.8	5.0	45.0
Apr 5	0		0				22	6			0		78.7	68.6	5.1	45.0
Apr 6	0		0				22	11			0		84.3	74.4	5.1	45.0
Apr 7	1		0				25	11			0		93.8	81.2	5.6	44.0
Apr 8	0		0				36	5			0		109.4	90.7	5.6	45.0
Apr 9	0		0				57	25			0		120.7	93.9	4.0	45.0
Apr 10	0		0				32	7			0		115.7	95.9	4.0	45.0
Apr 11	1		0				37	11			0		111.8	96.0	4.0	48.0
Apr 12	1		0				15	1			0		117.7	95.0	4.0	48.0
Apr 13	-1		0				17	6			0		122.5	93.1	4.4	49.0
Apr 14	1		0				21	3			0		110.9	93.0	4.4	49.0
Apr 15	0		0				4	0			1		111.7	93.1	3.6	49.0
Apr 16	1		0				14	6			0		109.5	92.7	3.6	49.0
Apr 17	1		0				18	5			0		116.6	91.9	2.6	49.0
Apr 18	5		0				14	8			0		109.9	91.9	2.9	49.0
Apr 19	4		0				10	2			0		103.4	91.9	3.2	49.0
Apr 20	5		1				18	2			0		103.5	91.9	3.2	49.0
Apr 21	2		0				16	6			-1		92.6	82.9	3.2	49.0
Apr 22	2		0				17	5			0		91.2	81.6	2.8	50.0
Apr 23	4		0				23	7			0		98.5	88.4	2.8	51.0
Apr 24	3		0				10	3			0		96.2	85.4	2.8	51.0
Apr 25	1		0				15	4			0		98.8	89.3	2.9	52.0
Apr 26	8		1				8	4			0		96.4	86.4	3.6	52.0
Apr 27	5		0				4	2			0		100.8	89.6	3.6	52.0
Apr 28	8		0				2	1			0		107.4	85.0	3.6	52.0
Apr 29	8		0				16	10			0		118.4	84.9	3.6	53.0
Apr 30	18		1				13	9			1		121.8	84.9	3.6	53.0
TOTAL	78		3				587	199			1					
AVG.	3		0				20	7			0		100.3	81.1	3.8	48.4

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

ICE HARBOR PROJECT - FISH COUNTS

MAY 2018

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
May 1	19			0				10	6		0	0		112.1	84.7	3.6	53.0
May 2	19			1				3	0		0	0		92.2	73.8	3.9	54.0
May 3	38			1				10	4		0	1		103.6	84.9	3.9	54.0
May 4	42			1				3	3		0	1		91.5	80.7	3.9	54.0
May 5	112			3				3	2		0	0		102.7	85.2	5.8	55.0
May 6	250			12				2	2		0	0		115.2	85.0	5.8	55.0
May 7	297			6				4	2		0	0		137.8	91.0	5.8	55.0
May 8	148			2				2	0		0	0		140.3	86.0	4.9	54.0
May 9	274			6				0	0		0	0		138.9	84.9	4.9	54.0
May 10	619			16				5	4		0	0		159.2	104.8	4.9	54.0
May 11	635			25				6	1		0	0		155.8	101.5	4.9	54.0
May 12	1,118			35				3	3		0	0		144.7	90.8	4.3	54.0
May 13	1,503			51				2	0		2	0		124.2	80.4	4.3	54.0
May 14	1,634			41				3	2		2	0		119.9	79.8	4.3	54.0
May 15	1,603			46				2	1		1	2		124.6	81.6	4.3	54.0
May 16	873			58				1	1		0	-1		134.1	84.8	3.1	54.0
May 17	837			58				0	0		0	-1		147.9	92.3	3.1	55.0
May 18	482			58				0	0		0	0		150.6	95.2	3.1	54.0
May 19	809			57				1	0		0	0		154.2	99.6	3.1	54.0
May 20	1,666			119				2	1		1	0		149.7	94.8	3.1	54.0
May 21	1,039			120				1	0		5	1		147.3	92.1	3.1	54.0
May 22	976			97				0	0		0	-1		148.4	93.9	3.1	54.0
May 23	1,143			97				0	0		0	0		156.2	101.6	3.3	54.0
May 24	725			62				4	0		0	0		154.2	99.5	3.3	54.0
May 25	891			103				3	1		0	0		163.9	109.3	3.3	54.0
May 26	594			54				1	0		0	0		170.0	115.2	3.3	56.0
May 27	1,696			143				5	0		0	1		178.0	122.9	3.3	56.0
May 28	1,278			123				3	0		1	-1		163.1	108.4	2.0	56.0
May 29	1,631			140				1	0		1	0		158.4	103.8	2.0	56.0
May 30	1,099			75				1	1		1	0		156.2	101.5	2.0	56.0
May 31	467			42				0	0		1	1		151.7	97.8	1.8	56.0
TOTAL	24,517			1,652				81	34		15	3					
AVG.	791			53				3	1		0	0		140.2	93.8	3.7	54.5
RUN YEAR TOTALS TO DATE		CHINOOK ADULT	CHINOOK JACK					STEELHEAD	unclipped STEELHEAD		SHAD	LAMPREY					
SPRING		24,595	1,655					668	233		15	4					

TABLE 98
 MONTHLY FISH PASSAGE SUMMARY REPORT
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD								
Jun 1	320			18			0	0	-1		-7	1		148.3	96.9	1.8	56.0
Jun 2	1,272			97			0	1	0		94	5		145.2	92.1	2.4	56.0
Jun 3	1,047			75			0	0	0		51	1		123.9	81.5	2.4	58.0
Jun 4	871			62			0	0	0		186	0		113.1	80.4	3.0	59.0
Jun 5	740			62			0	-1	-1		263	0		117.4	80.3	3.4	59.0
Jun 6	700			71			0	1	0		1,125	1		112.0	80.2	3.6	59.0
Jun 7	624			42			0	2	1		721	0		103.2	80.0	3.6	59.0
Jun 8	350			29			1	3	0		916	2		96.3	79.8	3.6	59.0
Jun 9	673			27			0	0	0		438	1		97.2	80.1	3.6	59.0
Jun 10	817			32			0	2	0		579	0		94.8	84.9	3.6	59.0
Jun 11	586			27			0	0	0		1,202	1		89.7	79.6	4.0	59.0
Jun 12		406		44			0	14	0		3,292	0		85.2	74.7	4.0	60.0
Jun 13		249		16			0	7	0		4,795	2		73.8	63.7	4.0	60.0
Jun 14		239		18			0	3	0		1,352	-2		69.9	60.0	4.0	60.0
Jun 15		400		26			0	7	2		13,518	1		60.5	50.7	4.2	60.0
Jun 16		234		20			6	1	1		20,436	6		51.0	41.1	4.2	61.0
Jun 17		382		26			2	6	6		20,990	2		64.9	55.1	4.4	62.0
Jun 18		183		12			0	3	2		11,322	4		55.3	45.3	4.4	62.0
Jun 19		323		24			4	13	8		18,139	9		70.6	60.6	4.4	62.0
Jun 20		301		18			5	2	0		15,633	5		69.8	58.7	4.6	62.0
Jun 21		276		15			2	6	5		29,007	7		69.0	20.5	4.6	63.0
Jun 22		265		30			12	25	9		119,730	8		67.3	20.5	4.6	63.0
Jun 23		141		10			6	21	13		27,468	2		86.8	75.4	4.6	63.0
Jun 24		75		17			6	11	5		17,591	-1		70.0	60.2	4.6	64.0
Jun 25		162		17			8	7	3		35,256	1		64.0	19.2	4.6	64.0
Jun 26		204		14			14	22	10		39,754	19		64.2	19.7	4.6	64.0
Jun 27		154		18			12	22	7		39,553	7		62.0	51.0	4.8	65.0
Jun 28		221		22			10	20	11		36,387	3		64.8	55.2	4.8	65.0
Jun 29		174		26			13	41	27		33,833	0		46.4	14.0	6.5	65.0
Jun 30		105		21			20	24	8		22,291	14		39.9	11.7	6.5	65.0

TOTAL	8,000	4,494		936			121	263	116		515,915	99					
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AVG.	727	237		31			4	9	4		17,197	3		82.6	59.1	4.1	61.1
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	32,595	2,197
SUMMER	4,494	394
TOTAL	37,089	2,591

SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
121	931	349	515,930	103

TABLE 99
 MONTHLY FISH PASSAGE SUMMARY REPORT
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

JULY 2018

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
	SPRING	SUMMER														
Jul 1		127				8	33	16		40,410	8		55.1	45.3	6.5	65.0
Jul 2		106				11	15	12		33,719	4		49.4	40.0	6.7	65.0
Jul 3		94				14	34	20		21,820	11		32.5	9.7	7.0	64.0
Jul 4		79				17	32	11		17,074	15		31.7	9.5	7.0	64.0
Jul 5		53				17	44	13		20,346	18		38.7	29.1	7.0	65.0
Jul 6		41				7	37	13		24,916	46		37.4	27.5	7.0	65.0
Jul 7		45				15	41	18		18,053	36		47.6	13.7	7.0	65.0
Jul 8		43				11	55	24		11,397	54		35.6	10.9	7.0	65.0
Jul 9		44				3	33	18		21,292	47		46.5	35.0	7.2	65.0
Jul 10		55				13	56	34		15,733	47		40.8	31.2	7.2	65.0
Jul 11		36				9	36	21		10,511	29		53.8	15.6	7.5	65.0
Jul 12		50				6	59	29		8,478	42		46.0	13.6	7.5	67.0
Jul 13		14				13	1	52		10,626	23		40.2	29.9	7.5	67.0
Jul 14		36				2	83	43		7,138	20		34.5	25.1	7.5	68.0
Jul 15		24				4	53	29		2,617	3		49.8	40.2	7.5	68.0
Jul 16		26				1	54	21		3,775	19		44.5	35.0	7.5	68.0
Jul 17		35				2	113	68		3,444	7		49.6	40.1	7.8	68.0
Jul 18		14				2	109	67		2,415	13		45.2	35.4	7.8	68.0
Jul 19		17				2	96	47		2,078	2		39.6	30.0	7.9	68.0
Jul 20		18				0	112	58		1,144	20		29.8	20.3	7.9	68.0
Jul 21		18				0	111	58		712	18		31.1	19.9	7.9	69.0
Jul 22		10				0	73	40		905	9		33.6	24.1	7.9	69.0
Jul 23		10				1	82	38		1,654	12		29.5	20.0	7.9	69.0
Jul 24		25				1	77	25		1,564	6		34.7	25.2	7.9	69.0
Jul 25		10				1	92	31		1,661	5		49.5	38.2	7.9	69.0
Jul 26		40				3	125	41		845	4		50.1	40.3	7.9	70.0
Jul 27		18				4	75	24		569	18		34.9	25.1	8.8	70.0
Jul 28		7				1	66	24		715	8		29.7	20.1	8.8	70.0
Jul 29		14				0	51	22		647	17		37.6	28.2	9.6	70.0
Jul 30		17				0	64	34		554	13		29.6	20.2	9.6	70.0
Jul 31		9				1	44	18		343	12		40.0	30.4	11.0	70.0
TOTAL		1,135				153		250	2,007	949			287,155	586		

AVG.	37	5	8	65	31	9,263	19	40.3	26.7	7.8	67.4
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	32,595	2,197
SUMMER	5,629	547
TOTAL	38,224	2,744

SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
371	2,938	1,298	803,085	689

TABLE 100
MONTHLY FISH PASSAGE SUMMARY REPORT
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
	SPRING	SUMMER	FALL														
Aug 1		19		0	0	0	0	58	30		425	14		49.3	39.7	11.0	70.0
Aug 2		16		1	0	0	0	57	19		525	21		31.6	22.1	11.0	70.0
Aug 3		18		1	0	0	0	29	15		480	12		31.5	21.9	11.0	70.0
Aug 4		27		0	0	0	0	49	17		606	8		33.5	23.9	11.0	70.0
Aug 5		13		0	0	0	4	31	12		301	19		31.2	21.9	11.0	70.0
Aug 6		25		0	0	0	2	27	12		144	21		31.3	22.1	11.0	70.0
Aug 7		8		1	0	0	1	24	9		167	5		31.9	22.5	11.0	70.0
Aug 8		9		2	0	0	1	23	6		319	2		42.7	33.1	11.0	70.0
Aug 9		14		2	0	0	0	24	8		180	1		44.7	35.1	11.0	70.0
Aug 10		10		2	0	0	0	19	7		134	9		31.1	20.2	11.0	70.0
Aug 11		20		4	0	0	0	21	13		243	7		31.3	21.9	11.0	71.0
Aug 12			21	1	0	0	0	27	9		182	6		19.5	10.1	11.0	70.0
Aug 13			4	0	0	0	0	19	10		44	6		35.0	25.3	11.0	70.0
Aug 14			26	0	0	0	0	17	7		154	1		19.7	10.1	11.0	71.0
Aug 15			19	1	0	0	0	9	7		32	9		24.7	15.1	11.0	71.0
Aug 16			33	4	0	0	0	9	7		70	3		31.2	20.0	11.0	71.0
Aug 17			29	0	0	0	0	21	10		51	6		24.5	15.2	11.0	71.0
Aug 18			20	2	1	0	1	24	8		41	6		28.4	19.0	11.0	71.0
Aug 19			31	2	0	0	0	22	7		40	2		23.4	13.9	11.0	70.0
Aug 20			63	6	0	1	0	14	5		64	8		23.6	13.9	11.0	70.0
Aug 21			76	6	0	0	0	21	7		63	1		26.6	16.9	11.0	70.0
Aug 22			43	5	0	0	1	32	14		39	4		45.2	35.4	11.0	70.0
Aug 23			79	5	0	0	0	13	7		13	6		27.7	17.9	6.9	70.0
Aug 24			138	3	0	0	0	41	14		27	12		23.8	14.1	6.9	70.0
Aug 25			71	8	0	0	0	16	2		7	4		26.8	17.0	6.7	70.0
Aug 26			185	13	0	0	0	25	11		11	3		25.1	15.3	6.7	70.0
Aug 27			365	35	0	0	0	25	16		5	2		24.9	15.2	6.7	70.0
Aug 28			265	23	0	0	0	17	5		12	5		30.8	21.0	6.7	70.0
Aug 29			317	25	0	0	0	38	16		14	1		35.0	25.2	6.8	70.0
Aug 30			391	33	0	0	0	51	13		5	6		34.9	25.2	6.6	68.0
Aug 31			400	45	0	0	0	92	22		8	6		30.3	19.8	6.6	68.0
TOTAL		179	2,576	230	1	1	10	895	345		4,406	216					

AVG.	16	129	7	0	0	0	29	11			142	7		30.7	21.0	9.8	70.1
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	32,595	2,197
SUMMER	5,808	560
FALL	2,576	217
TOTAL	40,979	2,974

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
1	1	381	3,833	1,643

SHAD	LAMPREY
807,491	905

TABLE 101
 MONTHLY FISH PASSAGE SUMMARY REPORT
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

SEPTEMBER 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
	SPRING	SUMMER	FALL														
Sep 1			326	41	0	0	0	140	29			6		23.4	0.0	6.6	68.0
Sep 2			385	34	0	0	0	86	29			1		22.9	0.0	6.6	68.0
Sep 3			576	56	0	0	0	221	59			10		22.8	0.0	6.6	68.0
Sep 4			781	70	0	0	0	235	63			11		33.4	0.0	6.6	68.0
Sep 5			713	91	2	0	0	491	110			2		10.7	0.0	6.6	67.0
Sep 6			730	98	1	0	0	543	82			5		10.5	0.0	6.6	68.0
Sep 7			661	88	1	1	0	547	97			9		23.5	0.0	6.8	68.0
Sep 8			558	85	0	0	1	382	68			6		22.3	0.0	6.8	68.0
Sep 9			621	120	5	0	0	686	165			9		12.4	0.0	6.8	68.0
Sep 10			611	115	2	2	0	673	151			2		12.2	0.0	6.8	68.0
Sep 11			812	176	8	1	0	1,014	199			6		21.4	0.0	6.8	68.0
Sep 12			603	127	17	4	0	1,075	218			2		11.1	0.0	6.9	68.0
Sep 13			500	139	47	11	0	1,005	196			5		10.9	0.0	6.9	68.0
Sep 14			384	89	54	15	0	890	132			0		13.0	0.0	6.9	68.0
Sep 15			259	53	34	16	0	504	66			2		21.4	0.0	6.9	67.0
Sep 16			237	39	28	18	0	576	72			1		12.3	0.0	7.0	67.0
Sep 17			272	56	26	5	0	783	128			4		23.4	0.0	7.0	67.0
Sep 18			469	198	29	8	0	876	157			4		11.4	0.0	7.0	67.0
Sep 19			378	122	37	6	0	1,004	170			2		12.2	0.0	7.2	67.0
Sep 20			323	147	43	1	0	1,309	230			1		27.4	0.0	8.4	66.0
Sep 21			311	99	35	4	0	1,129	197			0		20.8	0.0	8.5	66.0
Sep 22			190	29	35	44	0	1,017	188			1		34.3	0.0	8.5	66.0
Sep 23			170	27	36	26	0	1,014	189			5		24.6	0.0	8.5	65.0
Sep 24			160	82	45	22	0	1,412	276			0		9.7	0.0	8.7	65.0
Sep 25			164	48	23	5	0	969	147			0		24.2	0.0	8.6	65.0
Sep 26			129	34	18	1	0	765	110			1		12.1	0.0	8.7	65.0
Sep 27			145	50	18	7	0	739	107			2		12.0	0.0	8.7	65.0
Sep 28			194	132	37	4	0	1,165	217			-1		23.9	0.0	8.7	65.0
Sep 29			199	152	30	4	0	1,557	349			-1		12.2	0.0	7.9	64.0
Sep 30			213	145	18	2	0	1,377	293			2		22.8	0.0	8.7	64.0
TOTAL			12,074	2,742	629	207	1	24,184	4,494			97					
AVG.			402	91	21	7	0	806	150			3		18.5	0.0	7.4	66.7

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	32,595	2,197
SUMMER	5,808	560
FALL	14,650	2,959
TOTAL	53,053	5,716

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
630	208	382	28,017	6,137	807,491	1,002

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

ICE HARBOR PROJECT - FISH COUNTS

OCTOBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	TOTAL	unclipped	PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F*
	SPRING	SUMMER	JACK	ADULT	JACK		STEELHEAD	STEELHEAD								
Oct 1			199	227	16	0	1,136	218			-1		12.4	0.0	8.1	64.0
Oct 2			179	106	20	0	1,021	213			0		22.9	0.0	8.1	64.0
Oct 3			105	95	16	0	574	117			5		21.7	0.0	8.1	64.0
Oct 4			150	117	22	2	992	182			-2		10.4	0.0	8.1	64.0
Oct 5			118	145	33	2	1,257	253			1		32.7	0.0	8.1	64.0
Oct 6			106	102	24	4	804	169			0		12.4	0.0	7.9	64.0
Oct 7			120	91	20	0	994	181			1		13.6	0.0	7.0	63.0
Oct 8			71	53	18	2	630	109			0		12.2	0.0	7.2	62.0
Oct 9			70	37	23	1	595	126			1		11.7	0.0	7.2	62.0
Oct 10			73	85	31	4	813	197			0		9.3	0.0	7.2	62.0
Oct 11			25	36	20	5	385	86			0		12.2	0.0	7.0	62.0
Oct 12			38	33	41	4	665	120			0		25.6	0.0	7.0	62.0
Oct 13			53	22	25	1	366	81			2		13.7	0.0	6.7	62.0
Oct 14			30	37	24	5	477	110			0		12.4	0.0	8.2	60.0
Oct 15			49	36	52	14	960	216			0		12.1	0.0	8.3	60.0
Oct 16			31	46	32	5	712	136			0		12.4	0.0	8.3	60.0
Oct 17			54	40	26	4	604	113			0		12.2	0.0	8.3	60.0
Oct 18			18	17	12	4	370	92			0		24.1	0.0	8.5	60.0
Oct 19			48	32	26	1	538	112			4		12.2	0.0	8.5	60.0
Oct 20			24	19	18	0	317	77			2		12.1	0.0	8.5	60.0
Oct 21			34	20	10	0	315	68			0		12.2	0.0	8.5	60.0
Oct 22			27	14	11	0	178	32			0		12.3	0.0	8.5	59.0
Oct 23			24	13	7	0	205	44			0		12.2	0.0	8.5	58.0
Oct 24			27	19	13	0	290	88			0		12.2	0.0	8.7	58.0
Oct 25			32	14	8	0	261	68			2		12.1	0.0	8.7	58.0
Oct 26			10	2	18	0	145	38			0		12.1	0.0	8.7	58.0
Oct 27			12	2	2	0	156	31			0		12.0	0.0	8.7	58.0
Oct 28			20	12	10	1	174	52			0		13.7	0.0	8.7	58.0
Oct 29			14	27	19	1	120	36			0		12.1	0.0	7.9	58.0
Oct 30			28	17	10	0	192	53			0		12.1	0.0	7.9	57.0
Oct 31			18	9	11	0	135	31			0		12.2	0.0	7.9	57.0
TOTAL			1,807	1,525	618	60	16,381	3,449			15					

AVG.	58	49	20	2	528	111	0	14.3	0.0	8.0	60.6
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	STURGEON
TOTALS TO DATE											
SPRING	32,595	2,197	1,248	268	382	44,398	9,586	0	807,491	1,017	0
SUMMER	5,808	560									
FALL	16,457	4,484									
TOTAL	54,860	7,241									

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 103
MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

NOVEMBER 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	SHAD	LAMPREY	STURGEON	DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL													SECCHI	DEG F
Nov 1			38	22	8	0		286	75					12.2	0.0	7.9	57.0
Nov 2			52	15	11	1		280	78					12.3	0.0	7.9	57.0
Nov 3			52	23	14	0		266	98					30.0	0.0	9.0	57.0
Nov 4			50	28	7	0		272	74					29.8	0.0	8.5	57.0
Nov 5			45	10	4	0		214	66					13.6	0.0	8.6	56.0
Nov 6			37	8	3	0		192	65					12.2	0.0	8.6	56.0
Nov 7			30	10	0	0		188	57					12.6	0.0	8.2	56.0
Nov 8			20	4	0	0		116	46					34.7	0.0	8.2	56.0
Nov 9			13	11	3	0		151	58					12.5	0.0	8.2	55.0
Nov 10			13	11	0	1		124	59					24.2	0.0	8.2	55.0
Nov 11			11	8	2	0		64	25					11.7	0.0	8.2	54.0
Nov 12			22	10	0	0		125	44					13.6	0.0	8.2	54.0
Nov 13			19	4	0	0		89	35					12.1	0.0	8.0	54.0
Nov 14			8	0	0	0		46	18					12.4	0.0	8.0	54.0
Nov 15			10	4	0	0		40	13					12.8	0.0	8.0	54.0
Nov 16			12	1	0	0		45	12					12.0	0.0	8.0	54.0
Nov 17			9	8	0	0		39	13					12.1	0.0	8.0	54.0
Nov 18			3	4	0	0		34	11					12.0	0.0	8.0	54.0
Nov 19			4	2	0	0		26	16					12.1	0.0	8.0	54.0
Nov 20			10	5	0	0		28	10					12.6	0.0	8.0	54.0
Nov 21			2	2	1	0		19	9					19.7	0.0	8.0	53.0
Nov 22			4	1	1	0		19	5					15.3	0.0	8.0	53.0
Nov 23			3	2	0	0		13	2					23.2	0.0	8.0	49.0
Nov 24			1	2	0	0		12	3					12.1	0.0	8.8	49.0
Nov 25			2	1	0	0		22	7					12.0	0.0	9.7	49.0
Nov 26			2	2	0	0		16	6					12.1	0.0	9.7	49.0
Nov 27			6	2	0	0		16	3					12.5	0.0	9.7	49.0
Nov 28			4	4	0	0		19	10					12.1	0.0	9.7	48.0
Nov 29			5	0	0	0		13	4					23.6	0.0	9.7	48.0
Nov 30			6	1	0	0		15	2					13.7	0.0	9.7	48.0

TOTAL	493	205	54	2			2,789	924									
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AVG.	16	7	2	0			93	31						15.8	0.0	8.5	53.2
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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	32,595	2,197	1,248	268	382	44,398	9,586	0	807,491	1,017	0
SUMMER	5,808	560									
FALL	16,457	4,484									
TOTAL	54,860	7,241									

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 104
MONTHLY FISH PASSAGE SUMMARY REPORT
U.S. ARMY ENGINEER DISTRICT, PORTLAND

ICE HARBOR PROJECT - FISH COUNTS

DECEMBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL	unclipped	PINK	SHAD	LAMPREY	STURGEON	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT									JACK	SOCKEYE
Dec 1			2	0	0		15	6				24.5	0.0	9.7	48.0
Dec 2			1	0	0		15	6				12.9	0.0	9.7	48.0
Dec 3			0	0	2		11	3				22.8	0.0	9.7	47.0
Dec 4			4	0	0		15	3				13.7	0.0	9.7	47.0
Dec 5			2	0	1		15	5				13.8	0.0	9.7	47.0
Dec 6			2	0	1		17	5				12.3	0.0	10.4	47.0
Dec 7			1	1	0		17	7				23.6	0.0	10.4	47.0
Dec 8			0	0	2		12	4				11.5	0.0	9.8	47.0
Dec 9			1	0	0		12	1				10.3	0.0	9.8	46.0
Dec 10			1	0	0		17	4				10.1	0.0	9.8	46.0
Dec 11			0	0	0		8	4				10.8	0.0	9.8	45.0
Dec 12			1	0	0		20	5				9.9	0.0	9.8	45.0
Dec 13			0	1	0		20	5				25.4	0.0	9.8	45.0
Dec 14			0	1	0		16	6				27.4	0.0	9.7	44.0
Dec 15			0	0	1		20	6				26.1	0.0	9.7	44.0
Dec 16			0	1	0		18	3				12.1	0.0	9.7	44.0
Dec 17			1	0	0		18	3				25.2	0.0	9.7	44.0
Dec 18			-1	0	0		18	5				25.4	0.0	9.7	44.0
Dec 19			0	0	0		24	6				25.5	0.0	9.7	44.0
Dec 20			0	0	0		16	1				10.5	0.0	9.7	43.0
Dec 21			2	0	0		17	6				12.3	0.0	9.7	43.0
Dec 22			1	0	0		16	4				25.2	0.0	10.5	43.0
Dec 23			1	1	1		8	2				24.1	0.0	10.5	43.0
Dec 24			1	2	0		9	1				11.9	0.0	10.5	42.0
Dec 25			6	0	0		5	3				11.8	0.0	11.0	42.0
Dec 26			2	-1	0		14	4				10.5	0.0	11.0	42.0
Dec 27			2	0	0		7	1				23.6	0.0	11.0	42.0
Dec 28			1	1	0		8	1				26.8	0.0	11.0	42.0
Dec 29			0	0	0		10	3				22.6	0.0	11.0	42.0
Dec 30			0	1	0		7	3				11.8	0.0	11.0	42.0
Dec 31			-1	2	0		16	8				11.0	0.0	11.0	41.0

TOTAL		30	10	8			441	124							
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AVG.		1	0	0			14	4				17.6	0.0	10.1	44.4
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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	32,595	560	1,248	268	382	44,398	9,586	0	807491	1017	0
SUMMER	5,808	560									
FALL	16,457	4,484									
TOTAL	54,860	5,604									

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 105
 YEARLY TOTALS OF SALMONIDS COUNTED OVER
 ICE HARBOR DAM
 1962 - 2018

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
2014	192,966	151,966	2,392	16,077	363,401
2015	219,408	128,521	1,052	1,492	350,473
2016	137,810	94,473	898	2,141	235,322
2017	78,076	61,961	392	5,737	146,166
2018	62,844	48,262	382	1,580	113,068
Totals	4,296,236	5,861,470	21,219	106,306	10,285,231
10-Year Average	155,093	144,048	977	4,644	304,763

*Jacks included

Video daytime counts during extended count seasons are included.

MONTHLY COUNT OF CHINOOK SALMON
ICE HARBOR DAM
1962 - 2018

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
2014	0	0		5,641	75,061	23,863	8,276	4,760	67,206	8,159			192,966	91,726	21,907	79,333
2015				36,199	75,507	26,847	6,784	8,657	55,175	10,239			219,408	122,207	24,215	72,986
2016				2,708	60,972	19,249	3,930	7,881	38,408	4,662			137,810	72,513	15,518	49,779
2017				98	25,398	17,807	3,065	2,098	24,051	5,559			78,076	35,255	11,371	31,450
2018			5	81	26,169	13,430	1,288	2,985	14,816	3,332	698	40	62,844	34,792	6,368	20,941
TOTAL		1	357	556,962	1,584,802	753,328	296,608	112,765	812,659	174,243	4,379	132	4,296,236	2,405,681	808,456	1,080,777
10-Year Average				8,126	58,005	25,619	6,053	6,354	44,545	6,284			155,093	76,634	21,875	56,476

*Jacks included

Video for daytime counts during extended count seasons are included.

