



Fish Passage Center

Bi-Weekly Report #99 - 29

October 1, 1999

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SUMMARY OF EVENTS:

Water Supply: Cool and dry weather characterized the month of September. Temperature departures in the whole basin during last week were up to 10 degrees below normal. It is expected that in the coming week temperatures will reach normal values. Precipitation for the September 1 through 29 period was below normal in the entire basin. The highest precipitation was at Columbia above Castlegar with 72% of the normal precipitation. The areas with no precipitation or low precipitation were John Day and Deschutes River basins and SouthEast Washington, with 3-6% of normal. Precipitation for the Columbia above Coulee was 46% of normal, the Snake River above Ice Harbor was 23% of normal and the Columbia above The Dalles was 35% 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 3.5 kcfs during weekends and 4.5 kcfs during weekdays in the coming week. The inflows fluctuated from 0.13 kcfs to 2.75 kcfs during the week of September 24 through 30. The reservoir was operated to IRC defined by State of Montana, to an elevation of 3545 ft by the end of September. The major flow requirement for this period of the year is flow of 3.5 kcfs at Columbia Falls, below the dam, for resident fish.
- *Libby* is projected to continue drafting at a rate of 12 kcfs in the coming week. Current inflows for

September 24 through 30 were fluctuating from 4.3 kcfs to 6.8 kcfs. The major flood control requirement for the reservoir is an elevation of 2411 ft at the end of December. The COE will attempt 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 58-68 kcfs during the previous two weeks, and it will continue with similar outflows during coming period of October 1 through 15.
- *Grand Coulee* continues to be operated for power requirements during the coming period of October 1 through 15. The major non-power requirement is not to operate below an elevation of 1283 ft for kokanee spawning. Current outflows fluctuated from 73.8 kcfs on September 25 to 123.8 kcfs on September 27.
- *Dworshak* reservoir is at minimum outflow of 1.5 kcfs. Current inflows are in the range of 0.7 kcfs to 1.4 kcfs.
- *Brownlee* continues with planned operations for protection of fall chinook spawning area below Hells Canyon Dam. Idaho Power Company determined, based on inflow forecast, that guaranteed minimum outflow during fall has to be 13 kcfs to allow protection of the redds on required level and refill of the reservoir by mid December. Current outflows at Hells Canyon Dam are in the range of 10 kcfs to 16.29 kcfs for the period of September 24 through 30.

A summary of the current elevations on September 30 is given in the following table:

Reservoir	Actual elev. As of September 30	Max Reservoir pool [ft]
<i>Libby</i>	2449.12 ft	2459
<i>Hungry Horse</i>	3544.96 ft	3560
<i>Grand Coulee</i>	1285.3 ft	1290
<i>Brownlee</i>	2039.3 ft*	2077
<i>Dworshak</i>	1518.87 ft	1600

* as of September 29

Upper Snake reservoirs:

Idaho Power Company is currently delivering its portion of the flood control water from American Falls at rate of 1.2 kcfs (not to exceed the hydraulic capacity of the Lower Salmon Falls) during the coming week. The total volume that IPCo delivered in the period of mid September through the first week of October is 45 KAF. American Falls Reservoir is currently at 42% of full capacity. Two other major reservoirs in the system, Palisades and Jackson Lake, are at 76% of full capacity and 78% of full capacity.

Boise and Payette River Basins:

The daily average outflow from the Boise River system increased from 1.2 kcfs to 1.4 kcfs. The major reservoirs in the system, Anderson Ranch, Arrowrock, and Lucky Peak are at 77%, 23% and 40% of capacity.

The daily average outflow from the Payette river system increased from 500 cfs to 600 cfs during the past week as irrigation demands increased. The major reservoirs in the system, Cascade and Deadwood are at 72% and 67% of capacity.

Streamflow: Flows at McNary were fluctuating in the range of 112 kcfs to 158 kcfs during last week of September. Flows at Lower Granite fluctuated from 17.1 kcfs to 25.3 kcfs during the week of September 17 through 30. Bonneville average daily flows were also widely fluctuating from 162.6 kcfs on September 23 to 119.8 kcfs on September 19.

The average discharges for the major run-of-river projects for September 1 through 30 are given in the following table:

Project	Average Discharge [kcfs]			
	Sept. 1-9	Sept. 10-16	Sept. 17-23	Sept. 24-30
Priest Rapids	121.9	104.99	118.1	102.0*
McNary	147.7	127.8	139.6	130.2
Lower Granite	27.5	22.9	20.52	21.9
Bonneville	150.9	131.98	146.4	137.1

*period of September 24-28

Smolt Monitoring: Passage indices of subyearling chinook decreased the second week at all sites except Bonneville Dam where negligible change occurred. The greatest decrease occurred at Lower Monumental Dam where passage indices the second week ranged from zero to 14 subyearling chinook compared to a range of 46 to 152 subyearling chinook the week before. Subyearling chinook mortality rates at the monitoring sites during the current two-week reporting period was zero at John Day Dam, 0.1% at Bonneville Dam, 0.8% at Lower Granite Dam, 0.9% at McNary Dam, 4.0% at Little Goose Dam, and 12.5% at Lower Monumental Dam. Twenty-two percent of the subyearling chinook collected between September 19 and 24 were dead at Lower Monumental Dam, but of the 39 subyearling chinook collected since September 25 there have been no mortalities. The fish disease Columnaris continues to be present in many subyearling chinook collected at the Snake River dams.

