Fish Passage Center

Weekly Report #98 - 24

August 28, 1998

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PLEASE NOTE THAT THIS WILL BE THE LAST WEEKLY REPORT FOR 1998. THE NEXT REPORT WILL BE ISSUED ON SEPTEMBER 9 AND WILL CONTINUE ON A BI-WEEKLY BASIS UNTIL THE END OF OCTOBER, 1998.

SUMMARY OF EVENTS:

Water Supply: There was no significant precipitation in the basin during last week except in SE Idaho where up to nearly 0.25 inches of maximum daily accumulations were reported locally from scattered convective thunderstorms. The temperatures increased from 12 to 17 degrees above normal.

System Storage: U.S. reservoirs are almost finished drafting to BiOp required summer augmentation for endangered Snake River salmon. A summary of actual elevations on August 27, 1998 is shown in the following table:

Reservoir	Actual Elev. [ft] 8/26/98	Max. Pool [ft]
Libby	2444.61	2459.0
Hungry Horse	3540.90*	3560.0
Grand Coulee	1279.80	1290.0
Brownlee	2042.00	2077.0
Dworshak	1521.44	1600.0

*as of August 26

US reservoirs:

- Libby outflows will be decreased to 9 kcfs.
- Hungry Horse will be drafted to maintain the minimum required flows at Columbia Falls.
- Grand Coulee will operate to support decreasing McNary flows to an elevation of 1279 ft by August 31.
- Brownlee will continue passing inflow at a rate of 12 to 14 kcfs through the Labor Day weekend.
- Dworshak will maintain outflows in the range of 2 to 3 kcfs, approaching BiOp required elevation of 1520 ft on August 31. It is projected that the project will pass inflow during next week.

Upper Snake reservoirs:

The system continues to be operated primarily for irrigation demands. Temperatures and irrigation withdrawals remain high.

Jackson Lake is drafting for irrigation at a rate of about 5.4 kcfs and is about 88% full.

Palisades continues drafting for Upper Snake diversion irrigation withdrawal at a rate of 9.3 kcfs, about 2.8 kcfs higher than inflow and is about 85% full.

American Falls continues intensive drafting to provide irrigation diversion flow downstream at Minidoka. Current outflow is about 11.5 kcfs, about 9 kcfs higher than inflow and the reservoir is about 62% full.

Millner flow, at the lowest point of the Upper Snake system, continues to be at a constant rate of about 1.5 kcfs since July 7. Irrigation withdrawal upstream of Minidoka continued to be about 10 kcfs. Irrigation withdrawal at the Upper Snake diversion, upstream from Blackfoot, continues to be between 8 and 9 kcfs.

BOR is projecting flows at Milner will remain 1.5 kcfs during the entire month of September.

Boise River Basin:

Anderson and Arrowrock continue with intensive drafting for irrigation withdrawals. Current reservoir capacities are 83% of full and 31% of full. The flow at Glenwood Bridge remained at about 1.1 kcfs and is expected to decrease during the first week of September.

System Streamflow: The weekly average flows continue to recede due to dry and hot weather. Presently, flows at McNary and Lower Granite continue to be below the summer target flows required by BiOp. The summary of average weekly flows for run of the river projects during the August 14 through August 26 period is shown in the following Table:

Project	August 14-19	August 20-26
Priest Rapids	108 kcfs	106.7 kcfs
McNary	143.4 kcfs	131.0 kcfs
Lower Granite	34.3 kcfs	28.2 kcfs
Bonneville	155.3kcfs	142.5 kcfs

Spill: Spill ended at Dworshak Dam on August 21, 1998 as flow augmentation decreased. In the Lower Snake River the summer spill program continues at Ice Harbor Dam. Spill averaged 22 kcfs at Ice Harbor Dam over the past week.

The lower Columbia River summer spill program continues. Spill averaged 38 kcfs at John Day Dam, 55 kcfs at The Dalles Dam, and 85 kcfs at Bonneville Dam over the past week. The summer spill program will end on August 31, 1998.

Total Dissolved Gas Supersaturation and Gas Bubble Trauma Monitoring

TDGS levels have been at, or below, the gas waivers at all monitoring sites. Gas bubble trauma monitoring has ended for the season at the Snake River monitoring sites. Sampling will continue through August 31 at Rock Island, McNary, John Day, and Bonneville dams. Only one juvenile salmonid at John Day Dam on August 22, 1998 was detected with minor signs of GBT over the past week.

Smolt Monitoring: Subyearling chinook passage indices continued their typical seasonal decline throughout the Snake and Columbia rivers. In the Snake River, wild subyearling chinook passage indices averaged 171 fish per day at Lower Granite Dam. Wild subyearling chinook passage indices at Little Goose and Lower Monumental dams have averaged 79 and 37 fish per day, respectively, this past week. In the Mid-Columbia River, subyearling chinook passage indices at Rock Island Dam averaged 11 fish per day, about 35 % of last week's average. In the lower Columbia River, subyearling chinook passage indices at McNary Dam dropped to an average of 5,126 fish per day. Subyearling chinook passage indices at John Day Dam started the week at 1,404 fish and dropped to an average of 611 fish per day for the last two days of the week. The average subyearling chinook passage indices at Bonneville Dam was 458 fish per day, a drop of 55 % from last week.

Adult Fish Passage: Passage of adult fall chinook at Bonneville increased through the week from a low of near 1,200 on August 21 to more than 4,000 fish per day by August 26. The season total through August 26 was 28,319 and that total was more than the 1997 tally through August 27; and will likely be near the 10-year average when the count updates are received. The daily count at The Dalles Dam was 2,100 by August 25, with the season total of 9,278 through August 26. Adult fall chinook have been passing the upstream projects as well, with Ice Harbor Dam on the Snake River reporting 28 on August 26; the cumulative count was 158. At Priest Rapids Dam on the Mid-Columbia River, the daily count surpassed 100 on August 26, with the total approaching 900 for the season. The cumulative count remained well below the 10-year average.

