



Fish Passage Center

Bi-Weekly Report #99 - 30

October 15, 1999

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SUMMARY OF EVENTS:

Water Supply: Temperatures remained normal or below normal for this period (October 1-14) across the basin. It is expected that temperature departures in the basin west of the Cascades during the coming week will reach 5 to 10 degrees above normal, while east of the Cascades will remain below normal. Precipitation for the October 1 through 8 period was below normal in the entire basin except at Kootenai with 121% of normal and NW Slope Washington Cascades with 123% of normal. The lowest precipitation was at the Snake River basin with 3% of normal precipitation and at Southeast and Central Washington, also with 3% of normal precipitation. Precipitation for the Columbia above Coulee was 65% of normal, the Snake River above Ice Harbor was 7% of normal and the Columbia above The Dalles was 44% 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 1.1 kcfs-2.3 kcfs. The inflows fluctuated from 0.30 kcfs to 2.3 kcfs during October 1-14. The major requirement for this period of the year is a 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. The outflows were periodically decreasing to 10 kcfs for transmission lines work. Inflows for October 1 through 14 fluctuated from 4.2 kcfs-7.2 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 39-55 kcfs during the previous two weeks, and it will continue with similar outflows during the coming period.
- Grand Coulee continued to be operated for power requirements during the period of October 1 through 15. The major non-power requirement is not to operate below an elevation of 1283 ft for kokanee spawning. Outflows fluctuated from 72.9 kcfs on October 10 to 104.8 kcfs on October 13.
- Dworshak reservoir is operating at minimum outflow of 1.5 kcfs. Current inflows are in the range of 1 kcfs to 2.7 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 may be drafted to 2026 ft by the third week of October for power purposes. Irrigation demands decreased water withdrawals causing higher return flows below Weiser and higher inflows in the reservoir. Outflows at Hells Canyon Dam were in the range of 16 kcfs to 20 kcfs for the period of October 1-14.

A summary of the current elevations on October 14, 1999 is given in the following table:

Reservoir	Actual elev. As of October 14 [ft]	Max Reservoir pool [ft]
Libby	2445.11	2459
Hungry Horse	3542.92	3560
Grand Coulee	1286.9	1290
Brownlee	2030.1*	2077
Dworshak	1518.46	1600

* as of October 13

Upper Snake reservoirs:

Outflows at Milner are still in the range of 1.2-1.3 kcfs. It is expected that similar outflows will continue through the end of month. American Falls Reservoir is currently at 40% of full capacity. Two other major reservoirs in the system, Palisades and Jackson Lake, are both at 75% of full capacity.

Boise and Payette River Basins:

The daily average outflow from the Boise River system is 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%, 21% and 19% of capacity, respectively.

The daily average outflow from the Payette river system is in the range of 600 cfs-650 cfs. The major reservoirs in the system, Cascade and Deadwood are at 70% and 68% of capacity, respectively.

Streamflow:

The weekly average discharges for the major run-of-river projects for September 17-October 14 are given in the following table:

Project	Average Discharge [kcfs]			
	Sept. 17-23	Sept. 24-30	Oct. 1-7	Oct. 8-14
Priest Rapids	118.1	102.0*	95.6	96.8
McNary	139.6	130.2	120.8	120.3
Lower Granite	20.52	21.9	24.8	25.4
Bonneville	146.4	137.1	125.1	128.4

*period of September 24-28

Adult Fish Passage – During the past two weeks (Oct 1-14), passage of adult fall chinook at Bonneville Dam tapered off from between 400 to 1,200 per day the first week to about 250 to 500 during the second week. Overall, the 1999 adult fall chinook run totaling 239,463 is about 128% and 136% of the respective 1998 and the 10-year average through October 14. 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 130,000, 104,000, and 75,500 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 6,178 above Ice Harbor Dam, nearly double the 1998 and 10-year average. The jack count at Ice Harbor was 3,005, about 95% of the 1998 count; about 37% 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 500 on 10/1 to almost 160 by 10/14. The cumulative count through 10/14 was 204,338 and that count was 112% 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 52% this year and 62% in 1998. The 10-year average conversion rate was greater than 80% between the two projects. The turnoff into the Snake River totaled 73,914 through October 14 and that count was greater than the 1998, but less than the 10-year average. The count at Priest Rapids Dam was 8,063 and this total exceeded the 1998 and is about equal to the 10-year average.