Adult Fish Passage: During the past two weeks (Sep 17-30), passage of adult fall chinook at Bonneville Dam tapered off from between 4,000 to 5,000 per day the first week to about 1,200 to 2,000 by the end of the second week. Overall, the 1999 adult fall chinook run totaling 231,076 is about 128% and 134% of the respective 1998 and the 10-year average through September 30. On a less optimistic note, the count of "jack" fall chinook at Bonneville is about 75% of the 1998 and 10-year average. Significantly low jack counts have been reported on Tule fall chinook returning to Spring Creek Hatchery this fall.

At upstream projects, approximately 122,000, 95,500, and 66,800 adult fall chinook were counted at The Dalles, John Day, and McNary dams, respectively. The turnoff of adult fall chinook into the Snake River was well above the 1998 and 10-year average to date with 5,255 above Ice Harbor Dam, nearly double the 1998 and 10-year average. The jack count at Ice Harbor was 1,805, about 108% of the 1998 count; about 27% of the jacks counted at McNary Dam were counted at Ice Harbor Dam this season. The count of fall chinook at Priest Rapids Dam on the Mid-Columbia River exceeded 25,000 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 have been slowly reducing from about 1,700 on 9/17 to almost 800 by 9/30. The cumulative count through 9/30 was 199,752, and that count was 115% of the 1998 total but remained below the 10-year average. As occurred in 1998, the conversion rate of steelhead counted at John Day Dam this year versus the number of steelhead counted at McNary Dam has been poor, only 55% this year and 53% in 1998. The 10-year average conversion rate was greater than 80% between the two projects. The turnoff into the Snake River totaled 61,371 through September 30 and that count was greater than the 1998 and 10-year average. The count at Priest Rapids Dam was 7,529 and this total exceeded the 1998 and 10-year average.

Coho passage at Bonneville Dam was steadily decreasing through the reporting week, but

daily counts increased the final four days of the week. The cumulative count at Bonneville was 32,894, slightly below the 1998 count, but nearly double the 10-year average. This season has more coho passing The Dalles, John Day, and McNary dams than in other years. More than 10,000 adult coho were counted at The Dalles compared to 3,000 in 1998 and 3,300 for the 10-year average. About 8,500 adult coho have been tallied at John Day and about 3,000 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 will normally enter either the Umatilla River or pass McNary Dam up to the Yakama River.

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
09/17/99	96.1	0.1	95.9	0.0	97.8	0.0	100.7	0.0	98.3	0.0	99.1	1.9	102.8	1.2
09/18/99	84.4	0.1	86.8	0.0	87.3	0.0	82.2	0.0	83.9	0.0	89.0	2.0	94.5	1.9
09/19/99	90.2	0.1	87.1	0.0	88.1	0.0	88.9	0.0	87.7	0.0	88.5	2.0	92.1	1.9
09/20/99	132.4	0.1	133.3	0.0	132.3	9.2	134.0	9.6	130.4	0.0	124.4	2.1	123.0	2.1
09/21/99	115.2	0.1	123.7	0.0	123.7	0.1	129.7	1.3	127.9	0.0	136.0	2.3	146.6	4.2
09/22/99	127.9	0.1	130.1	0.0	126.4	0.0	126.1	1.5	123.1	0.0	124.0	1.6	132.8	1.3
09/23/99	103.1	0.1	106.5	0.0	109.2	0.0	115.3	0.3	116.8	0.0	127.4	1.4	134.6	1.8
09/24/99	92.7	0.1	92.3	0.0	92.6	0.0	95.3	0.0	93.6	0.0	98.1	1.3	104.4	1.8
09/25/99	73.8	0.0	72.2	0.0	75.3	0.0	76.5	0.0	76.5	0.0	85.3	1.4	84.3	1.9
09/26/99	82.0	0.1	85.3	0.0	84.1	0.0	83.2	0.0	81.6	0.0	80.9	1.2	83.6	1.8
09/27/99	123.8	0.1	123.3	0.0	122.1	0.0	124.7	0.0	124.7	0.0	120.9	1.6	118.6	1.6
09/28/99	109.1	0.1	113.9	0.0	115.3	0.0	110.5	0.0	113.6	0.0	116.7	1.8	119.0	1.8
09/29/99	112.1	0.1	113.3	0.0	113.8	0.0	114.7	0.0	114.9	0.0	---	---	---	---
09/30/99	92.1	0.1	97.5	0.0	101.6	0.0	102.7	0.0	99.5	0.0	---	---	---	---

