



Fish Passage Center

Bi-Weekly Report #99 - 31

October 29, 1999

2501 SW First Ave., Suite 230
 Portland, OR 97201-4752
 phone: 503/230-4582
 fax: 503/230-7559

This is the last Bi-Weekly of 1999! See you next year in March 2000!

SUMMARY OF EVENTS:

Water Supply: Precipitation for the Columbia above Coulee was 90% of normal, the Snake River above Ice Harbor was 14% of normal and the Columbia above The Dalles was 58% of normal.

System Storage: The hydro-system continues to be operated primarily for power generation.

- *Hungry Horse* is projected to continue drafting in the range of 1.0 kcfs to 2.3 kcfs, targeting flows of 4.7 kcfs below Columbia Falls. The inflows fluctuated from 0.07 kcfs to 3.2 kcfs during October 15 through 28.
- *Libby* is projected to continue drafting at a rate of 12 kcfs in the coming week. The outflows were periodically decreasing to 10 kcfs for transmission line work. Inflows for October 15 through 28 fluctuated from 3 kcfs to 6.6 kcfs. The major flood control requirement for the reservoir is an elevation of 2411 ft at the end of December. The COE continues to operate the reservoir without spilling during the period of September through December and without ramping below 9 kcfs as requested for bull trout from the State of Montana.
- *Arrow* reservoir was operated with discharges in the range of 39 to 55 kcfs during the previous two weeks. Arrow outflows will decrease during the last part of next week.
- *Grand Coulee* continued to be operated for power requirements during the period of October 16 through 28. The major non-power requirement is not to operate below an elevation of 1283 ft for kokanee spawning. Outflows fluctuated from 74 kcfs on October 24 to 110.6 kcfs on October 20.

- *Dworshak* reservoir is operating at minimum outflow of 1.5 kcfs. Current inflows are in the range of 0.9 kcfs to 4.9 kcfs.
- *Brownlee* continues its planned operations for protection of fall chinook spawning area below Hells Canyon Dam. Idaho Power Company determined, based on inflow forecast, that the guaranteed minimum outflow from mid October through December 5 has to be 13 kcfs to allow protection of the redds level and refill of the reservoir by mid December. The reservoir was drafted to 2029 ft by the third week of October for power purposes.

A summary of the current elevations on October 28, 1999 is given in the following table:

Reservoir	Actual elev. As of October 28 [ft]	Max Reservoir pool [ft]
<i>Libby</i>	2440.63	2459
<i>Hungry Horse</i>	3542.3	3560
<i>Grand Coulee</i>	1283.6	1290
<i>Brownlee</i>	2032.5*	2077
<i>Dworshak</i>	1518.44	1600

* as of October 27

Upper Snake reservoirs:

Outflows at Milner are increasing as irrigation demands diminished and the period of evacuation of flood control water began. Current outflows are in the range of 3.4 to 3.8 kcfs. It is expected that similar outflows will continue through the end of month. American Falls Reservoir is currently at 44% of full capacity. Two other major reservoirs in the system, Palisades and Jackson Lake, are at 75% and 74% of full capacity.

Boise and Payette River Basins:

The daily average outflow from the Boise River system continues to be in the range of 1 kcfs to 1.2 kcfs. The major reservoirs in the system, Anderson Ranch, Arrowrock, and Lucky Peak are at 77%, 23% and 22% of capacity, respectively.

The daily average outflow from the Payette river system increased as irrigation demands diminished to 1.55 kcfs. The major reservoirs in the system, Cascade and Deadwood, are at 71% and 68% of capacity, respectively.

Streamflow:

The weekly average discharges for the major run-of-river projects for October 1 through 28 are given in the following table:

Project	Average Discharge [kcfs]			
	Oct. 1-7	Oct. 8-14	Oct. 15-21	Oct. 22-28
Priest Rapids	95.6	96.8	93.2	102.1
McNary	120.8	120.3	119.2	127.5
Lower Granite	24.8	25.4	22.5	23.9
Bonneville	125.1	128.4	132.3	131.8

Smolt Monitoring. During this two-week reporting period, passage indices of subyearling chinook decreased over 50% at Lower Granite and Lower Monumental dams, but at the other dams the passage indices of subyearling chinook held steady or increased as a result of a late seasonal jump in passage the last several days. Because of higher than usual numbers of subyearling chinook still migrating in the Snake River at this time (due in part to the release of 670,000 hatchery fall chinook from Captain John Rapids and Big Canyon Creek acclimation ponds this year), transportation has been extended to November 10 at Lower Granite Dam as long as collection numbers remain above 100 fish per day. During the current two-week reporting period, subyearling chinook mortality percentages were 0.2% at John Day and Bonneville dams, 0.3% at McNary Dam, 0.4% at Lower Granite Dam, 1.1% at Little Goose Dam, and 2.9% at Lower Monumental Dam.

Adult Fish Passage. During the past two weeks (Oct 15-28), passage of adult fall chinook at Bonneville Dam steadily declined from a high daily total of 313 early in the report week to near 100 by the end of the week. Overall, the 1999, adult fall chinook count was 241,661, about 128% and 136% of the respective 1998 and the 10-year average through October 28. The count of jack (1-ocean) fall chinook at Bonneville is about 82% and 77% of the 1998 and 10-year average, respectively. However, the Tule-Run jack chinook count at Spring Creek Hatchery this fall was well below expectations.