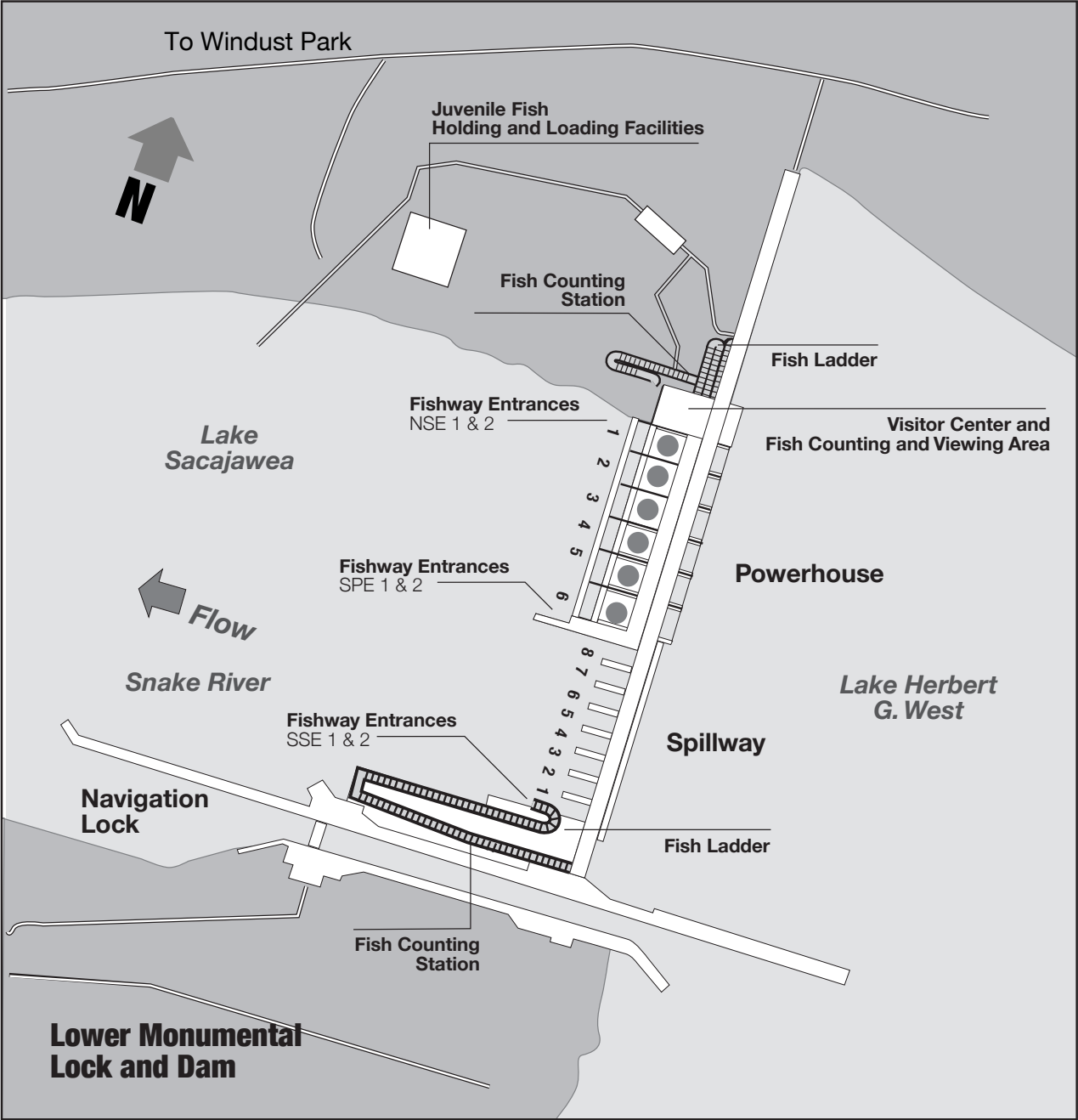
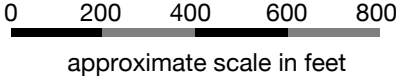
TABLE 107

MONTHLY COUNT OF STEELHEAD
ICE HARBOR DAM
1962 -2018

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
2014	211	287		911	366	1,278	10,030	10,929	87,114	40,840			151,966
2015				942	203	953	2,707	11,206	74,537	37,973			128,521
2016				1,254	112	547	4,699	4,033	49,702	34,126			94,473
2017				972	94	77	874	994	35,223	23,727			61,961
2018			634	587	81	263	2,007	895	24,184	16,381	2,789	441	48,262
Totals	479	574	27,739	123,742	23,727	29,186	282,335	555,097	2,951,157	1,763,294	88,953	15,187	5,861,470
10-Year Average				1,731	208	771	8,230	17,520	74,282	40,185			144,048

Video daytime counts during extended count seasons are included.

Plate 7 Lower Monumental Lock and Dam



LOWER MONUMENTAL DAM 2018

FISH COUNTING SCHEDULE

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

FISH LADDER OPERATING SCHEDULE

North Ladder

1 Jan – 5 Jan	Ladder in service.
5 Jan – 30 Jan	Ladder dewatered for annual maintenance.
30 Jan – 31 Dec	Ladder in service.

South Ladder

1 Jan – 1 Feb	Ladder in service.
1 Feb – 26 Feb	Ladder dewatered for annual maintenance.
26 Feb – 31 Dec	Ladder in service.

FISHWAY ACTIVITIES

Water temperatures were recorded hourly from north and south fish ladder exit pools, upper diffusers, and ladder entrance transition pools. Hourly readings were taken from June 1 to September 30. The purpose was to determine if summer spill had any effects on exit pool temperatures.

Monthly inspection of the north and south ladder exit pool zebra mussel monitoring stations occurred throughout the ladder operation period. No zebra mussels were discovered.

All fish pumps were out of service from 2 January through 1 March for annual maintenance.

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

The RSW at Lower Monumental was in service as per requirements of 2018 operating year. The RSW spill was closed on August 8.

TABLE 108

**MONTHLY TOTALS OF SALMONIDS, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER LOWER MONUMENTAL DAM
2018**

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				73	26,689	16,436	1,758	2,883	18,287	4,336			70,462
STEELHEAD				1,121	81	161	1,938	1,128	25,245	20,357			50,031
SOCKEYE						50	315	32	1				398
COHO*								1	848	1,209			2,058
PINK													0
TOTAL				1,194	26,770	16,647	4,011	4,044	44,381	25,902			122,949
LAMPREY				1	6	87	190	110	30	8			432
STURGEON													0
BULL TROUT				5	1	3	0						9

*Jacks included

TABLE 109
DISCHARGE AND WATER QUALITY DATA
LOWER MONUMENTAL PROJECT 2018

DATE	MARCH			
	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Jan 1	54.9	15.8	6.0	39.0
Jan 2	49.2	9.9	6.0	40.0
Jan 3	44.3	5.0	6.0	40.0
Jan 4	40.8	6.4	6.0	40.0
Jan 5	35.4	6.9	6.0	40.0
Jan 6	36.8	17.9	6.0	40.0
Jan 7	36.8	17.9	6.0	40.0
Jan 8	35.2	16.2	6.0	40.0
Jan 9	38.2	19.7	6.0	40.0
Jan 10	42.2	16.9	6.0	40.0
Jan 11	46.6	9.3	6.0	40.0
Jan 12	51.9	14.9	6.0	40.0
Jan 13	49.2	12.1	6.0	40.0
Jan 14	59.1	22.3	5.5	41.0
Jan 15	59.8	22.9	5.5	41.0
Jan 16	59.9	22.8	5.5	42.0
Jan 17	52.7	15.4	5.5	42.0
Jan 18	47.6	12.8	5.5	41.0
Jan 19	48.5	17.0	5.5	41.0
Jan 20	52.1	16.1	5.5	41.0
Jan 21	57.2	19.8	5.5	41.0
Jan 22	52.0	14.5	5.5	41.0
Jan 23	46.8	9.8	5.5	41.0
Jan 24	48.3	18.1	5.5	41.0
Jan 25	47.9	10.6	5.5	41.0
Jan 26	44.2	1.3	5.5	40.0
Jan 27	47.6	2.7	5.5	40.0
Jan 28	47.6	0.0	5.5	40.0
Jan 29	51.1	2.5	5.5	39.0
Jan 30	47.3	0.0	5.0	40.0
Jan 31	47.1	0.0	5.0	40.0
AVG	47.7	12.2	5.7	40.4

DATE	FEBRUARY			
	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Feb 1	50.4	0.0	5.0	40.0
Feb 2	56.8	0.0	5.0	39.0
Feb 3	46.3	0.0	5.0	39.0
Feb 4	55.6	0.0	5.0	39.0
Feb 5	66.8	0.0	5.0	40.0
Feb 6	85.3	20.1	5.0	40.0
Feb 7	81.7	17.8	5.0	40.0
Feb 8	73.9	14.1	5.0	40.0
Feb 9	74.2	4.6	5.0	40.0
Feb 10	67.8	0.0	5.0	41.0
Feb 11	68.5	0.0	5.0	41.0
Feb 12	56.1	0.0	5.0	41.0
Feb 13	59.0	4.6	5.0	42.0
Feb 14	60.6	8.4	5.0	42.0
Feb 15	51.2	7.2	5.0	42.0
Feb 16	59.0	7.0	5.0	42.0
Feb 17	51.9	0.0	5.0	42.0
Feb 18	61.9	10.2	5.0	42.0
Feb 19	64.2	16.2	3.0	42.0
Feb 20	58.4	6.1	3.0	41.0
Feb 21	57.2	5.2	3.0	41.0
Feb 22	52.8	1.0	3.0	40.0
Feb 23	50.6	0.8	3.0	40.0
Feb 24	53.4	2.1	3.0	40.0
Feb 25	51.1	0.0	3.0	40.0
Feb 26	51.2	0.1	3.0	40.0
Feb 27	50.9	0.0	3.0	39.0
Feb 28	51.2	3.1	3.0	39.0
AVG	59.6	4.6	4.3	40.5

DATE	MARCH			
	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
Mar 1	45.3	1.0	3.0	39.0
Mar 2	56.7	5.0	3.0	39.0
Mar 3	53.1	1.0	3.0	39.0
Mar 4	49.0	0.0	3.0	39.0
Mar 5	49.8	0.0	3.0	39.0
Mar 6	47.2	0.0	3.0	39.0
Mar 7	48.0	0.0	3.0	39.0
Mar 8	48.6	0.0	3.0	39.0
Mar 9	50.9	0.0	3.0	40.0
Mar 10	56.4	0.0	3.0	40.0
Mar 11	63.5	0.0	3.0	40.0
Mar 12	65.0	0.0	3.0	41.0
Mar 13	62.3	0.0	3.0	41.0
Mar 14	63.5	0.4	3.0	41.0
Mar 15	67.4	2.4	3.0	41.0
Mar 16	70.9	1.0	3.0	41.0
Mar 17	63.8	0.0	3.0	43.0
Mar 18	55.6	0.0	3.0	43.0
Mar 19	69.2	0.0	3.0	44.0
Mar 20	67.3	1.9	3.0	44.0
Mar 21	61.6	1.7	3.0	44.0
Mar 22	63.2	3.9	3.0	44.0
Mar 23	61.0	0.6	3.0	44.0
Mar 24	70.0	1.4	2.5	44.0
Mar 25	73.6	4.8	2.5	44.0
Mar 26	67.5	0.1	2.5	44.0
Mar 27	63.9	2.4	2.5	44.0
Mar 28	60.4	0.0	2.5	44.0
Mar 29	64.7	0.0	2.5	44.0
Mar 30	60.7	0.0	2.5	45.0
Mar 31	64.6	0.0	2.5	45.0
AVG	60.2	0.9	2.9	41.8

TABLE 110

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

LOWER MONUMENTAL PROJECT - FISH COUNTS													APRIL 2018				
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	0			0				21	4			0	0	67.8	0.0	2.5	45.0
Apr 2	0			0				25	13			0	0	62.4	0.0	2.5	45.0
Apr 3	0			0				10	4			0	0	62.7	0.1	2.5	45.0
Apr 4	0			0				17	8			1	0	62.1	40.0	2.5	45.0
Apr 5	0			0				22	7			1	0	58.6	40.8	2.5	45.0
Apr 6	0			0				54	10			0	0	73.3	44.0	2.5	46.0
Apr 7	0			0				69	19			0	0	76.9	46.0	2.5	46.0
Apr 8	0			0				101	23			1	0	88.8	46.0	2.5	47.0
Apr 9	0			0				79	21			0	0	105.6	46.0	2.5	48.0
Apr 10	1			0				81	9			0	0	112.8	44.0	2.5	48.0
Apr 11	0			0				80	16			0	0	109.5	43.4	2.5	48.0
Apr 12	0			0				77	24			0	0	105.0	42.1	2.5	49.0
Apr 13	2			0				56	16			0	0	112.6	41.6	2.5	49.0
Apr 14	0			1				49	11			0	0	113.6	40.0	2.5	49.0
Apr 15	0			0				37	11			0	0	105.3	40.0	2.5	49.0
Apr 16	0			0				22	9			0	0	105.2	39.6	2.5	49.0
Apr 17	1			0				40	16			0	0	103.3	39.9	2.5	49.5
Apr 18	5			0				42	7			0	0	109.1	40.0	2.5	49.5
Apr 19	0			1				24	3			0	0	102.6	39.8	2.5	50.0
Apr 20	2			0				30	9			0	0	97.5	39.9	2.5	50.0
Apr 21	2			0				24	9			0	0	95.5	40.2	2.5	50.0
Apr 22	4			0				23	3			0	0	87.6	40.0	2.5	50.0
Apr 23	11			0				23	2			0	0	85.1	38.5	2.5	51.0
Apr 24	4			0				22	8			1	0	90.7	36.9	2.5	51.0
Apr 25	3			0				16	8			0	0	87.1	34.9	2.5	51.0
Apr 26	0			0				18	2			0	0	92.1	32.0	2.5	52.0
Apr 27	5			0				24	8			0	0	91.7	31.9	3.0	52.0
Apr 28	14			0				12	2			0	0	94.9	30.4	3.0	53.0
Apr 29	4			0				10	0			1	0	98.2	33.8	3.0	53.0
Apr 30	13			0				13	1			0	1	112.8	43.8	3.0	53.0
TOTAL	71			2				1,121	283			5	1				
AVG.	2			0				37	9			0	0	92.3	35.9	2.6	48.9

Note: Official Spring Chinook run started April 1.

TABLE 111

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

LOWER MONUMENTAL PROJECT - FISH COUNTS

MAY 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL SOCKEYE	unclipped		PINK STURGEON	BULL		DISCH KCFS	SPILL KCFS	TURBIDITY SECCH	TEMP DEG F
	SPRING	SUMMER	FALL					STEELHEAD	STEELHEAD		TROUT	LAMPREY				
May 1	10			0			13	3			0	0	115.7	46.8	3.0	54.0
May 2	13			0			2	1			0	0	103.9	41.4	3.0	54.0
May 3	28			2			13	7			0	0	87.4	33.8	3.0	54.0
May 4	15			0			3	0			0	0	95.1	36.5	3.0	54.0
May 5	49			0			4	2			0	0	84.8	30.3	3.0	53.0
May 6	51			2			2	0			0	0	96.0	30.0	3.0	53.0
May 7	140			2			3	2			0	0	108.2	42.1	3.0	52.0
May 8	205			6			3	1			0	0	133.8	66.4	3.0	52.0
May 9	274			1			5	1			1	0	134.5	64.6	3.0	52.0
May 10	264			6			2	0			0	1	135.2	65.7	3.0	54.0
May 11	552			26			0	0			0	0	151.6	80.3	3.0	54.0
May 12	614			22			4	2			0	0	151.4	72.0	3.0	54.0
May 13	807			32			3	0			0	0	134.9	46.2	3.0	54.0
May 14	1,109			48			1	0			0	0	117.3	30.4	3.0	54.0
May 15	1,283			61			3	1			0	0	112.8	37.6	2.5	54.0
May 16	1,400			82			1	0			0	0	119.0	42.2	2.5	54.0
May 17	1,397			90			6	4			0	0	124.2	42.8	2.5	54.0
May 18	1,056			95			4	4			0	0	141.9	52.8	2.5	53.0
May 19	847			61			2	0			0	0	143.4	54.6	2.5	54.0
May 20	657			65			0	0			0	0	147.3	59.1	2.5	55.0
May 21	1,581			117			0	0			0	0	142.0	53.6	2.5	55.0
May 22	1,019			107			0	0			0	0	140.9	52.2	2.5	55.0
May 23	888			84			0	0			0	0	141.2	52.6	2.5	55.0
May 24	1,132			85			2	0			0	1	148.3	59.7	2.0	55.0
May 25	759			62			0	0			0	1	148.0	60.3	2.0	55.0
May 26	1,236			156			1	1			0	0	160.8	73.6	2.0	55.0
May 27	848			106			1	0			0	0	167.5	79.8	2.0	57.0
May 28	1,727			208			2	1			0	0	172.4	84.5	5.0	57.0
May 29	1,834			197			1	1			0	2	157.9	69.8	2.0	57.0
May 30	1,012			112			0	0			0	1	152.4	64.2	2.0	57.0
May 31	1,877			170			0	0			0	0	149.9	61.5	2.0	57.0
TOTAL	24,684			2,005			81	31			1	6				
AVG.	796			65			3	1			0	0	132.9	54.4	2.7	54.4
RUN YEAR		CHINOOK ADULT	CHINOOK JACK				STEELHEAD	unclipped STEELHEAD			BULL TROUT	LAMPREY				
TOTALS TO DATE		24,755	2,007				1,202	314			6	7				

TABLE 112

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

LOWER MONUMENTAL PROJECT - FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL			BULL		DISCH KCFS	SPILL KCFS	TURBIDITY		
	SPRING	SUMMER	FALL				SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	STURGEON			TROUT	LAMPREY	SECCH
Jun 1	1,264			111			0	0	0		0	0	143.8	55.1	2.0	57.0
Jun 2	753			105			0	0	0		0	0	143.6	54.9	2.0	57.0
Jun 3	1,357			128			0	0	0		0	0	136.0	58.7	1.8	59.0
Jun 4	1,158			131			0	2	2		0	1	86.3	29.3	1.8	59.0
Jun 5	1,120			119			0	0	0		1	1	103.7	27.0	1.8	58.0
Jun 6	730			84			0	2	1		1	0	110.1	31.7	2.0	58.0
Jun 7	732			77			0	2	1		0	0	105.0	29.5	2.5	58.0
Jun 8	594			45			0	0	0		0	1	99.3	26.7	2.5	60.0
Jun 9	415			42			0	1	1		0	2	88.5	27.0	2.5	60.0
Jun 10	595			39			0	1	1		0	1	91.9	26.9	2.5	60.0
Jun 11	744			43			1	1	1		0	2	82.5	27.0	2.5	60.0
Jun 12	659			49			0	1	0		1	1	82.7	26.7	2.5	60.0
Jun 13	522			40			1	0	0		0	2	79.1	29.5	2.5	60.0
Jun 14		472		37			0	2	0		0	0	68.8	31.1	2.5	61.0
Jun 15		278		27			2	1	1		0	2	63.6	33.0	2.5	63.0
Jun 16		243		38			0	2	1		0	1	61.6	32.3	3.0	64.0
Jun 17		280		40			2	2	1		0	2	54.7	33.5	3.0	64.0
Jun 18		160		18			1	1	1		0	1	50.5	34.0	3.0	64.0
Jun 19		314		23			0	5	5		0	0	50.9	37.0	3.0	64.0
Jun 20		458		23			0	9	5		0	4	60.7	35.9	3.0	64.0
Jun 21		270		24			0	4	2		0	8	65.2	37.2	3.0	64.0
Jun 22		309		36			0	15	8		0	3	65.8	16.9	3.0	63.0
Jun 23		278		32			3	5	4		0	7	65.6	16.9	3.5	63.0
Jun 24		148		21			0	10	6		0	5	71.3	16.6	3.5	64.0
Jun 25		210		16			3	18	12		0	10	67.4	17.0	4.0	64.0
Jun 26		161		40			0	15	11		0	3	62.0	16.5	4.0	64.0
Jun 27		189		23			2	9	3		0	6	60.0	16.8	4.0	64.0
Jun 28		184		16			3	12	8		0	6	59.2	16.5	4.0	64.0
Jun 29		186		31			22	17	15		0	12	57.2	17.1	4.0	64.0
Jun 30		179		16			10	24	10		0	6	48.2	16.5	4.0	64.0

TOTAL	10,643	4,319		1,474			50	161	100		3	87				
AVG.	819	254		49			2	5	3		0	3	79.5	29.2	2.9	61.6

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	BULL TROUT	LAMPREY
TOTALS TO DATE							
SPRING	35,398	3,020	50	1,363	414	9	94
SUMMER	4,319	461					
TOTAL	39,717	3,481					

TABLE 113

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

LOWER MONUMENTAL PROJECT - FISH COUNTS

JULY 2018

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
Jul 1		123		14			8	20	11			3		41.5	17.0	4.0	64.0
Jul 2		152		20			8	28	17			7		42.5	16.7	4.0	65.0
Jul 3		148		21			15	39	20			5		40.6	17.0	4.0	65.0
Jul 4		106		15			18	30	12			8		41.4	16.7	4.0	65.0
Jul 5		107		7			18	48	30			10		42.7	17.0	4.0	65.0
Jul 6		87		15			12	46	35			5		37.6	16.7	4.5	66.0
Jul 7		73		9			11	38	19			20		43.1	16.9	4.5	66.0
Jul 8		56		10			5	34	15			15		43.3	16.6	4.0	66.0
Jul 9		63		3			11	54	30			8		42.9	17.4	4.0	66.0
Jul 10		50		5			10	56	33			15		39.6	16.7	4.5	67.0
Jul 11		65		6			21	66	36			9		45.1	17.0	4.5	67.0
Jul 12		52		1			2	53	30			7		43.1	16.9	5.0	67.0
Jul 13		43		14			20	40	19			10		44.6	17.1	5.0	67.0
Jul 14		39		10			9	77	38			7		40.2	16.3	5.0	68.0
Jul 15		27		2			4	52	30			5		38.6	15.5	5.0	68.5
Jul 16		31		2			9	65	44			3		39.1	16.6	5.0	69.0
Jul 17		25		5			21	83	53			2		38.3	16.9	5.0	69.0
Jul 18		43		19			27	84	52			6		41.9	16.3	5.0	69.0
Jul 19		42		2			3	96	57			8		38.0	16.9	5.0	69.0
Jul 20		25		4			22	104	49			2		34.5	16.6	5.0	70.0
Jul 21		26		1			10	72	39			7		32.4	17.1	5.0	70.0
Jul 22		19		1			13	106	56			5		32.1	16.6	5.0	70.0
Jul 23		22		0			11	105	51			3		30.5	17.1	5.0	70.0
Jul 24		12		2			1	84	42			5		33.6	16.6	5.0	70.0
Jul 25		35		1			8	104	54			2		34.6	17.1	5.5	70.0
Jul 26		24		2			9	53	31			0		35.3	14.2	5.5	71.0
Jul 27		26		3			2	85	42			2		32.5	16.0	5.5	71.0
Jul 28		6		0			1	93	53			2		37.0	16.8	5.5	71.0
Jul 29		3		0			0	37	15			5		30.1	16.3	5.5	71.0
Jul 30		12		0			0	18	8			1		34.9	16.7	5.5	70.0
Jul 31		18		4			6	68	20			3		30.2	16.7	5.5	70.0
TOTAL		1,560		198			315	1,938	1,041			190					
AVG.		50		6			10	63	34			6		38.1	16.6	4.8	68.1

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	35,398	3,020
SUMMER	5,879	659
TOTAL	41,277	3,679

SOCKEYE	STEELHEAD	unclipped STEELHEAD
365	3,301	1,455

BULL TROUT	LAMPREY
9	284

Note: No fish counts available for July 12

TABLE 114

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

LOWER MONUMENTAL PROJECT - FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL		unclipped STEELHEAD	PINK	BULL		DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL				STEELHEAD	STEELHEAD			TROUT	LAMPREY			SECCH	DEG F
Aug 1		46		15		0	6	159	68			10	35.8	16.4	5.5	70.0
Aug 2		34		4		0	3	89	50			1	34.8	17.0	5.5	70.0
Aug 3		15		4		0	6	76	36			1	29.6	16.6	5.5	70.0
Aug 4		26		5		0	2	73	35			5	33.5	17.0	5.5	70.0
Aug 5		28		5		0	2	71	36			2	30.2	16.6	5.5	70.0
Aug 6		18		0		0	2	34	15			3	30.4	16.9	5.5	70.0
Aug 7		8		3		0	3	31	19			3	27.9	14.5	5.5	70.0
Aug 8		9		4		0	1	21	12			5	30.8	16.9	5.5	71.0
Aug 9		9		1		0	0	26	14			3	33.3	16.4	5.5	71.0
Aug 10		21		1		0	0	36	12			0	33.9	17.0	5.5	71.0
Aug 11		12		4		0	0	34	14			1	29.5	16.1	5.5	71.0
Aug 12		20		9		0	1	36	25			7	30.0	16.7	5.5	71.0
Aug 13		18		3		0	0	38	18			2	27.1	13.6	5.5	71.0
Aug 14			23	3		0	2	21	12			2	25.2	11.6	5.5	72.0
Aug 15			13	1		0	0	9	2			1	27.6	11.0	5.5	72.0
Aug 16			12	4		0	0	11	6			3	28.4	15.0	5.5	72.0
Aug 17			25	2		0	0	18	4			11	25.3	12.6	5.5	70.0
Aug 18			28	9		0	0	21	15			11	23.4	9.9	5.5	70.0
Aug 19			30	11		0	0	23	14			7	23.6	10.0	5.5	70.0
Aug 20			23	3		0	0	20	10			6	22.0	8.7	5.5	70.0
Aug 21			45	7		0	0	14	8			10	20.2	6.9	5.5	70.0
Aug 22			72	13		0	1	9	8			3	22.7	9.3	5.5	70.0
Aug 23			96	11		0	0	22	8			1	27.2	11.4	5.5	70.0
Aug 24			89	8		0	0	25	9			2	22.9	9.5	5.5	70.0
Aug 25			114	26		0	1	6	4			1	21.8	8.4	5.5	69.0
Aug 26			72	10		0	0	13	2			2	25.4	12.1	5.5	69.0
Aug 27			232	22		0	0	22	6			1	26.6	13.1	5.5	69.0
Aug 28			197	25		0	2	42	18			1	23.5	10.3	4.5	69.0
Aug 29			394	35		1	0	26	14			4	22.5	9.0	4.5	69.0
Aug 30			427	56		0	0	46	18			0	28.1	14.8	4.5	69.0
Aug 31			388	35		0	0	56	16			1	26.9	13.6	4.0	68.5
TOTAL		264	2,280	339		1	32	1,128	528			110				
AVG.		20	127	11		0	1	36	17			4	27.4	13.2	5.4	70.1

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	35,398	3,020
SUMMER	6,143	717
FALL	2,280	281
TOTAL	43,821	4,018

COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	
TOTALS TO DATE				
	1	397	4,429	1,983

BULL TROUT	LAMPREY	
TOTALS TO DATE		
	9	394

TABLE 115

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

LOWER MONUMENTAL PROJECT - FISH COUNTS

SEPTEMBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL	unclipped		BULL		DISCH KCFS	SPILL KCFS	TURBIDITY SECCH	TEMP DEG F		
	SPRING	SUMMER	FALL	JACK	ADULT		JACK	SOCKEYE	STEELHEAD	STEELHEAD					PINK	STURGEON
Sep 1			474	79	0	0	0	142	48			1	30.3	16.9	4.0	68.5
Sep 2			404	55	0	0	0	149	49			0	25.7	0.0	4.0	68.0
Sep 3			449	72	0	0	0	163	55			1	24.5	0.0	4.5	68.0
Sep 4			458	68	0	0	0	184	65			0	21.9	0.0	4.5	68.0
Sep 5			697	128	0	0	0	245	90			1	21.2	0.0	4.5	68.0
Sep 6			636	104	1	0	0	254	83			1	21.6	0.0	4.5	68.0
Sep 7			723	163	0	1	0	525	138			5	21.6	0.0	4.5	68.0
Sep 8			773	152	1	1	0	533	130			0	21.4	0.0	4.5	68.0
Sep 9			437	143	2	0	0	512	120			4	23.1	0.0	4.5	68.0
Sep 10			523	102	16	5	1	564	140			1	21.9	0.0	4.0	68.0
Sep 11			692	208	13	4	0	845	184			4	23.1	0.0	4.0	68.0
Sep 12			843	240	6	5	0	864	222			3	25.0	0.1	4.0	68.0
Sep 13			681	239	8	8	0	1,197	253			2	24.3	0.0	4.0	68.0
Sep 14			408	182	18	4	0	988	236			1	24.5	0.0	4.0	67.0
Sep 15			419	166	11	1	0	732	152			2	19.5	0.0	4.0	67.0
Sep 16			475	245	18	2	0	1,011	186			0	23.5	0.0	4.0	66.0
Sep 17			422	203	26	3	0	1,142	205			0	23.0	0.0	4.0	66.0
Sep 18			321	186	25	12	0	728	155			0	23.2	0.0	4.0	66.0
Sep 19			443	188	41	25	0	847	177			1	25.9	0.0	4.0	66.0
Sep 20			397	240	25	7	0	986	170			1	23.1	0.0	4.0	66.0
Sep 21			297	171	32	27	0	1,029	159			0	26.1	0.0	4.0	66.0
Sep 22			306	192	26	9	0	987	172			0	18.0	0.0	4.0	65.0
Sep 23			342	269	49	18	0	1,769	306			1	22.4	0.0	4.0	65.0
Sep 24			199	158	47	14	0	1,131	174			-1	20.9	0.0	4.0	65.0
Sep 25			148	135	52	15	0	892	139			0	18.1	0.0	4.0	65.0
Sep 26			171	188	38	19	0	1,170	216			0	21.9	0.0	4.0	65.0
Sep 27			171	205	28	21	0	1,128	207			0	18.2	0.0	4.0	65.0
Sep 28			226	242	19	22	0	1,408	251			2	18.4	0.0	4.0	65.0
Sep 29			248	257	32	11	0	1,556	282			0	23.0	0.0	4.0	65.0
Sep 30			253	271	54	26	0	1,564	317			0	13.5	0.0	4.0	65.0
TOTAL			13,036	5,251	588	260	1	25,245	5,081			30				
AVG.			435	175	20	9		842	169			1	22.3	0.6	4.1	66.7

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	35,398	3,020
SUMMER	6,143	717
FALL	15,316	5,532
TOTAL	56,857	9,269