Steelhead passage at Bonneville Dam showed a large increase of fish from nearly 400 per day on August 21 to more than 2,600 per day by the end of the report week (August 26). Numbers of fish that are moving past upstream projects began to increase this week, with The

Dalles count on August 26 approaching 1,000, and John Day nearly 900. The Bonneville count through August 26 was 86,873 and this total remained about 50% of the 1997 count and 60% of the 10-year average. Of the steelhead counted at Bonneville Dam, about 18,000 have passed The Dalles Dam or 21% of the Bonneville total. Water temperatures remained at or above 70°F at the four lower Columbia dams for the week. The wild steelhead count at Bonneville now exceeds 25,000 for the season. Note that the Mid-Columbia dams do not include wild steelhead in their count totals submitted to the COE.

Coho passage for the 1998 season has begun to increase at Bonneville Dam, with the daily count on August 26 close to 100. The season total was nearly 300, but this is still to early in the passage season to assess whether the 1998 counts will exceed the 1997 or 10-year average.

Daily Average Flow and Spill (in kcfs) at Mid-Columbia Projects

	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/14/98	119.2	0.1	124.2	0.0	128.3	6.4	128.2	15.0	127.3	0.0	120.2	25.2	131.3	49.0
08/15/98	73.0	0.2	79.2	0.0	92.8	0.0	101.2	10.1	101.2	0.0	108.2	21.7	123.5	46.4
08/16/98	81.7	0.1	80.0	0.0	74.9	0.0	73.4	0.0	70.1	0.0	60.3	12.3	69.1	26.5
08/17/98	105.1	0.1	107.3	0.0	106.0	0.0	108.4	0.0	105.2	0.0	91.9	19.1	99.7	37.6
08/18/98	100.0	0.1	100.6	0.0	102.1	0.0	104.3	0.0	102.0	0.0	94.5	19.3	106.1	39.1
08/19/98	109.8	0.1	108.5	0.0	108.7	0.0	112.7	0.0	109.9	0.0	106.6	22.7	118.2	45.2
08/20/98	109.3	0.1	110.9	0.0	107.2	0.0	107.8	0.0	106.0	0.0	99.0	7.8	108.1	39.9
08/21/98	114.0	0.1	115.6	0.0	114.1	2.0	116.5	0.0	112.7	0.0	111.5	2.0	118.6	3.8
08/22/98	107.5	0.1	108.8	0.0	110.0	0.2	110.6	0.0	109.2	0.0	105.3	2.0	112.5	1.6
08/23/98	71.5	0.1	75.1	0.0	80.7	0.0	89.6	0.0	87.8	0.0	95.4	2.0	107.2	1.5
08/24/98	94.6	0.0	97.5	0.0	99.4	0.0	100.7	0.0	100.8	0.0	100.5	1.8	103.9	1.4
08/25/98	96.3	0.1	95.0	0.0	93.3	0.0	93.5	0.0	91.1	0.0	87.3	1.8	94.1	1.5
08/26/98	91.4	0.1	95.9	0.0	96.1	0.0	99.0	0.0	96.6	0.0	96.2	1.9	102.4	1.5
08/27/98	101.0	0.1	101.5	0.0	101.6	0.0	103.2	0.0	101.2	0.0	90.2	7.8	93.8	1.6

Daily Average Flow and Spill (in kcfs) at Snake Basin Projects

	Dworshak		Brownlee		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
08/14/98	14.4	4.0	---	---	38.4	0.0	30.0	2.9	28.7	0.0	25.0	7.5
08/15/98	14.4	4.0	---	---	36.3	0.0	42.0	2.2	46.5	0.0	51.1	35.0
08/16/98	14.4	4.0	---	---	33.9	0.0	35.2	0.0	36.7	0.0	40.7	29.3
08/17/98	14.3	3.8	---	---	29.2	0.0	30.9	0.0	33.4	0.0	36.0	29.5
08/18/98	13.8	3.5	---	---	33.7	0.0	33.3	0.0	34.3	0.0	36.0	29.5
08/19/98	14.1	3.5	---	---	34.4	0.0	35.3	0.0	36.2	0.0	40.0	32.9
08/20/98	14.1	3.5	---	---	37.6	0.0	39.3	0.0	41.6	0.0	45.2	39.5
08/21/98	13.0	2.4	---	---	32.9	0.0	32.7	0.0	34.0	0.0	36.9	31.2
08/22/98	10.6	0.0	---	---	27.8	0.0	27.4	0.0	29.4	0.0	31.7	21.6
08/23/98	9.1	0.0	---	---	25.3	0.0	24.8	0.0	25.0	0.0	26.7	19.7
08/24/98	5.8	0.0	---	---	25.4	0.0	26.7	0.0	28.6	0.0	31.0	25.2
08/25/98	4.4	0.0	---	---	24.3	0.0	22.8	0.0	22.7	0.0	24.7	19.0
08/26/98	2.8	0.0	---	---	24.1	0.0	24.5	0.0	26.5	0.0	29.6	23.8
08/27/98	2.8	0.0	---	---	20.3	0.0	19.4	0.0	20.0	0.0	21.8	15.9