At upstream projects, approximately 131,500, 105,800, and 78,100 adult fall chinook were counted at The Dalles, John Day, and McNary dams, respectively. The turnoff of adult fall chinook into the Snake River remained well above the 1998 and 10-year average to date with 6,489 counted at Ice Harbor Dam, nearly 1.5 times the 1998 count and 1.8 times the 10-year average. The jack count at Ice Harbor was 3,426, about equal the 1998 count and double the 10-year average. Overall, about 39% of the fall chinook jack count at McNary Dam was counted at Ice Harbor Dam this season. The count of fall chinook at Priest Rapids Dam on the Mid-Columbia River exceeded 28,000 and was triple the 1998 and 10-year average. This season's count of jack chinook at Priest Rapids was below the 1998 and 10-year average.

At Bonneville Dam, steelhead counts reduced from about 150 per day early in the report week to 70 per day by October 28. The cumulative count through October 28 was 205,837; that count was 111% of the 1998 total but less than the 10-year average. As occurred in 1998, the number of steelhead counted at John Day Dam this year again exceeded the count total at The Dalles Dam. The COE is checking into the discrepancies between the fish counts. The turnoff into the Snake River totaled 79,531 through October 28 and that count still exceeds the 1998 count and was only 83% of the 10-year average. The count at Priest Rapids Dam was 8,201 and this total exceeded the 1998 and was about equal to the 10-year average.

Coho passage at Bonneville Dam generally ranged between 100 and 400 fish on a daily basis with the numbers dropping off quickly during the past week. The cumulative count at Bonneville was 40,172, about 88% of the 1998 count, but remained about double the 10-year average. Greater than 13,200 adult coho were counted at The Dalles compared to 8,000 in 1998 and 4,700 for the 10-year average. About 11,700 adult coho have been tallied at John Day and 4,700 above McNary Dam. Most coho counted at McNary Dam are destined for the Yakama River basin with a few moving up the Snake River and Mid-Columbia. Coho above John Day normally enter either the Umatilla River or pass McNary Dam up to the Yakama River. Numbers of adult coho returning to the Snake River are above 100 for the season and indicate that some should be spawning in the rivers and tributaries planted in the Clearwater River basin.

The number of jack spring chinook salmon that returned in 1999 along with excellent numbers of summer chinook jacks that returned to the Snake River was very encouraging and hopefully this indicator will lead to increased numbers of 4-year old (2-ocean) returns in year 2000. Have a good 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
10/15/99	76.0	0.0	79.6	0.0	81.0	0.0	83.2	0.0	85.0	0.0	100.5	0.5	109.7	1.6
10/16/99	77.1	0.0	80.9	0.0	81.7	0.0	78.3	0.0	76.9	0.0	70.8	0.5	72.5	1.4
10/17/99	76.1	0.0	71.5	0.0	77.2	0.0	79.7	0.0	80.9	0.0	74.2	0.9	72.8	1.6
10/18/99	104.2	0.0	102.1	0.0	102.8	0.0	102.3	0.0	100.2	0.0	92.4	0.6	88.4	1.7
10/19/99	107.0	0.0	109.0	0.0	110.0	0.0	110.7	0.0	110.4	0.0	106.1	1.2	104.0	1.7
10/20/99	110.6	0.0	116.9	0.0	121.9	0.0	123.0	0.0	120.1	0.0	105.7	1.6	104.7	1.9
10/21/99	108.5	0.0	110.1	0.0	112.6	0.0	111.8	0.0	112.1	0.0	113.6	1.9	116.7	1.8
10/22/99	90.6	0.0	89.8	0.0	93.5	0.0	101.1	0.0	99.7	0.0	111.3	1.9	110.6	1.8
10/23/99	83.8	0.0	86.1	0.0	86.4	0.0	82.8	0.0	87.7	0.0	107.5	1.2	109.2	1.8
10/24/99	74.0	0.0	72.6	0.0	74.3	0.0	73.9	0.0	74.1	0.0	82.5	1.1	89.9	1.4
10/25/99	101.0	0.0	103.9	0.0	108.4	0.0	111.4	0.0	112.3	1.4	104.1	1.0	94.9	1.6
10/26/99	86.4	0.0	88.2	0.0	90.9	0.0	90.3	0.0	86.5	2.0	98.8	1.1	100.6	1.8
10/27/99	101.1	0.1	101.9	0.0	104.8	0.0	109.1	0.0	112.0	2.1	108.1	1.1	104.7	1.1
10/28/99	81.4	0.0	81.2	0.0	81.9	0.0	82.1	0.0	81.6	1.0	105.9	0.9	104.7	1.7