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
588	261	398	29,674	7,064

BULL TROUT	LAMPREY
9	424

TABLE 116

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

LOWER MONUMENTAL PROJECT - FISH COUNTS

OCTOBER 2018

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
Oct 1			168	175	35	15		1,035	254			2	19.5	0.0	4.0	64.0
Oct 2			110	190	41	15		1,157	240			5	16.9	0.0	4.0	64.0
Oct 3			205	241	49	26		1,233	255			-2	19.1	0.0	4.0	64.0
Oct 4			126	178	31	11		1,180	203			0	22.1	0.0	4.0	64.0
Oct 5			146	208	33	5		1,023	202			1	20.5	0.0	4.0	64.0
Oct 6			87	165	27	3		1,137	240			2	21.6	0.0	4.0	64.0
Oct 7			105	181	39	6		1,171	232			1	24.2	0.0	4.0	63.0
Oct 8			66	136	35	3		921	202			-1	13.5	0.0	4.0	62.0
Oct 9			49	54	25	7		821	167			0	18.8	0.0	4.0	62.0
Oct 10			56	74	17	13		659	122			0	15.3	0.0	4.0	62.0
Oct 11			75	98	25	7		758	166			0	18.9	0.0	4.0	61.0
Oct 12			66	101	29	14		779	167			0	19.7	0.0	4.0	61.0
Oct 13			55	90	32	21		711	169			0	16.4	0.0	4.0	61.0
Oct 14			63	77	39	9		845	169			0	13.4	0.0	4.0	60.0
Oct 15			40	69	23	12		509	104			0	18.8	0.0	4.0	60.0
Oct 16			42	94	39	6		814	188			0	19.8	0.0	4.0	60.0
Oct 17			32	90	56	4		754	169			0	19.4	0.0	4.0	60.0
Oct 18			36	75	72	2		866	185			0	18.1	0.0	4.0	60.0
Oct 19			27	51	38	21		626	146			0	23.0	0.0	4.0	60.0
Oct 20			26	51	31	8		346	84			0	18.1	0.0	4.0	60.0
Oct 21			19	20	14	6		364	68			0	13.4	0.0	4.0	59.0
Oct 22			14	29	29	2		336	82			0	13.5	0.0	4.0	59.0
Oct 23			6	40	23	6		278	63			0	13.4	0.0	4.0	59.0
Oct 24			7	36	23	2		264	69			0	22.4	0.0	4.0	59.0
Oct 25			12	21	14	2		189	53			0	15.8	0.0	4.0	58.0
Oct 26			12	8	20	2		228	65			0	18.7	0.0	4.0	58.0
Oct 27			18	13	23	1		251	60			0	15.7	0.0	4.0	58.0
Oct 28			9	19	26	3		310	92			0	16.0	0.0	4.0	58.0
Oct 29			6	17	34	1		347	97			0	15.5	0.0	4.0	58.0
Oct 30			9	21	16	4		228	67			0	17.7	0.0	4.0	57.0
Oct 31			10	12	26	8		217	50			0	21.9	0.0	4.0	57.0
TOTAL			1,702	2,634	964	245		20,357	4,430			8				
AVG.			55	85	31	8		657	143			0	18.1	0.0	4.0	60.5

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	35,398	3,020
SUMMER	6,143	717
FALL	17,018	8,166
TOTAL	58,559	11,903

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
1,552	506	398	50,031	11,494

BULL TROUT	LAMPREY
9	432

TABLE 117
DISCHARGE AND WATER QUALITY DATA
LOWER MONUMENTAL PROJECT 2018

NOVEMBER					DECEMBER				
DATE	DISCH	SPILL	TURBIDITY		DATE	DISCH	SPILL	TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F		KCFS	KCFS	SECCHI	DEG F
Nov 1	25.6	0.0	4.0	57.0	Dec 1	20.8	0.0	5.5	47.0
Nov 2	19.9	0.0	4.0	57.0	Dec 2	16.6	0.0	5.5	47.0
Nov 3	14.6	0.0	4.0	57.0	Dec 3	18.4	0.0	5.5	47.0
Nov 4	30.0	0.0	4.0	57.0	Dec 4	20.0	0.0	5.5	47.0
Nov 5	30.0	0.0	4.0	56.0	Dec 5	19.2	0.0	5.5	46.0
Nov 6	23.7	0.0	4.0	56.0	Dec 6	16.8	0.0	5.5	46.0
Nov 7	26.4	0.0	5.0	55.0	Dec 7	23.9	0.0	6.0	46.0
Nov 8	26.7	0.0	5.0	55.0	Dec 8	18.6	0.0	6.0	46.0
Nov 9	25.9	0.0	5.0	55.0	Dec 9	16.5	0.0	6.0	46.0
Nov 10	21.1	0.0	5.0	55.0	Dec 10	11.7	0.0	6.0	46.0
Nov 11	20.6	0.0	5.0	54.0	Dec 11	18.6	0.0	6.0	46.0
Nov 12	20.6	0.0	5.0	54.0	Dec 12	20.9	0.0	5.5	46.0
Nov 13	18.5	0.0	5.0	52.0	Dec 13	20.6	0.0	5.5	45.0
Nov 14	19.6	0.0	5.0	51.0	Dec 14	22.7	0.0	5.5	45.0
Nov 15	20.0	0.0	5.0	51.0	Dec 15	20.0	0.0	6.0	44.0
Nov 16	18.6	0.0	5.0	50.0	Dec 16	19.4	0.0	6.0	44.0
Nov 17	17.7	0.0	5.0	50.0	Dec 17	22.7	0.0	6.0	43.0
Nov 18	18.1	0.0	5.0	50.0	Dec 18	24.0	0.0	6.0	43.0
Nov 19	19.1	0.0	5.0	50.0	Dec 19	19.5	0.0	6.0	43.0
Nov 20	22.4	0.0	5.0	49.0	Dec 20	27.2	0.0	6.0	43.0
Nov 21	22.2	0.0	5.0	49.0	Dec 21	23.2	0.0	6.0	43.0
Nov 22	19.4	0.0	5.0	49.0	Dec 22	23.8	0.0	6.0	43.0
Nov 23	15.2	0.0	5.0	49.0	Dec 23	27.2	0.0	6.0	43.0
Nov 24	16.1	0.0	5.5	49.0	Dec 24	23.2	0.0	6.0	43.0
Nov 25	18.8	0.0	5.5	49.0	Dec 25	24.4	0.0	6.0	43.0
Nov 26	22.6	0.0	5.5	49.0	Dec 26	19.1	0.0	6.0	43.0
Nov 27	21.8	0.0	5.5	49.0	Dec 27	21.9	0.0	6.0	43.0
Nov 28	16.6	0.0	5.5	49.0	Dec 28	27.9	0.0	6.0	43.0
Nov 29	18.6	0.0	5.5	48.0	Dec 29	25.1	0.0	5.0	43.0
Nov 30	24.2	0.0	5.5	47.0	Dec 30	20.5	0.0	5.0	43.0
					Dec 31	21.5	0.0	5.0	43.0
AVG.	21.2	0.0	4.9	51.9	AVG.	21.2	0.0	5.8	44.5

TABLE 118
 YEARLY TOTALS OF SALMONIDS COUNTED OVER
 LOWER MONUMENTAL DAM
 1969 - 2018

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
2014	193,400	170,270	2,805	19,855	386,330
2015	213,045	131,476	888	1,353	346,762
2016	135,313	94,196	1,024	3,293	233,826
2017	80,253	66,499	346	7,587	154,685
2018	70,462	50,031	398	2,058	122,949
Total	3,641,096	5,111,602	17,033	84,838	8,854,569
10-Year Average	155,110	143,900	1,117	5,142	305,270

*Jacks included

2001-2004 and 2014 - 2015 extended season video counts are included.

TABLE 119
MONTHLY COUNT OF CHINOOK SALMON
LOWER MONUMENTAL DAM
1969-2018

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
2014				4,044	75,066	28,085	9,916	4,481	62,903	8,547	351	7	193,400
2015				29,958	77,723	26,209	7,468	7,711	54,597	9,379			213,045
2016				1,924	60,370	19,277	4,308	7,594	36,859	4,981			135,313
2017				97	22,869	21,572	3,578	1,792	24,634	5,711			80,253
2018				73	26,689	16,436	1,758	2,883	18,287	4,336			70,462
Total	2	0	60	400,412	1,404,134	716,928	233,537	82,376	654,538	146,241	1,838	30	3,640,096
10-Year Average				6,160	57,411	28,466	7,421	5,238	43,427	6,953			155,110

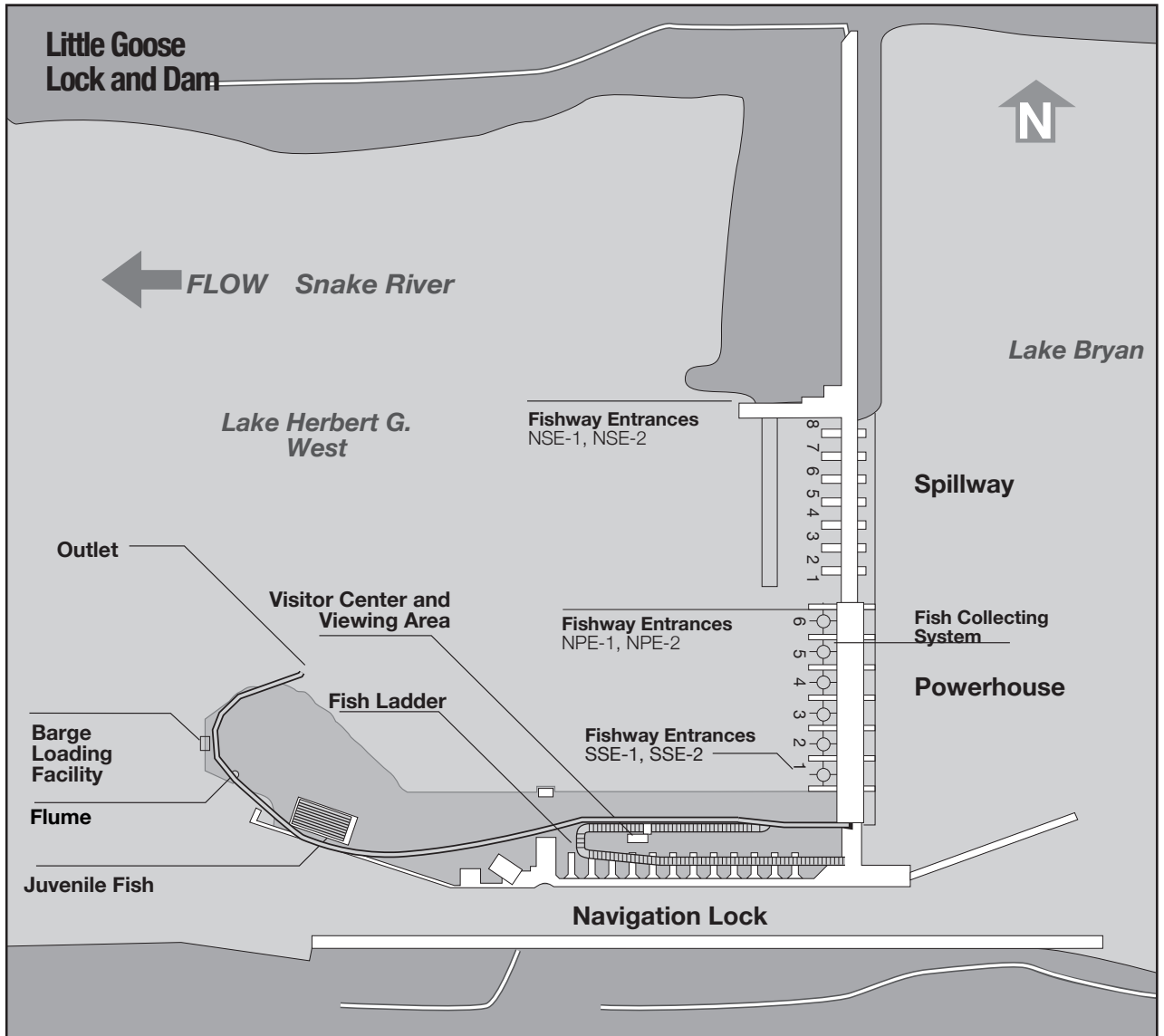
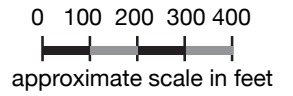
*Jacks included
2001-2004 and 2014 - 2015 extended season video counts are included.

TABLE 120
MONTHLY COUNT OF STEELHEAD
LOWER MONUMENTAL DAM
1969 - 2018

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
2014			3,603	1,179	497	1,163	10,001	11,417	79,686	51,670	8,778	2,276	170,270
2015	423	1,240		1,575	194	560	2,104	8,763	70,875	45,742			131,476
2016				1,324	113	508	4,002	4,319	42,587	41,343			94,196
2017				1,326	113	61	796	1,020	32,569	30,614			66,499
2018				1,121	81	161	1,938	1,128	25,245	20,357			50,031
Total	5,252	8,850	18,442	115,774	22,581	19,993	220,306	436,361	2,397,398	1,791,977	58,017	16,651	5,111,602
10-Year Average				2,327	308	644	6,550	13,928	71,208	47,304			143,900

Note - Counts include 2001-04 and 2014 - 2015 extended season video counts.

Plate 8 Little Goose Lock and Dam



LITTLE GOOSE DAM 2018

FISH COUNTING SCHEDULE

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

FISH LADDER OPERATING SCHEDULE

01 January – 02 January	Ladder in service
02 January – 22 February	Ladder dewatered for annual maintenance
22 February – 07 January (2019)	Ladder in service

FISHWAY ACTIVITIES

Adult fishways were inspected for proper operating criteria daily with an average of three fishway inspections per week during fish passage season.

Water temperature in the ladder was recorded on an hourly basis at the ladder exit, turn pool, junction pool and near the North powerhouse entrance. Little Goose was able to install the permanent fish ladder temperature control system for 2018.

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. Anything over 6 foot is noted as 6+ feet.

Collection channel subsurface water velocities were measured monthly using a rickly velocity meter. Measurements were taken just below the surface, at mid depth and just above bottom and averaged. Additionally, 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.

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

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.

The juvenile fish facility was operated for juvenile fish transport/bypass and adult fallbacks counts from March 01 to October 31. March 01 was an early start to assess early migrants.

An adjustable spillway weir was installed for 2018 and was in operation from April 03 until August 03.

TABLE 121

MONTHLY TOTALS OF SALMONIDS, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER LITTLE GOOSE DAM
2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				54	19,932	20,021	2,046	2,149	15,659	4,042			63,903
STEELHEAD				1,124	97	107	1,059	753	21,412	21,032			45,584
SOCKEYE						25	228	27	0	0			280
COHO									530	1,222			1,752
PINK													0
TOTAL				1,178	20,029	20,153	3,333	2,929	37,601	26,296			111,519
LAMPREY					1	8	91	12	-50	-1			61
STURGEON													0
BULL TROUT				2	1	1							4

*Jacks included

TABLE 122
DISCHARGE AND WATER QUALITY DATA
LITTLE GOOSE PROJECT 2018

JANUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
Jan 1	45.2	0.0		
Jan 2	42.6	0.0		
Jan 3	35.7	0.0		
Jan 4	36.2	0.0		
Jan 5	38.2	0.0		
Jan 6	37.2	0.0		
Jan 7	34.6	0.0		
Jan 8	36.5	0.0		
Jan 9	39.8	0.0		
Jan 10	47.4	0.0		
Jan 11	50.0	0.0		
Jan 12	45.9	0.0		
Jan 13	54.3	0.0		
Jan 14	52.4	0.0		
Jan 15	55.1	0.0		
Jan 16	49.9	0.0		
Jan 17	47.7	0.0		
Jan 18	48.0	0.0		
Jan 19	49.7	0.0		
Jan 20	53.9	0.0		
Jan 21	47.1	0.0		
Jan 22	47.9	0.0		
Jan 23	48.2	0.0		
Jan 24	44.2	0.9		
Jan 25	42.0	0.5		
Jan 26	45.9	0.0		
Jan 27	43.2	0.0		
Jan 28	47.4	0.0		
Jan 29	43.8	0.0		
Jan 30	46.7	0.0		
Jan 31	45.9	0.0		

AVG.

45.2	0.0
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FEBRUARY				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
Feb 1	54.2	0.4		
Feb 2	43.3	0.0		
Feb 3	55.1	0.0		
Feb 4	59.9	0.0		
Feb 5	83.4	7.0		
Feb 6	79.4	4.4		
Feb 7	73.2	1.3		
Feb 8	69.6	6.0		
Feb 9	67.0	0.0		
Feb 10	62.0	0.0		
Feb 11	56.3	0.0		
Feb 12	56.2	0.0		
Feb 13	56.3	0.0		
Feb 14	50.9	0.0		
Feb 15	55.6	0.0		
Feb 16	52.3	0.0		
Feb 17	59.9	0.0		
Feb 18	66.1	0.0		
Feb 19	55.0	0.0		
Feb 20	57.1	0.0		
Feb 21	52.6	0.0		
Feb 22	49.6	0.0		
Feb 23	51.0	0.0		
Feb 24	49.3	0.0		
Feb 25	48.7	0.0		
Feb 26	48.0	0.0		
Feb 27	46.6	0.0		
Feb 28	46.7	0.0		

AVG.

57.3	0.7
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MARCH				
DATE	DISCH KCFS	SPILL KCFS	TURBIDITY	
			SECCHI	DEG F
Mar 1	52.7	0.5		
Mar 2	51.0	0.0		
Mar 3	44.6	0.0		
Mar 4	43.8	0.0	6.0	39.8
Mar 5	46.7	0.0		
Mar 6	46.6	0.0	6.0	40.1
Mar 7	47.1	0.0		
Mar 8	49.1	0.0		
Mar 9	55.2	0.0		
Mar 10	56.1	0.0		
Mar 11	57.9	0.0	5.0	42.2
Mar 12	58.9	0.0		
Mar 13	55.1	0.0	4.4	42.5
Mar 14	62.2	0.0		
Mar 15	64.5	0.0	4.8	43.3
Mar 16	63.5	0.0		
Mar 17	53.6	0.0		
Mar 18	67.8	0.0	3.1	43.8
Mar 19	61.3	0.0	2.5	44.1
Mar 20	61.0	0.0	2.2	44.2
Mar 21	60.5	0.0		
Mar 22	57.6	0.0	2.8	44.2
Mar 23	70.0	0.0		
Mar 24	69.8	0.0		
Mar 25	60.8	0.0	4.0	44.3
Mar 26	65.4	0.0		
Mar 27	57.7	0.0		
Mar 28	61.5	0.0	3.3	44.8
Mar 29	59.7	0.1	3.6	45.1
Mar 30	63.3	0.0		
Mar 31	63.3	0.0		

AVG.

57.7	0.0	4.0	43.2
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*Water temps are from water quality sensor located in the tailrace

TABLE 123

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LITTLE GOOSE PROJECT - FISH COUNTS

APRIL 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	BULL		DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD		TROUT	LAMPREY			SECCHI	DEG F
Apr 1	0			0				33	7		0		59.7	0.0	3.9	45.5
Apr 2	0			0				27	7		0		59.9	0.0		
Apr 3	0			0				10	2		0		61.8	41.3		
Apr 4	1			0				16	4		0		67.9	42.2	3.6	46.2
Apr 5	0			0				8	0		0		72.8	42.2	3.4	46.9
Apr 6	0			0				26	4		0		74.8	40.8		
Apr 7	0			0				21	8		0		85.8	38.3		
Apr 8	0			0				56	12		0		104.3	37.6	3.7	47.9
Apr 9	0			0				49	8		0		111.2	36.1	3.7	48.2
Apr 10	0			0				76	16		0		107.1	35.5		
Apr 11	0			0				98	28		0		103.2	33.7		
Apr 12	-1			0				47	6		0		108.7	31.2	1.5	49.1
Apr 13	1			0				89	24		0		113.3	29.3		
Apr 14	1			0				74	24		0		103.3	32.4		
Apr 15	1			0				39	7		0		102.4	36.0	2.8	49.4
Apr 16	2			1				51	10		0		103.5	36.0		
Apr 17	0			0				46	12		0		106.6	37.0	2.8	49.2
Apr 18	0			0				35	13		0		100.9	36.9	3.3	49.3
Apr 19	2			0				32	7		0		96.8	38.3	2.8	49.3
Apr 20	0			0				48	12		1		93.2	36.3		
Apr 21	0			0				28	6		0		87.3	32.3		
Apr 22	4			0				24	8		0		83.9	32.4	3.1	49.9
Apr 23	4			1				32	6		0		89.2	32.3		
Apr 24	6			0				16	2		1		90.5	31.1		
Apr 25	10			0				28	11		0		91.0	27.9		
Apr 26	4			0				19	8		0		92.0	26.6	3.2	50.6
Apr 27	4			0				26	13		0		93.1	26.7		
Apr 28	1			0				44	12		0		98.3	29.2		
Apr 29	4			0				16	6		0		112.4	40.0	3.5	53.3
Apr 30	8			0				10	4		0		114.6	42.3		
TOTAL	52			2				1,124	287		2					
AVG.	2			0				37	10		0		93.0	32.7	3.2	48.8

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

Visual fish counting started April 1.

TABLE 124

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

LITTLE GOOSE PROJECT - FISH COUNTS

MAY 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	BULL		DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD		TROUT	LAMPREY			SECCHI	DEG F
May 1	6			0				9	4		0	0	103.8	36.6		
May 2	14			0				3	2		0	0	87.7	27.7	3.7	53.6
May 3	7			0				3	2		0	0	94.9	30.3	2.6	52.1
May 4	13			0				9	4		0	0	86.3	30.2		
May 5	25			1				6	2		0	0	95.7	30.3		
May 6	29			0				7	2		0	0	106.7	29.0	3.0	51.1
May 7	48			2				3	2		0	0	134.7	43.6		
May 8	107			1				13	7		0	0	133.1	42.2	3.1	54.1
May 9	180			4				0	0		0	0	135.1	44.8		
May 10	173			5				5	0		0	0	152.4	61.7	2.8	53.3
May 11	126			6				4	0		0	0	150.8	64.9		
May 12	253			8				1	1		0	0	134.4	52.3		52.2
May 13	360			11				5	1		0	0	120.2	40.5	2.0	52.1
May 14	874			37				2	1		0	0	113.7	29.0	2.0	51.5
May 15	1,039			48				8	0		0	0	120.0	33.5		51.1
May 16	1,030			74				4	0		0	0	126.6	36.7		51.5
May 17	660			42				6	0		1	0	142.1	52.2	2.6	52.9
May 18	923			61				3	1		0	0	146.1	55.7	2.5	53.6
May 19	374			61				0	0		0	1	148.2	72.6		54.4
May 20	709			60				1	1		0	0	142.9	52.9	2.0	54.0
May 21	796			76				1	0		0	0	143.2	53.1		54.2
May 22	1,510			98				2	0		0	0	142.0	51.7	1.5	54.0
May 23	1,063			65				0	0		0	0	151.0	60.8		54.7
May 24	529			49				0	0		0	0	149.1	58.9	1.0	55.2
May 25	677			62				0	0		0	0	158.2	68.0		55.7
May 26	377			52				1	1		0	0	169.8	79.3		56.0
May 27	374			44				0	0		0	0	171.6	81.0	1.7	55.3
May 28	418			62				0	0		0	0	158.5	68.9		55.8
May 29	368			74				0	0		0	0	155.9	77.5	1.1	57.4
May 30	2,689			138				0	0		0	0	151.0	61.6	1.9	56.1
May 31	2,892			148				1	0		0	0	144.4	54.6		57.0
TOTAL	18,643			1,289				97	31		1	1				
AVG.	601			42				3	1		0	0	134.5	51.0	2.2	54.0
RUN YEAR																
TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK					STEELHEAD	unclipped STEELHEAD			BULL TROUT	LAMPREY				
SPRING	18,695	1,291					1,221	318			3	1				

TABLE 125

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LITTLE GOOSE PROJECT - FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	PINK	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
	SPRING	SUMMER	FALL													
Jun 1	2,309			185			0	0	0		0	0	145.2	55.8		57.5
Jun 2	1,531			119			0	0	0		0	0	136.7	46.7		57.9
Jun 3	1,321			125			0	0	0		0	0	116.2	27.1	2.2	57.7
Jun 4	1,152			108			0	0	0		0	0	107.7	25.3		58.0
Jun 5	1,540			127			0	0	0		0	0	110.8	27.7	2.9	57.6
Jun 6	1,182			109			0	0	0		1	0	106.3	25.2		58.0
Jun 7	667			73			1	0	0		0	0	101.8	25.2	2.8	59.3
Jun 8	590			78			0	1	0		0	1	91.2	25.2		59.4
Jun 9	360			38			0	1	0		0	1	93.1	25.2		60.9
Jun 10	244			34			0	0	0		0	0	83.4	25.2	3.2	60.6
Jun 11	244			26			0	0	0		0	0	84.4	28.0		60.9
Jun 12	780			61			0	0	0		0	1	80.7	27.8	3.7	61.1
Jun 13	589			41			0	1	0		0	1	71.2	29.0		61.8
Jun 14	394			37			0	5	0		0	0	66.4	29.1	4.0	62.2
Jun 15	236			34			0	0	0		0	1	61.6	30.3		62.1
Jun 16		128		16			0	0	0		0	0	54.9	32.9		61.5
Jun 17		70		17			1	0	0		0	0	52.7	32.9	3.8	61.9
Jun 18		48		8			1	1	1		0	-1	52.7	32.9	4.2	61.6
Jun 19		200		16			0	4	0		0	0	61.6	33.0		61.2
Jun 20		601		38			0	2	1		0	2	66.0	31.6		62.1
Jun 21		1,921		83			0	6	2		0	2	67.3	20.1	3.5	63.4
Jun 22		679		36			0	9	4		0	-1	67.2	20.1		62.9
Jun 23		356		12			1	3	1		0	1	71.5	21.4		62.7
Jun 24		283		24			1	3	1		0	2	68.5	20.6	4.3	62.8
Jun 25		211		17			0	7	2		0	0	63.0	18.9		63.1
Jun 26		200		18			2	14	10		0	-1	61.3	18.4	4.4	62.7
Jun 27		191		30			5	13	7		0	2	60.1	18.1		63.0
Jun 28		59		14			1	9	2		0	-1	57.3	27.0	3.5	64.2
Jun 29		216		22			2	18	5		0	-1	49.0	14.8	3.0	64.3
Jun 30		156		17			10	10	5		0	-1	42.8	12.9		64.4
TOTAL	13,139	5,319		1,563			25	107	41		1	8				

AVG.	876	355		52			1	4	1		0	0	78.4	26.9	3.5	61.2
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	31,834	2,486
SUMMER	5,319	368
TOTALS	37,153	2,854

SOCKEYE	STEELHEAD	unclipped STEELHEAD
25	1,328	359

BULL TROUT	LAMPREY
4	9

TABLE 126

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

LITTLE GOOSE PROJECT - FISH COUNTS

JULY 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL		PINK	BULL		DISCH KCFS	SPILL KCFS	TURBIDITY	
	SPRING	SUMMER	FALL					STEELHEAD	unclipped STEELHEAD		TROUT	LAMPREY			SECCHI	DEG F
Jul 1		130		17			7	14	10			2	41.4	12.3	4.0	64.8
Jul 2		140		12			13	13	6			1	39.6	12.0		65.1
Jul 3		102		17			11	31	14			1	42.3	12.7		65.4
Jul 4		115		13			10	19	12			-1	41.4	12.5		65.4
Jul 5		131		18			16	18	10			0	37.2	11.1	4.5	66.2
Jul 6		90		7			8	16	8			4	42.3	12.7		66.0
Jul 7		73		14			10	26	13			2	42.1	12.6		65.8
Jul 8		68		14			6	31	17			4	43.8	13.1	5.5	66.3
Jul 9		91		11			6	34	22			4	38.1	11.5		67.9
Jul 10		73		2			5	16	11			4	45.5	13.6	5.8	67.0
Jul 11		55		5			13	27	16			12	42.3	12.7		66.8
Jul 12		66		4			13	16	4			5	43.6	13.1	4.9	67.2
Jul 13		59		4			17	32	16			5	39.1	11.8		67.6
Jul 14		59		0			5	38	19			7	39.1	11.8		67.4
Jul 15		64		12			7	33	16			2	37.5	11.3	6.0	67.2
Jul 16		70		6			23	41	28			5	37.9	11.4	5.9	69.4
Jul 17		41		6			4	48	24			2	40.8	12.3		70.2
Jul 18		46		1			6	53	37			5	37.5	11.3		68.4
Jul 19		54		10			7	40	23			1	35.9	10.7	6+	68.5
Jul 20		46		5			4	69	43			6	32.7	9.8		68.4
Jul 21		37		2			10	40	32			6	31.4	9.5		69.3
Jul 22		28		0			5	51	28			7	29.1	10.3	6.0	69.2
Jul 23		40		0			2	59	31			0	31.8	11.1	5.8	68.9
Jul 24		36		7			5	39	22			2	33.1	11.1		68.4
Jul 25		18		0			1	55	37			2	35.3	10.7		68.1
Jul 26		48		1			6	57	25			-1	31.9	9.5	6.0	68.4
Jul 27		25		6			5	51	23			2	35.2	10.6		68.8
Jul 28		16		4			1	25	13			2	31.8	9.6		69.0
Jul 29		13		1			1	33	16			0	36.1	10.4	6.0	69.3
Jul 30		11		0			0	19	12			-1	31.3	9.3	6+	72.1
Jul 31		2		0			1	15	5			1	35.2	10.6		71.1
TOTAL		1,847		199			228	1,059	593			91				

AVG.	60	6	7	34	19	3	37.5	11.4	5.5	67.9
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	BULL TROUT	LAMPREY
TOTALS TO DATE							
SPRING	31,834	2,486	253	2,387	952	4	100
SUMMER	7,166	567					
TOTAL	39,000	3,053					

TABLE 127

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

LITTLE GOOSE PROJECT - FISH COUNTS

AUGUST 2018

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				
Aug 1		12		4			1	20	12			2	35.3	10.6		68.6
Aug 2		30		4			2	31	18			5	30.1	9.0	5.0	68.7
Aug 3		31		2			2	66	36			2	32.1	10.9		68.7
Aug 4		32		1			2	84	40			0	30.4	9.1		70.2
Aug 5		29		0			0	45	20			-1	31.0	10.5	5.3	70.5
Aug 6		12		1			0	13	6			2	28.1	16.8		69.2
Aug 7		17		1			0	5	4			-1	31.0	18.7	5.4	69.8
Aug 8		8		0			0	18	12			1	32.4	20.2		70.0
Aug 9		10		0			0	12	6			2	33.5	21.8	4.9	71.0
Aug 10		28		1			0	38	26			2	31.7	9.4		69.0
Aug 11		22		1			0	29	19			-1	31.9	10.5		69.1
Aug 12		14		1			0	14	2			0	26.5	10.5	6.0	68.3
Aug 13		17		5			0	33	17			-1	27.9	8.6		69.6
Aug 14		22		1			0	27	14			0	28.3	8.7		70.3
Aug 15		8		0			0	16	8			-2	29.1	10.4		70.9
Aug 16			22	1			0	6	2			-4	27.1	10.4	5.3	70.6
Aug 17			18	4			0	11	7			2	25.7	8.7	5.5	70.6
Aug 18			28	4			0	6	4			1	25.5	8.6		68.2
Aug 19			23	1			0	7	5			0	24.0	8.6	5.5	70.5
Aug 20			16	4			1	5	0			4	22.0	8.7		69.5
Aug 21			4	1			4	8	1			2	23.7	7.1		69.3
Aug 22			46	4			0	22	12			1	27.8	7.0		70.5
Aug 23			54	5			0	19	12			1	25.6	8.7	5.0	69.5
Aug 24			77	5			4	31	19			1	23.8	8.6		67.8
Aug 25			68	7			5	12	5			1	26.0	8.7		67.9
Aug 26			66	6			0	20	10			-1	27.4	8.7	5.3	68.5
Aug 27			121	10			5	18	2			-1	25.2	8.7	4.7	68.2
Aug 28			122	10			0	19	7			-1	23.6	8.7		68.4
Aug 29			206	22			1	19	7			1	30.0	7.0		69.1
Aug 30			319	22			0	30	13			-1	28.5	10.1	4.0	67.8
Aug 31			498	41			0	69	20			-4	29.7	10.3	4.7	67.3
TOTAL		292	1,688	169			27	753	366			12				