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
09/17/99	1.5	0.0	12.8	13.0	22.4	0.0	24.3	0.0	24.3	0.0	23.1	0.0
09/18/99	1.5	0.0	11.9	10.1	19.6	0.0	20.1	0.0	21.9	0.0	20.7	0.0
09/19/99	1.5	0.0	13.6	9.4	17.1	0.0	16.4	0.0	16.4	0.0	16.9	0.0
09/20/99	1.5	0.0	12.6	14.7	17.3	0.0	16.8	0.0	16.8	0.0	16.2	0.0
09/21/99	1.5	0.0	13.9	16.2	25.2	0.0	27.2	0.0	29.4	0.0	28.8	0.0
09/22/99	1.5	0.0	17.7	19.2	21.7	0.0	20.8	0.0	22.1	0.0	21.8	0.0
09/23/99	1.5	0.0	17.7	15.0	20.4	0.0	21.8	0.0	23.0	0.0	22.3	0.0
09/24/99	1.5	0.0	13.7	12.4	24.1	0.0	22.6	0.0	22.9	0.0	22.6	0.0
09/25/99	1.5	0.0	12.3	10.9	20.2	0.0	23.4	0.0	27.2	0.0	27.9	0.0
09/26/99	1.5	0.0	13.0	12.8	19.6	0.0	21.6	0.0	24.1	0.0	21.0	0.0
09/27/99	1.5	0.0	14.2	12.1	21.5	0.0	19.0	0.0	15.5	1.8	20.2	0.0
09/28/99	1.5	0.0	13.9	10.0	22.3	0.0	24.8	0.0	25.0	0.0	20.2	0.0
09/29/99	1.5	0.0	11.5	15.2	20.1	0.0	18.8	0.0	19.7	0.0	17.9	0.0
09/30/99	1.5	0.0	---	---	25.3	0.0	22.4	0.0	23.7	0.0	22.0	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		
09/17/99	146.9	0.0	149.5	0.7	147.6	0.0	151.6	0.0	68.7	73.7
09/18/99	125.2	0.0	135.1	1.0	144.7	0.0	152.9	0.0	64.1	79.6
09/19/99	109.3	0.0	107.9	1.0	104.9	0.0	119.8	0.0	63.5	47.1
09/20/99	126.2	0.0	131.4	1.0	129.1	0.0	125.9	0.0	58.3	58.4
09/21/99	135.0	0.0	138.5	0.9	145.2	0.0	152.8	0.0	63.3	80.4
09/22/99	176.2	35.1	170.8	0.6	168.9	0.0	158.9	0.0	65.2	84.5
09/23/99	158.2	11.6	149.0	0.9	151.0	0.0	162.6	0.0	61.6	91.8
09/24/99	158.7	10.8	162.9	1.0	157.2	0.0	154.3	0.0	70.8	74.3
09/25/99	122.9	0.0	119.7	1.0	116.8	0.0	124.7	0.0	65.3	50.2
09/26/99	112.7	0.0	118.0	1.0	121.8	0.0	131.2	0.0	66.0	56.0
09/27/99	116.2	0.0	119.1	1.0	124.8	0.0	131.2	0.0	64.8	57.2
09/28/99	131.0	0.0	149.3	1.0	147.8	0.0	153.1	0.0	69.2	74.7
09/29/99	123.8	0.0	124.8	1.1	124.4	0.0	126.3	0.0	63.2	53.9
09/30/99	145.9	0.0	141.4	1.1	140.2	0.0	139.3	0.0	65.6	64.5