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

Date	Dworshak		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
10/15/99	1.5	0.0	15.3	20.3	23.9	0.0	24.9	0.0	27.3	0.0	26.7	0.0
10/16/99	1.5	0.0	15.7	20.0	28.3	0.0	28.9	0.0	28.7	0.0	26.3	0.0
10/17/99	1.5	0.0	14.9	13.3	25.3	0.0	23.0	0.0	25.6	0.0	24.7	0.0
10/18/99	1.5	0.0	14.2	13.0	19.9	0.0	20.0	0.0	21.3	0.0	20.4	0.0
10/19/99	1.5	0.0	16.2	13.2	21.0	0.0	20.8	0.0	21.2	0.0	20.6	0.0
10/20/99	1.5	0.0	15.2	13.0	19.8	0.0	19.9	0.0	21.7	0.0	20.3	0.0
10/21/99	1.5	0.0	14.8	12.9	20.8	0.0	20.7	0.0	22.0	0.0	21.7	0.0
10/22/99	1.5	0.0	14.4	12.9	20.4	0.0	23.5	0.0	24.6	0.0	24.1	0.0
10/23/99	1.5	0.0	16.5	13.1	19.0	0.0	16.2	0.0	16.0	0.0	15.1	0.0
10/24/99	1.5	0.0	16.1	13.0	20.7	0.0	23.0	0.0	25.3	0.0	24.9	0.0
10/25/99	1.5	0.0	15.1	13.0	19.8	0.0	18.9	0.0	19.2	0.0	16.8	0.0
10/26/99	1.5	0.0	15.3	13.1	20.5	0.0	21.9	0.0	23.7	0.0	22.9	0.0
10/27/99	1.5	0.0	16.6	13.2	21.5	0.0	22.4	0.0	22.1	0.0	22.0	0.0
10/28/99	1.5	0.0	---	---	21.3	0.0	20.2	0.0	22.0	0.0	21.0	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		
10/15/99	143.7	0.0	145.7	1.0	143.7	0.0	148.2	0.0	59.4	79.6
10/16/99	116.2	0.0	135.6	1.0	137.5	0.0	139.5	0.0	59.8	70.5
10/17/99	97.1	0.0	98.5	1.0	101.5	0.0	128.3	0.0	57.9	61.2
10/18/99	103.5	0.0	131.1	1.0	134.2	0.0	126.0	0.0	55.5	61.3
10/19/99	110.0	0.0	109.4	1.0	114.8	0.0	128.9	0.0	57.0	62.8
10/20/99	125.2	0.0	126.2	0.9	121.3	0.0	124.8	0.0	53.9	61.7
10/21/99	138.9	0.0	133.3	1.0	133.8	0.0	130.4	0.0	53.6	67.6
10/22/99	141.8	0.0	139.0	0.8	140.9	0.0	134.7	0.0	53.2	72.3
10/23/99	123.2	0.0	120.4	0.9	119.6	0.0	125.9	0.0	48.9	67.8
10/24/99	121.4	0.0	123.1	0.9	128.0	0.0	127.1	0.0	57.7	60.2
10/25/99	118.0	0.0	119.8	0.9	121.4	0.0	124.8	0.0	55.5	60.1
10/26/99	125.5	0.0	127.4	0.9	130.6	0.0	132.8	0.0	61.6	62.0
10/27/99	128.2	0.0	133.9	0.9	134.9	0.0	138.1	0.0	50.1	78.8
10/28/99	134.3	0.0	138.2	0.9	139.5	0.0	139.1	0.0	59.3	70.6

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Can. Boundary</u>			<u>Grand Coulee</u>			<u>Tlwr G. Coulee</u>			<u>Chief Joseph</u>			<u>Tlwr C. Joseph</u>							
	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	Avg		Avg	High		Avg	Avg		High	Avg		Avg	High	Avg	Avg	High
10/15	109	110	112	24	102	102	103	24	---	---	---	0	100	100	100	24	101	102	103	24
10/16	108	109	115	24	101	101	101	24	---	---	---	0	99	99	100	24	100	101	102	24
10/17	109	109	110	24	101	102	102	24	---	---	---	0	99	100	100	23	101	102	103	23
10/18	106	108	110	24	101	101	102	24	113	113	140	3	100	100	100	23	100	101	102	23
10/19	106	107	108	24	101	101	102	24	---	---	---	0	100	100	101	24	100	100	102	24
10/20	108	109	110	24	102	102	102	24	---	---	---	0	100	101	101	23	101	102	103	23
10/21	107	109	111	24	101	102	102	24	100	100	100	11	100	100	100	21	101	102	102	22
10/22	106	106	108	24	102	102	102	24	100	101	101	24	100	101	101	24	101	102	103	24
10/23	104	105	106	23	102	102	103	23	101	101	102	23	101	101	101	24	102	103	104	24
10/24	104	105	105	24	102	102	102	24	109	112	115	24	100	100	101	23	101	102	102	22
10/25	105	106	110	24	102	102	102	24	100	100	102	24	100	100	100	23	101	102	103	20
10/26	105	105	106	24	101	102	102	24	100	100	101	24	100	100	100	23	100	101	102	21
10/27	109	113	114	24	105	108	137	24	100	101	102	24	100	101	101	23	100	101	103	18
10/28	106	106	107	24	102	103	103	24	101	102	104	24	101	101	101	23	102	102	104	17

