



*Fish Passage Center*

# Bi-Weekly Report #98-27

October 09, 1998

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**SUMMARY OF EVENTS:**

**Water Supply:** For the month of September precipitation was 55 percent of normal (1961-1990) for the Columbia above Grand Coulee, 144 percent of normal for the Snake River above Ice Harbor, and 82 percent for the Columbia above The Dalles. Reported precipitation for the 1997-1998 Water Year was 95 percent of normal for the Columbia above Grand Coulee, 115 percent of normal for the Snake above Ice Harbor, and 101 percent for the Columbia above The Dalles.

The mid range weather forecast for the region calls for transient upper level disturbances and temperatures that are slightly below normal for this time of year.

**System Storage:** The reservoirs continue drafting. A summary of actual elevations on October 8, 1998 is shown in the following table:

Reservoir	Actual Elev. [ft] 10/08/98	Max. Pool [ft]
Libby	2436.5	2459.0
Hungry Horse	3534.8	3560.0
Grand Coulee	1282.0	1290.0
Brownlee	2014.6*	2077.0
Dworshak	1518.9	1600.0

US reservoirs:

- Libby outflows were 8 kcfs and will continue at this level to the end of October. The project is being operated to meet the December 31 flood control elevation of 2411 feet.
- Hungry Horse is currently drafting and releasing slightly more than 2 kcfs per day to maintain the minimum required flows of 3.5 kcfs at Columbia Falls.
- Grand Coulee is operating at elevations around 1282 ft.

- Brownlee is drafting and has a current outflow of 16 kcfs. This outflow is expected to continue through the end of October. Projected elevation by the end of October is about 2,000 ft. Through November and December the outflow will be at a minimum of 9 kcfs. It is expected that the reservoir will be full by the beginning of December.
- Dworshak is operating at an outflow of 1.4 kcfs, which is slightly above minimum, for purposes of meeting the 110% gas criteria.

**System Streamflow:** The summary of average bi-weekly flows for run of the river projects during September 24 through October 8 is shown in the following Table:

Project	September 10-23	September 24-October 8
Priest Rapids	85.9 kcfs	73.6 kcfs
McNary	112.5 kcfs	99.2 kcfs
Lower Granite	29.4 kcfs	27.3 kcfs
Bonneville	121.3 kcfs	109.7 kcfs

**Smolt Monitoring:** Wild subyearling chinook collections at Lower Granite Dam have not decreased during this two-week reporting period, and have averaged 289 fish/day. Wild subyearling chinook collections have decreased during the course of this two-week period at Little Goose and Lower Monumental dams. Only seven wild subyearling chinook have been collected at Lower Monumental Dam during the last five days. At the same time collections of incidental "non-salmonid" species have been increasing. During the last three days of this two-week period, daily collections of crappie have exceeded 1,000 fish at

Lower Granite Dam, 3,000 fish at Little Goose Dam, and 1,500 fish at Lower Monumental Dam. At Lower Monumental Dam more than half the collected crappie have been dead in the sample tank. Other common incidental species in the collections at these sites include bluegill/pumpkinseed, suckers, channel catfish, and peamouth. In the lower Columbia River, juvenile shad have dominated the samples at McNary, John Day, and Bonneville dams during this two-week period. Whereas, sample rates are currently 100% at the Snake River dams, they are 16.7 through 25% at the lower Columbia River dams. Estimated daily collections of juvenile shad have averaged nearly 9,000 fish at McNary Dam, 5,000 fish at John Day Dam, and 150 fish in Powerhouse 1 at Bonneville Dam. During this time, estimated collections per day of subyearling chinook have averaged 70 fish at McNary Dam, 16 fish at John Day Dam, and 24 fish at Bonneville Dam. With no spill in the system, only Bonneville Dam has passage indices differing from collection numbers at this time. During this two-week period, about half of the flow at Bonneville Dam passed through Powerhouse 1 where the trap sampler is located.

**Adult Fish Passage:** At Bonneville Dam, adult fall chinook counts dropped from a high count of nearly 2,000 on September 25 to a low count of nearly 350 (end of report period) during the past two weeks (September 25-October 8). The season total through October 8 was 185,604, about 87.6% and nearly equal to the respective 1997 count and 10-year average. The daily counts of adult fall chinook (Upriver Bright Component) at The Dalles Dam ranged between 430 and 1,600 for the past two weeks, with the season total of 89,349 (less than ½ the Bonneville total) through the end of the report period. Adult fall chinook above McNary Dam totaled 57,593 through October 8; this total was 89.0% and 85.0% of the respective 1997 count and 10-year average. The adult fall chinook counts at Ice Harbor Dam ranged between 50 and 230 for the report period, with the cumulative count

through October 8 totaling 3,776. This total was 149.7% of the 1997 and 120.6% of the 10-year average. At Lower Granite Dam, 1,446 adult chinook (wild and hatchery fish) have been counted along with 1,233 jacks. The number of jack chinook counted into the Snake River should result in increased adult returns in a few years. At Priest Rapids Dam, daily counts have been in the 30 to 120 range for the past two weeks with the total being 8,867 for the season. The cumulative count is currently 81.3% and 86.6% of the respective 1997 total and 10-year average. The bulk of the fall chinook counted at McNary Dam are destined for the Hanford Reach (wild spawners) and Ringold and Priest Rapids hatcheries located in this same stretch of river below Priest Rapids Dam and above Richland, WA.