AVG.	19	106	5				1	24	12			0	28.2	10.5	5.1	69.3
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	31,834	2,486
SUMMER	7,458	589
FALL	1,688	147
TOTALS	40,980	3,222

SOCKEYE	STEELHEAD	unclipped STEELHEAD
280	3,140	1,318

BULL TROUT	LAMPREY
4	112

TABLE 128

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

LITTLE GOOSE PROJECT - FISH COUNTS

SEPTEMBER 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL	unclipped	BULL	DISCH	SPILL	TURBIDITY			
	SPRING	SUMMER	FALL	JACK	ADULT	JACK		SOCKEYE					STEELHEAD	STEELHEAD	PINK
Sep 1			392	31	0	0	82	20				25.9	0.0		67.3
Sep 2			463	46	0	0	80	22				23.7	0.0	5.1	67.5
Sep 3			373	26	0	0	108	46				21.3	0.0		67.5
Sep 4			446	67	0	0	165	53				22.4	0.0	4.7	67.5
Sep 5			469	50	0	0	151	49				23.2	0.0		67.2
Sep 6			587	56	0	1	204	70				20.8	0.0	4.5	66.6
Sep 7			566	60	0	0	192	55				22.3	0.0		66.3
Sep 8			696	96	1	0	261	94				23.7	0.0		66.7
Sep 9			721	115	0	0	447	110				21.2	0.0	5.0	66.0
Sep 10			484	98	0	0	508	137				23.1	0.0	4.6	66.3
Sep 11			498	104	8	0	628	164				22.9	0.0		66.1
Sep 12			613	113	1	0	625	152				24.9	0.0		66.5
Sep 13			720	114	2	0	774	164				24.3	0.0	4.1	66.6
Sep 14			499	132	6	0	721	173				21.3	0.0		66.5
Sep 15			563	110	1	1	750	168				23.5	0.0		66.6
Sep 16			500	96	12	8	927	223				21.0	0.0	6.0	66.4
Sep 17			474	109	11	2	939	191				21.9	0.0	4.4	66.0
Sep 18			346	116	11	4	807	173				24.9	0.0		65.9
Sep 19			389	118	13	6	846	158				22.6	0.0		65.7
Sep 20			487	130	16	5	967	200				25.3	0.0	4.8	65.7
Sep 21			365	104	36	8	972	180				18.8	0.0		65.6
Sep 22			270	72	24	4	720	119				20.6	0.0		66.2
Sep 23			361	86	35	8	1,356	246				21.4	0.0	5.4	65.5
Sep 24			318	89	34	6	1,254	198				17.3	0.0		65.3
Sep 25			257	71	22	1	1,298	246				19.6	0.0	4.4	65.0
Sep 26			211	67	20	5	829	138				18.8	0.0		65.1
Sep 27			203	79	37	4	1,059	232				18.8	0.0	5.0	64.5
Sep 28			174	101	29	18	908	184				21.4	0.0		64.5
Sep 29			260	113	37	26	1,418	266				15.3	0.0		64.4
Sep 30			263	122	47	20	1,416	256				19.4	0.0	5.5	64.3
TOTAL			12,968	2,691	403	127	21,412	4,487			-50				
AVG.			432	90	13	4	714	150			-2	21.7	0.0	4.9	66.0

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	31,834	2,486
SUMMER	7,458	589
FALL	14,656	2,838
TOTALS	53,948	5,913

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD
403	127	280	24,552	5,805

BULL TROUT	LAMPREY
4	62

TABLE 129

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

LITTLE GOOSE PROJECT - FISH COUNTS

OCTOBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	TOTAL	unclipped	PINK	BULL	LAMPREY	DISCH	SPILL	TURBIDITY	
	SPRING	SUMMER	FALL	JACK	ADULT		JACK	STEELHEAD		STEELHEAD		TROUT	KCFS	KCFS	SECCHI
Oct 1			281	128	43	16	1,074	194			-1	15.7	0.0	4.3	63.9
Oct 2			137	92	31	8	1,189	266			-2	18.2	0.0		63.8
Oct 3			210	167	56	19	1,460	289			-2	23.4	0.0		63.6
Oct 4			209	100	31	5	1,100	234			0	19.9	0.0	4.9	63.3
Oct 5			136	67	40	16	1,095	217			1	19.4	0.0		63.0
Oct 6			127	70	22	7	716	158			1	21.7	0.0		62.7
Oct 7			169	67	44	12	1,132	244			4	15.5	0.0	6.0	62.3
Oct 8			92	124	65	7	1,040	216			1	19.0	0.0		62.1
Oct 9			77	49	20	2	626	133			0	18.9	0.0		61.9
Oct 10			86	70	18	0	539	125			0	16.1	0.0	5.3	61.6
Oct 11			65	58	11	6	594	118			-1	17.4	3.0	5.4	61.5
Oct 12			65	38	11	7	521	120			1	14.8	3.5		61.2
Oct 13			106	54	77	10	1,607	364			0	13.9	0.0		60.9
Oct 14			61	38	36	5	775	197			0	19.4	0.0	6.0	60.8
Oct 15			66	52	32	7	661	156			-1	16.9	0.0		60.5
Oct 16			79	67	19	5	641	119			-1	17.9	0.0	5.5	60.3
Oct 17			31	28	16	2	295	92			-1	14.4	3.4		60.0
Oct 18			85	34	62	7	915	209			0	23.8	0.0	4.6	60.0
Oct 19			71	52	67	12	1,021	203			1	17.4	0.0		59.8
Oct 20			42	36	43	5	650	160			0	13.1	0.0		59.7
Oct 21			26	25	42	6	509	137			0	13.7	0.0	5.2	59.4
Oct 22			31	12	49	11	347	73			1	13.8	0.0	5.3	59.2
Oct 23			24	17	28	1	444	119			0	20.7	0.0		58.9
Oct 24			19	17	24	2	343	92			-1	15.5	0.0		58.7
Oct 25			17	18	17	0	196	44			0	19.9	0.0	5.7	58.5
Oct 26			26	5	16	0	210	72			0	15.8	0.0		58.4
Oct 27			20	8	18	4	267	74			0	15.5	0.0		58.3
Oct 28			31	7	29	0	267	77			0	15.3	0.0	6.0	58.4
Oct 29			23	23	34	5	282	83			-1	17.9	0.0		57.9
Oct 30			52	23	24	2	318	100			0	21.7	0.0	5.5	57.6
Oct 31			22	10	6	2	198	56			0	23.7	0.0		57.1
TOTAL			2,486	1,556	1,031	191	21,032	4,741			-1				

AVG.	80	50	33	6	678	153	0	17.7	0.3	5.4	60.5
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	PINK	BULL TROUT	LAMPREY
TOTALS TO DATE	31,834	2,486	1,434	318	280	45,584	10,546	0	4	61
SPRING										
SUMMER	7,458	589								
FALL	17,142	4,394								
TOTALS	56,434	7,469								

TABLE 130

DISCHARGE AND WATER QUALITY DATA

LITTLE GOOSE PROJECT 2018

NOVEMBER					DECEMBER				
DATE	DISCH	SPILL	TURBIDITY		DATE	DISCH	SPILL	TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F		KCFS	KCFS	SECCHI	DEG F
Nov 1	16.9	0.0	6.0	56.8	Dec 1	13.4	0.0		
Nov 2	17.5	0.0		56.5	Dec 2	18.4	0.0		
Nov 3	29.8	0.0		56.3	Dec 3	20.0	0.0		
Nov 4	30.0	0.0	6.0	55.9	Dec 4	19.6	0.0	6+	45.7
Nov 5	23.9	0.0	5.1	55.5	Dec 5	17.2	0.0		
Nov 6	26.4	0.0		54.9	Dec 6	22.2	0.0	6+	44.9
Nov 7	25.7	0.0		54.5	Dec 7	17.8	0.0		
Nov 8	25.7	0.0	5.5	54.0	Dec 8	12.9	0.0		
Nov 9	20.4	0.0		53.5	Dec 9	11.7	0.0		
Nov 10	20.3	0.0			Dec 10	18.9	0.0	6+	43.9
Nov 11	20.3	0.0			Dec 11	20.2	0.0		
Nov 12	18.8	0.0			Dec 12	20.4	0.0	6+	43.1
Nov 13	19.6	0.0	5.5	52.3	Dec 13	24.0	0.0	6+	42.9
Nov 14	19.7	0.0	5.2	52.0	Dec 14	18.6	0.0		
Nov 15	18.2	0.0	5.5	51.7	Dec 15	19.1	0.0		
Nov 16	17.0	0.0			Dec 16	21.9	0.0		
Nov 17	17.8	0.0			Dec 17	22.9	0.0	6+	42.3
Nov 18	17.7	0.0			Dec 18	19.5	0.0	6+	42.4
Nov 19	21.9	0.0	5.5	50.6	Dec 19	24.5	0.0		
Nov 20	19.9	0.0	4.9	50.1	Dec 20	22.0	0.0	6+	42.5
Nov 21	19.2	0.0	5.6	49.7	Dec 21	21.6	0.0		
Nov 22	15.4	0.0			Dec 22	26.4	0.0		
Nov 23	14.3	0.0			Dec 23	23.5	0.0		
Nov 24	19.1	0.0			Dec 24	23.5	0.0		
Nov 25	21.3	0.0			Dec 25	17.6	0.0		
Nov 26	20.7	0.0			Dec 26	21.8	0.0		
Nov 27	16.1	0.0	6+	47.6	Dec 27	25.5	0.0	6+	41.3
Nov 28	17.3	0.0			Dec 28	24.9	0.0		
Nov 29	23.4	0.0	6+	47.0	Dec 29	20.3	0.0		
Nov 30	20.1	0.0			Dec 30	20.5	0.0		
					Dec 31	22.6	0.0	6+	41.1
AVG.	20.5	0.0	5.5	52.9	AVG.	20.4	0.0	6+	43.0

Temperature collected at the primary dewater and recorded in °F .

TABLE 131

**YEARLY TOTALS OF SALMONIDS COUNTED OVER
LITTLE GOOSE DAM
1970 - 1981, 1991 - 2018**

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
2014	185,367	144,980	2,811	21,468	354,626
2015	202,671	126,271	587	1,986	331,515
2016	129,158	95,404	962	2,518	228,042
2017	77,071	59,259	288	7,891	144,509
2018	63,903	45,584	280	1,752	111,519
Total	3,060,074	3,953,968	15,540	77,180	7,106,762
10-Yr Avg	150,017	134,030	1,053	5,251	290,351

*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.

Includes 2016 extended season counts for March, November, and December 0400 - 2000 PST.

TABLE 132

**MONTHLY COUNT OF CHINOOK SALMON
LITTLE GOOSE DAM; 1970-1981, 1991-2018**

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
2014				2,321	74,676	25,209	12,744	3,873	56,194	10,350			185,367
2015				21,188	80,186	23,558	7,211	6,218	51,580	12,730			202,671
2016			3	1,201	56,569	18,814	5,413	6,530	34,090	5,871	664	3	129,158
2017				61	14,893	28,020	4,507	1,479	22,135	5,976			77,071
2018				54	19,932	20,021	2,046	2,149	15,659	4,042			63,903
Total			6	273,226	1,155,491	654,949	223,455	61,948	545,373	143,199	2,396	31	3,060,074
10-Year Average				4,080	53,321	30,572	8,835	4,303	39,895	8,943			150,017

**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.

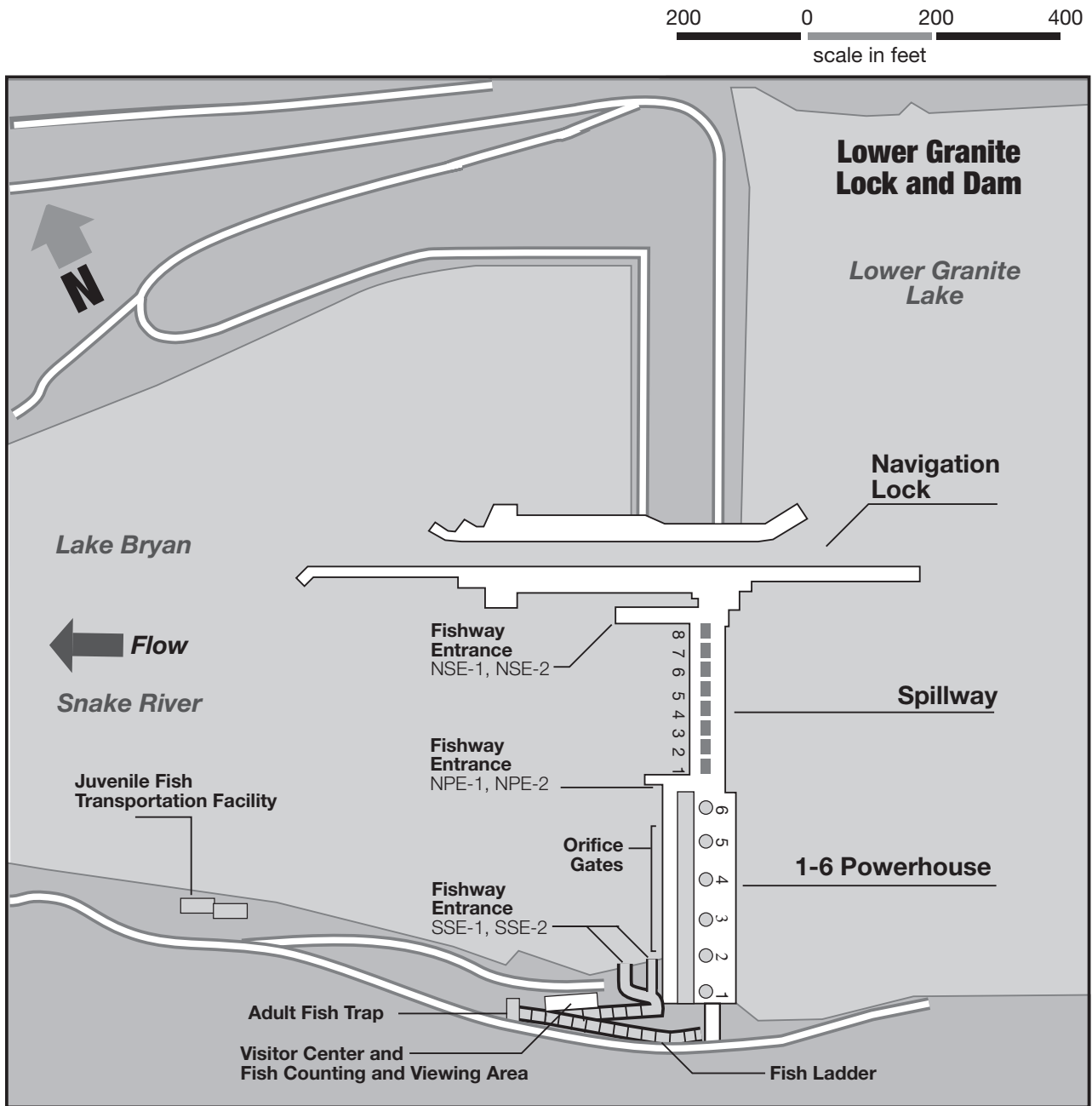
Includes 2016 extended season counts for March, November, and December 0400-2000 PST.

TABLE 133
 MONTHLY COUNT OF STEELHEAD
 LITTLE GOOSE DAM
 1970 - 1981, 1991 - 2018

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
2014				1,175	385	534	6,113	7,120	73,440	56,213			144,980
2015				1,308	183	158	948	4,639	66,554	52,481			126,271
2016			2,077	1,151	181	252	2,751	3,278	36,658	43,067	5,267	722	95,404
2017				1,338	149	23	368	565	25,303	31,513			59,259
2018				1,124	97	107	1,059	753	21,412	21,032			45,584
Total	1,084	5,065	21,392	76,076	14,203	9,517	101,205	255,477	1,798,637	1,583,303	73,583	14,426	3,953,968
10-Year Average				2,464	329	282	3,353	8,917	66,430	51,449			134,030

** 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.
 Includes 2016 extended season counts for March, November, and December 0400-2000 PST.

Plate 9 Lower Granite Lock and Dam



LOWER GRANITE DAM FISHWAY SUMMARY 2018

FISH COUNTING SCHEDULE

1 Jan – 28 Feb	No counting.
1 Mar – 31 Mar	Video counting daily 0600 – 1600 hours PST.
1 Apr – 31 Oct	Visual counting daily 0400 – 2000 hours PST.
15 Jun – 31 Aug	Night video counts for sockeye 2000 – 0400 hours PST.
1 Nov – 31 Dec	Video counting daily 0600 – 1600 hours PST.

FISH LADDER OPERATING SCHEDULE

1 Jan – 2 Jan	Ladder in service
3 Jan – 5 Mar	Dewatered for annual maintenance/NSE 3 and NPE 3 permanent closure
28 Feb – 31 Dec	Ladder in service

FISHWAY ACTIVITIES

An expansion joint leak with the potential to impact roadway bridge and substrate integrity below the ladder was identified when the ladder was watered up February 28. The ladder was dewatered February 28 for expansion joint repair and returned to service March 5. Fish ladder water temperatures were monitored hourly at the ladder exit, diffuser 14, turn pool, and junction pool from June 1 – September 30. Project temperatures were also monitored with eight digital loggers activated during winter maintenance. The temperature control system pumps were operated from 1300 hours June 21 until 1710 hours September 18.

Substrate media at the ladder exit pool was examined monthly for zebra and quagga mussels from March through December. No mussels were found.

The fish ladder AWS pumps were out of service for annual maintenance from January 1 – February 28. AWS Fish pump 2 outage was extended to June 19 for lower guide bearing replacement.

Lower Granite adult fish trap was operated March 7 – November 18. Fish ladder water temperatures did not impact adult trap operations this season. Adult fall Chinook were collected and transported by Nez Perce Tribe and WDFW August 17 – October 30 for hatchery broodstock. Adult Coho collection for Nez Perce run reconstruction ended November 18.

The juvenile fish facility was operated for fish transport/bypass from April 1 – October 31. Operation was changed to emergency bypass mode November 13 – 15 to evaluate sensor fish through the emergency bypass system. The juvenile collection gallery and facility were dewatered November 15 for continued Phase 1 construction.

TABLE 134

MONTHLY TOTALS OF SALMONIDS, SHAD, LAMPREY, STURGEON, AND BULL TROUT COUNTED OVER LOWER GRANITE DAM
2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*			0	37	16,911	22,607	2,279	1,590	16,067	3,981	650	7	64,129
STEELHEAD			1,777	2,642	111	86	1,009	811	19,202	23,484	3,938	476	53,536
SOCKEYE						7	252	13	3	1			276
COHO*								0	435	1,954	582	23	2,994
PINK													0
TOTAL			1,777	2,679	17,022	22,700	3,540	2,414	35,707	29,420	5,170	506	120,935
SHAD					8	2,527	40,531	6,643					49,709
LAMPREY						4	122	61	18	2			207
STURGEON													0
BULL TROUT													0

*Jacks included

TABLE 135
DISCHARGE AND WATER DATA
LOWER GRANITE PROJECT 2018

JANUARY				FEBRUARY					
	DISCH	SPILL	TURBIDITY			DISCH	SPILL	TURBIDITY	
	KCFS	KCFS	SECCHI	DEG F		KCFS	KCFS	SECCHI	DEG F
Jan 1	44.0	0.0			Feb 1	47.9	0.0		
Jan 2	42.4	0.0			Feb 2	44.4	0.0		
Jan 3	35.8	0.0			Feb 3	54.8	0.0		
Jan 4	37.7	0.0			Feb 4	64.4	0.0		
Jan 5	38.4	0.0			Feb 5	89.4	0.0		
Jan 6	36.3	0.0			Feb 6	86.4	0.0		
Jan 7	34.6	0.0			Feb 7	75.1	0.0		
Jan 8	39.8	0.0			Feb 8	71.0	0.0		
Jan 9	40.6	0.0			Feb 9	68.7	0.0		
Jan 10	47.1	0.0			Feb 10	63.0	0.0		
Jan 11	51.0	0.0			Feb 11	59.2	0.0		
Jan 12	50.4	0.0			Feb 12	57.0	0.0		
Jan 13	56.8	0.0			Feb 13	57.1	0.0		
Jan 14	52.9	0.0			Feb 14	50.2	0.0		
Jan 15	54.9	0.0			Feb 15	56.5	0.0		
Jan 16	49.2	0.0			Feb 16	54.7	0.0		
Jan 17	47.8	0.0			Feb 17	60.4	0.0		
Jan 18	48.5	0.0			Feb 18	65.8	0.0		
Jan 19	54.5	0.0			Feb 19	55.0	0.0		
Jan 20	53.0	0.0			Feb 20	54.6	0.0		
Jan 21	46.9	0.0			Feb 21	54.4	0.0		
Jan 22	51.0	0.0			Feb 22	50.6	0.0		
Jan 23	46.8	0.0			Feb 23	52.7	0.0		
Jan 24	45.9	0.0			Feb 24	49.5	0.0		
Jan 25	44.4	0.0			Feb 25	52.0	0.0		
Jan 26	47.3	0.0			Feb 26	49.7	0.0		
Jan 27	42.8	0.0			Feb 27	45.5	0.0		
Jan 28	49.3	0.0			Feb 28	53.5	0.0		
Jan 29	43.7	0.0							
Jan 30	46.8	0.0							
Jan 31	46.5	0.0							
AVG.	46.0	0.0			AVG.	58.7	0.0		

TABLE 136
 MONTHLY FISH PASSAGE SUMMARY REPORT
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - FISH COUNTS

MARCH 2018

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	
Mar 1													52.8	0.0			
Mar 2													51.5	0.0			
Mar 3													43.4	0.0			
Mar 4													46.5	0.0			
Mar 5								3	-1				45.3	0.0			
Mar 6								33	8				48.7	0.0			
Mar 7								14	1				49.0	0.0			
Mar 8								14	7				47.9	0.0			
Mar 9								16	7				51.0	0.0			
Mar 10								66	22				54.5	0.0			
Mar 11								290	52				59.6	0.0			
Mar 12								139	35				58.9	0.0			
Mar 13								106	22				54.0	0.0			
Mar 14								78	7				62.7	0.0			
Mar 15								63	21				65.7	0.0			
Mar 16								85	21				70.2	0.0			
Mar 17								142	14				64.8	0.0			
Mar 18								141	27				69.2	0.0			
Mar 19								60	12				62.7	0.2	2.5	42.5	
Mar 20								37	10				61.9	0.0	2.8	42.2	
Mar 21								17	2				63.1	0.0	3.2	42.5	
Mar 22								46	16				63.6	0.0	3.5	42.5	
Mar 23								34	14				68.0	0.0			
Mar 24								74	16				74.5	0.0	3.0	43.0	
Mar 25								37	15				65.9	6.9	4.0	43.5	
Mar 26								35	14				61.4	6.9		42.5	
Mar 27								30	8				57.5	6.9		42.8	
Mar 28								23	4				56.1	6.8	3.3	44.0	
Mar 29								23	7				55.3	6.8	3.9	44.2	
Mar 30								72	19				58.7	6.8		45.1	
Mar 31								99	26				56.5	6.8	4.3	45.8	
TOTAL								1,777	406								
AVG.								66	15				58.1	1.6	3.4	43.4	

Note: Video counting began on March 5. The counts are 16-hour counts and occurred between 0400-2000 PST.

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

LOWER GRANITE PROJECT - FISH COUNTS

APRIL 2018

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				107	28				57.4	6.8	3.5	46.4	
Apr 2	0			0				88	20				59.6	6.8	3.5		
Apr 3	0			0				202	41				62.1	44.4	3.0	47.2	
Apr 4	0			0				202	44				68.6	45.5	3.3		
Apr 5	0			0				166	44				74.9	47.5	3.9	46.5	
Apr 6	0			0				206	62				76.6	50.0	4.0	46.5	
Apr 7	0			0				192	64				87.4	51.6	4.3	47.2	
Apr 8	1			0				204	41				105.1	51.6	2.5	48.0	
Apr 9	0			0				134	44				113.6	49.2	1.9	48.5	
Apr 10	0			0				61	11				110.0	49.1	1.4	47.6	
Apr 11	0			0				125	37				107.1	48.5	1.7	48.1	
Apr 12	0			0				74	28				111.2	46.6	3.2	48.3	
Apr 13	0			0				88	17				116.4	45.4	3.0	48.7	
Apr 14	0			0				64	24				107.5	45.3	2.3	48.7	
Apr 15	0			0				53	22				107.0	45.1	2.5	47.9	
Apr 16	1			0				52	22				106.6	45.2	3.0	49.1	
Apr 17	0			0				52	14				110.9	45.3	2.8	49.1	
Apr 18	1			0				66	19				103.4	45.2	2.0	49.2	
Apr 19	0			0				54	29				100.2	45.1	2.5	48.8	
Apr 20	1			0				51	25				96.2	45.1	3.6	48.9	
Apr 21	2			0				66	22				91.1	45.1	3.6	49.9	
Apr 22	0			0				36	17				88.1	44.1	3.5	51.0	
Apr 23	1			2				31	11				91.9	42.0	3.4	51.4	
Apr 24	1			0				44	19				94.7	40.9	3.1	51.3	
Apr 25	4			0				45	20				93.6	37.6	3.0	51.3	
Apr 26	4			0				30	10				97.2	35.4	3.4	51.9	
Apr 27	7			0				55	19				95.7	34.0	3.6	52.6	
Apr 28	7			0				42	17				105.0	32.2	3.4	53.0	
Apr 29	4			0				36	13				115.8	33.3	3.7	53.0	
Apr 30	1			0				16	2				118.2	33.2	3.1	50.8	
TOTAL	35			2				2,642	786								
AVG.	1			0				88	26				95.8	41.2	3.1	49.3	
RUN YEAR																	
TOTALS TO DATE		CHINOOK ADULT	CHINOOK JACK					STEELHEAD	unclipped STEELHEAD								
		35	2					4,419	1,192								

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

TABLE 138

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

LOWER GRANITE PROJECT - FISH COUNTS

MAY 2018

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
May 1	4			0				14	6	0			110.5	33.3	3.0	50.0
May 2	7			0				10	6	0			91.4	38.5	3.5	49.8
May 3	2			0				5	4	0			98.3	34.7	2.9	49.5
May 4	4			1				13	6	0			90.1	34.7	3.5	49.9
May 5	10			0				3	-1	0			98.9	34.6	3.4	51.2
May 6	14			0				12	5	0			111.9	34.7	3.7	53.0
May 7	28			0				2	0	0			138.5	36.7	3.7	53.0
May 8	46			2				6	5	0			139.6	33.5	3.6	52.0
May 9	52			4				7	5	0			141.5	35.1	2.0	51.0
May 10	167			1				7	5	0			158.1	49.1	2.9	51.5
May 11	119			1				5	4	0			155.4	51.3	2.5	51.0
May 12	116			1				0	0	0			139.4	44.4	1.9	50.0
May 13	167			11				3	2	0			126.1	33.7	2.0	49.8
May 14	274			14				-1	-1	0			118.9	32.4	2.2	51.0
May 15	641			28				4	4	0			124.5	31.1	2.5	52.2
May 16	1,160			44				4	4	0			133.8	31.1	2.5	52.5
May 17	1,210			40				1	1	0			147.4	39.3	2.5	54.0
May 18	788			30				6	5	0			153.2	44.3	1.8	53.5
May 19	889			55				1	1	0			152.9	43.3	2.0	52.2
May 20	337			43				2	1	0			150.0	42.3	0.8	52.5
May 21	623			71				1	1	0			148.2	41.8	1.8	53.5
May 22	313			13				1	0	0			147.6	38.9	0.5	54.0
May 23	1,337			116				1	1	0			154.8	46.3	1.8	54.2
May 24	1,426			146				1	1	0			157.6	49.4	2.0	55.0
May 25	1,090			119				1	1	0			163.3	57.4	1.8	54.0
May 26	892			84				0	0	0			174.6	73.4	1.9	55.0
May 27	594			88				0	0	0			175.4	66.6	0.9	56.0
May 28	490			82				0	0	0			164.7	56.5	1.1	55.0
May 29	595			90				1	1	1			160.5	51.7	1.9	56.2
May 30	424			101				1	0	1			158.2	49.6	2.1	57.0
May 31	1,721			186				0	0	6			149.9	42.1	2.1	58.0
TOTAL	15,540			1,371				111	67	8						
AVG.	501			44				4	2	0			139.8	43.0	2.3	52.8
RUN YEAR		CHINOOK ADULT	CHINOOK JACK					STEELHEAD	unclipped STEELHEAD	SHAD						
TOTALS TO DATE																
SPRING		15,575	1,373					4,530	1,259	8						

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

LOWER GRANITE PROJECT - FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	TOTAL STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	TURBIDITY SECCHI	DEG F
	SPRING	SUMMER	FALL													
Jun 1	2,436			173			0	1	1	6	0		153.6	45.4	2.1	56.8
Jun 2	2,370			211			0	0	0	1	0		139.9	33.9	2.5	56.2
Jun 3	1,433			125			0	0	0	1	0		123.5	30.7	2.6	56.5
Jun 4	1,127			134			0	0	0	11	0		111.7	30.9	2.8	57.5
Jun 5	1,006			104			0	0	0	10	0		113.2	31.1	3.2	58.0
Jun 6	1,168			128			0	0	0	8	0		108.9	31.0	3.3	59.0
Jun 7	1,103			137			0	0	0	10	0		103.9	31.6	3.4	60.0
Jun 8	1,010			102			0	0	0	7	0		95.8	33.7	4.2	61.1
Jun 9	768			92			0	0	0	6	0		95.0	35.5	3.6	61.2
Jun 10	444			61			0	1	0	1	0		87.2	35.5	3.8	61.5
Jun 11	298			38			0	0	0	1	0		87.7	35.4	4.1	61.5
Jun 12	276			46			0	1	0	2	0		82.9	35.9	4.1	60.5
Jun 13	601			38			0	1	0	1	0		72.3	37.0	4.3	59.9
Jun 14	682			58			0	2	2	0	0		68.0	37.2	4.4	59.6
Jun 15	428			48			0	0	0	8	0		62.1	37.1	4.4	59.8
Jun 16	257			43			0	1	1	0	0		58.1	37.7	4.6	60.3
Jun 17	179			37			0	0	0	22	0		55.8	39.7	4.7	61.3
Jun 18		119		26			0	5	1	14	0		54.3	40.9	4.7	62.1
Jun 19		67		23			0	0	0	43	0		63.1	40.9	5.0	61.6
Jun 20		125		22			1	2	1	31	0		63.2	41.5	5.0	62.0
Jun 21		419		37			0	3	1	19	0		67.2	19.2	5.0	60.6
Jun 22		1417		62			0	8	4	62	0		67.2	19.1	4.6	60.6
Jun 23		1088		59			0	7	5	112	1		72.2	19.3	4.7	61.4
Jun 24		478		31			0	7	1	236	0		68.3	19.2	3.0	62.8
Jun 25		274		44			1	6	1	467	1		63.3	18.8	3.2	63.3
Jun 26		282		37			0	6	1	365	0		61.0	18.9	3.8	63.9
Jun 27		232		16			0	6	5	372	1		60.6	18.8	3.7	63.8
Jun 28		238		36			0	9	5	340	0		57.4	19.1	5.0	64.8
Jun 29		130		37			1	13	8	289	0		50.5	18.9	5.0	65.0
Jun 30		130		17			4	7	5	82	1		46.0	17.5	5.0	65.3
TOTAL	15,586	4,999		2,022			7	86	42	2,527	4					
AVG.	917	385		67			0	3	1	84	0		80.5	30.4	4.0	60.9