Daily Average Flow and Spill (in kcfs) at Lower Columbia Projects

	McNary		John Day		The Dalles		Bonneville			
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
08/14/98	175.5	10.8	167.4	51.6	161.0	102.5	184.6	89.8	43.3	9.5
08/15/98	152.3	0.0	162.5	48.5	161.5	59.3	170.7	89.4	48.0	39.5
08/16/98	123.5	0.0	131.5	43.7	131.9	69.7	152.9	93.1	43.0	32.3
08/17/98	132.7	0.0	133.9	39.1	129.9	45.9	145.4	91.8	43.3	9.5
08/18/98	146.4	20.7	144.5	46.1	134.5	73.6	137.7	89.8	43.3	9.5
08/19/98	130.1	0.0	142.0	43.3	142.2	52.1	140.5	90.6	43.3	9.5
08/20/98	150.0	0.0	162.3	49.0	156.7	89.5	155.3	94.8	43.3	9.5
08/21/98	142.9	0.0	142.4	38.6	143.1	50.8	157.0	94.9	43.3	9.5
08/22/98	129.4	0.0	130.2	42.7	126.7	70.0	146.5	94.1	48.0	39.5
08/23/98	123.0	0.0	131.3	38.8	125.9	47.9	142.1	92.7	43.0	32.3
08/24/98	140.6	0.0	143.8	46.4	143.5	78.8	145.3	87.0	45.6	44.1
08/25/98	126.6	0.0	127.5	35.8	127.0	42.4	123.6	77.4	43.6	35.7
08/26/98	104.7	0.0	114.0	35.0	116.9	61.3	127.8	80.0	44.4	11.5
08/27/98	108.9	0.0	110.1	30.8	103.1	36.1	114.6	67.8	31.7	30.3

These data were obtained from the Corps of Engineers through their CAFE reports #96 and #71.

Gas Bubble Trauma Monitoring Results from Representative Sites on the Snake River and Columbia River

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank: Rank 1	Rank 2	Rank 3	Rank 4	Fish with L. Line GBT: Num Fish	Avg. Rank
McNary Dam													
	08/18/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/20/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/22/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/25/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/27/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
John Day Dam													
	08/18/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/20/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/22/98	SubYrlng Chinook	100	1	1	1.00%	0.00%	1	0	0	0	0	0
	08/25/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/27/98	SubYrlng Chinook	55	0	0	0.00%	0.00%	0	0	0	0	0	0
Bonneville Dam													
	08/18/98	SubYrlng Chinook	41	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/20/98	SubYrlng Chinook	71	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/22/98	SubYrlng Chinook	56	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/25/98	SubYrlng Chinook	22	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/27/98	SubYrlng Chinook	9	0	0	0.00%	0.00%	0	0	0	0	0	0
Rock Island Dam													
	08/19/98	SubYrlng Chinook	24	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/21/98	SubYrlng Chinook	12	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/24/98	SubYrlng Chinook	8	0	0	0.00%	0.00%	0	0	0	0	0	0
	08/26/98	SubYrlng Chinook	10	0	0	0.00%	0.00%	0	0	0	0	0	0

Total Dissolved Gas Saturation (%) - Average of 12 Highest Hours, 24 h Average and 24 h High[2]

Total Dissolved Gas Saturation Data at Upper Columbia Sites

	Can. Boundary				Grand Coulee				Tlwtr G. Coulee				Chief Joseph				Wells				Rocky Reach			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/14	---	---	---	0	111	112	112	24	111	112	114	24	112	112	113	24	110	110	110	24	108	109	111	24
8/15	---	---	---	0	112	112	112	24	114	116	119	24	112	113	113	24	109	110	111	24	107	109	111	24
8/16	---	---	---	0	111	111	112	24	111	112	113	24	111	111	112	23	107	107	109	23	106	106	108	23
8/17	---	---	---	0	110	111	111	24	111	112	113	24	110	110	111	23	107	107	107	23	104	104	105	23
8/18	117	117	117	10	110	110	111	24	111	111	113	24	111	111	112	23	106	107	108	23	103	103	104	23
8/19	117	117	118	20	111	111	111	24	110	111	112	24	110	110	111	23	106	108	108	23	102	103	104	23
8/20	112	112	113	13	111	111	111	16	110	111	113	16	110	111	112	15	107	107	108	17	105	107	109	17
8/21	117	117	119	24	111	111	111	24	110	111	112	24	110	111	112	24	108	108	109	24	109	110	110	23
8/22	119	119	120	24	110	111	111	24	110	111	113	24	110	110	111	24	108	108	108	24	109	110	110	24
8/23	118	119	119	24	110	111	111	24	110	112	114	24	110	110	111	23	107	108	108	23	106	107	108	23
8/24	118	119	121	24	110	110	111	24	109	110	113	24	109	109	110	23	107	107	107	17	105	105	106	22
8/25	119	120	121	24	111	111	111	24	109	110	111	24	110	110	111	23	107	108	108	18	104	104	105	22
8/26	119	120	121	24	110	111	111	24	110	110	112	24	110	110	111	23	106	107	108	23	102	103	104	23
8/27	118	119	121	24	110	110	110	24	109	110	112	24	109	109	109	23	107	107	108	10	101	102	103	23

Total Dissolved Gas Saturation Data at Mid Columbia Sites

	Tlwtr. Rocky R.				Rock Island				Tlwtr. Rock Island				Wanapum				Tlwtr Wanapum				Priest Rapids			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/14	114	115	116	24	112	113	114	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
8/15	113	114	115	24	110	111	111	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
8/16	109	110	111	23	108	109	110	23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
8/17	108	109	109	23	106	107	108	23	109	109	109	7	---	---	---	0	---	---	---	0	---	---	---	0
8/18	106	106	106	23	105	105	106	23	108	109	109	23	---	---	---	0	---	---	---	0	---	---	---	0
8/19	106	106	106	23	104	105	106	23	108	108	109	23	---	---	---	0	---	---	---	0	---	---	---	0
8/20	106	106	107	17	104	105	105	17	108	109	109	17	---	---	---	0	---	---	---	0	---	---	---	0
8/21	107	107	108	23	104	105	106	23	109	109	110	23	---	---	---	0	---	---	---	0	---	---	---	0
8/22	108	108	108	24	105	106	107	24	109	109	110	24	---	---	---	0	---	---	---	0	---	---	---	0
8/23	108	108	108	23	104	105	106	23	109	110	110	23	---	---	---	0	---	---	---	0	---	---	---	0
8/24	107	107	108	22	104	105	106	22	109	109	109	22	---	---	---	0	---	---	---	0	---	---	---	0
8/25	107	107	107	22	104	105	106	22	109	109	109	22	---	---	---	0	---	---	---	0	---	---	---	0
8/26	107	107	107	23	104	105	106	22	108	108	109	22	---	---	---	0	---	---	---	0	---	---	---	0
8/27	106	106	107	23	104	105	105	22	108	108	108	22	---	---	---	0	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia, Clearwater and Snake Sites