Steelhead passage at Bonneville Dam ranged from nearly 600 to 2,500 per day through the reporting period. The Bonneville count through October 8 was 180,760, approximately 74% and 78% of the 1997 count and 10-year average, respectively. Steelhead passage showed a steady decline through the report week. Of the steelhead counted at Bonneville Dam, about 96,000 have passed The Dalles Dam or about 53% of the Bonneville total. The wild steelhead count at Bonneville was 34,808 for the season, about 19.3% of the total steelhead run. One interesting count phenomena noted this season has been the large discrepancy between the steelhead count at The Dalles Dam (96,000) and John Day Dam located upstream of The Dalles Dam. John Day Dam has counted 30,000 more steelhead (126,000 total) than The Dalles Dam. Obviously there is something happening to the fish counts at one of these projects. This has been brought to the attention of the fish counting supervisor from WDFW and also the COE at the October O&M meeting.

The steelhead counts at Ice Harbor Dam were normally close to 2,000 fish per day for the two weeks, with the total count through October 8 at 49,990. This total was 68.5% and 65.1% of the respective 1997 count and the 10-year average. At Lower Granite Dam, about 30,000 steel-

head have been counted to date. The daily steelhead count at Priest Rapids Dam ranged between 15 and 120 for the two weeks, with the season total now 5,287. This total was approximately 64% and 62% of the respective 1997 count and 10-year average.

At Bonneville Dam, adult coho counts generally ranged between 450 and 1,500 fish per day with the season total of 37,736. The 1998 coho count was nearly double the 1997 count and 10-year average. These early returning coho appear to be exceeding expectations. Most coho passing Bonneville Dam normally return to Bonneville pool tributaries and hatcheries with a smaller portion destined for the Yakima River, the Umatilla River, a smaller number for the Clearwater River, and possibly a few destined for the Methow River. Approximately 4,500 adult coho have passed The Dalles Dam to date with 3,700 above John Day Dam and 1,700 above McNary Dam. Only a handful has been counted into the Snake River this year.

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
09/25/98	69.4	0.1	73.2	0.0	75.1	0.0	79.9	0.0	77.8	0.0	75.3	1.9	79.2	1.7
09/26/98	51.8	0.1	53.6	0.0	56.2	0.0	62.6	0.0	62.5	0.0	60.8	2.0	64.5	1.8
09/27/98	62.0	0.1	62.4	0.0	59.4	0.0	59.5	0.0	57.1	0.0	55.0	2.0	56.4	1.7
09/28/98	88.0	0.1	88.7	0.0	88.7	0.0	91.8	0.0	89.7	0.0	88.7	2.0	92.7	1.8
09/29/98	71.4	0.1	73.5	0.0	74.5	0.0	77.7	0.0	77.6	0.0	79.8	1.5	83.5	1.7
09/30/98	64.7	0.1	65.2	0.0	65.6	0.0	66.9	0.0	66.1	0.0	67.2	2.0	73.0	1.7
10/01/98	73.3	0.0	75.0	0.0	76.4	0.0	77.2	0.0	74.6	0.0	69.4	2.6	70.6	1.0
10/02/98	54.4	0.0	57.1	0.0	60.5	0.0	64.3	0.0	62.9	0.0	67.6	4.8	73.8	1.6
10/03/98	56.3	0.0	59.4	0.0	57.7	0.0	58.4	0.0	57.6	0.0	58.1	3.6	59.2	1.6
10/04/98	55.1	0.0	51.8	0.0	54.2	0.0	57.2	0.0	54.7	0.0	53.2	3.6	56.9	1.7
10/05/98	73.4	0.0	76.0	0.0	79.4	0.0	83.8	0.0	82.9	0.0	82.5	5.7	88.3	1.7
10/06/98	73.0	0.0	74.1	0.0	74.5	0.0	77.0	0.0	76.5	0.0	76.8	6.3	81.6	1.6
10/07/98	62.3	0.0	67.3	0.0	68.6	0.0	71.0	0.0	68.1	0.0	67.1	6.0	74.0	1.7
10/08/98	73.1	0.0	73.8	0.0	74.1	0.0	76.5	0.0	74.7	0.0	71.1	8.2	75.9	1.7

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

Date	Dworshak		Brownlee		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
09/25/98	1.3	0.0	---	---	28.3	0.0	27.7	0.0	26.5	0.0	24.1	0.0
09/26/98	1.3	0.0	---	---	27.4	0.0	27.0	0.0	30.5	0.0	32.1	0.0
09/27/98	1.4	0.0	---	---	24.4	0.0	24.7	0.0	26.5	0.0	26.4	0.0
09/28/98	1.4	0.0	---	---	24.0	0.0	23.6	0.0	22.4	0.0	19.9	0.0
09/29/98	1.4	0.0	---	---	28.6	0.0	26.4	0.0	28.7	0.0	29.3	0.0
09/30/98	1.4	0.0	---	---	26.7	0.0	29.0	0.0	31.3	0.0	30.2	0.0
10/01/98	1.4	0.0	---	---	27.2	0.0	27.9	0.0	29.0	0.0	29.4	0.0
10/02/98	1.4	0.0	---	---	28.1	0.0	25.2	0.0	25.5	0.0	25.3	0.0
10/03/98	1.4	0.0	---	---	28.6	0.0	28.1	0.0	29.7	0.0	28.9	0.0
10/04/98	1.4	0.0	---	---	27.9	0.0	27.3	0.0	26.7	0.0	24.9	0.0
10/05/98	1.4	0.0	---	---	30.4	0.0	32.0	0.0	34.0	0.0	35.2	0.0
10/06/98	1.4	0.0	---	---	27.7	0.0	28.2	0.0	29.1	0.0	29.2	0.0
10/07/98	1.4	0.0	---	---	28.3	0.0	28.2	0.0	32.2	0.0	32.2	0.0
10/08/98	1.5	0.0	---	---	28.0	0.0	27.9	0.0	27.3	0.0	26.1	0.0