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Wells</u>			<u>Rocky Reach</u>			<u>Tlwr Rocky R.</u>			<u>Rock Island</u>			<u>Tlwr Rock Isl</u>							
	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	Avg		Avg	High		Avg	Avg		High	Avg		Avg	High	Avg	Avg	High
10/15	---	---	---	0	96	96	96	9	---	---	---	0	97	97	98	24	---	---	---	0
10/16	---	---	---	0	95	95	96	8	---	---	---	0	96	96	96	23	---	---	---	0
10/17	---	---	---	0	96	96	97	16	---	---	---	0	96	96	97	24	---	---	---	0
10/18	---	---	---	0	96	97	97	19	---	---	---	0	97	97	97	24	---	---	---	0
10/19	---	---	---	0	96	97	98	24	---	---	---	0	97	97	97	24	---	---	---	0
10/20	---	---	---	0	97	97	98	23	---	---	---	0	97	98	98	23	---	---	---	0
10/21	---	---	---	0	97	98	98	24	---	---	---	0	98	98	99	24	---	---	---	0
10/22	---	---	---	0	98	98	98	24	---	---	---	0	98	99	99	24	---	---	---	0
10/23	---	---	---	0	98	98	99	23	---	---	---	0	99	99	99	24	---	---	---	0
10/24	---	---	---	0	97	97	98	23	---	---	---	0	98	98	99	23	---	---	---	0
10/25	---	---	---	0	98	98	98	24	---	---	---	0	98	98	98	24	---	---	---	0
10/26	---	---	---	0	97	97	97	23	---	---	---	0	97	97	98	23	---	---	---	0
10/27	---	---	---	0	97	98	98	23	---	---	---	0	97	98	98	24	---	---	---	0
10/28	---	---	---	0	97	98	98	23	---	---	---	0	98	98	99	24	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia River Sites, and Dworshak

Date	<u>Wanapum</u>			<u>Dwns Wanapum</u>			<u>Priest Rapids</u>			<u>Dwns P Rapids</u>			<u>Dworshak</u>							
	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	Avg		Avg	High		Avg	Avg		High	Avg		Avg	High	Avg	Avg	High
10/15	99	99	100	24	99	99	99	24	100	100	100	24	99	99	100	24	---	---	---	0
10/16	98	98	98	24	98	98	99	24	99	99	99	24	98	98	98	24	---	---	---	0
10/17	98	99	99	24	98	99	99	24	100	100	101	24	99	99	100	24	106	106	108	20
10/18	99	99	100	24	99	99	99	24	99	99	100	24	100	100	100	24	106	107	108	22
10/19	99	99	100	24	99	99	99	24	99	99	100	24	100	100	101	24	---	---	---	0
10/20	99	100	100	24	99	100	100	24	99	99	100	24	100	101	101	24	106	107	108	24
10/21	99	100	100	24	100	100	100	24	99	100	100	24	100	101	101	24	106	107	108	24
10/22	99	100	101	15	100	101	101	23	100	100	100	14	101	102	102	19	---	---	---	0
10/23	101	101	101	24	101	101	101	24	102	102	102	24	101	101	101	24	---	---	---	0
10/24	99	100	100	24	100	100	100	24	101	100	101	24	100	100	100	24	108	108	109	24
10/25	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	108	108	110	24
10/26	98	99	99	24	99	99	100	24	99	100	100	24	101	101	101	24	106	107	107	24
10/27	99	99	100	24	100	100	101	24	100	100	101	24	101	101	102	24	107	107	108	14
10/28	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	107	108	109	24

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

Total Dissolved Gas Saturation Data at Clearwater and Snake River Sites

Date	<u>Clearwater</u>			<u>Anatone</u>			<u>Snake-Lewiston</u>			<u>Lower Granite</u>			<u>Tlwtr L. Granite</u>							
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
10/15	---	---	---	0	101	102	103	24	---	---	---	0	98	98	98	24	98	98	98	24
10/16	---	---	---	0	101	102	103	24	---	---	---	0	97	98	98	24	97	97	97	24
10/17	---	---	---	0	102	103	104	20	---	---	---	0	98	98	99	20	98	98	99	20
10/18	---	---	---	0	102	103	104	24	---	---	---	0	98	99	100	24	98	99	100	24
10/19	---	---	---	0	102	103	104	24	---	---	---	0	98	99	100	24	98	99	100	23
10/20	---	---	---	0	102	103	105	24	---	---	---	0	99	99	100	24	98	99	100	24
10/21	---	---	---	0	102	103	104	24	---	---	---	0	98	98	99	24	98	98	100	24
10/22	---	---	---	0	103	104	105	24	---	---	---	0	99	99	100	24	98	98	99	24
10/23	---	---	---	0	103	103	104	23	---	---	---	0	99	99	99	24	99	99	99	24
10/24	---	---	---	0	102	103	103	24	---	---	---	0	98	99	99	24	99	99	100	24
10/25	---	---	---	0	102	103	104	24	---	---	---	0	99	99	99	24	99	99	100	24
10/26	---	---	---	0	102	102	102	24	---	---	---	0	98	98	99	24	99	99	99	24
10/27	---	---	---	0	102	102	104	14	---	---	---	0	98	98	99	14	99	99	100	14
10/28	---	---	---	0	102	103	104	24	---	---	---	0	100	100	101	24	100	100	100	24