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>Tlwrtr G. Coulee</u>				<u>Chief Joseph</u>			<u>Tlwrtr C. Joseph</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>		
9/17	109	109	111	24	111	112	112	24	108	108	109	24	109	109	109	24	109	109	110	24
9/18	109	109	109	24	111	112	112	24	108	109	110	24	108	108	109	24	109	109	111	24
9/19	107	108	108	24	111	111	111	24	108	108	109	24	108	108	109	23	109	109	111	23
9/20	107	108	109	24	110	110	111	24	106	107	107	24	107	107	108	23	108	108	109	23
9/21	110	111	111	24	110	110	110	24	106	107	108	24	108	108	108	23	108	109	109	23
9/22	111	111	111	24	110	110	111	24	106	106	107	24	107	107	108	23	107	108	109	23
9/23	110	111	111	24	110	111	111	24	106	107	108	24	107	107	108	23	108	109	109	23
9/24	108	109	110	24	109	109	109	24	106	107	108	24	106	106	106	24	106	107	108	24
9/25	108	109	110	24	108	109	110	24	106	106	107	24	104	105	106	24	105	106	107	24
9/26	108	108	108	24	106	106	107	24	104	105	105	24	103	103	104	24	104	105	107	24
9/27	107	108	108	24	105	106	106	24	103	104	104	21	103	103	103	24	103	103	104	24
9/28	108	109	112	22	104	105	105	22	103	103	104	22	103	103	104	23	104	104	106	23
9/29	108	109	112	24	105	105	105	24	103	104	104	24	104	104	104	23	104	105	106	23
9/30	109	110	111	24	105	105	105	24	103	104	106	24	104	104	104	23	105	106	107	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Wells</u>			<u>Rocky Reach</u>				<u>Tlwrtr Rocky R.</u>				<u>Rock Island</u>			<u>Tlwrtr Rock Isl</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>		
9/17	---	---	---	0	104	105	105	24	---	---	---	0	103	103	104	24	---	---	---	0
9/18	---	---	---	0	105	105	106	23	---	---	---	0	104	104	104	24	---	---	---	0
9/19	---	---	---	0	104	105	105	24	---	---	---	0	103	104	104	24	---	---	---	0
9/20	---	---	---	0	103	104	105	22	---	---	---	0	103	104	104	23	---	---	---	0
9/21	---	---	---	0	105	106	108	24	---	---	---	0	105	106	106	24	---	---	---	0
9/22	---	---	---	0	106	107	108	24	---	---	---	0	105	106	107	24	---	---	---	0
9/23	---	---	---	0	104	105	105	23	---	---	---	0	105	106	107	24	---	---	---	0
9/24	---	---	---	0	103	103	104	22	---	---	---	0	103	104	104	24	---	---	---	0
9/25	---	---	---	0	100	101	103	24	---	---	---	0	102	103	104	23	---	---	---	0
9/26	---	---	---	0	99	99	100	24	---	---	---	0	100	100	100	24	---	---	---	0
9/27	---	---	---	0	97	98	98	23	---	---	---	0	100	100	100	24	---	---	---	0
9/28	---	---	---	0	98	98	99	24	---	---	---	0	99	99	99	23	---	---	---	0
9/29	---	---	---	0	99	100	100	23	---	---	---	0	99	99	100	23	---	---	---	0
9/30	---	---	---	0	99	100	101	24	---	---	---	0	100	100	100	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>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>		
9/17	105	107	107	24	105	105	106	24	105	106	107	24	106	106	106	24	---	---	---	0
9/18	107	107	108	24	105	106	106	24	107	108	109	24	107	107	108	24	---	---	---	0
9/19	106	107	108	24	105	105	106	24	106	107	107	24	107	107	108	24	106	107	108	24
9/20	106	106	107	24	105	105	106	24	106	106	107	24	106	107	107	24	107	108	111	24
9/21	106	107	108	24	105	106	106	24	106	106	107	24	107	107	107	24	107	108	110	24
9/22	107	109	110	24	106	106	106	22	107	108	111	23	107	107	107	24	107	107	109	24
9/23	107	108	108	24	107	107	107	24	106	107	107	24	107	107	108	24	107	108	109	24
9/24	104	105	105	24	104	104	105	24	104	105	105	24	104	105	105	24	---	---	---	0
9/25	104	105	105	24	103	104	104	24	102	103	104	24	102	103	104	24	---	---	---	0
9/26	101	102	102	24	101	101	101	24	101	102	102	24	101	102	102	24	---	---	---	0
9/27	101	102	102	24	100	100	100	24	101	101	102	24	101	101	104	24	---	---	---	0
9/28	101	102	102	24	100	100	101	24	101	102	103	24	101	102	102	24	106	108	111	24
9/29	102	102	103	24	101	101	101	24	102	103	103	24	102	103	103	24	106	107	108	24
9/30	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	107	107	109	24

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	Can. Boundary			Grand Coulee			Tlwr G. Coulee			Chief Joseph			Tlwr C. Joseph			#				
	24 h	12 h	High	24 h	12 h	High	24 h	12 h	High	24 h	12 h	High	24 h	12 h	High					
9/17	109	109	111	24	111	112	112	24	108	108	109	24	109	109	109	24	109	109	110	24
9/18	109	109	109	24	111	112	112	24	108	109	110	24	108	108	109	24	109	109	111	24
9/19	107	108	108	24	111	111	111	24	108	108	109	24	108	108	109	23	109	109	111	23
9/20	107	108	109	24	110	110	111	24	106	107	107	24	107	107	108	23	108	108	109	23
9/21	110	111	111	24	110	110	110	24	106	107	108	24	108	108	108	23	108	109	109	23
9/22	111	111	111	24	110	110	111	24	106	106	107	24	107	107	108	23	107	108	109	23
9/23	110	111	111	24	110	111	111	24	106	107	108	24	107	107	108	23	108	109	109	23
9/24	108	109	110	24	109	109	109	24	106	107	108	24	106	106	106	24	106	107	108	24
9/25	108	109	110	24	108	109	110	24	106	106	107	24	104	105	106	24	105	106	107	24
9/26	108	108	108	24	106	106	107	24	104	105	105	24	103	103	104	24	104	105	107	24
9/27	107	108	108	24	105	106	106	24	103	104	104	21	103	103	103	24	103	103	104	24
9/28	108	109	112	22	104	105	105	22	103	103	104	22	103	103	104	23	104	104	106	23
9/29	108	109	112	24	105	105	105	24	103	104	104	24	104	104	104	23	104	105	106	23
9/30	109	110	111	24	105	105	105	24	103	104	106	24	104	104	104	23	105	106	107	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Wells			Rocky Reach			Tlwr Rocky R.			Rock Island			Tlwr Rock Isl			#				
	24 h	12 h	High	24 h	12 h	High	24 h	12 h	High	24 h	12 h	High	24 h	12 h	High					
9/17	---	---	---	0	104	105	105	24	---	---	---	0	103	103	104	24	---	---	---	0
9/18	---	---	---	0	105	105	106	23	---	---	---	0	104	104	104	24	---	---	---	0
9/19	---	---	---	0	104	105	105	24	---	---	---	0	103	104	104	24	---	---	---	0
9/20	---	---	---	0	103	104	105	22	---	---	---	0	103	104	104	23	---	---	---	0
9/21	---	---	---	0	105	106	108	24	---	---	---	0	105	106	106	24	---	---	---	0
9/22	---	---	---	0	106	107	108	24	---	---	---	0	105	106	107	24	---	---	---	0
9/23	---	---	---	0	104	105	105	23	---	---	---	0	105	106	107	24	---	---	---	0
9/24	---	---	---	0	103	103	104	22	---	---	---	0	103	104	104	24	---	---	---	0
9/25	---	---	---	0	100	101	103	24	---	---	---	0	102	103	104	23	---	---	---	0
9/26	---	---	---	0	99	99	100	24	---	---	---	0	100	100	100	24	---	---	---	0
9/27	---	---	---	0	97	98	98	23	---	---	---	0	100	100	100	24	---	---	---	0
9/28	---	---	---	0	98	98	99	24	---	---	---	0	99	99	99	23	---	---	---	0
9/29	---	---	---	0	99	100	100	23	---	---	---	0	99	99	100	23	---	---	---	0
9/30	---	---	---	0	99	100	101	24	---	---	---	0	100	100	100	24	---	---	---	0