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
TOTALS TO DATE							
SPRING	31,161	2,948	7	4,616	1,301	2,535	4
SUMMER	4,999	447					
TOTAL	36,160	3,395					

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

LOWER GRANITE PROJECT - FISH COUNTS

JULY 2018

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
Jul 1		158		30			5	14	10	422	0		43.7	17.5	5.0	65.4
Jul 2		106		26			12	21	11	403	0		39.7	17.5	5.0	65.3
Jul 3		128		16			7	10	5	552	0		41.1	17.6	5.0	65.4
Jul 4		101		23			13	16	5	834	2		42.0	17.5	5.0	65.4
Jul 5		121		19			6	24	12	2,027	0		37.9	17.6	5.0	65.8
Jul 6		119		23			8	25	18	2,522	1		42.6	17.6	5.0	65.3
Jul 7		102		22			22	27	14	2,496	1		43.1	17.6	5.0	65.1
Jul 8		92		14			7	32	18	2,539	2		42.5	17.6	5.0	65.3
Jul 9		66		29			7	27	13	3,140	1		41.2	17.6	5.0	65.9
Jul 10		53		13			8	26	22	805	1		44.9	17.6	5.0	65.7
Jul 11		79		13			6	48	24	1,441	6		43.1	17.6	5.0	66.1
Jul 12		59		8			10	15	8	1,459	5		43.4	17.7	5.0	66.7
Jul 13		72		6			7	31	17	1,424	8		41.4	17.7	5.0	66.9
Jul 14		66		6			13	36	19	1,273	6		40.2	17.8	5.0	66.8
Jul 15		53		7			13	31	14	1,328	8		38.5	17.7	5.0	66.7
Jul 16		49		6			6	28	20	1,780	6		39.1	17.8	5.0	67.3
Jul 17		30		11			10	25	12	1,436	4		42.0	17.8	5.0	68.0
Jul 18		61		13			11	46	24	997	6		37.8	17.8	5.0	67.6
Jul 19		30		4			13	48	23	1,409	6		36.6	17.8	5.0	66.8
Jul 20		46		6			6	60	44	1,088	7		34.6	17.7	5.0	66.9
Jul 21		41		8			4	32	20	1,471	6		32.3	17.7	5.0	66.8
Jul 22		66		4			7	59	36	1,637	4		30.5	17.8	5.0	67.3
Jul 23		29		7			10	42	24	1,542	10		32.4	17.8	5.0	67.4
Jul 24		35		4			5	25	17	1,135	4		33.7	16.2	5.0	67.5
Jul 25		43		4			10	44	24	1,418	5		34.4	15.6	5.0	66.7
Jul 26		30		1			5	40	20	710	6		33.0	17.3	5.0	66.3
Jul 27		13		0			5	34	16	698	4		34.7	17.3	5.0	66.9
Jul 28		43		4			5	48	22	653	1		34.2	17.3	5.0	66.3
Jul 29		26		6			2	32	19	730	5		31.8	17.3	5.0	66.8
Jul 30		24		4			5	37	17	630	5		31.7	17.3	5.0	66.9
Jul 31		-1		2			4	26	10	532	2		33.4	17.4	5.0	67.1
TOTAL		1,940		339			252	1,009	558	40,531	122					
AVG.		63		11			8	33	18	1307	4		38.0	17.5	5.0	66.5

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	31,161	2,948
SUMMER	6,939	786
TOTAL	38,100	3,734

		unclipped	
SOCKEYE	STEELHEAD	STEELHEAD	LAMPREY
259	5,625	1,859	126

TABLE 141
 MONTHLY FISH PASSAGE SUMMARY REPORT
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - FISH COUNTS

AUGUST 2018

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		10		1		1	20	7	338	1		35.8	17.6	5.0	67.1	
Aug 2		13		2		2	32	20	725	4		32.1	17.8	5.0	65.9	
Aug 3		28		5		0	33	16	304	7		31.7	17.7	5.0	66.0	
Aug 4		26		4		4	32	28	492	2		30.7	17.6	5.0	66.4	
Aug 5		35		2		1	50	22	398	2		28.8	15.8	5.0	66.4	
Aug 6		17		2		0	30	18	252	0		27.9	14.7	5.0	66.2	
Aug 7		22		1		0	28	14	485	6		32.4	17.6	5.0	66.2	
Aug 8		20		4		1	41	24	389	4		32.2	17.4	5.0	66.1	
Aug 9		25		4		1	25	11	772	4		36.0	17.6	5.0	66.2	
Aug 10		18		1		1	32	14	592	0		32.1	17.9	5.0	66.4	
Aug 11		30		1		1	37	14	276	1		34.5	17.6	5.0	65.7	
Aug 12		34		0		0	23	12	236	2		27.5	14.6	5.0	65.1	
Aug 13		5		1		0	16	10	38	2		29.2	18.8	5.0	66.6	
Aug 14		19		2		0	16	11	77	4		30.9	19.3	5.0	67.2	
Aug 15		17		2		0	18	11	53	5		29.9	19.8	5.0	67.8	
Aug 16		28		1		1	20	14	38	0		29.4	20.0	5.0	67.9	
Aug 17		18		0		0	25	14	409	2		26.9	14.1	5.0	66.1	
Aug 18			22	4		0	16	8	280	1		26.4	13.6	5.0	65.7	
Aug 19			14	0		0	10	2	186	1		24.7	12.0	5.0	66.0	
Aug 20			20	2		0	9	5	24	4		25.2	12.5	4.6	66.3	
Aug 21			16	2		0	19	6	71	0		26.0	13.2	4.7	66.0	
Aug 22			12	0		0	10	5	53	0		27.7	14.5	5.0	67.3	
Aug 23			32	7		0	9	5	46	1		26.7	13.6	4.8	67.1	
Aug 24			35	5		0	30	8	22	0		26.2	12.6	5.0	66.9	
Aug 25			59	6		0	38	14	38	1		27.6	15.5	5.0	66.7	
Aug 26			86	7		0	27	14	10	0		28.6	20.2	5.0	66.7	
Aug 27			65	10		0	19	6	11	2		25.1	12.2	5.0	66.7	
Aug 28			84	6		0	32	20	11	1		26.1	13.3	5.0	67.2	
Aug 29			139	19		0	35	18	2	1		31.5	17.9	5.0	67.0	
Aug 30			227	20		0	35	12	10	1		29.7	15.5	4.9	66.2	
Aug 31			282	11		0	44	20	5	2		32.1	17.9	5.0	64.9	
TOTAL		365	1,093	132		13	811	403	6,643	61						
AVG		21	78	4		0	26	13	214	2		29.4	16.1	5.0	66.5	

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	31,161	2,948
SUMMER	7,304	819
FALL	1,093	99
TOTAL	39,558	3,866

SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
272	6,436	2,262	49,709	187

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

LOWER GRANITE PROJECT - FISH COUNTS

SEPTEMBER 2018

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
Sep 1		425	35	0	0	0	54	30			4		27.0	0.0	5.0	65.4
Sep 2		229	28	0	0	0	40	8			4		24.3	0.0	5.0	65.6
Sep 3		348	38	0	0	0	40	14			1		21.7	0.0	5.0	65.8
Sep 4		416	50	0	0	0	93	31			2		23.2	0.0	5.0	65.9
Sep 5		301	42	0	0	0	84	30			0		24.7	0.0	5.0	66.1
Sep 6		478	54	0	0	0	104	40			0		22.7	0.0	5.0	66.5
Sep 7		438	58	1	0	0	115	36			4		26.5	0.0	5.0	66.8
Sep 8		602	94	0	0	0	163	41			1		25.5	0.0	5.0	66.8
Sep 9		850	96	0	0	0	253	79			1		23.9	0.0	5.0	66.5
Sep 10		462	84	0	0	1	265	85			1		25.5	0.0	5.0	67.3
Sep 11		848	128	1	0	0	542	142			1		24.5	0.0	5.0	67.0
Sep 12		473	85	1	0	0	475	128			0		22.9	0.0	5.0	67.1
Sep 13		449	88	0	0	0	453	113			0		23.7	0.0	5.0	66.9
Sep 14		457	140	1	0	0	591	140			0		24.0	0.0	5.0	67.4
Sep 15		719	199	1	0	0	565	131			0		23.5	0.0	5.0	66.7
Sep 16		835	187	5	0	0	748	192			0		22.7	0.0	5.0	66.3
Sep 17		587	186	7	1	1	1,122	226			2		23.0	0.0	5.0	65.6
Sep 18		346	109	8	7	0	746	180			0		22.4	0.0	5.0	65.0
Sep 19		304	133	10	2	1	775	149			-1		22.4	0.0	5.0	64.8
Sep 20		455	124	11	11	0	1,057	200			0		21.9	0.0	5.0	64.3
Sep 21		368	98	16	18	0	971	157			-1		23.6	0.0	5.0	64.8
Sep 22		432	108	31	19	0	897	185			-1		20.6	0.0	5.0	64.3
Sep 23		384	128	53	8	0	1,352	262			0		22.4	0.0	5.0	63.8
Sep 24		342	83	24	8	0	858	149			0		19.1	0.0	5.0	63.6
Sep 25		275	100	26	1	0	1,101	160			0		20.4	0.0	5.0	63.6
Sep 26		204	71	11	4	0	989	168			0		22.4	0.0	5.0	63.9
Sep 27		187	65	25	5	0	1,089	169			0		19.3	0.0	5.0	63.7
Sep 28		202	104	28	4	0	1,166	208			0		22.2	0.0	5.0	63.5
Sep 29		374	167	26	1	0	1,298	260			0		17.2	0.0	5.0	63.2
Sep 30		246	149	40	20	0	1,196	228			0		20.6	0.0	5.0	63.0
TOTAL		13,036	3,031	326	109	3	19,202	3,941			18					
AVG.		435	101	11	4	0	640	131			1		22.8	0.0	5.0	65.4

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	31,161	2,948
SUMMER	7,304	819
FALL	14,129	3,130
TOTAL	52,594	6,897

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
326	109	275	25,638	6,203	49,709	205

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

LOWER GRANITE PROJECT - FISH COUNTS

OCTOBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL	unclipped	SHAD	LAMPREY	BULL	DISCH	SPILL	TURBIDITY		
	SPRING	SUMMER	JACK	ADULT	JACK		SOCKEYE			STEELHEAD				STEELHEAD	TROUT
Oct 1			203	121	49	26	0	1,453	235		0	16.8	0.0	5.0	62.9
Oct 2			206	122	36	30	0	1,150	182		2	18.9	0.0	5.0	63.0
Oct 3			230	170	49	53	0	1,725	323		0	22.5	0.0	5.0	62.9
Oct 4			162	114	41	28	0	1,221	233		1	19.9	0.0	5.0	62.6
Oct 5			116	62	44	20	0	1,137	229		0	20.3	0.0	5.0	62.5
Oct 6			145	90	31	38	0	970	179		0	22.1	0.0	5.0	62.2
Oct 7			80	48	36	20	0	888	178		-1	16.7	0.0	5.0	62.3
Oct 8			112	77	26	53	0	1,112	196		0	19.4	0.0	5.0	62.0
Oct 9			71	50	26	42	0	800	140		0	19.8	0.0	5.0	61.4
Oct 10			56	55	35	38	0	707	148		0	18.7	0.0	5.0	61.4
Oct 11			95	77	35	44	0	914	190		0	19.2	0.0	5.0	60.6
Oct 12			62	84	42	29	0	850	174		0	18.1	0.0	5.0	60.5
Oct 13			35	31	30	52	0	861	157		0	15.5	0.0	5.0	60.0
Oct 14			83	38	30	37	0	660	118		0	19.6	0.0	5.0	59.5
Oct 15			60	40	40	29	0	689	144		0	16.7	0.0	5.0	59.4
Oct 16			53	41	46	25	0	937	175		0	18.0	0.0	5.0	59.0
Oct 17			54	28	42	28	0	697	151		0	16.1	0.0	5.0	58.7
Oct 18			48	25	34	18	1	645	118		0	21.9	0.0	5.0	58.0
Oct 19			59	54	24	8	0	564	97		0	15.2	0.0	5.0	57.8
Oct 20			55	61	46	12	0	695	160		0	15.7	0.0	5.0	57.2
Oct 21			62	62	76	12	0	824	176		0	15.8	0.0	5.0	56.8
Oct 22			37	37	52	14	0	576	110		0	16.2	0.0	5.0	56.1
Oct 23			36	28	41	22	0	471	98		0	22.5	0.0	5.0	55.5
Oct 24			24	32	37	20	0	442	94		0	18.0	0.0	5.0	55.4
Oct 25			24	28	34	11	0	422	104		0	20.0	0.0	5.0	55.4
Oct 26			18	23	29	18	0	488	103		0	17.6	0.0	5.0	55.3
Oct 27			19	20	36	18	0	354	83		0	18.1	0.0	5.0	55.0
Oct 28			14	17	30	17	0	360	94		0	17.9	0.0	5.0	54.7
Oct 29			19	17	30	12	0	233	58		0	18.8	0.0	5.0	54.5
Oct 30			26	26	35	7	0	345	88		0	22.6	0.0	5.0	54.5
Oct 31			23	16	29	2	0	294	76		0	21.7	0.0	5.0	54.3
TOTAL			2,287	1,694	1,171	783	1	23,484	4,611		2				
AVG.			74	55	38	25	0	758	149		0	18.7	0.0	5.0	58.8

RUN YEAR	CHINOOK	CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	unclipped	SHAD	LAMPREY
	ADULT	JACK	ADULT	JACK			STEELHEAD		
TOTALS TO DATE									
SPRING	31,161	2,948	1,497	892	276	49,122	10,814	49,709	207
SUMMER	7,304	819							
FALL	16,416	4,824							
TOTAL	54,881	8,591							

Note: Visual counts ended October 31.

TABLE 144
 MONTHLY FISH PASSAGE SUMMARY REPORT
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - FISH COUNTS

NOVEMBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL	unclipped	BULL	DISCH	SPILL	TURBIDITY	DEG F				
	SPRING	SUMMER	FALL	JACK	ADULT								JACK	SOCKEYE	STEELHEAD	STEELHEAD
Nov 1			64	15	36	5	251	78				18.2	0.0	5.0	54.1	
Nov 2			51	26	28	3	287	87				22.4	0.0	5.0	54.0	
Nov 3			18	5	27	0	527	160				28.2	0.0	5.0	53.9	
Nov 4			12	7	37	2	362	96				30.4	0.0	5.0	54.3	
Nov 5			23	14	23	3	256	71				25.2	0.0			
Nov 6			17	4	33	5	229	57				26.2	0.0			
Nov 7			24	21	27	0	239	56				24.9	0.0			
Nov 8			45	3	27	3	249	64				27.3	0.0			
Nov 9			51	15	19	3	276	77				21.7	0.0			
Nov 10			18	7	16	1	209	67				20.6	0.0			
Nov 11			6	6	27	2	126	38				21.1	0.0			
Nov 12			5	5	8	1	122	38				19.6	0.0			
Nov 13			8	5	34	10	54	16				20.1	0.0			
Nov 14			4	2	20	1	62	20				19.6	0.0			
Nov 15			10	5	28	5	74	27				18.4	0.0			
Nov 16			2	5	14	3	96	28				16.5	0.0			
Nov 17			47	7	21	0	53	19				19.9	0.0			
Nov 18			32	7	29	0	72	20				19.7	0.0			
Nov 19			8	5	10	1	49	18				21.2	0.0	5.0	46.6	
Nov 20			8	2	10	2	36	14				19.4	0.0	5.0	45.8	
Nov 21			2	3	10	2	21	7				18.6	0.0	5.0	45.2	
Nov 22			1	0	3	1	40	20				15.1	0.0			
Nov 23			3	-2	8	5	29	11				15.3	0.0			
Nov 24			5	2	5	1	38	17				22.6	0.0			
Nov 25			4	2	4	0	53	16				19.8	0.0			
Nov 26			-2	0	6	0	41	11				19.4	0.0	5.0	44.6	
Nov 27			1	1	3	0	40	10				17.0	0.0	5.0	42.0	
Nov 28			3	0	2	0	27	7				19.2	0.0			
Nov 29			4	0	2	5	12	9				22.0	0.0	5.0	43.9	
Nov 30			3	1	0	1	8	5				20.6	0.0			
TOTAL			477	173	517	65	3,938	1,164								
AVG.			16	6	17	2	131	39				21.0	0.0	5.0	48.4	

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY
TOTALS TO DATE									
SPRING	31,161	2,948	2,014	957	276	53,060	11,978	49,709	207
SUMMER	7,304	819							
FALL	16,893	4,997							
TOTAL	55,358	8,764							

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

TABLE 145
 MONTHLY FISH PASSAGE SUMMARY REPORT
 U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - FISH COUNTS

DECEMBER 2018

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
Dec 1			2	1	2	0		27	7				20.4	0.0		
Dec 2			1	0	5	0		24	8				19.1	0.0		
Dec 3			2	-1	0	0		11	5				20.7	0.0	5.0	43.0
Dec 4			1	1	2	-1		14	2				19.7	0.0	5.0	42.5
Dec 5			0	2	1	1		8	4				17.0	0.0		
Dec 6			0	-2	1	2		9	1				20.6	0.0	5.0	42.0
Dec 7			1	-2	0	-1		10	3				15.6	0.0		
Dec 8			0	-1	1	0		9	4				16.3	0.0		
Dec 9			0	2	0	0		7	1				16.6	0.0		
Dec 10			0	0	1	0		11	3				18.7	0.0	5.0	42.0
Dec 11			0	0	0	0		23	8				24.3	0.0	5.0	41.9
Dec 12			2	1	2	0		14	4				20.7	0.0		
Dec 13			0	0	2	0		29	8				23.7	0.0	5.0	42.0
Dec 14			-2	0	1	0		30	11				17.5	0.0		
Dec 15			0	0	1	0		39	15				24.2	0.0		
Dec 16			1	-1	-1	0		15	6				19.6	0.0		
Dec 17			0	0	1	0		6	1				22.7	0.0	5.0	38.0
Dec 18			0	-3	1	0		3	0				22.5	0.0		
Dec 19			0	1	1	0		6	3				24.8	0.0	5.0	39.0
Dec 20			0	0	0	-1		5	3				22.2	0.0	5.0	39.7
Dec 21			0	1	1	1		13	7				23.4	0.0		
Dec 22			0	-3	-2	0		18	4				25.6	0.0		
Dec 23			0	0	0	-1		13	5				24.4	0.0		
Dec 24			0	0	0	1		27	9				21.5	0.0		
Dec 25			0	0	2	-1		25	7				21.0	0.0		
Dec 26			0	0	0	0		10	5				22.3	0.0	5.0	39.8
Dec 27			1	1	0	0		12	2				22.2	0.0	5.0	39.5
Dec 28			2	-1	0	0		12	6				25.3	0.0		
Dec 29			0	0	0	2		19	8				22.0	0.0		
Dec 30			0	0	1	-2		19	4				20.3	0.0		
Dec 31			0	0	0	0		8	3				23.7	0.0		
TOTAL			11	-4	23	0		476	157							

AVG.	0	0	1	0	15	5	21.2	0.0	5.0	40.9
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RUN YEAR

TOTALS TO DATE	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD	SHAD	LAMPREY	BULL TROUT
SPRING	31,161	2,948	2,033	958	276	53,325	12,062	49,709	207	0
SUMMER	7,304	819								
FALL	16,900	4,998								
TOTAL	55,365	8,765								

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

TABLE 146

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

LOWER GRANITE PROJECT - NIGHT FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	TOTAL			SHAD	LAMPREY
	SPRING	SUMMER	FALL				SOCKEYE	STEELHEAD	unclipped STEELHEAD		
Jun 1	108			5			0	0	0		0
Jun 2	93			6			0	1	1		0
Jun 3	60			8			0	0	0		0
Jun 4	68			6			0	0	0		0
Jun 5	57			4			0	0	0		1
Jun 6	54			7			0	0	0		0
Jun 7	79			8			0	0	0		0
Jun 8	30			1			0	0	0		1
Jun 9	44			6			0	0	0		0
Jun 10	26			0			0	0	0		0
Jun 11	15			4			0	0	0		0
Jun 12	8			0			0	0	0		0
Jun 13	30			6			0	0	0		0
Jun 14	20			0			0	0	0		0
Jun 15	17			1			0	0	0		0
Jun 16	13			1			0	0	0		0
Jun 17	6			1			1	0	0		2
Jun 18		4		1			0	0	0		0
Jun 19		4		0			0	0	0		0
Jun 20		5		3			0	-1	-1		0
Jun 21		40		1			0	0	0		0
Jun 22		48		0			0	0	0		0
Jun 23		17		2			0	0	0		1
Jun 24		9		2			0	1	0		3
Jun 25		31		0			1	0	0		0
Jun 26		7		2			0	1	1		2
Jun 27		9		2			0	0	0		3
Jun 28		13		2			0	0	0		0
Jun 29		5		1			1	0	0		1
Jun 30		23		1			0	0	0		2
TOTAL	728	215		81			3	2	1		16
AVG.	43	17		3			0	0	0		1

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

JULY 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL			SHAD	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD		
Jul 1		9		2			2	2	1		2
Jul 2		5		1			4	1	1		2
Jul 3		10		4			4	0	0		2
Jul 4		4		1			0	1	1		7
Jul 5		5		0			2	0	0		3
Jul 6		7		0			2	0	0		6
Jul 7		6		0			2	1	0		8
Jul 8		4		3			3	-1	-1		7
Jul 9		3		0			5	1	1		13
Jul 10		3		0			5	0	0		33
Jul 11		6		1			2	1	1		29
Jul 12		8		0			3	0	0		43
Jul 13		5		0			2	0	0		31
Jul 14		4		0			7	1	1		6
Jul 15		3		0			0	0	0		45
Jul 16		0		0			1	0	0		41
Jul 17		1		0			0	1	0		51
Jul 18		2		1			2	3	2		62
Jul 19		3		1			1	2	2		49
Jul 20		4		0			0	1	0		27
Jul 21		1		0			0	2	1		34
Jul 22		0		0			1	2	2		38
Jul 23		3		0			0	1	0		48
Jul 24		2		0			0	1	1		35
Jul 25		0		0			0	0	0		28
Jul 26		1		0			0	0	0		28
Jul 27		1		0			0	1	0		30
Jul 28		1		0			0	0	0		26
Jul 29		-1		0			0	0	0		25
Jul 30		0		0			1	0	0		32
Jul 31		-3		0			0	1	1		33
TOTAL		97		14			49	22	14		824
AVG.		3		0			2	1	0		27

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

TABLE 148

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - NIGHT FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	TOTAL			SHAD	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT	JACK	SOCKEYE	STEELHEAD	unclipped STEELHEAD		
Aug 1		1		0			0	0	0		28
Aug 2		0		0			0	0	0		27
Aug 3		0		0			1	1	1		33
Aug 4		0		0			1	0	0		27
Aug 5		1		0			1	0	0		31
Aug 6		0		0			0	0	0		29
Aug 7		0		0			0	2	0		22
Aug 8		0		0			0	0	0		31
Aug 9		-1		0			0	0	0		19
Aug 10		-1		0			0	-1	0		11
Aug 11		1		0			0	0	0		14
Aug 12		-2		0			0	-1	-1		20
Aug 13		0		0			0	2	2		16
Aug 14		0		0			0	0	0		19
Aug 15		-1		0			0	0	0		15
Aug 16		-1		0			0	0	0		16
Aug 17		0		0			0	0	0		22
Aug 18			0	0			0	0	0		14
Aug 19			0	0			0	0	0		11
Aug 20			0	0			0	0	0		10
Aug 21			0	0			0	0	0		26
Aug 22			1	0			0	0	0		21
Aug 23			1	0			0	0	0		17
Aug 24			0	0			0	0	0		30
Aug 25			2	0			0	2	0		5
Aug 26			0	0			0	-2	-2		12
Aug 27			1	0			0	3	2		16
Aug 28			3	0			0	1	0		12
Aug 29			1	1			0	2	2		9
Aug 30			2	0			0	0	0		11
Aug 31			-2	1			0	0	0		8
TOTAL		-3	9	2			3	9	4		582
AVG		0	1	0			0	0	0		19

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

TABLE 149

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

LOWER GRANITE PROJECT - NIGHT FISH COUNTS

SEPTEMBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	TOTAL	unclipped		SHAD	LAMPREY
	SPRING	SUMMER	FALL	JACK	ADULT		JACK	SOCKEYE		
Sep 1			0	0	0	0		0		15
Sep 2			2	3	0	1		0		17
Sep 3			3	0	0	6		1		8
Sep 4			1	0	0	1		0		14
Sep 5			4	0	0	11		4		7
Sep 6			4	0	0	3		0		13
Sep 7			2	0	0	6		3		10
Sep 8			2	3	0	7		3		10
Sep 9			2	4	0	11		4		4
Sep 10			5	2	0	33		13		7
Sep 11			4	2	0	25		8		7
Sep 12			1	3	0	20		9		2
Sep 13			5	-1	0	23		7		1
Sep 14			10	4	0	24		4		4
Sep 15			5	5	0	21		9		4
Sep 16			5	2	0	29		8		5
Sep 17			4	1	0	17		5		1
Sep 18			0	0	0	14		2		8
Sep 19			6	0	0	21		6		2
Sep 20			4	1	1	30		13		4
Sep 21			0	1	0	28		7		3
Sep 22			2	4	1	27		9		3
Sep 23			3	0	1	25		6		2
Sep 24			3	3	2	21		5		2
Sep 25			2	3	1	17		2		0
Sep 26			2	4	0	30		7		1
Sep 27			-2	3	2	36		14		0
Sep 28			9	2	0	60		11		4
Sep 29			4	4	1	48		11		1
Sep 30			2	8	5	55		16		2
TOTAL			94	61	14	2		650	187	161
AVG.			3	2	0	0		22	6	5

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

TABLE 150

YEARLY TOTALS OF SALMONIDS COUNTED OVER
LOWER GRANITE DAM
1975 - 2018

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
2014	195,167	164,106	2,786	18,651	380,710
2015	203,259	139,776	440	1,688	345,163
2016	128,833	100,176	816	3,170	232,995
2017	81,318	76,798	228	8,802	167,146
2018	64,129	53,536	276	2,994	120,935
Total	3,023,574	4,853,458	14,424	74,258	7,965,714
10-Year Average	150,100	146,721	1,070	5,256	303,147

*Jacks included

TABLE 151

**MONTHLY COUNT OF CHINOOK SALMON
LOWER GRANITE DAM
1975 - 2018**

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
2014			0	1,149	74,107	26,374	12,194	3,017	61,195	15,640	1,486	5	195,167
2015			6	13,867	85,575	23,383	7,957	4,817	51,721	14,945	974	14	203,259
2016			3	785	54,283	19,137	5,884	5,769	35,122	7,087	763	0	128,833
2017			0	49	11,791	30,289	5,573	1,461	22,480	9,129	525	21	81,318
2018			0	37	16,911	22,607	2,279	1,590	16,067	3,981	650	7	64,129
Total	26	219,417	1,136,453	676,449	218,641	47,123	543,566	169,553	12,216	130			3,023,574
10-Year Average	2,579	51,955	30,595	9,414	3,161	40,717	10,878	794					150,100

*Jacks included

TABLE 152

MONTHLY COUNT OF STEELHEAD

LOWER GRANITE DAM

1975 - 2018

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
2014			5,419	1,683	381	325	4,511	5,448	66,495	66,635	10,137	3,072	164,106
2015			7,118	1,798	264	113	814	3,323	59,018	58,255	8,150	923	139,776
2016			3,843	1,463	167	194	2,180	3,313	34,143	47,401	6,763	709	100,176
2017			5,394	1,747	161	15	282	437	20,587	43,704	3,877	594	76,798
2018			1,777	2,642	111	86	1,009	811	19,202	23,484	3,938	476	53,536
Total	539	790	146,565	131,765	16,982	7,147	85,156	215,077	1,849,724	2,058,391	300,493	40,829	4,853,458
10-Yr Average			4,773	3,222	392	200	2,710	6,620	62,321	58,117	7,294	1,073	146,721

PRIEST RAPIDS AND WANAPUM DAMS

FISH COUNTING SCHEDULE

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.

2018 FISHWAY OPERATING AND MAINTENANCE SCHEDULE – PRIEST RAPIDS and WANAPUM DAMS

Fishway inspections are conducted by a project Operator at least once per day (walk-through) to ensure that fish facilities are operating within criteria limits. A daily log of the inspections is compared with the computerized printout to assure correct calibration of the fishway control system. At the discretion of National Marine Fisheries Service or Fish Passage Center (FPC), at least one inspection of the fishways is conducted by one of these agencies each month during the adult fish-passage season (April 15–November 15).

Fishway maintenance occurs every winter during December 1 through March 31. The fishways may be dewatered during this time to allow annual maintenance of fish facility equipment, including pumps, diffuser gratings, valves, and orifice and entrance gates as necessary to ensure their readiness during the adult fish-migration period. Fish biologists or technicians are present at all dewatering events to ensure proper fish handling procedures are followed.