Total Dissolved Gas Saturation Data at Lower Snake River Sites

Date	<u>Little Goose</u>			<u>Tlwtr L. Goose</u>			<u>L. Monumental</u>			<u>Tlwtr L. Monum</u>			<u>Ice Harbor</u>							
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
10/15	---	---	---	0	---	---	---	0	97	97	98	24	---	---	---	0	96	96	96	24
10/16	---	---	---	0	---	---	---	0	96	96	96	24	---	---	---	0	95	95	95	18
10/17	---	---	---	0	---	---	---	0	97	97	97	20	95	95	96	7	96	96	97	20
10/18	---	---	---	0	96	96	96	17	97	97	97	24	96	96	96	9	95	95	96	14
10/19	---	---	---	0	96	96	96	24	97	97	97	24	96	96	96	11	95	95	95	18
10/20	---	---	---	0	96	96	96	10	97	97	97	24	96	96	97	14	95	95	96	24
10/21	---	---	---	0	---	---	---	0	97	97	97	24	96	96	96	14	96	96	96	20
10/22	---	---	---	0	---	---	---	0	97	97	97	24	96	96	97	22	96	96	96	24
10/23	---	---	---	0	---	---	---	0	97	97	98	24	96	97	97	24	96	97	97	24
10/24	---	---	---	0	---	---	---	0	97	97	97	24	96	96	96	24	96	96	97	24
10/25	---	---	---	0	---	---	---	0	97	97	97	24	96	96	96	20	96	96	97	24
10/26	---	---	---	0	---	---	---	0	96	97	97	24	96	96	96	10	96	96	97	24
10/27	---	---	---	0	---	---	---	0	96	96	97	14	96	96	96	4	96	96	97	14
10/28	---	---	---	0	---	---	---	0	97	98	98	23	96	96	97	23	97	98	98	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>Twtr Ice Har.</u>			<u>Pasco</u>			<u>McNary-Oregon</u>			<u>McNary-Wash.</u>			<u>Tlwtr McNary</u>							
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#	<u>24 h</u>	<u>12 h</u>	<u>High</u>	#
	<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>			<u>Avg</u>	<u>Avg</u>		
10/15	98	98	99	24	---	---	---	0	99	100	101	24	100	100	101	24	100	100	100	24
10/16	97	97	98	24	---	---	---	0	99	99	101	24	100	100	100	24	99	100	100	24
10/17	98	99	100	20	---	---	---	0	99	100	101	18	100	101	101	20	100	100	100	20
10/18	97	98	98	23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/19	98	98	99	24	---	---	---	0	99	99	101	24	99	100	100	24	99	99	100	24
10/20	98	98	99	24	---	---	---	0	99	100	101	24	100	100	100	24	100	101	105	24
10/21	97	98	99	24	---	---	---	0	99	99	100	24	100	101	101	24	99	100	100	24
10/22	98	98	99	24	---	---	---	0	99	100	101	24	101	102	102	24	100	100	101	24
10/23	99	100	100	24	---	---	---	0	100	101	102	24	101	101	101	24	101	101	101	24
10/24	98	98	99	24	---	---	---	0	99	100	101	24	101	101	101	24	100	100	101	24
10/25	98	99	100	24	---	---	---	0	99	100	100	24	101	101	101	24	100	100	101	24
10/26	98	98	99	24	---	---	---	0	98	99	99	24	100	100	100	24	99	100	100	24
10/27	98	98	101	14	---	---	---	0	99	99	100	14	100	100	100	13	99	100	100	14
10/28	99	100	101	24	---	---	---	0	100	100	101	24	100	101	101	24	100	100	101	24

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>Bonneville</u>			<u>Warrendale</u>			<u>Camas\Wash.</u>			#		
	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>			
	<u>Avg</u>	<u>AVG</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>	<u>Avg</u>	<u>Avg</u>	<u>High</u>	<u>hr</u>
10/15	97	97	97	24	100	100	100	24	---	---	---	0
10/16	96	97	97	24	99	99	100	24	---	---	---	0
10/17	97	97	97	23	99	100	100	23	---	---	---	0
10/18	97	97	98	22	100	100	100	23	---	---	---	0
10/19	97	97	98	23	100	100	100	24	---	---	---	0
10/20	98	98	98	23	100	100	101	23	---	---	---	0
10/21	98	98	98	23	100	100	101	20	---	---	---	0
10/22	98	98	99	24	101	101	101	24	---	---	---	0
10/23	98	98	99	24	101	101	102	24	---	---	---	0
10/24	97	98	98	23	101	101	101	23	---	---	---	0
10/25	98	98	98	22	101	101	102	23	---	---	---	0
10/26	97	97	97	23	100	100	101	23	---	---	---	0
10/27	98	98	99	22	101	101	102	18	---	---	---	0
10/28	97	98	99	22	100	101	102	21	---	---	---	0

Two-Week Summary of Passage Indices

Yearling Chinook

Date	Hatchery							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)
10/15/99	---	---	---	---	1	0	0	---	0	0	0
10/16/99	---	---	---	---	2	0	0	---	0	0	0
10/17/99	---	---	---	---	2	0	0	---	0	0	0
10/18/99	---	---	---	---	0	0	0	---	0	0	0
10/19/99	---	---	---	---	0	0	0	---	0	0	0
10/20/99	---	---	---	---	0	0	0	---	0	0	0
10/21/99	---	---	---	---	0	0	0	---	0	0	0
10/22/99	---	---	---	---	0	0	0	---	0	0	0
10/23/99	---	---	---	---	0	0	0	---	0	0	0
10/24/99	---	---	---	---	1	1	0	---	0	0	0
10/25/99	---	---	---	---	1	0	0	---	0	0	0
10/26/99	---	---	---	---	0	1	0	---	0	0	0
10/27/99	---	---	---	---	0	0	0	---	0	---	0
10/28/99	---	---	---	---	0	1	0	---	0	---	0
Total:	0	0	0	0	7	3	0	0	0	0	0
# Days:	0	0	0	0	14	14	14	0	14	12	14
Average:	0	0	0	0	1	0	0	0	0	0	0