	Dwnstr P Rapids				Dworshak				Clearwater				Snake-Lewiston				Lower Granite				Tlwtr L. Granite			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/14	---	---	---	0	109	111	112	24	100	101	101	24	106	108	110	24	109	110	110	24	104	104	104	10
8/15	---	---	---	0	110	110	111	24	100	101	101	24	106	108	109	24	105	105	106	24	104	104	104	24
8/16	---	---	---	0	111	111	111	24	109	110	111	24	105	107	108	24	103	103	104	24	103	103	103	24
8/17	---	---	---	0	110	111	111	24	109	109	110	24	105	107	108	24	102	103	103	24	103	104	106	24
8/18	---	---	---	0	110	110	111	24	108	109	110	24	105	106	108	24	102	102	102	24	102	102	103	24
8/19	---	---	---	0	109	109	109	24	108	108	109	23	105	106	107	24	102	104	105	24	101	102	102	24
8/20	---	---	---	0	109	109	110	17	108	108	110	16	105	105	107	17	105	105	107	17	102	102	103	17
8/21	---	---	---	0	107	108	109	24	100	101	101	24	105	106	107	24	101	102	102	24	102	103	103	24
8/22	---	---	---	0	101	102	103	24	100	101	101	24	103	104	105	24	102	103	105	24	102	102	103	24
8/23	---	---	---	0	101	102	104	24	101	102	103	24	101	102	104	24	102	103	104	24	102	102	102	24
8/24	---	---	---	0	102	103	105	24	101	102	103	24	101	102	106	24	---	---	---	0	102	104	109	24
8/25	---	---	---	0	101	101	102	24	100	100	100	24	101	101	101	24	---	---	---	0	103	104	105	24
8/26	---	---	---	0	107	108	109	24	100	100	100	24	101	101	101	24	---	---	---	0	103	103	104	24
8/27	---	---	---	0	107	108	110	24	100	100	100	24	100	100	101	21	---	---	---	0	102	103	104	24

[1] Data provided by the Corps of Engineers.

[2] Dissolved gas readings and averages have been rounded to the nearest integer.

Total Dissolved Gas Saturation (%) - Average of 12 Highest Hours, 24 h Average and 24 h High[2]

Total Dissolved Gas Saturation Data at Snake Sites

	Little Goose				Tlwtr L. Goose				Lower Mon.				Tlwtr L. Mon				Ice Harbor				Tlwtr Ice Harbor			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/14	101	102	105	24	116	130	143	24	103	104	105	24	102	102	103	24	104	105	107	19	107	108	111	19
8/15	100	100	101	24	113	124	142	24	103	103	104	24	102	102	103	24	---	---	---	0	---	---	---	0
8/16	100	100	100	24	101	101	102	24	102	102	102	24	101	102	102	24	---	---	---	0	---	---	---	0
8/17	100	100	100	24	100	101	101	24	101	101	103	20	101	101	102	19	101	101	102	24	105	107	109	24
8/18	100	100	100	24	100	100	100	23	101	101	102	24	101	102	102	24	100	100	101	23	108	109	111	24
8/19	100	100	101	24	100	100	100	24	101	101	102	9	---	---	---	0	100	100	101	24	109	110	111	24
8/20	100	100	101	17	100	100	101	17	102	103	105	17	---	---	---	0	100	100	100	17	109	110	111	17
8/21	100	100	101	24	100	100	101	24	101	102	103	24	100	101	101	24	100	100	101	24	108	110	112	24
8/22	101	101	102	24	100	101	101	20	101	101	104	24	100	101	101	24	100	100	100	16	107	108	108	16
8/23	101	101	102	24	100	100	100	22	100	100	101	24	100	100	101	24	---	---	---	0	---	---	---	0
8/24	102	105	107	24	99	100	100	19	99	99	99	10	99	99	99	10	---	---	---	0	---	---	---	0
8/25	103	104	105	24	100	100	101	24	101	102	103	24	100	101	102	24	101	102	110	24	107	108	109	24
8/26	100	100	101	24	99	100	100	24	99	100	100	24	100	100	101	24	100	100	101	24	107	107	108	24
8/27	101	101	103	24	99	100	100	24	99	100	101	24	99	100	101	24	100	101	103	24	107	107	108	24