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
09/25/98	104.1	0.0	94.2	1.1	91.3	0.0	96.4	0.0	28.9	58.3
09/26/98	101.4	0.0	109.7	1.0	118.1	0.0	124.6	0.0	62.2	53.2
09/27/98	88.3	0.0	106.9	1.1	106.9	0.0	112.7	0.0	58.5	45.0
09/28/98	89.9	0.0	91.9	1.0	93.2	0.0	92.2	0.0	41.9	41.1
09/29/98	117.9	0.0	109.8	1.0	107.8	0.0	111.5	0.0	56.1	46.2
09/30/98	108.0	0.0	119.3	1.0	119.5	0.0	126.6	0.0	65.6	51.8
10/01/98	94.7	0.0	91.8	1.0	94.9	0.0	105.4	0.0	50.7	45.6
10/02/98	102.7	0.0	110.2	1.0	109.9	0.0	119.8	0.0	61.8	49.0
10/03/98	95.5	0.0	95.4	1.0	98.2	0.0	101.7	0.0	52.9	39.8
10/04/98	84.5	0.0	83.3	1.1	85.5	0.0	99.3	0.0	55.6	34.7
10/05/98	91.3	0.0	102.0	1.0	105.6	0.0	114.6	0.0	54.3	51.3
10/06/98	115.5	0.0	114.0	1.1	116.9	0.0	117.8	0.0	53.7	55.1
10/07/98	108.5	0.0	115.0	1.0	115.9	0.0	123.9	0.0	56.3	58.7
10/08/98	97.5	0.0	94.8	1.0	91.2	0.0	103.0	0.0	52.6	41.5

## Total Dissolved Gas Saturation (%) - Average of 12 Highest Hours, 24 h Average and 24 h High<sup>2</sup>

Total Dissolved Gas Saturation Data at Upper Columbia Sites

Date	Can. Boundary			Grand Coulee			Tlwtr G. Coulee			Chief Joseph			Wells			Rocky Reach								
	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#				
9/25	110	111	114	24	108	108	109	24	108	108	111	24	107	107	107	23	---	---	---	0	97	98	99	21
9/26	107	107	108	20	107	107	108	20	107	108	110	19	106	106	106	23	---	---	---	0	96	96	97	12
9/27	106	106	107	14	105	106	106	14	107	107	109	14	105	106	106	23	---	---	---	0	96	97	98	20
9/28	109	110	111	24	106	106	106	24	106	106	107	16	105	106	106	23	---	---	---	0	96	97	97	22
9/29	112	113	114	24	104	104	104	24	106	106	108	15	105	106	106	24	---	---	---	0	97	97	99	22
9/30	111	112	114	23	105	105	106	23	107	107	108	15	106	107	107	23	---	---	---	0	97	98	101	22
10/1	109	110	113	24	107	107	108	24	107	107	108	11	107	108	108	24	---	---	---	0	---	---	---	0
10/2	105	106	110	20	105	105	106	24	106	107	109	24	106	106	107	24	---	---	---	0	---	---	---	0
10/3	104	104	105	24	105	106	106	20	106	107	109	20	105	105	105	23	---	---	---	0	---	---	---	0
10/4	102	103	104	24	104	104	105	24	105	106	108	24	104	104	104	23	---	---	---	0	---	---	---	0
10/5	102	102	103	24	104	104	104	24	104	105	106	24	104	104	104	23	---	---	---	0	---	---	---	0
10/6	103	103	103	24	104	104	104	24	105	106	106	24	103	104	104	23	---	---	---	0	---	---	---	0
10/7	103	103	104	24	104	104	105	24	106	106	108	24	105	105	105	23	---	---	---	0	---	---	---	0
10/8	103	103	103	24	104	104	104	24	105	106	107	24	105	105	105	23	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation Data at Mid Columbia Sites

Date	Tlwtr. Rocky R.			Rock Island			Tlwtr. Rock Island			Wanapum			Tlwtr Wanapum			Priest Rapids								
	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#				
9/25	---	---	---	0	100	101	102	23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
9/26	---	---	---	0	98	98	100	22	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
9/27	---	---	---	0	97	98	98	22	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
9/28	---	---	---	0	99	99	100	23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
9/29	---	---	---	0	99	100	101	23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
9/30	---	---	---	0	100	100	101	23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/1	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/3	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/4	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/5	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/6	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/7	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0