Wild Yearling Chinook

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
10/15/99	---	---	---	---	0	0	0
10/16/99	---	---	---	---	0	0	0
10/17/99	---	---	---	---	0	0	0
10/18/99	---	---	---	---	0	0	0
10/19/99	---	---	---	---	0	0	0
10/20/99	---	---	---	---	0	0	0
10/21/99	---	---	---	---	0	0	0
10/22/99	---	---	---	---	0	0	0
10/23/99	---	---	---	---	0	0	0
10/24/99	---	---	---	---	0	0	0
10/25/99	---	---	---	---	0	0	0
10/26/99	---	---	---	---	0	0	0
10/27/99	---	---	---	---	0	0	0
10/28/99	---	---	---	---	0	0	0
Total:	0	0	0	0	0	0	0
# Days:	0	0	0	0	14	14	14
Average:	0	0	0	0	0	0	0

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

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)
10/15/99	---	---	---	---	780	39	11	---	624	137	43
10/16/99	---	---	---	---	485	20	23	---	1,348	117	61
10/17/99	---	---	---	---	500	11	19	---	1,496	77	91
10/18/99	---	---	---	---	572	3	26	---	864	121	51
10/19/99	---	---	---	---	466	24	30	---	1,308	93	59
10/20/99	---	---	---	---	233	11	22	---	1,008	157	34
10/21/99	---	---	---	---	164	18	15	---	1,024	197	36
10/22/99	---	---	---	---	187	14	13	---	836	233	38
10/23/99	---	---	---	---	93	13	9	---	1,016	161	10
10/24/99	---	---	---	---	107	10	7	---	620	214	57
10/25/99	---	---	---	---	122	32	10	---	632	193	42
10/26/99	---	---	---	---	163	64	4	---	1,032	294	32
10/27/99	---	---	---	---	143	115	19	---	2,240	---	214
10/28/99	---	---	---	---	197	77	26	---	1,572	---	114
Total:	0	0	0	0	4,212	451	234	0	15,620	1,994	882
# Days:	0	0	0	0	14	14	14	0	14	12	14
Average:	0	0	0	0	301	32	17	0	1,116	166	63

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)
10/15/99	---	---	---	---	1	1	0	---	0	0	0
10/16/99	---	---	---	---	2	1	0	---	0	0	0
10/17/99	---	---	---	---	2	0	0	---	0	0	0
10/18/99	---	---	---	---	1	0	0	---	0	0	0
10/19/99	---	---	---	---	2	0	0	---	0	0	0
10/20/99	---	---	---	---	1	0	0	---	0	0	0
10/21/99	---	---	---	---	0	0	0	---	0	0	0
10/22/99	---	---	---	---	0	0	0	---	0	0	0
10/23/99	---	---	---	---	0	1	0	---	0	0	0
10/24/99	---	---	---	---	0	0	0	---	0	0	0
10/25/99	---	---	---	---	2	0	0	---	0	0	0
10/26/99	---	---	---	---	1	0	0	---	0	0	0
10/27/99	---	---	---	---	0	0	0	---	0	---	0
10/28/99	---	---	---	---	2	0	0	---	0	---	0
Total:	0	0	0	0	14	3	0	0	0	0	0
# Days:	0	0	0	0	14	14	14	0	14	12	14
Average:	0	0	0	0	1	0	0	0	0	0	0