Total Dissolved Gas Saturation Data at Lower Columbia Sites

	McNary-Oregon				McNary-Wash.				Tlwtr McNary				John Day				Tlwtr John Day				The Dalles			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/14	111	114	116	24	110	111	112	24	111	112	113	24	103	103	104	24	111	118	118	24	106	109	111	24
8/15	110	111	112	24	109	110	110	24	109	110	111	24	103	103	103	24	111	117	118	24	105	107	110	24
8/16	108	109	110	24	106	107	108	24	107	108	108	24	102	102	102	23	111	117	118	24	103	104	107	23
8/17	108	109	110	24	105	105	106	24	106	106	106	24	101	101	102	23	111	117	118	24	104	106	106	23
8/18	---	---	---	0	106	106	107	24	108	111	120	24	101	101	101	23	110	116	118	23	104	106	108	23
8/19	---	---	---	0	107	109	112	23	105	106	106	23	101	102	103	23	111	118	119	24	105	107	108	23
8/20	---	---	---	0	106	107	108	17	105	105	106	17	100	101	102	15	110	111	119	13	108	109	112	15
8/21	111	111	115	9	106	106	108	24	105	105	106	24	99	100	100	24	109	116	118	24	105	108	112	24
8/22	109	111	114	24	108	108	112	24	106	107	107	24	99	99	100	24	109	117	118	24	103	105	107	24
8/23	108	109	115	24	107	108	112	24	106	106	108	24	99	99	100	23	109	116	118	24	104	107	108	23
8/24	108	110	113	24	106	107	109	24	105	106	106	24	100	101	103	23	110	118	120	24	103	105	106	23
8/25	109	112	113	24	108	110	120	24	106	106	109	24	101	101	102	23	109	115	118	24	107	110	113	23
8/26	109	111	112	24	105	106	108	24	103	104	104	24	100	100	101	23	107	114	115	24	105	108	109	23
8/27	108	112	113	24	107	108	110	24	103	103	104	24	100	100	100	23	107	113	115	24	104	105	106	23

Total Dissolved Gas Saturation Data at Lower Columbia Sites

	Dnstr T. Dalles				Bonneville				Warrendale				Skamania				Camas\Wash.				Wauna Mill			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
8/14	116	118	119	24	111	111	111	24	114	114	115	24	116	117	119	24	112	114	115	24	104	105	105	24
8/15	112	115	118	24	107	108	109	23	113	114	115	24	116	118	121	24	111	113	114	24	104	104	105	24
8/16	112	113	114	24	105	106	107	23	112	113	115	23	117	119	121	23	111	113	115	24	103	104	105	24
8/17	111	112	114	24	105	105	106	23	112	114	115	23	118	119	121	23	113	114	116	24	103	104	105	24
8/18	112	114	114	24	104	104	105	23	112	114	114	23	118	119	121	23	112	114	115	24	103	104	104	24
8/19	112	114	115	24	105	105	106	23	114	115	116	23	119	120	121	23	113	115	117	24	104	105	106	24
8/20	115	116	117	16	105	105	107	15	114	115	116	15	119	120	122	15	113	114	116	16	104	104	105	16
8/21	113	116	118	24	107	108	108	23	113	114	116	22	118	120	121	24	113	115	116	24	104	106	107	24
8/22	113	114	115	24	105	106	106	24	113	115	116	24	118	120	121	24	114	115	117	24	106	107	107	24
8/23	111	114	116	24	105	106	106	22	113	114	115	23	118	119	121	23	112	113	114	24	106	106	107	24
8/24	113	114	115	24	104	105	106	23	113	114	115	23	118	119	121	23	114	116	117	24	106	106	107	24
8/25	113	116	118	24	107	107	108	23	112	113	113	21	117	117	118	23	112	113	115	24	105	106	106	24
8/26	113	115	116	24	105	106	106	23	113	114	114	23	117	118	119	23	112	113	114	24	104	105	105	24
8/27	112	114	116	24	105	106	106	23	113	113	114	23	117	117	118	23	113	114	114	24	105	106	106	24

[1] Data provided by the Corps of Engineers.
[2] Dissolved gas readings and averages have been rounded to the nearest integer.

Two-Week Summary of Passage Indices

Yearling Chinook

	Hatchery							Hatchery/Wild Combined			
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
08/14/98	---	---	---	---	8	21	1	0	0	0	0
08/15/98	---	---	---	---	24	14	1	0	0	0	0
08/16/98	---	---	---	---	24	7	0	0	0	0	0
08/17/98	---	---	---	---	12	9	1	1	0	0	0
08/18/98	---	---	---	---	4	5	0	0	0	0	0
08/19/98	---	---	---	---	4	6	0	0	0	0	0
08/20/98	---	---	---	---	0	3	0	0	0	0	0
08/21/98	---	---	---	---	12	6	0	0	0	0	0
08/22/98	---	---	---	---	7	5	0	0	0	0	0
08/23/98	---	---	---	---	9	9	0	0	0	0	0
08/24/98	---	---	---	---	6	5	0	0	10	0	0
08/25/98	---	---	---	---	6	3	1	0	0	0	0
08/26/98	---	---	---	---	13	5	2	0	6	8	0
08/27/98	---	---	---	---	8	0	0	0	0	0	0
Total:	0	0	0	0	137	98	6	1	16	8	0
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	10	7	0	0	1	1	0

Wild Yearling Chinook

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
08/14/98	---	---	---	---	8	7	0
08/15/98	---	---	---	---	24	3	2
08/16/98	---	---	---	---	16	5	1
08/17/98	---	---	---	---	0	4	1
08/18/98	---	---	---	---	20	1	1
08/19/98	---	---	---	---	4	1	1
08/20/98	---	---	---	---	0	0	0
08/21/98	---	---	---	---	0	0	2
08/22/98	---	---	---	---	0	3	0
08/23/98	---	---	---	---	1	3	0
08/24/98	---	---	---	---	5	1	1
08/25/98	---	---	---	---	8	1	1
08/26/98	---	---	---	---	0	4	0
08/27/98	---	---	---	---	1	0	2
Total:	0	0	0	0	87	33	12
# Days:	0	0	0	0	14	14	14
Average:	0	0	0	0	6	2	1

Wild Subyearling Chinook

LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
512	544	108
616	627	175
620	361	114
472	314	87
448	233	27
396	92	33
372	79	35
292	85	46
175	122	67
134	111	42
161	77	20
130	52	32
138	50	26
164	53	29
4,630	2,800	841
14	14	14
331	200	60

The data presented in the following passage index section is preliminary and has been derived from various sources. For verification and/or origin of data, contact the operators of the Fish Passage Data System at (503) 230-4099.