Scheduled maintenance which requires dewatering, or that will have a significant effect on fish passage, is done during the winter maintenance period. Maintenance of facilities that does not affect fish passage may be conducted during the rest of the year under unscheduled maintenance. Concurrent outages of both fishways are always avoided whenever possible to provide an upstream fish passage route at the dams. When facilities are not being maintained during the winter maintenance period, they are operated according to the normal operating criteria, unless otherwise coordinated in advance.

2018 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 (DVR) at each dam. These DVRs are networked and accessed by fish counters via computers from the fish-counting room at Wanapum Maintenance Center. The fish counting staff playback these images in a fast-forward mode until a fish is observed, then slowed for fish identification

and count. During periods of concentrated fish passage at the counting window, playback is slowed down to real time or replayed to facilitate counting accuracy. 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.grantpud.org/environment/fish-wildlife/fish-counts>.

During the 2018 fish-count operations from April 15 to November 15, two bull trout were observed in the fishways at Wanapum Dam and one bull trout was observed in the fishway at Priest Rapids Dam.

Adult Passive Integrated Transponder (PIT) Tag Detection

The PIT tag detection array is in the exit section in both ladders of Priest Rapids Dam. The detection system is operated continuously whenever the adult fishways are operational. Another PIT tag monitoring site is located within the Off-Ladder Adult Fish Trap (OLAFT).

Off Ladder Adult Fish Trap

The Yakama Nation operated the OLAFT at Priest Rapids Dam from June 27 through July 6 to collect adult Sockeye salmon for their Lake Cle Elum and Cooper Lake reintroduction program. The Washington Department of Fish & Wildlife (WDFW) sampled steelhead trout for the agency's stock-assessment program beginning on July 6 and continued through early-November 2018. The WDFW typically operated the trap on Mondays, Wednesdays, and Fridays of each week for steelhead trout sampling (July 6 – November 9). Concurrent with the WDFW steelhead sampling, the Yakama Nation were on site at the OLAFT to collect adult Coho salmon for the mid-Columbia Coho reintroduction program from September 10 through 14. In addition, the WDFW trapped fall Chinook salmon to augment broodstock collection for Priest Rapids Hatchery (September 10–October 24). Additional sampling for fall Chinook run reconstruction was completed on October 24. The OLAFT was completely dewatered and winterized for the season on November 15, 2018.

Adult Lamprey Passage Study

Grant PUD continued the implementation of the Pacific Lamprey Management Plan to assess behavior and passage efficiency through the fishways at Priest Rapids and Wanapum Dams to evaluate the efficacy of design enhancements. In addition to having PIT tag detection arrays in the fishways, Grant PUD is also conducting trap and transport (above Rock Island Dam) of adult lamprey as part of a translocation program.

TABLE 153

MONTHLY TOTALS OF SALMONIDS, SHAD, AND LAMPREY COUNTED OVER PRIEST RAPIDS DAM
2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				18	5,069	19,679	23,525	3,834	13,251	4,694	744		70,814
STEELHEAD				17	15	78	791	671	2,750	517	79		4,918
SOCKEYE					2	63,862	125,123	891	6				189,884
COHO*									3,995	1,081	110		5,186
PINK													0
TOTAL				35	5,086	83,619	149,439	5,396	20,002	6,292	933		270,802
SHAD					2	8,089	64,080	6,147	887	119			79,324
LAMPREY					198	767	5,228	4,289	1,049	200	27		11,758
BULL TROUT					1								1

*Jacks included

TABLE 154

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

PRIEST RAPIDS PROJECT- FISH COUNTS											APRIL 2018			
DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK								
Apr 1												123.5	0.0	41.8
Apr 2												115.5	0.0	41.5
Apr 3												131.6	0.0	41.6
Apr 4												119.0	0.0	41.7
Apr 5												129.4	0.0	41.8
Apr 6												121.3	0.0	41.6
Apr 7												115.2	0.0	41.8
Apr 8												111.2	0.0	41.8
Apr 9												112.1	0.0	42.2
Apr 10												113.4	0.0	**
Apr 11												141.6	0.0	42.5
Apr 12												149.7	0.0	42.7
Apr 13												133.3	0.0	43.0
Apr 14												144.7	0.0	43.5
Apr 15	0							0				122.2	0.0	43.9
Apr 16	0							0				127.2	0.0	43.8
Apr 17	0							1				178.9	29.8	44.0
Apr 18	1							0				174.9	55.9	44.1
Apr 19	1							1				204.6	69.6	44.3
Apr 20	0							4				190.2	71.1	44.7
Apr 21	0							2				155.0	29.6	44.9
Apr 22	2							3				195.7	62.5	45.2
Apr 23	0							0				170.6	45.3	45.4
Apr 24	0							0				192.6	69.2	45.7
Apr 25	4							0				167.0	44.9	46.1
Apr 26	2							0				152.9	25.7	46.5
Apr 27	0							1				193.1	87.8	46.9
Apr 28	0							4				197.6	111.2	47.3
Apr 29	1							1				217.4	95.0	47.6
Apr 30	7							0				235.1	90.2	**
TOTAL	18							17				154.6	29.6	43.8
AVG.	1							1						

**Data unavailable

TABLE 155

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT- FISH COUNTS											MAY 2018			
DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
May 1	0			0			0	5	0	0	0	151.0	23.2	48.1
May 2	7			0			0	0	0	0	0	224.4	99.3	48.1
May 3	2			2			0	0	0	0	0	203.1	89.3	48.2
May 4	4			0			0	0	0	0	0	240.2	144.9	48.5
May 5	11			1			0	2	0	0	0	265.6	152.0	48.7
May 6	7			0			0	0	0	0	0	245.8	139.8	48.8
May 7	8			1			0	1	0	0	0	279.1	153.1	49.2
May 8	22			0			0	0	0	0	0	258.5	130.8	49.4
May 9	18			2			0	0	0	1	0	281.6	145.7	49.9
May 10	45			0			0	0	0	1	0	280.5	174.9	50.2
May 11	29			0			0	0	0	1	0	324.9	189.7	50.3
May 12	34			0			0	0	1	3	0	350.0	213.3	50.8
May 13	53			0			0	0	0	6	0	392.2	238.8	51.4
May 14	50			1			0	2	0	2	0	390.7	241.1	51.7
May 15	50			1			0	0	0	5	0	350.0	230.3	52.1
May 16	154			7			0	0	0	5	0	250.4	139.7	52.5
May 17	256			14			0	0	0	5	1	317.5	192.7	52.9
May 18	389			21			0	1	0	5	0	344.4	220.3	53.3
May 19	281			19			0	2	0	14	0	348.2	197.3	53.4
May 20	117			5			0	0	0	3	0	353.8	204.4	53.3
May 21	121			27			0	0	0	12	0	346.7	202.8	53.4
May 22	247			47			0	0	1	20	0	364.6	215.1	53.8
May 23	237			54			0	0	0	11	0	342.3	205.3	54.2
May 24	241			37			0	0	0	15	0	296.2	182.7	54.7
May 25	376			88			0	0	0	29	0	313.2	203.6	54.9
May 26	320			77			0	0	0	15	0	310.6	201.0	55.2
May 27	190			43			0	0	0	1	0	300.2	178.0	55.5
May 28	240			50			0	0	0	16	0	285.8	203.6	56.0
May 29	252			28			0	0	0	16	0	266.4	194.8	55.9
May 30	332			44			0	0	0	2	0	254.8	124.1	55.8
May 31	336			71			2	2	0	10	0	228.2	124.3	**
TOTAL	4,429			640			2	15	2	198	1			
AVG.	143			21			0	0	0	6	0	295.5	172.8	52.0
RUN YEAR		CHINOOK ADULT	CHINOOK JACK				SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT			
TOTALS TO DATE		4,447	640				2	32	2	198	1			
SPRING														

**Data unavailable

TABLE 156

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

PRIEST RAPIDS PROJECT- FISH COUNTS

JUNE 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Jun 1	337			50			0	0	0	0		256.2	145.0	55.4
Jun 2	148			8			0	2	0	1		278.5	152.8	55.6
Jun 3	261			49			1	1	0	1		263.9	151.8	55.7
Jun 4	133			40			0	0	0	2		210.5	80.4	55.9
Jun 5	181			21			0	0	0	0		224.0	118.0	56.2
Jun 6	96			15			0	0	0	1		202.9	86.9	56.6
Jun 7	144			14			0	2	0	17		182.7	81.4	56.9
Jun 8	186			24			0	2	1	37		215.2	114.8	57.4
Jun 9	152			26			2	1	2	8		185.3	97.4	57.3
Jun 10	188			10			4	0	1	7		202.2	79.9	57.0
Jun 11	225			25			9	0	0	4		206.5	86.9	57.1
Jun 12	350			10			26	0	4	11		178.3	44.1	57.5
Jun 13	219			17			42	0	4	40		164.3	40.0	57.9
Jun 14		242		13			133	0	4	34		164.3	49.1	57.9
Jun 15		688		53			166	0	20	19		197.1	90.7	58.1
Jun 16		644		23			307	3	5	31		160.0	18.7	58.4
Jun 17		552		23			274	5	4	9		133.9	19.8	58.7
Jun 18		725		39			668	0	2	25		152.2	18.7	59.1
Jun 19		570		14			900	3	12	46		143.4	19.2	59.7
Jun 20		950		30			1,781	2	11	63		157.7	18.6	60.5
Jun 21		1,571		38			2,680	6	41	66		117.7	20.3	61.0
Jun 22		1,107		24			3,058	0	55	71		167.9	29.6	61.3
Jun 23		697		8			3,820	5	49	48		132.8	21.2	61.5
Jun 24		1,055		21			4,538	2	229	25		197.0	101.6	61.9
Jun 25		1,407		61			6,103	6	406	32		205.0	77.0	62.2
Jun 26		1,063		70			6,857	2	945	31		206.0	81.8	**
Jun 27		924		39			6,878	10	1,136	44		234.2	105.1	62.1
Jun 28		1,298		14			7,731	10	1,295	20		214.0	85.2	61.8
Jun 29		1,361		39			8,947	10	2,526	42		189.5	42.3	61.5
Jun 30		1,303		84			8,937	6	1,337	32		151.1	30.3	**
TOTAL	2,620	16,157		902			63,862	78	8,089	767				

AVG.	950	30	2,129	3	270	26	189.8	70.3	58.6
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**Data unavailable

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,067	949
SUMMER	16,157	593
TOTAL	23,224	1,542

SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT
63,864	110	8,091	965	1

TABLE 157

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

DATE	CHINOOK ADULT			CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL											
Jul 1		2,397		48			15,097	11	1,148	54		136.3	20.3	61.3
Jul 2		1,212		42			9,129	16	697	61		141.8	19.8	60.8
Jul 3		1,260		44			10,349	11	799	38		108.4	19.5	60.4
Jul 4		1,145		31			9,424	15	1,655	63		119.2	19.4	61.2
Jul 5		1,207		100			12,164	21	3,401	94		120.7	20.0	61.8
Jul 6		1,404		23			8,994	16	7,240	181		105.1	20.1	62.2
Jul 7		757		71			6,511	20	4,288	132		129.0	19.6	62.4
Jul 8		1,062		32			6,687	10	5,111	124		91.0	19.9	63.0
Jul 9		880		36			5,123	30	4,837	127		120.8	69.8	63.4
Jul 10		551		44			4,202	27	4,343	124		125.6	20.1	63.5
Jul 11		687		77			4,816	23	4,187	129		127.1	20.1	63.6
Jul 12		816		61			6,195	15	3,886	143		117.7	20.1	64.0
Jul 13		553		49			4,965	24	3,299	140		98.5	20.4	64.5
Jul 14		802		50			4,590	38	2,544	183		148.6	19.0	64.9
Jul 15		1,049		98			3,754	35	2,479	204		102.2	20.2	65.3
Jul 16		667		71			2,355	26	1,827	319		130.5	19.1	65.6
Jul 17		420		14			1,819	28	1,833	247		118.0	19.1	65.6
Jul 18		600		28			1,587	31	1,265	179		135.1	17.2	66.1
Jul 19		350		35			1,291	41	1,425	257		112.6	18.7	66.2
Jul 20		490		86			1,205	28	1,308	210		125.8	19.9	65.8
Jul 21		407					1,160	3	679	129		126.9	19.7	65.6
Jul 22		392		7			718	23	829	293		150.9	62.0	**
Jul 23		369		67			521	32	902	197		169.8	88.6	66.2
Jul 24		297		63			440	38	543	185		102.6	20.5	66.4
Jul 25		496		12			456	37	624	134		93.4	20.6	66.8
Jul 26		442		65			348	40	661	268		117.4	21.5	67.3
Jul 27		213		30			239	38	493	174		96.4	20.1	67.3
Jul 28		248		31			312	28	428	223		88.7	19.6	67.1
Jul 29		467		25			229	13	430	119		151.9	18.9	**
Jul 30		286		42			197	43	570	246		109.5	21.4	**
Jul 31		203		14			246	30	349	251		79.9	20.2	**
TOTAL		22,129		1,396			125,123	791	64,080	5,228				
AVG.		714		47			4,036	26	2,067	169		119.4	25.0	64.4

**Data unavailable

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,067	949
SUMMER	38,286	1,989
TOTAL	45,353	2,938

SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT
188,987	901	72,171	6,193	1

TABLE 158

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

PRIEST RAPIDS PROJECT- FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL	DISCH	SPILL	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK					TROUT			
Aug 1		268		22			217	31	191	118		108.0	19.7	67.5
Aug 2		192		1			157	13	547	114		42.5	20.1	67.5
Aug 3		185		13			107	29	591	279		47.6	20.7	67.3
Aug 4		176		46			83	29	279	230		59.3	20.3	67.1
Aug 5		152		25			54	55	180	312		105.3	20.0	67.7
Aug 6		170		28			54	30	532	321		92.4	19.5	68.2
Aug 7		99		16			30	35	340	452		85.7	19.4	68.4
Aug 8		139		35			35	19	293	162		74.0	19.0	68.6
Aug 9		121		18			84	43	180	177		101.0	20.6	69.0
Aug 10		80		27			5	20	381	142		94.6	19.6	69.3
Aug 11		68		12			8	20	142	56		71.2	20.2	69.4
Aug 12		103		16			8	34	135	96		46.0	20.8	68.6
Aug 13		37		21			5	16	213	140		86.0	20.5	68.0
Aug 14			56	19			7	19	159	113		86.1	19.6	67.8
Aug 15			47	22			4	17	178	75		73.7	21.1	67.8
Aug 16			60	16			9	8	100	55		54.8	20.3	67.8
Aug 17			82	23			3	16	183	69		39.0	19.6	67.8
Aug 18			43	18			1	9	286	108		80.0	1.9	67.5
Aug 19			87	18			2	20	197	240		41.4	1.9	67.9
Aug 20			46	28			1	19	273	155		66.3	1.8	67.7
Aug 21			20	15			1	14	105	123		138.3	1.7	68.1
Aug 22			85	40			2	19	86	99		70.7	1.9	67.6
Aug 23			57	12			3	19	73	88		73.5	1.8	67.0
Aug 24			80	44			0	17	20	125		125.3	1.7	66.6
Aug 25			49	5			0	14	160	87		106.6	1.7	66.2
Aug 26			41	24			5	9	17	59		106.9	1.7	**
Aug 27			101	36			1	24	70	90		129.5	1.7	**
Aug 28			56	16			0	6	22	23		115.0	1.8	**
Aug 29			88	28			0	17	60	72		42.3	1.7	**
Aug 30			229	52			2	37	43	82		50.5	1.7	**
Aug 31			100	21			3	13	111	27		57.3	1.9	**
TOTAL		1,790	1,327	717			891	671	6,147	4,289				

AVG.	138	74	23				29	22	198	138		79.7	11.8	67.9
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**Data unavailable

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,067	949
SUMMER	40,076	2,269
FALL	1,327	437
TOTAL	48,470	3,655

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT
0	0	189,878	1,572	78,318	10,482	1

TABLE 159

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT- FISH COUNTS											SEPTEMBER 2018			
DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH	SPILL	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK						KCFS	KCFS	
Sep 1			164	25	0	0	1	29	52	76		65.7	2.0	66.4
Sep 2			156	23	6	0	0	48	62	69		91.2	1.8	**
Sep 3			326	25	15	0	0	70	38	49		82.7	1.8	**
Sep 4			261	20	17	0	0	94	82	57		92.5	1.8	**
Sep 5			495	37	55	3	0	100	22	48		73.0	1.8	**
Sep 6			536	42	31	10	2	132	59	23		48.0	1.8	**
Sep 7			690	98	7	1	2	136	80	58		42.1	1.9	**
Sep 8			706	47	4	0	0	113	100	60		73.0	2.0	**
Sep 9			443	29	113	4	0	131	57	140		72.3	1.9	**
Sep 10			353	16	131	7	0	140	17	18		42.5	1.8	**
Sep 11			306	43	130	8	0	121	12	36		43.7	1.8	**
Sep 12			231	30	167	14	0	103	3	35		67.3	1.9	**
Sep 13			409	59	204	0	0	141	38	31		82.2	1.8	**
Sep 14			360	51	140	12	0	103	28	50		82.6	1.9	66.0
Sep 15			603	57	150	1	0	154	21	25		53.9	1.8	65.9
Sep 16			523	38	298	24	0	140	23	21		54.7	1.8	65.5
Sep 17			478	57	226	4	0	139	15	27		70.8	1.7	65.4
Sep 18			282	22	308	16	0	67	12	26		66.0	1.7	65.5
Sep 19			377	43	230	18	0	89	11	22		40.7	1.7	65.4
Sep 20			404	24	121	6	0	53	35	16		41.5	1.7	65.0
Sep 21			467	64	176	9	0	76	20	26		40.7	1.7	64.8
Sep 22			404	40	136	3	0	75	13	14		44.2	1.9	64.5
Sep 23			347	33	140	7	1	73	21	12		71.7	1.9	64.1
Sep 24			232	22	90	13	0	49	1	8		115.8	1.7	63.8
Sep 25			247	27	129	19	0	57	21	23		81.4	1.6	64.3
Sep 26			310	65	190	5	0	93	-2	15		81.6	1.8	64.7
Sep 27			428	43	143	17	0	65	16	19		40.9	1.7	64.8
Sep 28			370	52	138	14	0	46	20	16		87.9	1.8	64.7
Sep 29			583	55	117	7	0	53	9	18		40.5	1.7	64.7
Sep 30			543	30	149	12	0	60	1	11		83.9	1.8	**
TOTAL			12,034	1,217	3,761	234	6	2,750	887	1,049				

AVG.	401	41	125	8	0	92	30	35	65.8	1.8	65.0
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**Data unavailable

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT
TOTALS TO DATE									
SPRING	7,067	949	3,761	234	189,884	4,322	79,205	11,531	1
SUMMER	40,076	2,269							
FALL	13,361	1,654							
TOTAL	60,504	4,872							

TABLE 160

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

PRIEST RAPIDS PROJECT- FISH COUNTS											OCTOBER 2018			
DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK								
Oct 1			434	39	57	4		32	20	11		40.6	1.8	64.0
Oct 2			254	21	72	16		39	6	30		49.8	2.5	63.8
Oct 3			510	40	87	8		32	8	14		88.5	2.8	63.4
Oct 4			312	17	57	3		29	1	2		53.6	2.2	**
Oct 5			186	22	54	0		29	3	6		40.8	1.7	62.6
Oct 6			144	16	30	2		17	4	7		40.2	2.5	62.5
Oct 7			138	30	29	6		36	19	12		42.7	2.3	62.1
Oct 8			284	28	59	14		36	12	8		67.3	2.9	62.1
Oct 9			211	17	65	4		22	3	4		53.8	2.9	61.7
Oct 10			109	13	40	7		24	0	14		117.0	2.9	61.5
Oct 11			78	2	34	4		15	4	14		41.0	2.9	61.3
Oct 12			81	4	33	0		19	0	4		62.0	2.7	61.0
Oct 13			93	25	10	0		2	20	18		60.3	2.5	60.6
Oct 14			32	7	11	2		11	4	6		57.2	1.8	60.4
Oct 15			51	8	22	0		12	2	9		66.5	1.8	60.2
Oct 16			53	6	47	3		14	0	2		42.9	2.0	60.2
Oct 17			115	7	50	8		15	4	2		57.6	1.8	60.0
Oct 18			118	15	58	1		16	2	4		58.9	2.2	59.9
Oct 19			78	16	19	2		9	0	5		75.8	2.4	59.8
Oct 20			70	1	29	4		14	0	1		57.8	2.2	59.7
Oct 21			114	14	5	0		10	4	4		107.2	2.5	59.7
Oct 22			124	6	36	3		15	0	5		148.4	47.0	59.7
Oct 23			151	16	11	1		11	0	5		135.9	2.4	59.6
Oct 24			81	4	24	2		12	1	4		76.5	1.7	59.4
Oct 25			45	4	7	0		8	0	0		105.8	2.0	59.2
Oct 26			42	3	16	0		7	0	2		76.9	1.8	59.1
Oct 27			70	12	5	0		9	0	5		78.6	2.1	59.1
Oct 28			53	4	5	0		7	0	1		86.8	2.1	58.9
Oct 29			59	2	7	1		9	0	1		58.6	2.2	58.6
Oct 30			85	2	1	0		4	0	0		135.8	2.4	58.2
Oct 31			113	5	6	0		2	2	0		94.2	2.1	**
TOTALS			4,288	406	986	95		517	119	200				

AVG.	138	13	32	3	17	4	6	73.5	3.7	60.6
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**Data unavailable

RUN YEAR	CHINOOK	CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL
	ADULT	JACK	ADULT	JACK					TROUT
TOTALS TO DATE									
SPRING	7,067	949	4,747	329	189,884	4,839	79,324	11,731	1
SUMMER	40,076	2,269							
FALL	17,649	2,060							
TOTAL	64,792	5,278							

TABLE 161

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

PRIEST RAPIDS PROJECT- FISH COUNTS											NOVEMBER 2018			
DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK								
Nov 1			55	4	8	0		6	0	1		117.2	2.1	58.2
Nov 2			164	13	37	0		10	1	2		91.5	2.0	58.2
Nov 3			68	4	4	0		6	-1	4		132.9	2.3	57.9
Nov 4			62	22	10	0		4	1	14		178.5	45.0	57.4
Nov 5			105	9	16	0		5	0	3		118.8	1.9	57.3
Nov 6			38	0	20	0		14	0	0		129.3	2.0	56.9
Nov 7			26	6	4	0		8	0	0		196.1	63.0	56.4
Nov 8			37	1	7	0		5	0	0		179.1	51.6	56.1
Nov 9			34	5	0	0		8	0	2		191.8	59.9	55.9
Nov 10			27	4	0	0		2	0	0		245.2	113.8	55.1
Nov 11			13	3	0	0		4	0	0		188.4	56.1	54.7
Nov 12			15	0	2	0		0	0	1		137.8	8.0	54.1
Nov 13			11	1	0	0		1	0	0		136.4	1.8	53.7
Nov 14			8	0	1	1		4	0	0		138.6	5.0	53.2
Nov 15			8	1	0	0		2	1	0		161.7	30.0	52.7
Nov 16														
Nov 17														
Nov 18														
Nov 19														
Nov 20														
Nov 21														
Nov 22														
Nov 23														
Nov 24														
Nov 25														
Nov 26														
Nov 27														
Nov 28														
Nov 29														
Nov 30														
TOTALS			671	73	109	1		79	2	27				
AVG.			45	5	7	0		5	0	2		156.2	29.6	55.9

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	SHAD	LAMPREY	BULL TROUT
TOTALS TO DATE									
SPRING	7,067	949	4,856	330	189,884	4,918	79,326	11,758	1
SUMMER	40,076	2,269							
FALL	18,320	2,133							
TOTAL	65,463	5,351							

TABLE 162

**YEARLY TOTALS OF SALMONIDS COUNTED OVER PRIEST RAPIDS DAM
1982 - 2018**

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
2014	242,755	19,843	608,142	36,685	907,425
2015	206,103	14,316	301,272	5,036	526,727
2016	147,777	6,498	311,072	1,987	467,334
2017	96,655	5,804	66,670	8,719	177,848
2018	70,814	4,918	189,884	5,186	270,802
Totals	3,465,224	563,962	4,421,844	159,453	8,610,483
10-Year Average	162,894	17,095	270,397	10,893	461,279

*Jacks included

TABLE 163

MONTHLY COUNT OF STEELHEAD
PRIEST RAPIDS DAM: 1960 - 2018

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
2014				63	50	160	2,623	5,112	9,741	1,917	177		19,843
2015				24	12	305	1,564	4,735	6,206	1,376	94		14,316
2016				11	12	354	1,334	1,212	2,905	630	40		6,498
2017				14	18	103	310	794	3,462	1,067	36		5,804
2018				17	15	78	791	671	2,750	517	79		4,918
TOTAL	40	56	288	4,334	9,162	8,607	80,215	224,406	323,261	81,124	5,135	63	736,691
10-Year Average				32	25	161	1,977	5,727	7,482	1,597	94		17,095

ROCK ISLAND DAM

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/seven 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.

Fish Ladder Operating Schedule

Left Bank Ladder

Jan 1 – Jan 14	Fishway out of service for 2017/2018 annual maintenance period.
Jan 15 – Dec 31	Fishway in service.

Middle Ladder

Jan 1 – Jan 7	Fishway in service.
Jan 8 – Feb 6	Fishway out of service for 2017/2018 annual maintenance period.
Feb 7 – Dec 31	Fishway in service.

Right Bank Ladder

Jan 1 – Dec 2	Fishway in service.
Dec 3 – Dec 31	Fishway out of service for 2018/2019 annual maintenance period.

Fish Facility Activities

The Rock Island Bypass Trap was operated by Chelan County PUD Natural Resource Department employees from 1 April through 31 August 2018. 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 2018 adult fish migration. PIT tag detections from all three fishways were uploaded daily to PTAGIS.

TABLE 164

MONTHLY TOTALS OF SALMONIDS AND LAMPREY COUNTED OVER ROCK ISLAND DAM
2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				6	4,560	16,825	24,978	3,929	5,538	3,243	862		59,941
STEELHEAD				48	15	60	586	881	2,659	841	139		5,229
SOCKEYE						39,008	131,398	1,462		10			172,008
COHO									5,403	2,850	138		8,391
PINK													0
TOTAL				54	4,575	55,893	156,962	6,272	13,730	6,944	1,139		245,569
LAMPREY						156	1,324	2,504	966	48			4,998
BULL TROUT					6	12	1						19

TABLE 165

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

ROCK ISLAND PROJECT- FISH COUNTS

APRIL 2018

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												110.2	0.0	41.0
Apr 2												122.9	0.0	40.9
Apr 3												118.8	1.2	40.9
Apr 4												105.0	0.0	40.8
Apr 5												106.0	0.0	40.8
Apr 6												131.9	0.0	40.7
Apr 7												126.4	0.0	40.9
Apr 8												125.9	6.3	41.1
Apr 9												150.7	21.2	41.6
Apr 10												121.1	4.3	42.0
Apr 11												138.0	42.8	42.5
Apr 12												134.8	18.5	42.8
Apr 13												162.0	16.3	43.3
Apr 14	0							2	1			146.5	4.6	43.1
Apr 15	0							3	1			170.5	23.1	43.4
Apr 16	0							2	2			165.5	20.0	43.5
Apr 17	0							3	0			188.6	45.0	43.8
Apr 18	0							3	1			178.8	32.0	43.8
Apr 19	0							4	2			160.2	22.7	44.2
Apr 20	0							4	0			179.7	37.3	44.6
Apr 21	0							1	0			177.7	31.6	44.9
Apr 22	0							4	0			169.2	23.9	45.1
Apr 23	0							0	0			171.7	27.1	45.3
Apr 24	0							3	0			170.3	24.6	45.5
Apr 25	1							4	1			184.5	39.2	46.0
Apr 26	0							8	5			176.9	24.1	46.3
Apr 27	2							2	0			187.9	34.7	46.8
Apr 28	0							4	2			184.4	31.2	47.3
Apr 29	2							1	0			205.7	55.0	47.4
Apr 30	1							0	0			190.7	40.2	47.3
TOTAL	6							48	15			155.4	20.9	43.6
AVG.	0							3	1			155.4	20.9	43.6

TABLE 166

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCK ISLAND PROJECT- FISH COUNTS

MAY 2018

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	0			0				2	0	0		227.6	79.2	47.3
May 2	0			0				1	0	0		215.5	68.1	47.4
May 3	2			0				0	0	0		214.1	67.1	47.8
May 4	6			0				1	1	0		234.8	87.4	48.2
May 5	2			0				0	0	0		252.6	106.7	48.5
May 6	1			0				0	0	0		240.9	94.9	48.6
May 7	3			0				1	1	0		235.3	90.3	48.9
May 8	8			0				0	0	0		258.3	113.1	49.3
May 9	8			1				1	0	0		249.1	114.9	49.7
May 10	7			0				0	0	0		259.3	113.9	50.1
May 11	12			0				0	0	0		292.2	156.2	50.5
May 12	12			1				0	0	0		313.3	189.4	50.7
May 13	9			0				0	0	0		334.1	217.0	51.2
May 14	12			1				0	0	0		325.3	204.9	51.5
May 15	27			0				0	0	0		312.5	189.2	51.9
May 16	39			0				2	2	0		301.2	168.2	52.4
May 17	47			3				1	1	0		313.3	231.0	52.9
May 18	70			0				0	0	0		289.2	152.3	53.1
May 19	162			1				0	0	0		304.9	170.5	52.8
May 20	189			10				0	0	0		297.4	163.9	52.9
May 21	252			8				0	0	0		299.8	164.5	53.5
May 22	237			25				0	0	1		320.8	190.8	53.6
May 23	374			22				0	0	2		313.0	179.4	54.1
May 24	346			35				1	1	1		287.3	150.3	54.4
May 25	352			58				1	0	1		287.3	150.9	54.8
May 26	292			59				1	1	0		288.5	151.1	55.0
May 27	306			55				0	0	0		281.3	141.9	55.2
May 28	331			66				1	0	0		266.4	123.6	55.5
May 29	282			50				2	2	0		300.6	166.7	55.4
May 30	225			71				0	0	1		229.6	87.3	55.0
May 31	413			68				0	0	0		227.4	78.4	54.9
TOTAL	4,026			534				15	9	6				
AVG.	130			17				0	0	0		276.5	140.7	51.8
RUN YEAR		CHINOOK ADULT	CHINOOK JACK					SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT			
TOTALS TO DATE														
SPRING		4,032	534					0	63	24	6			

TABLE 167

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCK ISLAND PROJECT- FISH COUNTS