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

Date	Wanapum			Dwns Wanapum			Priest Rapids			Dwns P Rapids			Dworshak			#				
	24 h	12 h	High	24 h	12 h	High	24 h	12 h	High	24 h	12 h	High	24 h	12 h	High					
9/17	105	107	107	24	105	105	106	24	105	106	107	24	106	106	106	24	---	---	---	0
9/18	107	107	108	24	105	106	106	24	107	108	109	24	107	107	108	24	---	---	---	0
9/19	106	107	108	24	105	105	106	24	106	107	107	24	107	107	108	24	106	107	108	24
9/20	106	106	107	24	105	105	106	24	106	106	107	24	106	107	107	24	107	108	111	24
9/21	106	107	108	24	105	106	106	24	106	106	107	24	107	107	107	24	107	108	110	24
9/22	107	109	110	24	106	106	106	22	107	108	111	23	107	107	107	24	107	107	109	24
9/23	107	108	108	24	107	107	107	24	106	107	107	24	107	107	108	24	107	108	109	24
9/24	104	105	105	24	104	104	105	24	104	105	105	24	104	105	105	24	---	---	---	0
9/25	104	105	105	24	103	104	104	24	102	103	104	24	102	103	104	24	---	---	---	0
9/26	101	102	102	24	101	101	101	24	101	102	102	24	101	102	102	24	---	---	---	0
9/27	101	102	102	24	100	100	100	24	101	101	102	24	101	101	104	24	---	---	---	0
9/28	101	102	102	24	100	100	101	24	101	102	103	24	101	102	102	24	106	108	111	24
9/29	102	102	103	24	101	101	101	24	102	103	103	24	102	103	103	24	106	107	108	24
9/30	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	107	107	109	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>John Day</u>			<u>Tlwtr John Day</u>			<u>The Dalles</u>			<u>Dnstr T. Dalles</u>			<u>Bonneville</u>			#				
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>		<u>#</u>			
	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>		<u>Avg</u>	<u>hr</u>		<u>Avg</u>	<u>Avg</u>			<u>hr</u>	<u>Avg</u>	<u>AVG</u>
9/17	101	102	103	24	100	100	101	24	100	100	100	24	100	100	100	24	100	100	100	24
9/18	102	104	105	24	99	100	100	23	101	101	101	24	100	101	102	24	100	101	101	24
9/19	103	105	105	23	100	101	102	24	101	101	101	23	101	101	102	24	100	100	101	23
9/20	104	105	106	23	101	101	102	24	101	101	101	23	101	101	102	23	100	100	101	23
9/21	102	102	103	11	100	100	100	5	101	101	101	9	100	100	101	12	100	101	101	23
9/22	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	101	101	101	23
9/23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	101	101	102	23
9/24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	100	100	100	24
9/25	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	98	99	100	24
9/26	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	98	98	98	24
9/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	98	98	98	24
9/28	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	98	98	99	23
9/29	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	99	99	99	23
9/30	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	99	99	100	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>Warrendale</u>			<u>Skamania</u>			<u>Camas/Wash.</u>			#		
	<u>24 h</u>	<u>12 h</u>	<u>High</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>hr</u>	<u>Avg</u>	<u>Avg</u>		<u>hr</u>	<u>Avg</u>			<u>Avg</u>
9/17	101	101	101	24	101	101	101	23	101	102	103	24
9/18	101	101	102	24	101	102	102	24	102	103	109	24
9/19	101	101	102	23	101	101	102	23	102	102	105	24
9/20	101	101	101	23	101	101	102	23	102	102	103	21
9/21	101	101	102	23	101	102	102	23	103	103	104	24
9/22	101	102	102	23	101	101	101	7	103	104	107	24
9/23	102	102	102	23	---	---	---	0	103	103	107	8
9/24	100	101	101	24	---	---	---	0	---	---	---	0
9/25	99	99	100	24	---	---	---	0	---	---	---	0
9/26	99	99	99	24	---	---	---	0	---	---	---	0
9/27	99	99	99	24	---	---	---	0	---	---	---	0
9/28	99	99	100	23	---	---	---	0	---	---	---	0
9/29	100	100	101	23	---	---	---	0	---	---	---	0
9/30	100	100	101	23	---	---	---	0	---	---	---	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)
09/17/99	---	---	---	---	0	0	0	---	0	0	0
09/18/99	---	---	---	---	2	0	0	---	0	0	0
09/19/99	---	---	---	---	0	0	0	---	0	0	0
09/20/99	---	---	---	---	0	1	0	---	0	0	0
09/21/99	---	---	---	---	0	1	0	---	0	0	0
09/22/99	---	---	---	---	0	1	0	---	0	0	0
09/23/99	---	---	---	---	0	1	---	---	0	0	0
09/24/99	---	---	---	---	0	0	0	---	0	0	0
09/25/99	---	---	---	---	0	0	0	---	0	0	0
09/26/99	---	---	---	---	0	0	0	---	0	0	0
09/27/99	---	---	---	---	0	0	0	---	0	0	0
09/28/99	---	---	---	---	0	0	0	---	0	0	0
09/29/99	---	---	---	---	0	0	0	---	---	0	0
09/30/99	---	---	---	---	---	0	---	---	0	0	8
Total:	0	0	0	0	2	4	0	0	0	0	8
# Days:	0	0	0	0	13	14	12	0	13	14	14
Average:	0	0	0	0	0	0	0	0	0	0	1