Smolt indices, wild & hatchery or combined, are presented in the following order: yearling chinook (chinook 1's), subyearling chinook (chinook 0's), steelhead, coho, and sockeye. Two classes of fish counts are shown in these tables: collection counts, which account for sample rates but are not adjusted for flow; and passage indices, which are collection counts divided by the proportion of water passing through the sampling system. Collection counts may be constrained due to sampling effort or river flow. Passage indices are not population estimates, but are used to adjust collection counts for daily fluctuations in the site's or project's operations. The classes of counts presented in the report are defined below for each site. Most samples occur over a 24 hour period that spans two calendar days. In this report, the date shown corresponds with the sample end date.

Two-Week Summary of Passage Indices

	Hatchery Subyearling Chinook							Combined Subyearling Chinook			
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
08/14/98	---	---	---	---	0	0	3	68	20,379	10,915	1,771
08/15/98	---	---	---	---	0	0	1	44	15,194	5,507	1,840
08/16/98	---	---	---	---	0	0	2	27	10,821	4,838	664
08/17/98	---	---	---	---	0	0	2	16	14,220	2,535	860
08/18/98	---	---	---	---	0	1	0	28	11,340	1,373	638
08/19/98	---	---	---	---	0	0	0	26	17,971	1,351	435
08/20/98	---	---	---	---	0	0	2	10	10,060	1,767	959
08/21/98	---	---	---	---	0	0	1	14	6,523	1,404	469
08/22/98	---	---	---	---	0	0	0	16	6,050	1,708	815
08/23/98	---	---	---	---	0	0	2	10	5,540	1,064	597
08/24/98	---	---	---	---	0	0	0	8	3,910	1,179	635
08/25/98	---	---	---	---	0	0	1	9	6,570	1,193	307
08/26/98	---	---	---	---	0	0	3	11	4,848	595	235
08/27/98	---	---	---	---	0	0	2	7	2,440	627	116
Total:	0	0	0	0	0	1	19	294	135,866	36,056	10,341
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	0	0	1	21	9,705	2,575	739

All Coho

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
08/14/98	---	---	---	---	8	8	1	0	0	0	0
08/15/98	---	---	---	---	0	9	5	0	0	0	0
08/16/98	---	---	---	---	0	7	0	0	0	0	0
08/17/98	---	---	---	---	0	1	2	1	0	0	0
08/18/98	---	---	---	---	0	5	2	0	0	0	0
08/19/98	---	---	---	---	0	5	1	0	0	0	0
08/20/98	---	---	---	---	0	3	3	0	0	0	14
08/21/98	---	---	---	---	0	1	3	0	0	0	0
08/22/98	---	---	---	---	0	5	2	0	0	0	0
08/23/98	---	---	---	---	0	10	2	0	0	0	0
08/24/98	---	---	---	---	4	1	0	0	0	0	0
08/25/98	---	---	---	---	4	1	3	1	0	0	0
08/26/98	---	---	---	---	1	1	0	0	0	0	0
08/27/98	---	---	---	---	3	3	1	0	0	0	0
Total:	0	0	0	0	20	60	25	2	0	0	14
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	1	4	2	0	0	0	1

Definitions for Smolt Index Counts

WTB (Collection) = Salmon River Trap at Whitebird : Collection Counts IMN (Collection) = Imnaha River Trap : Collection Counts

GRN (Collection) = Grande Ronde River Trap : Collection Counts LEW (Collection) = Snake River Trap at Lewiston : Collection Counts

LGR (Index) = Lower Granite Dam Bypass Collection System : Passage Index Counts : Passage Index = (Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill) })

LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts : Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill) }

LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts : Passage Index = Collection Counts / { Powerhouse Flow / (Powerhouse Flow + Spill) }

Two-Week Summary of Passage Indices

Hatchery Steelhead

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
08/14/98	---	---	---	---	4	7	0	0	0	0	0
08/15/98	---	---	---	---	4	4	5	0	0	0	0
08/16/98	---	---	---	---	0	5	10	0	0	0	0
08/17/98	---	---	---	---	8	1	5	0	0	0	0
08/18/98	---	---	---	---	0	2	1	0	0	0	0
08/19/98	---	---	---	---	0	5	1	0	0	0	0
08/20/98	---	---	---	---	0	3	1	0	0	0	0
08/21/98	---	---	---	---	4	2	0	0	0	0	0
08/22/98	---	---	---	---	1	2	2	0	10	0	0
08/23/98	---	---	---	---	1	1	1	0	0	0	0
08/24/98	---	---	---	---	2	1	0	0	0	0	0
08/25/98	---	---	---	---	1	1	1	0	0	0	0
08/26/98	---	---	---	---	0	1	2	0	0	0	0
08/27/98	---	---	---	---	1	1	3	0	0	0	0
Total:	0	0	0	0	26	36	32	0	10	0	0
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	2	3	2	0	1	0	0

Wild Steelhead

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
08/14/98	---	---	---	---	4	1	1	0	0	0	0
08/15/98	---	---	---	---	0	0	7	0	0	0	0
08/16/98	---	---	---	---	4	1	1	0	0	0	0
08/17/98	---	---	---	---	0	1	6	1	0	0	0
08/18/98	---	---	---	---	0	2	1	2	0	0	0
08/19/98	---	---	---	---	4	0	2	0	0	0	0
08/20/98	---	---	---	---	0	0	1	0	0	0	0
08/21/98	---	---	---	---	0	0	0	0	0	0	0
08/22/98	---	---	---	---	0	1	0	0	0	0	0
08/23/98	---	---	---	---	0	0	0	0	0	0	0
08/24/98	---	---	---	---	0	2	0	0	0	0	0
08/25/98	---	---	---	---	1	0	0	0	0	0	0
08/26/98	---	---	---	---	0	0	1	0	0	0	0
08/27/98	---	---	---	---	1	0	0	0	0	0	0
Total:	0	0	0	0	14	8	20	3	0	0	0
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	1	1	1	0	0	0	0

Definitions for Smolt Index Counts.

RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts : Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouses 1 & 2 Flow + Spill) }

MCN (Index)= McNary Dam Bypass Collection System : Passage Index Counts : Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill) }

JDA (Index) = John Day Dam Bypass Collection System : Passage Index Counts : Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill) }

BO1 (Index)= Bonneville Dam First Powerhouse Bypass Trap : Passage Index Counts : Passage Index = Collection Counts / {Powerhouse 1 Flow / (Powerhouses 1 & 2 +Flow + Spill)}

Two-Week Summary of Passage Indices

Hatchery Sockeye

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
08/14/98	---	---	---	---	0	1	0	0	0	0	0
08/15/98	---	---	---	---	0	1	0	0	0	0	0
08/16/98	---	---	---	---	0	2	0	0	0	0	0
08/17/98	---	---	---	---	0	0	1	0	0	0	0
08/18/98	---	---	---	---	0	2	1	0	0	0	0
08/19/98	---	---	---	---	0	1	0	0	0	0	0
08/20/98	---	---	---	---	0	0	0	0	0	0	0
08/21/98	---	---	---	---	0	2	0	0	0	0	0
08/22/98	---	---	---	---	0	0	0	0	0	0	0
08/23/98	---	---	---	---	0	0	0	0	0	0	0
08/24/98	---	---	---	---	1	1	1	0	0	0	0
08/25/98	---	---	---	---	0	1	0	0	0	0	0
08/26/98	---	---	---	---	0	0	0	0	0	0	0
08/27/98	---	---	---	---	0	0	0	0	0	0	0
Total:	0	0	0	0	1	11	3	0	0	0	0
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	0	1	0	0	0	0	0

Wild Sockeye

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
08/14/98	---	---	---	---	0	0	0	0	46	0	0
08/15/98	---	---	---	---	0	0	0	0	20	0	0
08/16/98	---	---	---	---	0	0	0	0	0	0	0
08/17/98	---	---	---	---	0	2	0	0	0	0	0
08/18/98	---	---	---	---	0	0	0	0	0	0	15
08/19/98	---	---	---	---	0	0	0	0	24	0	0
08/20/98	---	---	---	---	0	1	0	0	0	0	0
08/21/98	---	---	---	---	0	0	0	0	0	0	0
08/22/98	---	---	---	---	0	1	1	0	0	0	0
08/23/98	---	---	---	---	1	0	0	0	0	0	0
08/24/98	---	---	---	---	0	1	0	0	0	0	0
08/25/98	---	---	---	---	0	0	0	0	12	0	0
08/26/98	---	---	---	---	0	0	0	0	6	0	0
08/27/98	---	---	---	---	0	0	0	0	10	0	0
Total:	0	0	0	0	1	5	1	0	118	0	15
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	0	0	0	0	8	0	1

LEW and WTB data collected for the FPC by Idaho Dept. of Fish and Game.
JDA and BO1 data collected for the FPC by National Marine Fisheries Service.
RIS data collected for the FPC by Chelan Co. PUD/Washington Dept. of Fish and Wildlife.
LGR, LMN, and MCN data collected for the FPC by Washington Dept. of Fish and Wildlife.

LGS and GRN data collected for the FPC by Oregon Dept. of Fish and Wildlife. IMN data collected for the FPC by the Nez Perce Tribe.

Cumulative Adult Passage at Mainstem Dams Through August 27, 1998

	Spring Chinook						Summer Chinook						Fall Chinook					
	1998		1997		10-Yr Avg.		1998		1997		10-Yr Avg.		1998		1997		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	38,253	762	114,000	963	71,826	2,812	21,433	2,674	27,939	1,926	21,772	2,906	28,319	1,472	27,334	1,594	33,706	2,522
TDA	25,330	503	69,365	375	44,144	1,889	15,475	1,565	20,201	1,255	18,063	2,140	9,278	627	9,778	589	28,156	4,857
JDA	22,495	418	62,253	327	34,393	1,541	16,907	1,557	20,508	1,261	15,790	1,851	4,210	349	5,375	623	15,886	2,981
MCN	19,456	335	57,832	404	33,819	1,722	16,223	1,413	20,934	1,417	16,965	1,827	2,272	325	3,830	410	10,454	1,618
IHR	12,420	131	41,398	75	18,178	714	5,485	299	9,196	122	4,618	417	158	25	172	26	290	100
LMN	10,627	126	38,479	146	17,565	767	4,319	301	9,153	100	4,391	442	65	16	116	12	192	31
LGS	10,218	104	37,874	108	n/a	n/a	4,345	341	9,372	65	n/a	n/a	47	10	96	5	n/a	n/a
LWG	9,881	106	33,855	81	15,110	655	4,440	325	10,709	127	4,392	430	43	11	76	6	97	12
PRD	4,147	37	6,780	8	10,704	173	13,951	612	13,107	509	13,949	581	866	167	1,397	164	3,072	444
RIS	3,270	54	6,153	52	8,534	192	11,689	1,127	10,960	614	11,712	998	298	133	354	163	1,799	677
RRH	789	53	1,856	10	2,066	52	6,817	332	5,614	694	4,258	397	259	25	220	132	808	293
WEL	6	4	942	29	1,204	50	2,829	924	2,569	152	2,716	280	0	0				