JUNE 2018

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	259			65			0	0	0	1	0	264.8	120.3	54.7
Jun 2	426			60			0	0	0	0	0	239.4	94.6	54.9
Jun 3	262			84			0	1	1	0	0	231.4	87.0	55.3
Jun 4	169			49			1	0	0	1	0	233.4	87.1	55.7
Jun 5	275			46			0	0	0	0	0	232.0	84.3	55.7
Jun 6	230			21			0	1	0	0	0	207.2	59.5	56.3
Jun 7	202			20			1	1	1	1	1	188.5	51.4	56.6
Jun 8	213			14			1	0	0	1	0	189.0	45.7	56.7
Jun 9	175			26			0	0	0	0	0	158.5	43.0	56.8
Jun 10	196			16			1	2	0	1	0	201.9	53.3	57.0
Jun 11	155			13			5	0	0	0	0	179.2	42.6	57.1
Jun 12	145			7			3	0	0	0	0	181.2	37.1	57.2
Jun 13	214			11			8	0	0	0	1	175.3	30.8	57.3
Jun 14	202			7			10	0	0	1	0	201.2	45.8	57.2
Jun 15	246			8			24	0	0	1	0	175.9	32.4	57.8
Jun 16	230			10			52	1	0	0	0	80.4	32.4	57.9
Jun 17	263			6			122	1	0	1	1	163.1	34.5	58.6
Jun 18	494			12			188	1	1	0	0	163.0	38.3	59.2
Jun 19	656			16			260	2	2	0	3	173.2	38.2	59.6
Jun 20	544			11			447	3	1	1	4	140.1	35.0	59.9
Jun 21	596			8			691	1	1	0	8	145.7	34.0	60.3
Jun 22	804			8			1,326	1	0	1	20	178.0	35.2	60.8
Jun 23	1,215			25			1,877	5	4	0	27	159.2	30.5	61.0
Jun 24		981		12			2,559	3	3	1	38	182.0	30.0	61.3
Jun 25		1,188		38			3,840	9	3	0	22	196.1	34.4	61.2
Jun 26		1,185		11			4,425	5	3	0	11	187.7	35.8	61.2
Jun 27		1,276		15			5,064	4	4	0	6	180.6	38.2	60.7
Jun 28		1,054		12			6,284	3	2	1	4	183.2	37.7	60.5
Jun 29		1,213		21			6,563	8	4	0	6	178.3	39.5	60.2
Jun 30		1,093		12			5,256	8	6	0	4	125.4	33.4	59.7
TOTAL	8,171	7,990		664			39,008	60	36	12	156			
AVG.	355	1,141		22			1,300	2	1	0	5	183.2	48.1	58.3

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	12,203	1,077
SUMMER	7,990	121
TOTALS	20,193	1,198

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
39,008	123	60	18	156

TABLE 168

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCK ISLAND PROJECT- FISH COUNTS

JULY 2018

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		1,205		30			6,825	7	5	0	2	164.9	30.1	59.9
Jul 2		1,037		12			8,044	4	3	0	3	103.6	30.4	60.1
Jul 3		730		22			7,732	6	5	0	5	132.8	26.8	60.2
Jul 4		669		13			5,615	10	8	0	3	122.1	26.0	60.5
Jul 5		1,235		15			8,177	10	7	0	2	93.8	26.0	60.8
Jul 6		1,755		42			10,067	5	3	0	14	118.9	26.0	61.5
Jul 7		2,349		63			15,341	19	12	0	45	143.8	25.8	61.8
Jul 8		869		20			8,016	9	6	0	34	93.6	20.5	62.0
Jul 9		1,027		41			7,544	16	11	0	21	162.5	32.7	62.3
Jul 10		1,121		27			6,668	9	8	1	38	163.2	30.6	62.5
Jul 11		981		46			5,864	18	13	0	50	167.6	29.3	62.9
Jul 12		545		29			3,693	7	3	0	32	159.2	30.1	63.4
Jul 13		549		32			4,126	11	5	0	62	142.8	30.0	63.5
Jul 14		896		39			5,630	16	12	0	44	147.9	25.7	63.6
Jul 15		540		34			4,153	17	14	0	38	173.3	25.8	64.1
Jul 16		669		37			3,817	14	7	0	51	134.6	29.5	64.2
Jul 17		1,165		70			5,499	10	9	0	60	103.5	28.5	64.6
Jul 18		626		35			2,491	14	7	0	73	93.2	30.6	64.7
Jul 19		800		33			2,188	24	15	0	44	125.2	30.6	64.8
Jul 20		793		29			2,084	19	7	0	33	151.0	31.7	64.3
Jul 21		459		33			1,507	29	11	0	46	152.3	26.9	64.5
Jul 22		515		29			1,546	22	16	0	35	166.5	25.1	65.1
Jul 23		367		22			819	27	15	0	89	144.8	26.4	65.5
Jul 24		536		30			1,004	31	18	0	78	137.3	29.5	65.1
Jul 25		444		29			688	27	18	0	53	166.6	30.2	65.1
Jul 26		368		14			505	26	16	0	57	132.4	30.5	65.2
Jul 27		459		40			497	24	11	0	71	130.7	27.0	65.3
Jul 28		452		42			396	40	32	0	68	115.9	24.8	65.4
Jul 29		327		36			310	31	14	0	62	130.5	24.7	65.5
Jul 30		179		24			259	37	21	0	37	151.4	31.3	66.0
Jul 31		317		26			293	47	20	0	74	166.3	28.8	66.3
TOTAL		23,984		994			131,398	586	352	1	1,324			

AVG.	774	32	4,239	19	11	0	43	138.5	28.1	63.6
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	12,203	1,077
SUMMER	31,974	1,115
TOTALS	44,177	2,192

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
170,406	709	412	19	1,480

TABLE 169

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCK ISLAND PROJECT- FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT		FALL	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER												
Aug 1		346		39			274	39	20		85	107.9	20.2	66.5
Aug 2		247		25			203	40	29		86	71.2	20.2	66.6
Aug 3		236		22			171	26	17		70	111.3	21.2	66.7
Aug 4		183		19			133	26	14		59	167.9	21.1	66.9
Aug 5		279		37			124	27	15		99	101.4	21.2	66.8
Aug 6		175		58			121	38	13		102	92.3	24.3	67.4
Aug 7		129		12			75	43	23		152	163.7	25.5	67.6
Aug 8		147		25			49	36	20		99	163.4	25.1	67.2
Aug 9		141		29			45	37	15		78	118.4	20.5	66.5
Aug 10		126		25			49	30	19		81	80.5	21.4	66.5
Aug 11		80		42			28	45	25		88	81.3	19.9	66.6
Aug 12		77		38			31	43	25		87	126.1	17.9	66.5
Aug 13		76		29			14	30	18		67	103.5	22.9	66.7
Aug 14		79		16			18	38	19		78	82.1	24.9	66.9
Aug 15		77		9			13	28	12		106	89.5	0.0	67.2
Aug 16		84		12			13	20	9		109	100.8	0.0	67.3
Aug 17		51		14			8	27	15		70	87.1	0.0	67.3
Aug 18		44		9			12	27	17		54	121.4	0.0	66.9
Aug 19		55		18			12	20	7		64	159.0	7.5	66.4
Aug 20		62		18			7	13	7		64	75.8	0.0	66.4
Aug 21		48		11			4	33	18		59	128.9	0.0	66.8
Aug 22		52		16			10	22	10		88	138.8	0.0	66.7
Aug 23		42		7			4	19	9		85	99.8	0.0	66.7
Aug 24		75		25			3	25	14		62	137.9	0.0	66.4
Aug 25		39		28			9	26	10		66	95.4	0.0	66.1
Aug 26		49		30			0	21	12		68	89.6	0.0	66.0
Aug 27		47		13			2	18	10		40	116.9	0.0	66.3
Aug 28		48		5			9	15	8		74	97.3	0.0	66.8
Aug 29		39		13			7	33	19		73	95.2	0.0	67.0
Aug 30		46		17			6	21	6		118	97.4	0.0	67.1
Aug 31		57		32			8	15	6		73	77.0	0.0	67.2
TOTAL		3,236		693			1,462	881	461		2,504			

AVG.	104	22	47	28	15	81	109.0	10.1	66.8
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	12,203	1,077
SUMMER	35,210	1,808
TOTALS	47,413	2,885

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
171,868	1,590	873	19	3,984

TABLE 170

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCK ISLAND PROJECT- FISH COUNTS

SEPTEMBER 2018

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		93		33	2	0	14	24	13		59	84.2	0.0	67.0
Sep 2			95	16	0	0	10	28	9		56	35.2	0.0	66.8
Sep 3			97	14	2	0	16	29	10		46	72.9	0.0	66.9
Sep 4			79	14	5	0	11	30	12		40	50.1	0.0	67.1
Sep 5			117	18	6	0	7	52	22		78	43.6	0.0	67.3
Sep 6			63	16	8	0	8	56	31		56	42.7	0.0	67.4
Sep 7			139	15	21	0	4	72	39		61	27.9	0.0	67.5
Sep 8			189	16	58	0	8	80	35		57	49.5	0.0	67.4
Sep 9			292	13	53	0	5	108	53		41	87.9	0.0	67.2
Sep 10			285	23	156	0	2	156	58		49	53.0	0.0	67.1
Sep 11			319	19	189	1	4	139	51		37	43.3	0.0	66.8
Sep 12			199	9	235	0	9	143	59		32	36.2	0.0	66.5
Sep 13			105	18	149	3	1	79	29		29	41.5	0.0	66.4
Sep 14			149	18	196	3	0	136	43		44	59.2	0.0	66.2
Sep 15			224	38	211	5	0	134	47		29	26.9	0.0	66.2
Sep 16			208	24	216	5	7	132	55		26	60.4	0.0	66.0
Sep 17			180	31	264	7	2	123	36		28	14.1	0.0	65.7
Sep 18			169	12	218	6	4	129	34		35	20.4	0.0	65.8
Sep 19			249	19	331	3	2	144	53		17	26.1	0.0	65.9
Sep 20			170	25	422	4	2	133	44		15	31.7	0.0	65.4
Sep 21			139	26	351	3	1	103	32		17	18.6	0.0	65.2
Sep 22			170	30	300	12	2	75	23		17	62.2	0.0	65.0
Sep 23			165	30	322	13	1	84	24		9	62.8	0.0	64.6
Sep 24			226	24	294	23	0	87	25		10	36.9	0.0	64.6
Sep 25			145	29	235	22	1	88	16		21	67.5	0.0	64.6
Sep 26			124	24	164	12	3	61	13		7	27.6	0.0	64.4
Sep 27			109	13	141	11	1	52	20		6	51.6	0.0	64.4
Sep 28			127	11	194	13	1	58	23		12	36.4	0.0	64.6
Sep 29			136	25	265	13	0	59	26		16	32.5	0.0	64.6
Sep 30			133	40	222	14	4	65	20		16	77.8	0.0	64.3
TOTAL		93	4,802	643	5,230	173	130	2,659	955		966			
AVG.			166	21	174	6	4	89	32		32	46.0	0.0	66.0

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	12,203	1,077
SUMMER	35,303	1,841
FALL	4,802	610
TOTALS	52,308	3,528

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
5,230	173	171,998	4,249	1,828	19	4,950

TABLE 171

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

ROCK ISLAND PROJECT- FISH COUNTS

OCTOBER 2018

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
Oct 1			169	10	217	23	0	51	20		1	53.0	0.0	64.0
Oct 2			230	30	265	41	3	68	27		10	50.6	0.0	64.0
Oct 3			195	20	252	41	1	48	23		6	65.5	0.0	63.4
Oct 4			113	13	117	21	0	42	11		6	8.7	0.0	63.1
Oct 5			53	14	63	8	0	29	8		6	28.9	0.0	62.7
Oct 6			216	25	166	29	1	37	9		1	22.4	0.0	62.2
Oct 7			65	9	72	21	1	29	9		0	74.3	0.0	62.1
Oct 8			200	16	107	25	0	36	12		4	50.3	0.0	62.0
Oct 9			136	7	136	34	1	65	20		1	58.1	0.0	61.8
Oct 10			73	13	95	28	1	30	9		2	58.7	0.0	61.8
Oct 11			105	13	100	20	1	41	14		2	69.8	0.0	61.6
Oct 12			65	16	46	20	0	30	7		1	66.5	0.0	61.5
Oct 13			109	8	64	18	0	27	9		2	7.3	0.0	61.3
Oct 14			64	7	53	14	0	22	7		1	57.8	0.0	61.0
Oct 15			60	16	53	11	1	23	6		1	47.8	0.0	60.9
Oct 16			31	6	43	10	0	29	9		0	59.7	0.0	61.0
Oct 17			50	9	45	8	0	18	7		0	44.4	0.0	60.9
Oct 18			35	7	36	11	0	18	4		1	34.2	0.0	60.6
Oct 19			48	3	69	9	0	18	3		1	28.0	0.0	60.4
Oct 20			54	8	53	4	0	10	1		1	63.3	0.0	60.4
Oct 21			79	10	69	6	0	23	9		0	89.9	0.0	60.3
Oct 22			79	7	52	8	0	17	5		0	49.0	0.0	60.1
Oct 23			76	8	47	6	0	23	5		0	15.3	0.0	59.9
Oct 24			79	10	11	6	0	14	5		1	82.5	0.0	59.7
Oct 25			74	9	28	13	0	19	5		0	118.2	0.0	59.5
Oct 26			62	6	30	1	0	12	3		0	75.6	0.0	59.7
Oct 27			50	6	19	4	0	9	3		0	90.8	0.0	59.5
Oct 28			112	8	16	2	0	18	2		0	40.9	0.0	59.4
Oct 29			86	6	25	3	0	14	3		0	101.7	0.0	58.9
Oct 30			86	7	20	2	0	12	5		0	80.9	0.0	58.6
Oct 31			55	7	31	3	0	9	3		0	70.8	0.0	58.7
TOTAL			2,909	334	2,400	450	10	841	263		48			

AVG.			94	11	77	15	0	27	8		2	56.9	0.0	61.0
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
TOTALS TO DATE									
SPRING	12,203	1,077	7,630	623	172,008	5,090	2,091	19	4,998
SUMMER	35,303	1,841							
FALL	7,711	944							
TOTALS	55,217	3,862							

TABLE 172

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

ROCK ISLAND PROJECT- FISH COUNTS

NOVEMBER 2018

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			73	7	7	4		12	4			62.7	0.0	58.5
Nov 2			65	0	12	0		13	3			99.0	0.0	58.4
Nov 3			103	7	16	2		20	9			105.6	0.0	58.0
Nov 4			114	4	15	4		16	2			92.3	0.0	57.8
Nov 5			111	6	8	3		3	0			68.1	0.0	57.3
Nov 6			82	13	10	4		11	4			94.4	0.0	56.9
Nov 7			51	2	5	1		12	3			109.1	0.0	56.6
Nov 8			52	1	6	0		5	0			141.7	0.0	56.3
Nov 9			35	2	5	1		17	9			124.0	0.0	55.6
Nov 10			52	2	6	3		7	2			115.3	0.0	55.1
Nov 11			20	0	4	2		8	4			126.4	0.0	54.5
Nov 12			9	0	5	1		4	0			108.4	0.0	54.2
Nov 13			10	2	1	2		3	1			125.0	0.0	53.9
Nov 14			19	1	3	3		5	1			108.3	0.0	53.7
Nov 15			15	4	3	2		3	0			99.9	0.0	53.3
Nov 16												112.9	0.0	53.2
Nov 17												105.2	0.0	53.1
Nov 18												126.0	0.0	52.7
Nov 19												118.0	0.0	53.1
Nov 20												143.7	8.5	52.4
Nov 21												106.9	7.9	52.2
Nov 22												101.4	0.0	52.1
Nov 23												79.4	0.0	51.9
Nov 24												72.3	0.0	51.8
Nov 25												113.0	0.0	51.8
Nov 26												85.0	0.0	51.6
Nov 27												92.8	0.0	51.3
Nov 28												104.4	0.0	51.2
Nov 29												22.8	0.0	51.3
Nov 30												74.2	0.0	51.4
TOTAL			811	51	106	32		139	42					
AVG.			54	3	7	2		9	3			101.3	0.5	54.0

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
SPRING	12,203	1,077	7,736	655	172,008	5,229	2,133	19	4,998
SUMMER	35,303	1,841							
FALL	8,522	995							
TOTALS	56,028	3,913							

TABLE 173

**MONTHLY COUNT OF STEELHEAD
ROCK ISLAND DAM 1981 - 2018**

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
2014				195	81	98	1,193	3,777	7,092	2,389	212		15,037
2015				76	56	79	1,004	4,443	6,539	1,663	191		14,051
2016				24	19	114	981	1,458	3,376	1,120	74		7,166
2017				34	25	33	236	803	2,845	1,212	77		5,265
2018				48	15	60	586	881	2,659	841	139		5,229
Total				2,513	2,550	4,218	50,567	154,630	236,164	67,987	6,470		525,099
10-Year Average				73	42	73	1,246	4,863	7,107	1,730	137		15,271

**ROCKY REACH DAM
2018**

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.

Fish Ladder Operating Schedule

Jan 1 – Feb 26	Fishway out of service for 2017/2018 annual maintenance period.
Feb 27 – Dec 31	Fishway in service.

Fish Facility Activities

The adult fish PIT tag system was operational throughout the 2018 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 through 31 August 2018. 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 174

MONTHLY TOTALS OF SALMONIDS AND LAMPREY COUNTED OVER ROCKY REACH DAM
2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*				3	3,076	12,241	22,244	4,194	3,898	2,790	727		49,173
STEELHEAD				64	22	24	341	725	2,106	803	153		4,238
SOCKEYE						31,530	129,335	1,702	99	17	1		162,684
COHO									2,247	2,057	120		4,424
PINK													0
TOTAL				67	3,098	43,795	151,920	6,621	8,350	5,667	1,001		220,519
LAMPREY						34	1,384	2,807	930	63			5,218
BULL TROUT					31	34	14						79

TABLE 175

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

ROCKY REACH PROJECT- FISH COUNTS

APRIL 2018

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												110.2	0.0	41.0
Apr 2												122.9	0.0	40.9
Apr 3												118.8	1.2	40.9
Apr 4												105.0	0.0	40.8
Apr 5												106.0	0.0	40.8
Apr 6												131.9	0.0	40.7
Apr 7												126.4	0.0	40.9
Apr 8												125.9	6.3	41.1
Apr 9												150.7	21.2	41.6
Apr 10												121.1	4.3	42.0
Apr 11												138.0	42.8	42.5
Apr 12												134.8	18.5	42.8
Apr 13												162.0	16.3	43.3
Apr 14	0							7	1			146.5	4.6	43.1
Apr 15	0							2	1			170.5	23.1	43.4
Apr 16	0							1	1			165.5	20.0	43.5
Apr 17	0							5	1			188.6	45.0	43.8
Apr 18	0							3	1			178.8	32.0	43.8
Apr 19	0							7	4			160.2	22.7	44.2
Apr 20	0							4	2			179.7	37.3	44.6
Apr 21	0							9	3			177.7	31.6	44.9
Apr 22	0							1	0			169.2	23.9	45.1
Apr 23	0							6	1			171.7	27.1	45.3
Apr 24	0							1	0			170.3	24.6	45.5
Apr 25	0							3	0			184.5	39.2	46.0
Apr 26	0							4	3			176.9	24.1	46.3
Apr 27	0							2	1			187.9	34.7	46.8
Apr 28	1							2	1			184.4	31.2	47.3
Apr 29	0							4	1			205.7	55.0	47.4
Apr 30	2							3	1			190.7	40.2	47.3
TOTAL	3							64	22					
AVG.	0							4	1			155.4	20.9	43.6

TABLE 176

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT- FISH COUNTS

MAY 2018

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	0			0				0	0	0		227.6	79.2	47.3
May 2	0			0				1	0	0		215.5	68.1	47.4
May 3	0			0				5	0	0		214.1	67.1	47.8
May 4	2			0				0	0	0		234.8	87.4	48.2
May 5	1			0				1	0	0		252.6	106.7	48.5
May 6	3			0				0	0	0		240.9	94.9	48.6
May 7	4			0				1	1	0		235.3	90.3	48.9
May 8	1			0				1	0	0		258.3	113.1	49.3
May 9	2			0				1	0	1		249.1	114.9	49.7
May 10	6			1				0	0	0		259.3	113.9	50.1
May 11	6			0				0	0	0		292.2	156.2	50.5
May 12	9			0				0	0	0		313.3	189.4	50.7
May 13	7			0				1	1	0		334.1	217.0	51.2
May 14	7			1				1	0	0		325.3	204.9	51.5
May 15	5			0				0	0	0		312.5	189.2	51.9
May 16	14			0				1	0	1		301.2	168.2	52.4
May 17	17			0				1	1	0		313.3	231.0	52.9
May 18	33			1				2	1	1		289.2	152.3	53.1
May 19	51			1				0	0	0		304.9	170.5	52.8
May 20	74			1				1	0	2		297.4	163.9	52.9
May 21	117			4				0	0	2		299.8	164.5	53.5
May 22	178			12				1	1	2		320.8	190.8	53.6
May 23	129			12				1	1	1		313.0	179.4	54.1
May 24	245			18				0	0	2		287.3	150.3	54.4
May 25	250			26				1	0	2		287.3	150.9	54.8
May 26	289			36				1	1	5		288.5	151.1	55.0
May 27	226			37				0	0	2		281.3	141.9	55.2
May 28	254			43				0	0	2		266.4	123.6	55.5
May 29	241			43				0	0	4		300.6	166.7	55.4
May 30	271			44				0	0	2		229.6	87.3	55.0
May 31	319			35				1	1	2		227.4	78.4	54.9
TOTAL	2,761			315				22	8	31				
AVG.	89			10				1	0	1		276.5	140.7	51.8
RUN YEAR														
TOTALS TO DATE		CHINOOK ADULT	CHINOOK JACK					STEELHEAD	WILD STEELHEAD	BULL TROUT				
SPRING		2,764	315					86	30	31				

TABLE 177

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT- FISH COUNTS

JUNE 2018

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	264			71			0	0	0	2	0	264.8	120.3	54.7
Jun 2	271			78			0	0	0	1	0	239.4	94.6	54.9
Jun 3	249			67			0	0	0	1	0	231.4	87.0	55.3
Jun 4	269			81			0	0	0	1	0	233.4	87.1	55.7
Jun 5	148			41			0	0	0	1	0	232.0	84.3	55.7
Jun 6	169			38			0	0	0	1	0	207.2	59.5	56.3
Jun 7	170			19			0	0	0	1	0	188.5	51.4	56.6
Jun 8	188			21			0	0	0	2	0	189.0	45.7	56.7
Jun 9	107			17			1	0	0	4	0	158.5	43.0	56.8
Jun 10	114			23			0	0	0	3	0	201.9	53.3	57.0
Jun 11	82			4			0	2	0	4	0	179.2	42.6	57.1
Jun 12	102			3			2	1	0	1	0	181.2	37.1	57.2
Jun 13	78			1			3	0	0	1	0	175.3	30.8	57.3
Jun 14	107			6			9	0	0	0	0	201.2	45.8	57.2
Jun 15	112			5			11	0	0	3	0	175.9	32.4	57.8
Jun 16	142			8			13	0	0	0	0	80.4	32.4	57.9
Jun 17	139			2			46	0	0	1	0	163.1	34.5	58.6
Jun 18	157			3			112	3	0	1	0	163.0	38.3	59.2
Jun 19	287			4			154	0	0	1	0	173.2	38.2	59.6
Jun 20	477			4			225	0	0	2	0	140.1	35.0	59.9
Jun 21	422			0			420	0	0	0	1	145.7	34.0	60.3
Jun 22	590			6			692	0	0	1	2	178.0	35.2	60.8
Jun 23	488			3			1,034	0	0	1	1	159.2	30.5	61.0
Jun 24				5			1,613	2	0	0	4	182.0	30.0	61.3
Jun 25		873		6			2,796	3	1	0	3	196.1	34.4	61.2
Jun 26		1,014		3			3,433	7	4	0	10	187.7	35.8	61.2
Jun 27		837		11			4,238	4	2	0	4	180.6	38.2	60.7
Jun 28		1,080		3			5,067	0	0	0	5	183.2	37.7	60.5
Jun 29		915		13			5,324	0	0	0	1	178.3	39.5	60.2
Jun 30		1,044		8			6,337	2	1	1	3	125.4	33.4	59.7
TOTAL	5,132	6,555		554			31,530	24	8	34	34			
AVG.	223	936		18			1051	1	0	1	1	183.2	48.1	58.3

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,896	820
SUMMER	6,555	49
TOTALS	14,451	869

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
31,530	110	38	65	34

TABLE 178

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT- FISH COUNTS

JULY 2018

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		922		10			5,243	0	0	0	2	164.9	30.1	59.9
Jul 2		1,068		17			5,937	2	1	2	2	103.6	30.4	60.1
Jul 3		843		10			7,778	3	2	0	2	132.8	26.8	60.2
Jul 4		677		8			7,127	14	13	1	2	122.1	26.0	60.5
Jul 5		483		6			5,352	1	0	0	4	93.8	26.0	60.8
Jul 6		901		15			7,871	3	0	0	9	118.9	26.0	61.5
Jul 7		1,336		31			9,376	7	3	0	12	143.8	25.8	61.8
Jul 8		1,816		25			13,058	4	3	0	23	93.6	20.5	62.0
Jul 9		796		30			8,333	11	5	1	17	162.5	32.7	62.3
Jul 10		870		16			7,543	5	3	1	36	163.2	30.6	62.5
Jul 11		913		30			6,508	3	2	0	36	167.6	29.3	62.9
Jul 12		770		26			5,023	10	8	0	30	159.2	30.1	63.4
Jul 13		408		12			3,563	8	4	2	46	142.8	30.0	63.5
Jul 14		419		19			4,048	8	2	1	42	147.9	25.7	63.6
Jul 15		878		20			5,371	4	4	1	49	173.3	25.8	64.1
Jul 16		629		34			4,430	14	11	1	56	134.6	29.5	64.2
Jul 17		375		28			3,845	7	5	1	60	103.5	28.5	64.6
Jul 18		1,008		32			4,703	14	10	0	72	93.2	30.6	64.7
Jul 19		699		35			2,439	10	7	0	75	125.2	30.6	64.8
Jul 20		648		33			2,242	11	8	1	54	151.0	31.7	64.3
Jul 21		908		32			1,983	17	5	0	47	152.3	26.9	64.5
Jul 22		241		11			1,544	11	5	0	68	166.5	25.1	65.1
Jul 23		753		24			1,568	19	10	0	52	144.8	26.4	65.5
Jul 24		342		23			857	12	6	0	70	137.3	29.5	65.1
Jul 25		565		19			887	15	9	0	89	166.6	30.2	65.1
Jul 26		407		20			723	18	9	0	72	132.4	30.5	65.2
Jul 27		325		18			484	14	7	0	63	130.7	27.0	65.3
Jul 28		568		33			493	33	16	0	61	115.9	24.8	65.4
Jul 29		355		28			374	10	6	1	85	130.5	24.7	65.5
Jul 30		394		23			356	26	15	1	80	151.4	31.3	66.0
Jul 31		244		15			276	27	16	0	68	166.3	28.8	66.3
TOTALS		21,561		683			129,335	341	195	14	1,384			
AVG.		696		22			4,172	11	6	0	45	138.5	28.1	63.6

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,896	820
SUMMER	28,116	732
TOTAL	36,012	1,552

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
160,865	451	233	79	1,418

TABLE 179

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT- FISH COUNTS

AUGUST 2018

DATE	CHINOOK ADULT			CHINOOK JACK	COHO		SOCKEYE	WILD STEELHEAD		BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER	FALL		ADULT	JACK		STEELHEAD	STEELHEAD					
Aug 1		240		25			265	27	18		75	107.9	20.2	66.5
Aug 2		369		22			267	31	15		120	71.2	20.2	66.6
Aug 3		335		29			226	34	21		72	111.3	21.2	66.7
Aug 4		239		36			135	23	10		84	167.9	21.1	66.9
Aug 5		177		25			157	19	12		165	101.4	21.2	66.8
Aug 6		222		17			110	12	7		117	92.3	24.3	67.4
Aug 7		177		13			114	18	6		146	163.7	25.5	67.6
Aug 8		190		16			79	38	20		93	163.4	25.1	67.2
Aug 9		112		9			34	20	11		89	118.4	20.5	66.5
Aug 10		219		39			49	27	11		92	80.5	21.4	66.5
Aug 11		74		8			34	18	8		76	81.3	19.9	66.6
Aug 12		117		28			46	27	13		83	126.1	17.9	66.5
Aug 13		101		29			32	39	30		103	103.5	22.9	66.7
Aug 14		114		14			16	31	16		106	82.1	24.9	66.9
Aug 15		73		6			26	23	12		111	89.5	0.0	67.2
Aug 16		49		8			11	28	12		108	100.8	0.0	67.3
Aug 17		109		13			13	26	13		96	87.1	0.0	67.3
Aug 18		54		9			6	17	9		76	121.4	0.0	66.9
Aug 19		46		15			5	24	15		75	159.0	7.5	66.4
Aug 20		75		19			10	20	11		81	75.8	0.0	66.4
Aug 21		36		14			7	11	3		68	128.9	0.0	66.8
Aug 22		68		13			6	28	12		89	138.8	0.0	66.7
Aug 23		66		5			9	21	12		81	99.8	0.0	66.7
Aug 24		40		19			7	16	3		51	137.9	0.0	66.4
Aug 25		61		17			4	19	9		42	95.4	0.0	66.1
Aug 26		62		26			9	23	11		71	89.6	0.0	66.0
Aug 27		44		13			3	33	11		87	116.9	0.0	66.3
Aug 28		50		10			3	11	7		105	97.3	0.0	66.8
Aug 29		56		9			8	15	6		80	95.2	0.0	67.0
Aug 30		35		7			6	25	15		67	97.4	0.0	67.1
Aug 31		47		24			5	21	9		98	77.0	0.0	67.2
TOTAL		3,657		537			1,702	725	368		2,807			

AVG.	118	17	55	23	12	91	109.0	10.1	66.8
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,896	820
SUMMER	31,773	1,269
TOTALS	39,669	2,089