Wild Yearling Chinook

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
09/17/99	---	---	---	---	0	0	0
09/18/99	---	---	---	---	1	0	0
09/19/99	---	---	---	---	0	0	0
09/20/99	---	---	---	---	0	0	0
09/21/99	---	---	---	---	0	0	0
09/22/99	---	---	---	---	0	1	0
09/23/99	---	---	---	---	0	1	---
09/24/99	---	---	---	---	0	0	0
09/25/99	---	---	---	---	0	0	0
09/26/99	---	---	---	---	0	0	0
09/27/99	---	---	---	---	0	0	0
09/28/99	---	---	---	---	0	0	0
09/29/99	---	---	---	---	0	0	0
09/30/99	---	---	---	---	---	0	---
Total:	0	0	0	0	1	2	0
# Days:	0	0	0	0	13	14	12
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)
09/17/99	---	---	---	---	347	81	152	---	865	291	290
09/18/99	---	---	---	---	243	49	103	---	988	227	99
09/19/99	---	---	---	---	350	72	85	---	844	131	91
09/20/99	---	---	---	---	381	84	91	---	372	165	72
09/21/99	---	---	---	---	429	118	84	---	896	177	182
09/22/99	---	---	---	---	367	147	46	---	699	165	129
09/23/99	---	---	---	---	376	205	---	---	721	141	139
09/24/99	---	---	---	---	374	81	8	---	918	68	98
09/25/99	---	---	---	---	203	53	0	---	843	56	120
09/26/99	---	---	---	---	133	65	12	---	720	20	192
09/27/99	---	---	---	---	152	69	14	---	604	40	151
09/28/99	---	---	---	---	175	40	7	---	392	201	200
09/29/99	---	---	---	---	217	87	7	---	---	77	104
09/30/99	---	---	---	---	---	189	---	---	548	85	167
Total:	0	0	0	0	3,747	1,340	609	0	9,410	1,844	2,034
# Days:	0	0	0	0	13	14	12	0	13	14	14
Average:	0	0	0	0	288	96	51	0	724	132	145