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

Date	Dwnstr P Rapids			Dworshak			Clearwater			Snake-Lewiston			Lower Granite			Tlwtr L. Granite								
	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#	24 h Avg	12 h Avg	High	#				
9/25	---	---	---	0	107	108	109	24	---	---	---	0	---	---	---	0	97	97	98	24	---	---	---	0
9/26	---	---	---	0	107	107	108	13	---	---	---	0	---	---	---	0	96	96	97	24	96	96	97	19
9/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	97	97	98	24	96	96	97	17
9/28	---	---	---	0	107	107	109	24	---	---	---	0	---	---	---	0	98	99	101	24	97	98	99	17
9/29	---	---	---	0	106	107	108	24	---	---	---	0	---	---	---	0	98	99	99	24	97	97	98	24
9/30	---	---	---	0	106	107	109	24	---	---	---	0	---	---	---	0	99	100	101	24	97	98	98	17
10/1	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	99	100	101	24	98	98	98	8
10/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	98	98	98	24	---	---	---	0
10/3	---	---	---	0	106	107	108	24	---	---	---	0	---	---	---	0	97	97	98	24	---	---	---	0
10/4	---	---	---	0	106	106	107	24	---	---	---	0	---	---	---	0	97	97	98	24	---	---	---	0
10/5	---	---	---	0	105	107	109	24	---	---	---	0	---	---	---	0	97	97	98	24	---	---	---	0
10/6	---	---	---	0	105	105	107	11	---	---	---	0	---	---	---	0	98	99	99	24	---	---	---	0
10/7	---	---	---	0	107	109	110	24	---	---	---	0	---	---	---	0	99	99	100	24	---	---	---	0
10/8	---	---	---	0	107	109	111	24	---	---	---	0	---	---	---	0	98	98	98	24	---	---	---	0

<sup>1</sup> Data provided by the Corps of Engineers.

<sup>2</sup> 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<sup>2</sup>

### Total Dissolved Gas Saturation Data at Snake Sites

Date	<u>Little Goose</u>			<u>Tlwtr L. Goose</u>			<u>Lower Mon.</u>			<u>Tlwtr L. Mon</u>			<u>Ice Harbor</u>			<u>Tlwtr Ice Harbor</u>								
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>						
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High						
9/25	96	96	96	24	---	---	---	0	97	97	97	24	96	96	97	24	97	97	97	24	97	97	97	24
9/26	95	95	96	10	---	---	---	0	95	96	96	24	95	95	96	10	96	96	96	24	96	96	96	24
9/27	95	95	95	6	---	---	---	0	95	95	95	17	95	95	96	7	95	95	96	16	96	96	96	16
9/28	96	96	97	13	---	---	---	0	95	95	95	20	96	96	96	8	96	96	96	23	97	98	98	24
9/29	95	95	96	20	---	---	---	0	95	95	95	13	95	96	96	16	96	96	97	24	96	97	97	24
9/30	95	95	95	5	---	---	---	0	95	95	96	16	96	96	96	14	96	96	97	16	96	96	97	17
10/1	96	96	96	19	---	---	---	0	96	96	96	24	96	97	97	24	97	97	98	24	97	98	98	24
10/2	95	95	96	18	---	---	---	0	95	96	96	24	96	97	97	24	96	97	97	24	97	97	98	24
10/3	95	95	95	11	---	---	---	0	95	95	95	1	96	96	97	24	96	97	97	24	96	97	98	24
10/4	95	95	95	4	---	---	---	0	---	---	---	0	95	95	96	9	95	96	96	20	96	97	97	24
10/5	---	---	---	0	---	---	---	0	---	---	---	0	95	95	95	1	95	95	95	1	96	96	96	1
10/6	97	97	98	11	---	---	---	0	---	---	---	0	96	96	97	14	96	97	97	24	96	97	97	24
10/7	96	96	97	24	---	---	---	0	95	95	95	1	96	97	97	24	97	98	99	21	97	97	98	21
10/8	96	96	96	24	---	---	---	0	---	---	---	0	96	96	96	22	97	97	98	23	97	98	98	23

### Total Dissolved Gas Saturation Data at Lower Columbia Sites

Date	<u>McNary-Oregon</u>			<u>McNary-Wash.</u>			<u>Tlwtr McNary</u>			<u>John Day</u>			<u>Tlwtr John Day</u>			<u>The Dalles</u>								
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>						
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High						
9/25	---	---	---	0	---	---	---	0	101	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
9/26	100	101	102	24	---	---	---	0	99	99	99	24	---	---	---	0	---	---	---	0	---	---	---	0
9/27	100	101	103	24	---	---	---	0	99	99	100	24	---	---	---	0	---	---	---	0	---	---	---	0
9/28	100	101	102	24	---	---	---	0	99	99	100	24	---	---	---	0	---	---	---	0	---	---	---	0
9/29	101	103	104	23	---	---	---	0	100	101	103	23	---	---	---	0	---	---	---	0	---	---	---	0
9/30	102	103	107	24	103	104	106	24	100	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0
10/1	102	104	106	24	104	105	105	24	100	101	102	24	---	---	---	0	---	---	---	0	---	---	---	0
10/2	101	101	103	24	101	101	102	24	100	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0
10/3	100	100	101	24	100	100	100	24	100	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0
10/4	99	100	101	24	99	99	100	24	99	99	100	24	---	---	---	0	---	---	---	0	---	---	---	0
10/5	99	100	101	24	99	99	99	24	98	99	99	24	---	---	---	0	---	---	---	0	---	---	---	0
10/6	98	99	100	24	99	100	101	24	98	99	99	24	---	---	---	0	---	---	---	0	---	---	---	0
10/7	99	100	102	22	100	100	101	22	99	100	100	22	---	---	---	0	---	---	---	0	---	---	---	0
10/8	98	98	99	24	100	101	101	24	99	100	100	24	---	---	---	0	---	---	---	0	---	---	---	0