	Coho						Sockeye			Steelhead			
	1998		1997		10-Yr Avg.				10-Yr			10-Yr	Wild
	Adult	Jack	Adult	Jack	Adult	Jack	1998	1997	Avg.	1998	1997	Avg.	1998
BON	236	11	461	33	382	210	13,121	47,007	51,149	86,873	181,856	146,219	25,191
TDA	0	0	4	0	28	22	8,789	32,387	40,166	17,700	50,740	56,883	6,651
JDA	14	5	1	0	19	18	9,999	35,820	40,537	23,941	37,193	33,392	4,801
MCN	1	0	14	13	4	2	9,474	38,035	42,624	11,670	30,777	29,525	2,768
IHR	0	0	0	0	0	0	1	15	10	7,165	15,840	14,290	1,402
LMN	0	0	0	0	0	0	2	16	11	5,145	13,128	12,089	1,085
LGS	0	0	0	0	n/a	n/a	4	9	n/a	3,915	9,444	n/a	1,105
LWG	0	0	0	0	0	0	3	11	8	5,873	10,375	9,737	1,411
PRD	3	1	0	0	1	0	11,590	45,395	47,399	1,462	3,089	3,612	0
RIS	9	0	5	0	3	0	9,290	41,339	41,298	1,057	2,336	2,839	0
RRH	0	0	0	0	1	0	5,633	30,376	21,370	930	1,731	1,747	0
WEL	0	3	2	1	1	0	3,682	25,519	20,403	403	767	1,198	0

Historic counts (pre-1996) were obtained from CRITFC and compiled by the FPC.

1996, 1997, and 1998 counts were obtained from the Corps of Engineers.

1998 totals at LMN, RIS, and RRH are based on video counts accumulated through August 26.

1998 totals at LGS are based on video counts accumulated through August 25.

Adult count records at LGS have been maintained since 1993.

** - Through June 28, all (spring) chinook are being trapped and removed from the ladder at Wells prior to the counting window.

* - 1998 John Day Steelhead counts will be revised

NOTE: 1998 counts this week are through 8/26/98

NOTE: PRD, RIS, RRH, and WEL are not reporting Wild Steelhead numbers.

Transportation Summary Report

Two-Week Transportation Summary
from 08/14/98 to 08/27/98

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	362	4,492	40	20	2	4,916
Bypassed	0	23	6	0	0	29
Trucked	214	4,406	33	20	2	4,675
Barged	0	0	0	0	0	0
Total Transported	**214**	**4,406**	**33**	**20**	**2**	**4,675**
LITTLE GOOSE DAM						
Collected	131	2,777	44	60	16	3,028
Bypassed	0	0	3	0	0	3
Trucked	107	2,684	39	57	12	2,899
Barged	0	0	0	0	0	0
Total Transported	**107**	**2,684**	**39**	**57**	**12**	**2,899**
LOWER MONUMENTAL DAM						
Collected	18	860	52	25	4	959
Bypassed	0	0	42	0	0	42
Trucked	12	829	8	22	4	875
Barged	0	0	0	0	0	0
Total Transported	**12**	**829**	**8**	**22**	**4**	**875**
MCNARY DAM						
Collected	16	130,030	10	0	108	130,164
Bypassed	0	0	0	0	0	0
Trucked	12	129,124	9	0	108	129,253
Barged	0	0	0	0	0	0
Total Transported	**12**	**129,124**	**9**	**0**	**108**	**129,253**
PROJECT TOTALS						
Collected	527	138,159	146	105	130	139,067
Bypassed	0	23	51	0	0	74
Trucked	345	137,043	89	99	126	137,702
Barged	0	0	0	0	0	0
Total Transported	**345**	**137,043**	**89**	**99**	**126**	**137,702**

Transportation Summary Report

Cumulative Transportation Summary
through 08/27/98

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	1,603,965	73,169	5,085,554	155,420	49,622	6,967,730
Bypassed	108,383	459	125,481	1,426	0	235,749
Trucked	41,139	63,145	67,843	6,358	622	179,107
Barged	1,449,633	8,532	4,888,200	147,145	48,911	6,542,421
Total Transported	**1,490,772**	**71,677**	**4,956,043**	**153,503**	**49,533**	**6,721,528**
LITTLE GOOSE DAM						
Collected	899,967	51,185	1,505,147	51,177	17,708	2,525,184
Bypassed	0	0	3	0	0	3
Trucked	13,692	47,565	10,006	3,512	841	75,616
Barged	874,575	1,663	1,490,712	47,129	16,696	2,430,775
Total Transported	**888,267**	**49,228**	**1,500,718**	**50,641**	**17,537**	**2,506,391**
LOWER MONUMENTAL DAM						
Collected	492,731	22,309	949,245	29,609	14,888	1,508,782
Bypassed	4,290	1,133	12,659	1,031	639	19,752
Trucked	1,333	16,922	4,411	477	267	23,410
Barged	485,912	3,913	931,488	28,063	13,963	1,463,339
Total Transported	**487,245**	**20,835**	**935,899**	**28,540**	**14,230**	**1,486,749**
MCNARY DAM						
Collected	1,044,081	8,250,573	327,366	125,972	512,258	10,260,250
Bypassed	1,004,298	163,229	316,015	109,189	492,648	2,085,379
Trucked	7,047	286,229	4,897	4,978	4,282	307,433
Barged	28,873	7,624,549	6,038	11,552	13,065	7,684,077
Total Transported	**35,920**	**7,910,778**	**10,935**	**16,530**	**17,347**	**7,991,510**
PROJECT TOTALS						
Collected	4,040,744	8,397,236	7,867,312	362,178	594,476	21,261,946
Bypassed	1,116,971	164,821	454,158	111,646	493,287	2,340,883
Trucked	63,211	413,861	87,157	15,325	6,012	585,566
Barged	2,838,993	7,638,657	7,316,438	233,889	92,635	18,120,612
Total Transported	**2,902,204**	**8,052,518**	**7,403,595**	**249,214**	**98,647**	**18,706,178**