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
162,567	1,176	601	79	4,225

TABLE 180

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

ROCKY REACH PROJECT- FISH COUNTS

SEPTEMBER 2018

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		55		21	0	0	9	27	8		73	84.2	0.0	67.0
Sep 2			101	17	1	0	7	25	11		54	35.2	0.0	66.8
Sep 3			42	17	0	0	5	17	8		64	72.9	0.0	66.9
Sep 4			116	14	1	0	15	24	12		79	50.1	0.0	67.1
Sep 5			73	14	1	0	11	33	9		76	43.6	0.0	67.3
Sep 6			86	20	2	0	5	34	18		51	42.7	0.0	67.4
Sep 7			34	7	0	0	6	47	17		50	27.9	0.0	67.5
Sep 8			97	7	6	0	4	34	11		21	49.5	0.0	67.4
Sep 9			125	8	10	0	3	77	30		45	87.9	0.0	67.2
Sep 10			264	39	23	0	3	67	28		37	53.0	0.0	67.1
Sep 11			175	20	30	0	4	111	43		46	43.3	0.0	66.8
Sep 12			238	17	42	2	3	93	36		28	36.2	0.0	66.5
Sep 13			177	11	74	0	6	108	30		44	41.5	0.0	66.4
Sep 14			98	9	62	1	0	68	18		33	59.2	0.0	66.2
Sep 15			96	19	87	2	1	108	34		39	26.9	0.0	66.2
Sep 16			131	22	90	0	0	117	36		29	60.4	0.0	66.0
Sep 17			165	14	57	1	2	83	33		8	14.1	0.0	65.7
Sep 18			96	11	68	9	4	117	42		22	20.4	0.0	65.8
Sep 19			116	18	100	1	1	96	31		21	26.1	0.0	65.9
Sep 20			180	24	143	7	0	132	35		10	31.7	0.0	65.4
Sep 21			132	14	126	1	0	93	33		12	18.6	0.0	65.2
Sep 22			51	15	169	6	1	84	20		3	62.2	0.0	65.0
Sep 23			148	16	176	5	0	82	27		15	62.8	0.0	64.6
Sep 24			59	10	75	3	0	68	20		16	36.9	0.0	64.6
Sep 25			139	38	231	12	0	86	23		12	67.5	0.0	64.6
Sep 26			90	12	142	7	0	82	20		12	27.6	0.0	64.4
Sep 27			56	12	93	5	2	51	14		17	51.6	0.0	64.4
Sep 28			89	18	108	12	3	47	18		4	36.4	0.0	64.6
Sep 29			117	18	126	13	4	60	22		7	32.5	0.0	64.6
Sep 30			61	9	103	14	0	35	19		2	77.8	0.0	64.3
TOTAL		55	3,352	491	2,146	101	99	2,106	706		930			
AVG.			116	16	72	3	3	70	24		31	46.0	0.0	66.0

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,896	820
SUMMER	31,828	1,290
FALL	3,352	470
TOTALS	43,076	2,580

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
2,146	101	162,666	3,282	1,307	79	5,155

TABLE 181

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

ROCKY REACH PROJECT- FISH COUNTS

OCTOBER 2018

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			104	15	138	10	1	48	19		20	53.0	0.0	64.0
Oct 2			108	14	113	8	1	39	16		10	50.6	0.0	64.0
Oct 3			170	18	82	17	0	44	14		9	65.5	0.0	63.4
Oct 4			162	15	132	39	0	40	13		4	8.7	0.0	63.1
Oct 5			67	17	108	7	1	36	14		2	28.9	0.0	62.7
Oct 6			90	10	67	13	0	29	10		4	22.4	0.0	62.2
Oct 7			152	17	67	17	0	42	11		2	74.3	0.0	62.1
Oct 8			99	16	58	4	1	28	11		3	50.3	0.0	62.0
Oct 9			104	9	84	32	1	29	10		1	58.1	0.0	61.8
Oct 10			56	6	51	7	1	37	6		2	58.7	0.0	61.8
Oct 11			56	7	69	19	0	28	9		0	69.8	0.0	61.6
Oct 12			36	17	51	4	0	37	15		1	66.5	0.0	61.5
Oct 13			52	11	80	16	1	23	5		1	7.3	0.0	61.3
Oct 14			86	9	34	3	2	23	8		0	57.8	0.0	61.0
Oct 15			76	8	19	8	1	26	5		0	47.8	0.0	60.9
Oct 16			56	9	35	6	0	17	4		2	59.7	0.0	61.0
Oct 17			41	3	24	9	2	22	9		1	44.4	0.0	60.9
Oct 18			61	10	17	6	0	21	5		0	34.2	0.0	60.6
Oct 19			61	1	37	8	2	21	7		0	28.0	0.0	60.4
Oct 20			67	7	51	14	1	21	10		0	63.3	0.0	60.4
Oct 21			64	2	22	1	0	8	0		0	89.9	0.0	60.3
Oct 22			117	13	52	4	0	24	4		0	49.0	0.0	60.1
Oct 23			66	10	111	11	0	30	9		0	15.3	0.0	59.9
Oct 24			86	3	39	6	1	10	3		0	82.5	0.0	59.7
Oct 25			45	2	96	4	0	18	6		0	118.2	0.0	59.5
Oct 26			63	11	23	4	0	20	3		0	75.6	0.0	59.7
Oct 27			60	9	43	6	0	14	6		0	90.8	0.0	59.5
Oct 28			71	6	33	4	0	20	4		1	40.9	0.0	59.4
Oct 29			105	8	10	10	0	15	5		0	101.7	0.0	58.9
Oct 30			70	9	18	1	0	21	3		0	80.9	0.0	58.6
Oct 31			43	4	5		1	12	4		0	70.8	0.0	58.7
TOTAL			2,494	296	1,769	288	17	803	248		63			
AVG.			80	10	57	10	1	26	8		2	56.9	0.0	61.0

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,896	820
SUMMER	31,828	1,290
FALL	5,846	766
TOTALS	45,570	2,876

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
3,915	389	162,683	4,085	1,555	79	5,218

TABLE 182

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

ROCKY REACH PROJECT- FISH COUNTS

NOVEMBER 2018

DATE	CHINOOK ADULT		CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY	DISCH KCFS	SPILL KCFS	DEG F
	SPRING	SUMMER											
Nov 1			63	11	20	2	0	18	4		62.7	0.0	58.5
Nov 2			50	6	12	1	0	16	5		99.0	0.0	58.4
Nov 3			64	0	13	2	1	18	7		105.6	0.0	58.0
Nov 4			80	3	3	2	0	15	4		92.3	0.0	57.8
Nov 5			126	3	4	0	0	17	6		68.1	0.0	57.3
Nov 6			59	4	3	1	0	6	3		94.4	0.0	56.9
Nov 7			60	6	6	4	0	9	4		109.1	0.0	56.6
Nov 8			47	2	2	2	0	9	1		141.7	0.0	56.3
Nov 9			36	3	8	0	0	13	2		124.0	0.0	55.6
Nov 10			27	1	7	8	0	4	0		115.3	0.0	55.1
Nov 11			41	2	2	0	0	8	2		126.4	0.0	54.5
Nov 12			12	0	4	1	0	12	6		108.4	0.0	54.2
Nov 13			6	1	8	1	0	3	1		125.0	0.0	53.9
Nov 14			4	2	1	1	0	2	1		108.3	0.0	53.7
Nov 15			8	0	1	1	0	3	1		99.9	0.0	53.3
Nov 16											95.1	0.0	53.2
Nov 17											110.6	0.0	53.1
Nov 18											102.9	0.0	52.7
Nov 19													
Nov 20													
Nov 21													
Nov 22													
Nov 23													
Nov 24													
Nov 25													
Nov 26													
Nov 27													
Nov 28													
Nov 29													
Nov 30													
TOTAL			683	44	94	26	1	153	47				
AVG.			46	3	6	2	0	10	3		104.9	0.0	55.5

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,896	820
SUMMER	31,828	1,290
FALL	6,529	810
TOTALS	46,253	2,920

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
4,009	415	162,684	4,238	1,602	79	5,218

TABLE 183

**MONTHLY COUNT OF STEELHEAD
ROCKY REACH DAM: 1981 - 2018**

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
2014				174	75	39	532	2,263	5,427	1,943	134		10,587
2015				74	38	29	550	3,314	5,172	1,541	176		10,894
2016				61	28	48	614	1,153	2,666	1,079	79		5,728
2017				90	33	23	85	478	2,069	1,152	58		3,988
2018				64	22	24	341	725	2,106	803	153		4,238
Total				4,214	2,901	2,788	30,281	107,286	173,538	59,317	6,955		387,280
10-Year Average				200	94	42	728	3,541	5,561	1,713	165		12,044

WELLS DAM

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.

FISH LADDER OPERATING SCHEDULE

Other than during routine wintertime inspection and maintenance (performed on only one fishway at a time), the two fishways at Wells Dam operated continuously during 2018.

East Ladder Maintenance

January 30, 2018, to February 1, 2018, outage for inspection and maintenance.

West Ladder Maintenance

December 27, 2017 through January 24, 2018, outage for inspection and maintenance.

JUVENILE PASSAGE FACILITIES

The juvenile bypass system at Wells Dam capitalizes on the hydrocombine design of the dam by using flow to the turbines to attract fish to bypass spillways located between turbine silos and above turbine intakes. During the juvenile salmonid outmigration, bypass baffles and barriers are installed in spillway intake slots to partially constrict the five even-numbered spillways, providing a strong flow net to the constricted intakes. This configuration provides for high bypass efficiency (92% to 96%) with no more than 10,200 cfs of total bypass flow, and any involuntary spill through the six unmodified, odd-numbered spillways provides additional non-turbine passage opportunity.

During periods when plant discharge exceeds the combined turbine and bypass capacity, excess water is passed through non-bypass spillways and bypass spillways 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 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.

Douglas PUD operated the Wells bypass system in 2018 as guided by the Wells Habitat Conservation Plan (HCP) Coordinating Committee-approved *2018 Bypass Operating Plan*. Flows peaked above average and early in 2018, with flow and involuntary spill volumes meeting the criteria for barrier removal by the third week of April. As such, the bypass barriers for Spillway 6 were removed on April 23. As the freshet peaked in mid-May, barriers were removed from Spillway 8 on May 10, Spillway 4 on May 11, and Spillway 10 on May 14. Flows and spill diminished in the first week of June, allowing for the reinstallation of barriers in Spillway 4 (June 4), and spillways 8 and 10 (June 5). The bypass barriers for Spillway 6 were reinstalled a week later on June 12.

The *2018 Bypass Operating Plan* was intended to provide non-turbine passage during 95 percent of the juvenile HCP 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, providing bypass passage during 99.92 percent of the yearling Chinook migration, 99.99 percent of the steelhead migration, 100 percent of the sockeye migration, 100 percent of the coho migration, and 99.51 percent of the sub-yearling Chinook migration passing Wells Dam in 2018.

TABLE 184

MONTHLY TOTALS OF SALMONIDS AND LAMPREY COUNTED OVER WELLS DAM
2018

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CHINOOK*					1,930	7,890	18,018	3,999	1,536	1,136	332		34,841
STEELHEAD					115	35	228	615	1,830	868	223		3,914
SOCKEYE						16,962	134,066	2,476	116	17			153,637
COHO									1,344	1,524	78		2,946
TOTAL					2,045	24,887	152,312	7,090	4,826	3,545	633		195,338
LAMPREY					48	40	59	15	12	1			175
BULL TROUT					20	27	2						49

*Jacks included

TABLE 185

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

WELLS PROJECT- FISH COUNTS

MAY 2018

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	0			0				16	8	0	0	209.5	50.0	46.4
May 2	2			0				17	4	0	0	195.6	56.4	46.8
May 3	0			0				11	4	0	0	185.8	46.3	47.1
May 4	0			0				7	4	0	0	215.3	61.8	47.7
May 5	1			0				16	6	0	0	231.1	68.0	47.8
May 6	0			0				8	3	0	0	235.9	77.4	48.2
May 7	0			0				3	1	0	0	214.7	55.6	48.4
May 8	0			0				7	1	0	0	254.2	86.0	48.9
May 9	3			0				1	0	0	0	234.3	77.5	49.5
May 10	3			0				6	1	0	0	246.2	88.9	49.8
May 11	1			0				7	2	0	0	285.6	127.9	50.0
May 12	3			0				4	0	1	0	295.0	137.8	50.4
May 13	2			0				2	0	0	0	331.5	180.8	50.7
May 14	2			0				1	0	0	0	322.6	185.1	51.1
May 15	1			0				2	1	0	0	306.7	162.4	51.4
May 16	2			0				0	0	0	0	289.3	147.8	52.0
May 17	2			1				0	0	0	1	324.2	185.0	52.5
May 18	4			0				0	0	0	0	291.5	147.4	52.3
May 19	8			0				0	0	2	0	303.7	152.9	52.2
May 20	12			1				1	0	1	0	282.9	141.0	52.3
May 21	15			0				0	0	0	0	312.0	161.2	52.7
May 22	32			1				1	1	0	0	323.3	177.8	53.1
May 23	54			2				1	1	1	2	301.6	162.6	53.4
May 24	95			6				1	0	1	4	272.9	126.0	54.0
May 25	247			23				2	2	1	14	280.3	135.4	54.3
May 26	200			14				0	0		11	270.2	121.0	54.3
May 27	249			25				1	1	3	6	233.1	85.7	54.5
May 28	146			27				0	0	1	6	266.8	127.5	54.5
May 29	234			40				0	0	3	3	244.2	105.3	54.5
May 30	174			30				0	0	2	1	215.8	78.3	54.1
May 31	205			63				0	0	4	0	240.0	98.3	54.0
TOTAL	1,697			233				115	40	20	48			
AVG.	55			8				4	1	1	2	265.0	116.6	51.3
RUN YEAR		CHINOOK ADULT	CHINOOK JACK					STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY			
TOTALS TO DATE		1,697	233					115	40	20	48			
SPRING														

TABLE 186

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

JUNE 2018

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	190			63			0	0	0	0	0	243.3	95.0	54.1
Jun 2	233			90			0	1	1	1	0	235.6	84.2	54.5
Jun 3	157			67			0	0	0	0	1	228.0	83.1	55.0
Jun 4	195			85			0	2	1	1	1	219.8	69.5	55.2
Jun 5	188			46			0	0	0	2	0	217.5	65.0	55.4
Jun 6	170			67			0	0	0	0	1	204.6	55.0	55.6
Jun 7	145			61			0	0	0	2	0	178.2	33.5	55.8
Jun 8	169			45			0	3	3	0	0	213.6	65.0	56.1
Jun 9	165			31			0	0	0	1	3	174.2	33.1	56.5
Jun 10	63			11			1	0	0	1	1	186.2	35.2	56.7
Jun 11	110			23			0	0	0	0	1	168.9	14.0	56.5
Jun 12	96			19			0	0	0	1	0	172.7	18.7	56.7
Jun 13	75			22			1	0	0	2	0	169.4	19.1	56.7
Jun 14	38			6			0	0	0	1	3	174.7	40.7	56.7
Jun 15	149			11			0	2	0	1	1	152.0	10.0	57.4
Jun 16	129			4			13	3	1	1	9	124.2	41.5	57.9
Jun 17	39			4			15	2	2	0	6	162.3	21.4	58.3
Jun 18	147			9			10	4	2	1	1	156.4	26.4	58.3
Jun 19	105			5			42	3	1	1	1	146.8	10.0	58.8
Jun 20	212			4			89	1	0	3	3	123.9	23.9	59.5
Jun 21	274			11			169	0	0	2	0	143.0	10.0	59.9
Jun 22	384			8			215	0	0	0	4	154.9	10.0	60.1
Jun 23	325			8			361	2	1	2	2	162.7	22.4	59.9
Jun 24	250			6			596	4	2	2	1	210.3	58.7	60.1
Jun 25	215			8			915	1	1	1	0	172.7	26.0	60.3
Jun 26	423			8			1,526	0	0	0	0	203.3	83.9	59.7
Jun 27	620			7			2,150	1	1	1	1	205.5	55.3	60.3
Jun 28	536			15			2,108	2	0	0	0	183.5	38.0	58.6
Jun 29		594		12			4,063	2	1	0	0	152.3	10.0	58.8
Jun 30		710		28			4,688	2	1	0	0	137.0	10.0	59.2
TOTAL	5,802	1,304		784			16,962	35	18	27	40			
AVG.	207	652		26			565	1	1	1	1	179.3	39.0	57.6

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,499	977
SUMMER	1,304	40
TOTAL	8,803	1,017

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
16,962	150	58	47	88

TABLE 187

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

JULY 2018

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		830		19			6,011	2	1	0	1	151.3	10.0	59.4
Jul 2		676		21			5,975	1	0	0	1	113.8	10.0	59.5
Jul 3		751		24			5,941	3	0	1	1	99.2	9.7	59.7
Jul 4		825		19			6,605	1	0	0	0	100.8	10.0	60.1
Jul 5		733		8			7,603	5	1	0	0	70.3	7.8	60.3
Jul 6		609		17			6,118	2	1	0	3	129.9	37.0	60.4
Jul 7		449		27			5,785	2	1	0	1	134.1	30.1	60.6
Jul 8		1,164		32			7,609	3	0	0	7	77.2	7.9	61.2
Jul 9		1,033		28			11,201	1	0	1	4	122.2	10.0	61.5
Jul 10		871		37			8,924	2	1	0	4	140.9	10.0	61.9
Jul 11		376		23			6,635	3	2	0	5	138.8	16.8	61.9
Jul 12		618		24			8,091	3	2	0	3	138.3	19.7	61.9
Jul 13		449		22			5,007	5	5	0	1	130.3	20.6	62.4
Jul 14		661		24			4,737	5	3	0	3	104.4	10.0	62.6
Jul 15		515		22			3,876	3	1	0	-1	163.6	50.5	63.0
Jul 16		299		26			4,733	3	1	0	3	102.0	9.6	63.1
Jul 17		482		27			4,480	6	5	0	1	113.4	10.0	63.1
Jul 18		488		20			3,862	5	4	0	1	112.1	14.1	63.1
Jul 19		470		20			4,521	7	5	0	3	119.8	30.3	63.7
Jul 20		659		34			3,432	13	12	0	1	144.8	10.0	64.0
Jul 21		282		17			2,365	10	5	0	2	133.0	13.5	64.0
Jul 22		884		38			2,231	10	9	0	0	142.2	24.5	63.5
Jul 23		267		18			1,691	5	1	0	1	123.8	10.0	63.3
Jul 24		410		16			1,470	9	6	0	2	135.3	10.0	63.7
Jul 25		417		30			1,148	14	6	0	2	111.5	15.9	63.9
Jul 26		516		30			1,019	13	9	0	3	127.9	22.9	63.9
Jul 27		467		25			852	15	6	0	3	121.6	10.0	64.2
Jul 28		403		17			761	14	6	0	1	127.5	19.8	64.6
Jul 29		180		14			450	12	8	0	0	88.5	10.0	64.9
Jul 30		292		15			530	21	7	0	1	156.4	10.3	65.1
Jul 31		225		23			403	30	8	0	2	128.7	14.3	65.3
TOTAL		17,301		717			134,066	228	116	2	59			
AVG.		558		23			4325	7	4	0	2	122.7	16.0	62.6
RUN YEAR														
TOTALS TO DATE		CHINOOK ADULT		CHINOOK JACK			SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY			
SPRING		7,499		977			151,028	378	174	49	147			
SUMMER		18,605		757										
TOTAL		26,104		1,734										

TABLE 188

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

AUGUST 2018

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		260		16			311	16	9		-1	50.1	9.3	65.8
Aug 2		65		16			282	16	10		0	74.4	23.5	65.7
Aug 3		110		11			296	26	16		0	132.6	52.6	66.0
Aug 4		219		10			221	19	11		1	104.2	11.7	66.2
Aug 5		121		13			183	15	11		1	86.7	9.1	66.0
Aug 6		203		16			150	14	8		1	95.9	10.0	65.5
Aug 7		111		11			115	15	10		0	128.7	16.4	65.1
Aug 8		280		20			137	12	7		0	117.0	19.9	65.3
Aug 9		391		19			156	16	8		0	149.3	61.2	65.3
Aug 10		124		18			80	10	5		2	76.3	22.2	65.8
Aug 11		213		28			61	18	9		0	78.2	10.0	66.4
Aug 12		256		23			75	21	10		0	112.6	15.7	66.4
Aug 13		97		5			79	16	11		1	91.8	10.0	66.4
Aug 14		119		15			60	20	13		0	114.9	10.0	66.6
Aug 15		122		11			36	23	11		0	110.8	10.0	66.2
Aug 16		41		5			31	23	16		0	74.8	9.8	65.7
Aug 17		41		6			44	13	9		0	101.5	38.1	65.8
Aug 18		67		6			27	22	10		2	129.0	36.9	66.2
Aug 19		65		4			26	43	20		1	118.1	22.5	66.2
Aug 20		132		11			26	21	15		1	105.4	22.6	66.2
Aug 21		135		15			15	23	14		1	99.1	0.0	66.0
Aug 22		76		19			13	21	9		0	116.1	30.0	66.0
Aug 23		79		8			7	27	14		1	117.1	28.6	66.2
Aug 24		73		2			9	23	13		1	128.4	18.9	66.4
Aug 25		37		7			6	30	10		0	84.9	0.0	66.7
Aug 26		26		8			3	8	3		1	66.2	0.0	66.7
Aug 27		29		10			10	16	9		0	113.8	0.0	66.6
Aug 28		44		11			3	30	14		0	91.3	14.6	66.7
Aug 29			26	9			2	16	11		2	60.0	0.0	66.7
Aug 30			39	3			6	22	14		0	69.5	3.5	66.4
Aug 31			28	14			6	20	11		0	61.3	0.0	66.6
TOTAL		3,536	93	370			2,476	615	341		15			

AVG.	126	31	12				80	20	11		0	98.7	16.7	66.1
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RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,499	977
SUMMER	22,141	1,101
FALL	93	26
TOTAL	29,733	2,104

SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
153,504	993	515	49	162

TABLE 189

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

SEPTEMBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	WILD	BULL	LAMPREY	DISCH	SPILL	DEG F	
	SPRING	SUMMER	FALL	JACK	ADULT			JACK	STEELHEAD					TROUT
Sep 1			28	1	0	0	3	10	3		0	82.7	0.0	66.9
Sep 2			29	12	0	0	10	23	9		2	52.4	0.0	67.3
Sep 3			46	13	0	0	8	29	14		0	44.4	0.0	67.3
Sep 4			44	8	0	0	8	23	7		0	45.7	0.0	66.9
Sep 5			26	7	1	0	9	18	10		1	52.4	0.0	66.7
Sep 6			85	7	1	0	11	21	11		0	38.0	0.0	66.7
Sep 7			59	6	0	0	8	33	15		0	44.9	0.0	66.7
Sep 8			35	3	0	0	3	34	15		0	44.8	0.0	66.7
Sep 9			24	3	1	0	6	36	12		2	73.0	0.0	66.7
Sep 10			43	14	2	0	5	33	20		1	62.0	0.0	66.6
Sep 11			61	10	9	0	2	50	22		0	25.6	0.0	66.7
Sep 12			51	12	12	0	8	55	29		1	33.4	0.0	66.6
Sep 13			53	5	19	0	7	81	38		1	42.8	0.0	66.4
Sep 14			67	10	23	1	0	86	38		1	38.4	0.0	66.4
Sep 15			42	3	38	2	4	86	28		0	24.5	0.0	65.8
Sep 16			34	4	28	1	0	74	26		2	35.8	0.0	65.8
Sep 17			46	9	25	2	2	47	21		0	28.4	0.0	65.3
Sep 18			39	5	34	3	2	76	29		1	42.9	0.0	64.9
Sep 19			40	10	35	0	2	61	23		0	33.9	0.0	64.9
Sep 20			70	11	64	1	1	111	47		0	34.7	0.0	64.9
Sep 21			70	7	72	0	1	94	34		0	34.6	0.0	64.8
Sep 22			54	7	99	5	4	96	39		0	35.9	0.0	64.6
Sep 23			42	10	136	3	0	121	55		0	55.2	0.0	64.4
Sep 24			27	5	44	8	4	53	22		0	34.4	0.0	64.4
Sep 25			16	6	86	1	0	57	16		0	65.5	0.0	64.6
Sep 26			23	6	49	1	1	53	14		0	33.9	0.0	64.6
Sep 27			50	11	168	8	0	96	35		0	50.4	0.0	64.6
Sep 28			39	9	132	2	4	82	25		0	49.2	0.0	64.6
Sep 29			28	6	95	5	3	108	36		0	62.3	0.0	64.2
Sep 30			35	10	123	5	0	83	34		0	64.0	0.0	64.2
TOTAL			1,306	230	1,296	48	116	1,830	727		12			
AVG.			44	8	43		4	61	24		0	45.5	0.0	65.7

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,499	977
SUMMER	22,141	1,101
FALL	1,399	256
TOTAL	31,039	2,334

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
1,296	48	153,620	2,823	1,242	49	174

TABLE 190

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

OCTOBER 2018

DATE	CHINOOK ADULT		CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	WILD	BULL	LAMPREY	DISCH	SPILL	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT			JACK	STEELHEAD				
Oct 1			19	7	48	2	2	50	15	0	65.2	0.0	63.9
Oct 2			28	3	42	5	3	36	18	0	38.9	0.0	63.7
Oct 3			45	4	77	4	1	46	18	0	43.1	0.0	63.3
Oct 4			33	8	59	3	0	39	18	0	21.7	0.0	63.1
Oct 5			49	10	36	2	4	40	21	0	35.4	0.0	62.6
Oct 6			48	15	146	1	-1	51	20	0	24.3	0.0	62.6
Oct 7			39	16	101	3	2	27	9	0	64.4	0.2	62.2
Oct 8			18	3	38	2	0	30	15	0	36.5	0.0	62.1
Oct 9			28	10	36	1	1	27	9	0	68.0	0.0	62.1
Oct 10			31	3	15	2	0	32	9	0	46.9	0.0	62.1
Oct 11			38	9	55	4	0	36	6	0	58.4	0.0	62.2
Oct 12			58	4	97	3	0	50	12	0	32.7	0.0	62.2
Oct 13			45	4	53	0	1	31	7	1	27.6	0.0	61.9
Oct 14			20	1	22	3	1	32	8	0	47.8	0.0	61.5
Oct 15			22	4	28	7	1	23	6	0	35.3	0.0	61.3
Oct 16			26	3	30	6	0	27	9	0	38.1	0.0	61.3
Oct 17			19	2	26	10	0	23	2	0	31.0	0.0	61.2
Oct 18			16	3	20	2	0	16	1	0	41.7	0.0	61.0
Oct 19			33	0	39	0	0	18	6	0	32.3	0.0	60.8
Oct 20			12	2	47	1	0	17	4	0	54.1	0.0	60.6
Oct 21			27	4	48	1	0	33	11	0	76.9	0.0	60.4
Oct 22			23	0	33	3	0	24	6	0	74.6	0.0	60.6
Oct 23			26	3	30	3	0	7	2	0	24.2	0.0	60.4
Oct 24			21	3	53	2	0	14	7	0	62.6	0.0	60.4
Oct 25			45	2	36	2	0	16	8	0	93.5	6.2	59.9
Oct 26			53	3	65	3	2	32	7	0	58.3	0.0	59.7
Oct 27			37	2	54	0	0	14	3	0	48.6	0.0	59.7
Oct 28			26	3	31	1	0	18	4	0	29.4	0.0	59.5
Oct 29			17	1	18	2	0	12	4	0	90.7	14.5	59.4
Oct 30			45	0	37	0	0	25	3	0	111.8	0.0	59.0
Oct 31			54	3	24	2	0	22	6	0	49.3	0.0	59.0

TOTAL			1,001	135	1,444	80	17	868	274	1			
AVG.			32	4	47	3	1	28	9	0	50.4	0.7	61.3

RUN YEAR	CHINOOK ADULT	CHINOOK JACK
TOTALS TO DATE		
SPRING	7,499	977
SUMMER	22,141	1,101
FALL	2,400	391
TOTAL	32,040	2,469

COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
2,740	128	153,637	3,691	1,516	49	175

TABLE 191

MONTHLY FISH PASSAGE SUMMARY REPORT

U.S. ARMY ENGINEER DISTRICT, PORTLAND

WELLS PROJECT- FISH COUNTS

NOVEMBER 2018

DATE	CHINOOK ADULT			CHINOOK	COHO	COHO	SOCKEYE	STEELHEAD	WILD	BULL	LAMPREY	DISCH	SPILL	DEG F
	SPRING	SUMMER	FALL	JACK	ADULT	JACK			STEELHEAD	TROUT				
Nov 1			78	4	14	1		20	4			56.5	0.0	58.8
Nov 2			26	1	7	0		12	4			47.6	0.0	58.5
Nov 3			25	1	10	0		10	1			54.3	0.0	58.1
Nov 4			13	0	7	0		16	4			57.5	0.0	58.1
Nov 5			34	0	6	0		27	8			53.4	0.0	57.7
Nov 6			24	1	6	1		19	4			55.0	0.0	57.2
Nov 7			35	2	4	2		20	10			73.0	0.0	56.8
Nov 8			31	1	2	1		16	8			94.5	0.0	56.1
Nov 9			14	0	3	0		16	5			100.3	0.0	55.8
Nov 10			12	2	2	0		14	7			83.8	0.0	55.4
Nov 11			8	0	4	1		9	3			99.8	0.0	55.2
Nov 12			9	0	0	0		9	2			76.1	0.0	54.9
Nov 13			3	1	5	0		14	6			83.6	0.0	54.3
Nov 14			4	2	2	0		14	4			77.8	0.0	54.3
Nov 15			1	0	0	0		7	2			69.7	0.0	54.0
Nov 16														
Nov 17														
Nov 18														
Nov 19														
Nov 20														
Nov 21														
Nov 22														
Nov 23														
Nov 24														
Nov 25														
Nov 26														
Nov 27														
Nov 28														
Nov 29														
Nov 30														

TOTALS			317	15	72	6		223	72					
AVG.			21	1	5	0		15	5			72.2	0.0	56.3

RUN YEAR	CHINOOK ADULT	CHINOOK JACK	COHO ADULT	COHO JACK	SOCKEYE	STEELHEAD	WILD STEELHEAD	BULL TROUT	LAMPREY
TOTALS TO DATE									
SPRING	7,499	977	2,812	134	153,637	3,914	1,588	49	175
SUMMER	22,141	1,101							
FALL	2,717	406							
TOTAL	32,357	2,484							

TABLE 192

**MONTHLY COUNT OF STEELHEAD
WELLS DAM: 1976 - 2018**

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
2014					122	35	337	1,776	3,390	1,890	185		7,735
2015					37	37	333	2,596	4,243	1,662	235		9,143
2016					59	46	427	883	2,034	1,227	168		4,844
2017					35	30	87	456	1,587	1,445	115		3,755
2018					115	35	228	615	1,830	868	223		3,914
TOTAL					2,988	1,788	18,305	78,729	148,835	72,268	11,533		334,446
10-Year Average					82	34	405	2,438	4,695	1,821	209		9,683

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