### Total Dissolved Gas Saturation Data at Lower Columbia Sites

Date	<u>Dnstr T. Dalles</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>Skamania</u>			<u>Camas/Wash.</u>			<u>Wauna Mill</u>								
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>						
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High						
9/25	---	---	---	0	98	98	99	23	100	100	100	23	---	---	---	0	---	---	---	0	---	---	---	0
9/26	---	---	---	0	97	97	97	23	99	99	100	23	---	---	---	0	---	---	---	0	---	---	---	0
9/27	---	---	---	0	98	98	98	19	99	99	100	19	---	---	---	0	---	---	---	0	---	---	---	0
9/28	---	---	---	0	98	98	98	23	100	100	101	23	---	---	---	0	---	---	---	0	---	---	---	0
9/29	---	---	---	0	98	98	98	24	100	100	100	24	---	---	---	0	---	---	---	0	---	---	---	0
9/30	---	---	---	0	98	99	99	23	100	100	100	23	---	---	---	0	---	---	---	0	---	---	---	0
10/1	---	---	---	0	99	99	99	24	99	100	100	24	---	---	---	0	---	---	---	0	---	---	---	0
10/2	---	---	---	0	98	98	98	24	98	98	98	24	---	---	---	0	---	---	---	0	---	---	---	0
10/3	---	---	---	0	97	98	98	23	98	98	98	23	---	---	---	0	---	---	---	0	---	---	---	0
10/4	---	---	---	0	96	97	97	23	97	97	98	23	---	---	---	0	---	---	---	0	---	---	---	0
10/5	---	---	---	0	96	97	97	23	97	97	98	23	---	---	---	0	---	---	---	0	---	---	---	0
10/6	---	---	---	0	98	98	99	23	98	98	99	23	---	---	---	0	---	---	---	0	---	---	---	0
10/7	---	---	---	0	98	98	99	23	99	99	99	23	---	---	---	0	---	---	---	0	---	---	---	0
10/8	---	---	---	0	98	98	98	23	98	98	99	23	---	---	---	0	---	---	---	0	---	---	---	0

<sup>1</sup> Data provided by the Corps of Engineers.

<sup>2</sup> Dissolved gas readings and averages have been rounded to the nearest integer.

# Two-Week Summary of Passage Indices

Date	Yearling Chinook							Hatchery/Wild Combined			
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
09/25/98	---	---	---	---	5	4	0	---	0	0	0
09/26/98	---	---	---	---	3	1	0	---	0	0	0
09/27/98	---	---	---	---	4	0	0	---	0	4	0
09/28/98	---	---	---	---	7	1	0	---	0	0	0
09/29/98	---	---	---	---	1	4	1	---	0	0	0
09/30/98	---	---	---	---	6	6	0	---	0	4	0
10/01/98	---	---	---	---	2	3	0	---	0	0	0
10/02/98	---	---	---	---	4	5	0	---	0	4	0
10/03/98	---	---	---	---	4	4	1	---	0	0	0
10/04/98	---	---	---	---	3	0	1	---	0	0	0
10/05/98	---	---	---	---	4	0	0	---	0	0	0
10/06/98	---	---	---	---	6	0	0	---	0	0	0
10/07/98	---	---	---	---	25	2	0	---	0	0	0
10/08/98	---	---	---	---	14	0	0	---	0	0	0
<b>Total:</b>	0	0	0	0	88	30	3	0	0	12	0
<b># Days:</b>	0	0	0	0	14	14	14	0	14	14	14
<b>Average:</b>	0	0	0	0	6	2	0	0	0	1	0

Date	Wild Yearling Chinook							Wild Subyearling Chinook		
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
09/25/98	---	---	---	---	0	0	0	355	24	5
09/26/98	---	---	---	---	0	0	1	343	15	10
09/27/98	---	---	---	---	1	2	0	208	55	7
09/28/98	---	---	---	---	0	0	0	222	11	7
09/29/98	---	---	---	---	0	1	0	295	56	3
09/30/98	---	---	---	---	0	1	0	314	39	3
10/01/98	---	---	---	---	1	4	0	295	33	8
10/02/98	---	---	---	---	2	1	0	321	22	6
10/03/98	---	---	---	---	0	1	0	332	11	6
10/04/98	---	---	---	---	0	0	1	237	4	2
10/05/98	---	---	---	---	0	0	0	177	7	0
10/06/98	---	---	---	---	2	0	1	225	4	2
10/07/98	---	---	---	---	2	1	0	432	10	2
10/08/98	---	---	---	---	0	1	0	288	20	1
<b>Total:</b>	0	0	0	0	8	12	3	4,044	311	62
<b># Days:</b>	0	0	0	0	14	14	14	14	14	14
<b>Average:</b>	0	0	0	0	1	1	0	289	22	4