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)
09/17/99	---	---	---	---	3	0	0	---	0	0	0
09/18/99	---	---	---	---	2	0	0	---	0	0	0
09/19/99	---	---	---	---	1	2	0	---	0	0	0
09/20/99	---	---	---	---	3	0	0	---	0	0	0
09/21/99	---	---	---	---	4	1	0	---	0	0	0
09/22/99	---	---	---	---	4	0	0	---	0	0	0
09/23/99	---	---	---	---	3	4	---	---	0	0	0
09/24/99	---	---	---	---	10	0	0	---	0	0	0
09/25/99	---	---	---	---	9	0	0	---	0	0	0
09/26/99	---	---	---	---	0	0	0	---	0	0	0
09/27/99	---	---	---	---	2	1	0	---	0	0	0
09/28/99	---	---	---	---	2	0	0	---	0	0	0
09/29/99	---	---	---	---	0	0	0	---	---	0	7
09/30/99	---	---	---	---	---	1	---	---	0	0	0
Total:	0	0	0	0	43	9	0	0	0	0	7
# Days:	0	0	0	0	13	14	12	0	13	14	14
Average:	0	0	0	0	3	1	0	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)	
09/17/99	---	---	---	---	3	1	0	---	0	0	0	0
09/18/99	---	---	---	---	1	0	0	---	0	0	0	0
09/19/99	---	---	---	---	2	0	1	---	0	0	0	0
09/20/99	---	---	---	---	1	0	0	---	0	0	0	0
09/21/99	---	---	---	---	0	0	0	---	0	0	0	0
09/22/99	---	---	---	---	1	0	0	---	0	0	0	0
09/23/99	---	---	---	---	0	2	---	---	10	0	0	0
09/24/99	---	---	---	---	2	2	0	---	0	0	0	0
09/25/99	---	---	---	---	1	0	1	---	4	0	0	0
09/26/99	---	---	---	---	1	0	1	---	0	0	0	0
09/27/99	---	---	---	---	0	0	2	---	4	0	0	0
09/28/99	---	---	---	---	0	0	0	---	0	0	0	0
09/29/99	---	---	---	---	1	1	0	---	---	0	0	0
09/30/99	---	---	---	---	---	0	---	---	0	0	0	0
Total:	0	0	0	0	13	6	5	0	18	0	0	0
# Days:	0	0	0	0	13	14	12	0	13	14	14	14
Average:	0	0	0	0	1	0	0	0	1	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)	
09/17/99	---	---	---	---	2	0	0	---	0	0	0	0
09/18/99	---	---	---	---	0	0	0	---	0	0	0	0
09/19/99	---	---	---	---	0	0	0	---	0	0	0	0
09/20/99	---	---	---	---	0	0	1	---	0	0	0	0
09/21/99	---	---	---	---	0	0	0	---	0	0	0	0
09/22/99	---	---	---	---	0	0	0	---	0	0	0	0
09/23/99	---	---	---	---	0	1	---	---	0	0	0	0
09/24/99	---	---	---	---	0	0	0	---	0	0	0	0
09/25/99	---	---	---	---	0	0	0	---	0	0	0	0
09/26/99	---	---	---	---	0	0	0	---	0	0	0	0
09/27/99	---	---	---	---	0	0	0	---	0	0	0	0
09/28/99	---	---	---	---	1	0	0	---	0	0	0	0
09/29/99	---	---	---	---	0	0	0	---	---	0	0	0
09/30/99	---	---	---	---	---	0	---	---	0	0	0	0
Total:	0	0	0	0	3	1	1	0	0	0	0	0
# Days:	0	0	0	0	13	14	12	0	13	14	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)	
09/17/99	---	---	---	---	0	0	0	---	0	0	0	
09/18/99	---	---	---	---	0	0	0	---	0	0	0	
09/19/99	---	---	---	---	0	0	0	---	0	0	0	
09/20/99	---	---	---	---	0	0	0	---	0	0	0	
09/21/99	---	---	---	---	0	0	0	---	4	0	0	
09/22/99	---	---	---	---	0	0	0	---	0	0	0	
09/23/99	---	---	---	---	0	0	---	---	0	0	0	
09/24/99	---	---	---	---	0	0	0	---	0	0	0	
09/25/99	---	---	---	---	0	0	0	---	0	0	0	
09/26/99	---	---	---	---	0	0	0	---	0	0	0	
09/27/99	---	---	---	---	0	0	0	---	0	0	0	
09/28/99	---	---	---	---	0	0	0	---	0	0	0	
09/29/99	---	---	---	---	0	0	0	---	---	0	0	
09/30/99	---	---	---	---	---	0	---	---	0	0	0	
Total:	0	0	0	0	0	0	0	0	4	0	0	
# Days:	0	0	0	0	13	14	12	0	13	14	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)	
09/17/99	---	---	---	---	1	0	0	---	0	0	0	
09/18/99	---	---	---	---	0	0	0	---	0	0	0	
09/19/99	---	---	---	---	3	0	1	---	0	0	0	
09/20/99	---	---	---	---	1	0	0	---	0	0	0	
09/21/99	---	---	---	---	1	0	0	---	0	0	0	
09/22/99	---	---	---	---	3	0	0	---	4	0	0	
09/23/99	---	---	---	---	1	0	---	---	0	0	0	
09/24/99	---	---	---	---	0	0	0	---	0	0	0	
09/25/99	---	---	---	---	1	0	0	---	0	0	0	
09/26/99	---	---	---	---	2	0	0	---	0	0	0	
09/27/99	---	---	---	---	1	0	0	---	0	0	0	
09/28/99	---	---	---	---	2	1	0	---	0	4	0	
09/29/99	---	---	---	---	3	2	0	---	---	0	0	
09/30/99	---	---	---	---	---	0	---	---	0	0	0	
Total:	0	0	0	0	19	3	1	0	4	4	0	
# Days:	0	0	0	0	13	14	12	0	13	14	14	
Average:	0	0	0	0	1	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 September 30, 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	231,076	19,810	181,136	25,582	172,031	26,480
TDA	17,563	6,180	25,225	518	39,635	1,617	21,730	3,207	15,462	1,444	17,039	1,868	121,714	15,660	82,548	15,529	96,329	17,611
JDA	15,409	5,089	21,820	378	31,309	1,325	22,210	2,504	16,246	1,534	15,357	1,707	95,509	9,614	63,453	9,099	70,820	12,586
MCN	9,260	3,972	19,415	337	30,860	1,525	19,275	2,343	16,226	1,408	16,460	1,733	66,813	6,177	46,813	9,263	57,388	12,564
IHR	5,351	2,657	12,434	130	16,094	620	3,900	1,311	5,473	304	4,420	406	5,255	1,805	2,994	1,711	2,758	719
LMN	3,924	2,726	10,598	131	15,276	682	3,372	1,344	4,290	301	4,196	434	4,127	1,402	1,989	1,231	1,578	464
LGS	3,445	2,690	10,512	118	**	**	3,273	1,583	4,298	334	**	**	2,996	914	1,197	819	**	**
LWG	3,296	2,507	9,854	109	13,146	573	3,260	1,584	4,355	328	4,213	426	2,495	801	1,011	561	654	164
PRD	4,139	761	4,124	37	9,804	151	20,896	517	13,387	601	13,946	595	25,128	818	8,304	1,205	8,556	1,377
RIS	3,309	915	3,187	54	7,271	160	18,588	1,548	11,689	1,165	11,682	933	5,935	599	3,012	730	3,280	838
RRH	1,389	233	762	54	1,670	39	10,479	1,111	6,706	326	4,603	383	3,846	3,836	1,961	259	1,874	365
WEL	141	199	6	24	902	41	7,335	541	3,237	733	2,825	322	1,172	454	685	77	703	105