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)	
10/15/99	---	---	---	---	2	1	0	---	0	0	0	0
10/16/99	---	---	---	---	2	0	0	---	0	0	0	0
10/17/99	---	---	---	---	0	1	1	---	0	0	0	0
10/18/99	---	---	---	---	0	0	2	---	0	0	0	0
10/19/99	---	---	---	---	0	0	0	---	0	0	0	0
10/20/99	---	---	---	---	0	0	0	---	0	0	0	0
10/21/99	---	---	---	---	0	1	0	---	0	0	0	0
10/22/99	---	---	---	---	1	0	0	---	0	0	0	0
10/23/99	---	---	---	---	0	0	0	---	0	0	0	0
10/24/99	---	---	---	---	0	0	0	---	0	0	0	0
10/25/99	---	---	---	---	0	1	0	---	0	0	0	0
10/26/99	---	---	---	---	1	1	0	---	0	0	0	0
10/27/99	---	---	---	---	0	3	0	---	0	---	0	0
10/28/99	---	---	---	---	2	0	0	---	0	---	0	0
Total:	0	0	0	0	8	8	3	0	0	0	0	0
# Days:	0	0	0	0	14	14	14	0	14	12	14	14
Average:	0	0	0	0	1	1	0	0	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)	
10/15/99	---	---	---	---	2	0	0	---	4	0	0	0
10/16/99	---	---	---	---	0	0	0	---	0	0	0	0
10/17/99	---	---	---	---	0	0	0	---	0	0	0	0
10/18/99	---	---	---	---	0	0	0	---	0	0	0	0
10/19/99	---	---	---	---	0	0	0	---	0	0	0	0
10/20/99	---	---	---	---	0	0	0	---	0	0	0	0
10/21/99	---	---	---	---	0	0	0	---	0	0	0	0
10/22/99	---	---	---	---	0	0	0	---	0	0	0	0
10/23/99	---	---	---	---	0	0	0	---	0	0	0	0
10/24/99	---	---	---	---	0	0	0	---	0	0	0	0
10/25/99	---	---	---	---	0	0	0	---	0	0	0	0
10/26/99	---	---	---	---	0	0	0	---	0	0	0	0
10/27/99	---	---	---	---	0	0	1	---	0	---	0	0
10/28/99	---	---	---	---	0	0	0	---	0	---	0	0
Total:	0	0	0	0	2	0	1	0	4	0	0	0
# Days:	0	0	0	0	14	14	14	0	14	12	14	14
Average:	0	0	0	0	0	0	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)	
10/15/99	---	---	---	---	0	0	0	---	0	0	0	
10/16/99	---	---	---	---	0	0	0	---	0	0	0	
10/17/99	---	---	---	---	0	0	0	---	0	0	0	
10/18/99	---	---	---	---	0	0	0	---	0	0	0	
10/19/99	---	---	---	---	0	0	0	---	0	0	0	
10/20/99	---	---	---	---	0	0	0	---	0	0	0	
10/21/99	---	---	---	---	0	0	0	---	0	4	0	
10/22/99	---	---	---	---	0	0	0	---	0	0	0	
10/23/99	---	---	---	---	0	0	0	---	4	0	0	
10/24/99	---	---	---	---	0	0	0	---	0	0	0	
10/25/99	---	---	---	---	0	0	0	---	0	0	0	
10/26/99	---	---	---	---	0	0	0	---	0	0	0	
10/27/99	---	---	---	---	0	0	0	---	0	---	0	
10/28/99	---	---	---	---	0	0	0	---	0	---	0	
Total:	0	0	0	0	0	0	0	0	4	4	0	
# Days:	0	0	0	0	14	14	14	0	14	12	14	
Average:	0	0	0	0	0	0	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)	
10/15/99	---	---	---	---	4	0	0	---	0	0	0	
10/16/99	---	---	---	---	4	0	0	---	0	0	0	
10/17/99	---	---	---	---	9	0	0	---	0	0	0	
10/18/99	---	---	---	---	4	1	0	---	0	0	0	
10/19/99	---	---	---	---	3	0	0	---	0	0	0	
10/20/99	---	---	---	---	6	0	0	---	0	0	0	
10/21/99	---	---	---	---	0	0	0	---	0	0	0	
10/22/99	---	---	---	---	2	0	0	---	0	0	0	
10/23/99	---	---	---	---	0	0	1	---	0	0	0	
10/24/99	---	---	---	---	0	0	0	---	4	0	0	
10/25/99	---	---	---	---	3	0	0	---	0	0	0	
10/26/99	---	---	---	---	1	0	0	---	0	0	0	
10/27/99	---	---	---	---	0	1	0	---	0	---	0	
10/28/99	---	---	---	---	5	1	0	---	0	---	0	
Total:	0	0	0	0	41	3	1	0	4	0	0	
# Days:	0	0	0	0	14	14	14	0	14	12	14	
Average:	0	0	0	0	3	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 28, 1999

DAM	Spring Chinook						Summer Chinook						Fall Chinook					
	1999		1998		10-Yr Avg.		1999		1998		10-Yr Avg.		1999		1998		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	38,669	8,691	38,342	775	66,606	2,467	26,169	4,022	21,433	2,678	20,784	2,653	241,661	23,526	188,620	28,607	177,733	30,583
TDA	17,563	6,180	25,225	518	39,635	1,617	21,730	3,207	15,462	1,444	17,039	1,868	131,542	18,962	92,722	18,513	102,959	21,104
JDA	15,409	5,089	21,820	378	31,309	1,325	22,210	2,504	16,246	1,534	15,357	1,707	105,754	11,999	77,975	11,768	77,660	16,104
MCN	9,260	3,972	19,415	337	30,860	1,525	19,275	2,343	16,226	1,408	16,460	1,733	78,120	8,677	63,570	13,370	66,381	17,832
IHR	5,351	2,657	12,434	130	16,094	620	3,900	1,311	5,473	304	4,420	406	6,489	3,426	4,194	3,461	3,541	1,516
LMN	3,924	2,726	10,598	131	15,276	682	3,372	1,344	4,290	301	4,196	434	5,449	3,288	3,014	3,113	2,183	1,143
LGS	3,445	2,690	10,512	118	**	**	3,273	1,583	4,298	334	**	**	4,131	1,972	2,013	2,445	**	**
LWG	3,296	2,507	9,854	109	13,146	573	3,260	1,584	4,355	328	4,213	426	3,321	1,747	1,830	1,880	978	420
PRD	4,139	761	4,124	37	9,804	151	20,896	517	13,387	601	13,946	595	28,724	1,162	9,458	1,541	9,418	2,079
RIS	3,309	915	3,187	54	7,271	160	18,588	1,548	11,689	1,165	11,682	933	7,023	830	3,678	922	4,032	1,627
RRH	1,389	233	762	54	1,670	39	10,479	1,111	6,706	326	4,603	383	5,036	4,066	2,511	385	2,471	640
WEL	141	199	6	24	902	41	7,335	541	3,237	733	2,825	322	1,700	611	908	142	932	252