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

Date	Hatchery Subyearling Chinook							Combined Subyearling Chinook			
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
09/25/98	---	---	---	---	0	0	0	---	114	45	24
09/26/98	---	---	---	---	0	0	4	---	174	32	74
09/27/98	---	---	---	---	0	0	0	---	132	16	28
09/28/98	---	---	---	---	0	0	0	---	84	16	71
09/29/98	---	---	---	---	0	0	0	---	88	12	29
09/30/98	---	---	---	---	0	0	1	---	56	4	29
10/01/98	---	---	---	---	0	0	0	---	96	44	38
10/02/98	---	---	---	---	0	0	0	---	54	12	108
10/03/98	---	---	---	---	0	0	1	---	42	4	56
10/04/98	---	---	---	---	0	0	0	---	24	4	19
10/05/98	---	---	---	---	0	0	0	---	18	4	23
10/06/98	---	---	---	---	0	0	0	---	24	0	49
10/07/98	---	---	---	---	0	0	0	---	18	4	41
10/08/98	---	---	---	---	0	0	0	---	60	24	43
<b>Total:</b>	0	0	0	0	0	0	6	0	984	221	632
<b># Days:</b>	0	0	0	0	14	14	14	0	14	14	14
<b>Average:</b>	0	0	0	0	0	0	0	0	70	16	45

Date	All Coho										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
09/25/98	---	---	---	---	0	2	1	---	0	0	0
09/26/98	---	---	---	---	2	2	1	---	0	0	7
09/27/98	---	---	---	---	0	1	0	---	0	0	0
09/28/98	---	---	---	---	4	1	1	---	0	0	0
09/29/98	---	---	---	---	3	2	0	---	0	0	0
09/30/98	---	---	---	---	1	2	0	---	0	0	0
10/01/98	---	---	---	---	1	0	0	---	0	0	0
10/02/98	---	---	---	---	2	0	0	---	0	0	7
10/03/98	---	---	---	---	1	1	0	---	0	0	7
10/04/98	---	---	---	---	0	1	0	---	0	0	13
10/05/98	---	---	---	---	1	0	0	---	0	0	0
10/06/98	---	---	---	---	0	0	0	---	0	0	0
10/07/98	---	---	---	---	9	0	0	---	0	0	0
10/08/98	---	---	---	---	3	0	0	---	0	0	0
<b>Total:</b>	0	0	0	0	27	12	3	0	0	0	34
<b># Days:</b>	0	0	0	0	14	14	14	0	14	14	14
<b>Average:</b>	0	0	0	0	2	1	0	0	0	0	2

**Definitions for Smolt Index Counts**

WTB (Collection) = Salmon River Trap at Whitebird : Collection Counts  
 GRN (Collection) = Grande Ronde River Trap : 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) }

IMN (Collection) = Imnaha River Trap : Collection Counts  
 LEW (Collection) = Snake River Trap at Lewiston : Collection Counts



# 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)
09/25/98	---	---	---	---	0	3	2	---	0	0	0
09/26/98	---	---	---	---	0	3	0	---	0	0	0
09/27/98	---	---	---	---	1	2	0	---	0	0	0
09/28/98	---	---	---	---	1	1	1	---	0	0	0
09/29/98	---	---	---	---	0	1	0	---	0	0	0
09/30/98	---	---	---	---	0	2	0	---	0	0	0
10/01/98	---	---	---	---	1	0	0	---	0	0	0
10/02/98	---	---	---	---	0	0	0	---	0	0	0
10/03/98	---	---	---	---	0	0	1	---	0	0	0
10/04/98	---	---	---	---	0	0	1	---	0	0	0
10/05/98	---	---	---	---	0	1	0	---	0	0	0
10/06/98	---	---	---	---	0	0	1	---	0	0	0
10/07/98	---	---	---	---	0	0	0	---	0	0	0
10/08/98	---	---	---	---	0	0	1	---	0	0	0
<b>Total:</b>	0	0	0	0	3	13	7	0	0	0	0
<b># Days:</b>	0	0	0	0	14	14	14	0	14	14	14
<b>Average:</b>	0	0	0	0	0	1	1	0	0	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)
09/25/98	---	---	---	---	0	0	0	---	0	0	0
09/26/98	---	---	---	---	1	0	1	---	0	0	0
09/27/98	---	---	---	---	1	1	0	---	0	0	0
09/28/98	---	---	---	---	1	1	1	---	0	0	0
09/29/98	---	---	---	---	2	0	0	---	0	0	0
09/30/98	---	---	---	---	1	0	0	---	0	0	0
10/01/98	---	---	---	---	3	0	0	---	0	0	0
10/02/98	---	---	---	---	3	0	0	---	0	0	0
10/03/98	---	---	---	---	3	0	1	---	0	0	0
10/04/98	---	---	---	---	2	0	0	---	0	0	0
10/05/98	---	---	---	---	0	0	0	---	0	0	0
10/06/98	---	---	---	---	1	0	0	---	0	0	0
10/07/98	---	---	---	---	1	0	1	---	0	0	0
10/08/98	---	---	---	---	3	1	0	---	0	0	0
<b>Total:</b>	0	0	0	0	22	3	4	0	0	0	0
<b># Days:</b>	0	0	0	0	14	14	14	0	14	14	14
<b>Average:</b>	0	0	0	0	2	0	0	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)
09/25/98	---	---	---	---	0	0	0	---	0	0	0
09/26/98	---	---	---	---	0	0	0	---	0	0	0
09/27/98	---	---	---	---	0	0	0	---	0	0	0
09/28/98	---	---	---	---	0	0	0	---	0	0	0
09/29/98	---	---	---	---	0	0	1	---	0	0	0
09/30/98	---	---	---	---	0	0	0	---	0	0	0
10/01/98	---	---	---	---	0	0	1	---	0	4	0
10/02/98	---	---	---	---	0	0	0	---	0	0	0
10/03/98	---	---	---	---	0	0	0	---	0	0	0
10/04/98	---	---	---	---	0	0	0	---	0	0	0
10/05/98	---	---	---	---	0	1	0	---	0	0	0
10/06/98	---	---	---	---	0	0	0	---	0	0	0
10/07/98	---	---	---	---	0	1	0	---	0	4	0
10/08/98	---	---	---	---	0	0	0	---	0	0	0
<b>Total:</b>	0	0	0	0	0	2	2	0	0	8	0
<b># Days:</b>	0	0	0	0	14	14	14	0	14	14	14
<b>Average:</b>	0	0	0	0	0	0	0	0	0	1	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)
09/25/98	---	---	---	---	0	0	0	---	0	0	0
09/26/98	---	---	---	---	0	0	0	---	0	0	0
09/27/98	---	---	---	---	0	0	0	---	0	0	0
09/28/98	---	---	---	---	0	0	0	---	0	0	0
09/29/98	---	---	---	---	0	0	0	---	0	0	0
09/30/98	---	---	---	---	0	0	0	---	0	0	0
10/01/98	---	---	---	---	0	0	0	---	0	0	0
10/02/98	---	---	---	---	0	0	0	---	0	0	0
10/03/98	---	---	---	---	0	0	0	---	0	0	0
10/04/98	---	---	---	---	0	0	0	---	0	0	0
10/05/98	---	---	---	---	0	0	0	---	0	0	0
10/06/98	---	---	---	---	0	0	0	---	0	0	0
10/07/98	---	---	---	---	2	0	0	---	0	4	0
10/08/98	---	---	---	---	0	0	0	---	0	0	0
<b>Total:</b>	0	0	0	0	2	0	0	0	0	4	0
<b># Days:</b>	0	0	0	0	14	14	14	0	14	14	14
<b>Average:</b>	0	0	0	0	0	0	0	0	0	0	0