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	32,894	2,629	34,189	2,245	17,009	3,272	17,874	13,218	44,504	199,752	173,393	217,650	54,013
TDA	10,171	1,226	3,085	443	3,262	1,047	13,715	8,828	35,476	139,788	87,897	138,711	38,841
JDA	8,475	1,011	2,307	517	2,357	840	14,803	9,835	36,722	134,865	94,067	107,321	33,287
MCN	2,775	152	645	48	705	337	11,792	9,391	38,698	71,416	51,727	89,351	14,998
IHR	48	4	1	0	2	0	8	7	9	61,371	33,800	58,628	10,119
LMN	2	1	0	0	0	0	11	1	7	50,085	22,869	44,302	7,557
LGS	5	0	1	0	**	**	16	5	**	42,607	15,827	**	6,978
LWG	4	2	0	0	0	0	14	2	6	44,500	16,455	34,328	7,542
PRD	47	4	25	0	8	0	16,360	10,768	43,385	7,529	4,536	7,348	***
RIS	0	0	0	0	8	0	18,345	9,333	37,863	5,490	3,514	5,836	1,552
RRH	22	0	0	0	1	0	14,100	5,682	18,755	3,989	2,884	3,793	553
WEL	0	0	0	0	2	0	12,224	4,624	17,581	2,883	1,509	2,852	417

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

Wild steelhead numbers are included in the total.

RIS, RRH are through 09/27; LMN, PRD are through 09/28; LGS, WEL are through 09/29.

*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 09/17/99 to 09/30/99

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	3	3,747	16	43	19	3,828
Bypassed	0	0	0	0	0	0
Trucked	5	4,143	21	45	20	4,234
Barged	0	0	0	0	0	0
Total Transported	5	4,143	21	45	20	4,234
LITTLE GOOSE DAM						
Collected	6	1,340	7	9	3	1,365
Bypassed	0	0	0	0	0	0
Trucked	5	1,101	7	8	2	1,123
Barged	0	0	0	0	0	0
Total Transported	5	1,101	7	8	2	1,123
LOWER MONUMENTAL DAM						
Collected	0	608	6	0	1	615
Bypassed	0	0	6	0	0	6
Trucked	0	531	0	0	1	532
Barged	0	0	0	0	0	0
Total Transported	0	531	0	0	1	532
MCNARY DAM						
Collected	0	9,056	16	0	8	9,080
Bypassed	0	0	0	0	0	0
Trucked	0	9,394	16	0	12	9,422
Barged	0	0	0	0	0	0
Total Transported	0	9,394	16	0	12	9,422
PROJECT TOTALS						
Collected	9	14,751	45	52	31	14,888
Bypassed	0	0	6	0	0	6
Trucked	10	15,169	44	53	35	15,311
Barged	0	0	0	0	0	0
Total Transported	10	15,169	44	53	35	15,311

**Transportation Summary Report
Cumulative Transportation Summary
through 09/30/99**

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	2,173,476	243,757	3,355,140	78,587	17,649	5,868,609
Bypassed	115,918	97	266,363	14,608	1,640	398,626
Trucked	32,287	147,526	34,630	1,470	1,552	217,465
Barged	2,011,776	94,052	3,053,028	62,315	14,012	5,235,183
Total Transported	2,044,063	241,578	3,087,658	63,785	15,564	5,452,648
LITTLE GOOSE DAM						
Collected	3,532,357	196,067	3,135,596	117,415	21,047	7,002,482
Bypassed	19,783	0	158,018	4,195	299	182,295
Trucked	8,534	113,206	4,293	1,060	612	127,705
Barged	3,481,124	77,971	2,969,994	111,937	18,954	6,659,980
Total Transported	3,489,658	191,177	2,974,287	112,997	19,566	6,787,685
LOWER MONUMENTAL DAM						
Collected	1,892,443	132,370	1,978,783	51,163	12,871	4,067,630
Bypassed	148,537	1	251,025	7,795	596	407,954
Trucked	5,482	98,372	2,234	128	215	106,431
Barged	1,736,425	33,327	1,724,869	43,237	12,032	3,549,890
Total Transported	1,741,907	131,699	1,727,103	43,365	12,247	3,656,321
MCNARY DAM						
Collected	2,104,592	4,200,447	537,690	140,758	782,922	7,766,409
Bypassed	2,098,392	801,225	532,579	137,083	781,069	4,350,348
Trucked	251	767,508	979	38	422	769,198
Barged	3,490	2,589,486	3,896	3,544	836	2,601,252
Total Transported	3,741	3,356,994	4,875	3,582	1,258	3,370,450
PROJECT TOTALS						
Collected	9,702,868	4,772,641	9,007,209	387,923	834,489	24,705,130
Bypassed	2,382,630	801,323	1,207,985	163,681	783,604	5,339,223
Trucked	46,554	1,126,612	42,136	2,696	2,801	1,220,799
Barged	7,232,815	2,794,836	7,751,787	221,033	45,834	18,046,305
Total Transported	7,279,369	3,921,448	7,793,923	223,729	48,635	19,267,104