DAM	Coho						Sockeye			Steelhead			
	1999		1998		10-Yr Avg.		1999	1998	10-Yr Avg.	1999	1998	10-Yr Avg.	Wild 1999
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	40,172	4,432	45,869	3,592	22,914	4,568	17,875	13,218	44,504	205,837	184,615	225,325	54,897
TDA	13,221	1,642	8,070	770	4,722	1,316	13,775	8,828	35,479	154,788	116,224	161,284	41,160
JDA	11,707	1,330	7,470	851	3,700	1,106	14,809	9,837	36,723	162,533	156,513	142,284	40,618
MCN	4,674	188	5,551	211	1,718	530	11,795	9,391	38,669	83,579	97,752	125,772	17,295
IHR	110	5	11	4	10	0	8	7	9	79,531	76,131	96,182	13,014
LMN	41	3	0	0	3	2	16	1	7	71,055	63,287	82,770	10,597
LGS	68	3	1	0	**	**	16	5	**	62,113	61,245	**	9,350
LWG	199	16	6	2	6	0	14	2	6	67,072	60,834	74,358	10,437
PRD	52	4	30	0	13	1	16,360	10,768	43,386	8,201	5,751	8,457	***
RIS	1	0	0	0	37	0	18,371	9,334	37,876	6,293	4,794	7,253	1,715
RRH	22	0	0	0	18	0	14,111	5,682	18,760	4,699	4,118	4,882	651
WEL	125	12	0	0	10	1	12,228	4,669	17,592	3,339	2,507	3,774	509

These numbers were collected from the COE's Running Sums text files.

Wild steelhead numbers are included in the total.

LMN is through 10/25; RIS, RRH are through 10/26; LGS, PRD and WEL are through 10/27.

*WEL - WDFW was trapping Spring Chinook on both fish ladders.

**Adult count records at Little Goose Dam have been maintained since 1991, visual counts were not conducted at Little Goose Dam between 1982 and 1990.

***PRD is not reporting Wild Steelhead numbers.

Bonneville and Lower Granite were doing video counts only until April 1, 1999. These counts were 8 hour daytime video counts.

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

Historic counts 1997 to present were obtained from the Corps of Engineers.

No Video counts at Lower Granite Dam on 3/1/99 and 3/2/99.

Transportation Summary Report
Two-Week Transportation Summary
from 10/15/99 to 10/28/99

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	7	4,212	10	14	41	4,284
Bypassed	0	0	0	0	0	0
Trucked	7	4,346	8	12	37	4,410
Barged	0	0	0	0	0	0
Total Transported	7	4,346	8	12	37	4,410
LITTLE GOOSE DAM						
Collected	3	451	8	3	3	468
Bypassed	0	0	0	0	0	0
Trucked	2	396	8	3	3	412
Barged	0	0	0	0	0	0
Total Transported	2	396	8	3	3	412
LOWER MONUMENTAL DAM						
Collected	0	234	4	0	1	239
Bypassed	0	0	4	0	1	5
Trucked	0	213	0	0	0	213
Barged	0	0	0	0	0	0
Total Transported	0	213	0	0	0	213
MCNARY DAM						
Collected	0	15,620	4	0	8	15,632
Bypassed	0	0	0	0	0	0
Trucked	0	14,982	4	0	12	14,998
Barged	0	0	0	0	0	0
Total Transported	0	14,982	4	0	12	14,998
PROJECT TOTALS						
Collected	10	20,517	26	17	53	20,623
Bypassed	0	0	4	0	1	5
Trucked	9	19,937	20	15	52	20,033
Barged	0	0	0	0	0	0
Total Transported	9	19,937	20	15	52	20,033

**Transportation Summary Report
Cumulative Transportation Summary
through 10/28/99**

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	2,173,493	253,340	3,355,165	78,612	17,755	5,878,365
Bypassed	115,918	861	266,364	14,609	1,647	399,399
Trucked	32,304	156,091	34,652	1,492	1,641	226,180
Barged	2,011,776	94,052	3,053,028	62,315	14,012	5,235,183
Total Transported	2,044,080	250,143	3,087,680	63,807	15,653	5,461,363
LITTLE GOOSE DAM						
Collected	3,532,362	197,307	3,135,606	117,420	21,058	7,003,753
Bypassed	19,783	0	158,018	4,195	299	182,295
Trucked	8,538	114,531	4,303	1,066	621	129,059
Barged	3,481,124	77,971	2,969,994	111,937	18,954	6,659,980
Total Transported	3,489,662	192,502	2,974,297	113,003	19,575	6,789,039
LOWER MONUMENTAL DAM						
Collected	1,892,443	133,140	1,978,791	51,163	12,872	4,068,409
Bypassed	148,537	1	251,031	7,795	597	407,961
Trucked	5,482	99,109	2,234	128	215	107,168
Barged	1,736,425	33,327	1,724,869	43,237	12,032	3,549,890
Total Transported	1,741,907	132,436	1,727,103	43,365	12,247	3,657,058
MCNARY DAM						
Collected	2,104,596	4,226,607	537,698	140,758	782,938	7,792,597
Bypassed	2,098,392	801,225	532,579	137,083	781,069	4,350,348
Trucked	255	792,529	987	38	438	794,247
Barged	3,490	2,589,486	3,896	3,544	836	2,601,252
Total Transported	3,745	3,382,015	4,883	3,582	1,274	3,395,499
PROJECT TOTALS						
Collected	9,702,894	4,810,394	9,007,260	387,953	834,623	24,743,124
Bypassed	2,382,630	802,087	1,207,992	163,682	783,612	5,340,003
Trucked	46,579	1,162,260	42,176	2,724	2,915	1,256,654
Barged	7,232,815	2,794,836	7,751,787	221,033	45,834	18,046,305
Total Transported	7,279,394	3,957,096	7,793,963	223,757	48,749	19,302,959