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 October 08, 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	185,604	27,476	211,966	21,065	184,830	32,819
TDA	25,330	503	69,365	375	44,144	1,889	15,475	1,565	20,201	1,255	18,063	2,140	89,349	17,506	115,136	13,330	112,541	23,942
JDA	22,495	418	62,253	327	34,393	1,541	16,907	1,557	20,508	1,261	15,790	1,851	72,861	10,579	83,779	11,803	82,633	17,712
MCN	19,456	335	57,832	404	33,819	1,722	16,223	1,413	20,934	1,417	16,965	1,827	57,593	11,523	64,686	12,319	67,771	18,939
IHR	12,420	131	41,398	75	18,178	714	5,485	299	9,196	122	4,618	417	3,776	2,787	2,524	895	3,131	965
LMN	10,627	126	38,479	146	17,565	767	4,319	301	9,153	100	4,391	442	2,554	15,291	2,125	758	1,811	685
LGS	10,218	104	37,874	108	n/a	n/a	4,345	341	9,372	65	n/a	n/a	1,599	1,555	1,429	272	n/a	n/a
LWG	9,881	106	33,855	81	15,110	655	4,440	325	10,709	127	4,392	430	1,446	1,233	1,250	302	713	184
PRD	4,147	37	6,780	8	10,704	173	13,951	612	13,107	509	13,949	581	8,867	1,380	10,908	1,215	10,242	1,999
RIS	3,270	54	6,153	52	8,534	192	11,689	1,127	10,960	614	11,712	998	3,193	832	3,576	685	4,095	1,306
RRH	789	53	1,856	10	2,066	52	6,817	332	5,614	694	4,258	397	2,232	307	1,658	632	2,109	531
WEL	6	4	942	29	1,204	50	2,829	924	2,569	152	2,716	280	753	98	291	108	784	216

	Coho						Sockeye			Steelhead			
	1998		1997		10-Yr Avg.		1998	1997	10-Yr Avg.	1998	1997	10-Yr Avg.	Wild 1998
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	37,736	2,853	20,032	2,691	17,072	5,512	13,121	47,008	51,155	180,760	245,396	230,945	34,808
TDA	4,529	596	3,811	608	3,991	1,849	8,797	32,428	40,185	96,065	151,649	158,954	20,832
JDA	3,730	632	2,997	628	2,953	1,474	10,017	35,826	40,546	126,496	131,862	124,825	24,176
MCN	1,736	60	1,766	278	944	558	9,425	38,043	42,640	71,943	107,794	111,519	13,593
IHR	1	1	44	0	5	0	2	16	11	49,990	72,956	76,778	7,780
LMN	0	0	7	0	1	1	2	16	11	36,503	64,145	64,884	5,565
LGS	2	0	12	1	n/a	n/a	4	10	n/a	30,252	50,680	n/a	5,251
LWG	4	0	17	1	2	0	3	11	8	30,356	50,641	51,670	5,258
PRD	27	1	17	0	9	1	11,608	45,412	47,428	5,287	8,317	8,494	0
RIS	0	0	5	0	32	0	9,323	41,499	41,408	4,114	6,914	7,103	0
RRH	0	0	0	0	12	0	5,682	30,485	21,427	3,483	5,699	4,596	0
WEL	0	3	2	1	10	0	4,548	25,743	20,520	1,829	3,252	3,504	135

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 October 07.  
 1998 totals at LGS are based on video counts accumulated through October 06.  
 Adult count records at LGS have been maintained since 1993.  
 NOTE: Through June 28, all (spring) chinook are being trapped and removed from the ladder at Wells prior to the counting window.  
 NOTE: 1998 John Day Steelhead counts will be revised downwards.  
 NOTE: Fall Chinook Jack count at LMN based on FPC analysis is actually 1975.  
 NOTE: PRD, RIS, and RRH, are not reporting Wild Steelhead numbers.  
 NOTE: RIS 1998 Coho count revised from 9 to zero based on FPC communication with WDFW.

## Transportation Summary Report

### Two-Week Transportation Summary from 9/25 - 10/08/98

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
<b>LOWER GRANITE DAM</b>						
Collected	96	4,044	25	27	2	4,194
Bypassed	3	135	19	10	0	167
Trucked	86	3,347	0	13	1	3,447
Barged	0	0	0	0	0	0
<b>Total Transported</b>	<b>86</b>	<b>3,347</b>	<b>0</b>	<b>13</b>	<b>1</b>	<b>3,447</b>
<b>LITTLE GOOSE DAM</b>						
Collected	42	311	16	12	2	383
Bypassed	0	0	14	0	0	14
Trucked	39	261	0	11	2	313
Barged	0	0	0	0	0	0
<b>Total Transported</b>	<b>39</b>	<b>261</b>	<b>0</b>	<b>11</b>	<b>2</b>	<b>313</b>
<b>LOWER MONUMENTAL DAM</b>						
Collected	6	68	11	3	2	90
Bypassed	0	0	8	0	0	8
Trucked	5	59	0	3	2	69
Barged	0	0	0	0	0	0
<b>Total Transported</b>	<b>5</b>	<b>59</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>69</b>
<b>MCNARY DAM</b>						
Collected	0	984	0	0	0	984
Bypassed	0	0	0	0	0	0
Trucked	0	943	0	0	0	943
Barged	0	0	0	0	0	0
<b>Total Transported</b>	<b>0</b>	<b>943</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>943</b>
<b>PROJECT TOTALS</b>						
Collected	144	5,407	52	42	6	5,651
Bypassed	3	135	41	10	0	189
Trucked	130	4,610	0	27	5	4,772
Barged	0	0	0	0	0	0
<b>Total Transported</b>	<b>130</b>	<b>4,610</b>	<b>0</b>	<b>27</b>	<b>5</b>	<b>4,772</b>

## Transportation Summary Report

### Cumulative Transportation Summary through 10/08/98

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
<b>LOWER GRANITE DAM</b>						
Collected	1,604,114	80,864	5,085,605	155,508	49,630	6,975,721
Bypassed	108,386	1,003	125,523	1,454	0	236,366
Trucked	41,386	69,424	67,843	6,405	627	185,685
Barged	1,449,633	8,532	4,888,200	147,145	48,911	6,542,421
<b>Total Transported</b>	<b>1,491,019</b>	<b>77,956</b>	<b>4,956,043</b>	<b>153,550</b>	<b>49,538</b>	<b>6,728,106</b>
<b>LITTLE GOOSE DAM</b>						
Collected	900,063	52,738	1,505,207	51,271	17,728	2,527,007
Bypassed	0	0	58	0	0	58
Trucked	13,781	49,032	10,006	3,603	861	77,283
Barged	874,575	1,663	1,490,712	47,129	16,696	2,430,775
<b>Total Transported</b>	<b>888,356</b>	<b>50,695</b>	<b>1,500,718</b>	<b>50,732</b>	<b>17,557</b>	<b>2,508,058</b>
<b>LOWER MONUMENTAL DAM</b>						
Collected	492,759	22,885	949,317	29,627	14,895	1,509,483
Bypassed	4,290	1,133	12,701	1,031	639	19,794
Trucked	1,359	17,449	4,429	495	274	24,006
Barged	485,912	3,913	931,488	28,063	13,963	1,463,339
<b>Total Transported</b>	<b>487,271</b>	<b>21,362</b>	<b>935,917</b>	<b>28,558</b>	<b>14,237</b>	<b>1,487,345</b>
<b>MCNARY DAM</b>						
Collected	1,044,241	8,266,751	327,380	125,972	512,268	10,276,612
Bypassed	1,004,336	163,821	316,015	109,189	492,648	2,086,009
Trucked	7,065	301,326	4,907	4,978	4,291	322,567
Barged	28,972	7,624,665	6,038	11,552	13,065	7,684,292
<b>Total Transported</b>	<b>36,037</b>	<b>7,925,991</b>	<b>10,945</b>	<b>16,530</b>	<b>17,356</b>	<b>8,006,859</b>
<b>PROJECT TOTALS</b>						
Collected	4,041,177	8,423,238	7,867,509	362,378	594,521	21,288,823
Bypassed	1,117,012	165,957	454,297	111,674	493,287	2,342,227
Trucked	63,591	437,231	87,185	15,481	6,053	609,541
Barged	2,839,092	7,638,773	7,316,438	233,889	92,635	18,120,827
<b>Total Transported</b>	<b>2,902,683</b>	<b>8,076,004</b>	<b>7,403,623</b>	<b>249,370</b>	<b>98,688</b>	<b>18,730,368</b>