Coho passage at Bonneville Dam generally ranged between 200 and 400 fish on a daily basis. The cumulative count at Bonneville was 36,969, 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 12,500 adult coho were counted at The Dalles compared to 5,500 in 1998 and 4,100 for the 10-year average. About 11,000 adult coho have been tallied at John Day and about 4,200 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.

Smolt Monitoring. From week to week in this two-week reporting period, average passage indices of subyearling chinook decreased over 44% at Little Goose and Bonneville dams, nominally changed between -10% and +10% at Lower Monumental and John Day dams, and increased over 49% at Lower Granite and McNary dams. The largest daily increase in subyearling chinook came at Lower Granite and McNary dams on September 29 with passage indices of 872 and 1,524, respectively, which is more than double the magnitude of all other days averaged together. During the current two-week reporting period, subyearling chinook mortality percentages were zero at John Day and Bonneville dams, 0.19% at Lower Monumental Dam, 0.54% at McNary Dam, 0.66% at Lower Granite Dam, and 2.53% at Little Goose Dam. These mortality rates are lower than in prior weeks when more impacts from the fish disease *Columnaris* were present.

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
10/01/99	77.4	0.0	79.0	0.0	80.9	0.0	84.9	0.0	87.5	0.0	89.9	3.7	90.5	1.8
10/02/99	89.8	0.0	85.7	0.0	83.2	0.0	81.0	0.0	78.5	0.0	71.4	2.3	69.9	1.9
10/03/99	81.1	0.0	77.0	0.0	78.7	1.3	79.8	0.0	78.8	0.0	80.9	4.2	83.6	2.1
10/04/99	93.5	0.0	102.1	0.0	107.0	0.0	112.6	0.0	112.7	0.1	119.6	5.7	125.5	1.6
10/05/99	97.3	0.0	95.4	0.0	92.9	0.0	96.0	0.0	96.5	0.0	103.1	3.8	99.4	1.7
10/06/99	81.4	0.0	87.4	0.0	91.1	0.0	92.7	0.0	91.9	0.0	101.7	3.6	104.3	1.8
10/07/99	83.3	0.0	82.1	0.0	81.3	0.0	82.9	0.0	81.5	0.0	91.4	3.9	96.3	1.7
10/08/99	75.8	0.0	78.1	0.0	82.3	0.0	84.5	0.0	84.2	0.0	95.4	4.0	90.9	1.9
10/09/99	78.9	0.0	81.4	0.0	80.7	0.0	80.3	0.0	80.9	0.0	65.9	2.7	66.4	1.8
10/10/99	72.9	0.0	73.3	0.0	77.4	0.0	79.9	0.0	80.0	0.0	81.9	3.2	85.0	1.7
10/11/99	98.0	0.0	102.5	0.0	102.2	0.0	102.2	0.0	100.9	0.0	100.0	4.8	106.3	1.5
10/12/99	93.5	0.0	92.6	0.0	93.6	0.0	94.6	0.0	97.9	0.0	112.2	4.4	114.7	1.7
10/13/99	104.8	0.0	101.9	0.0	101.7	0.0	98.3	0.0	97.3	0.0	105.9	4.3	102.4	1.7
10/14/99	81.8	0.0	92.0	0.0	96.5	0.0	100.7	0.0	101.9	0.0	110.2	0.7	112.0	2.0

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

Date	Dworshak		Brownlee Canyon		Hells		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
10/01/99	1.5	0.0	15.1	12.8	25.2	0.0	23.5	0.0	24.2	0.0	24.5	0.0	24.5	0.0
10/02/99	1.5	0.0	15.2	16.7	23.8	0.0	23.9	0.0	26.3	0.0	27.4	0.0	27.4	0.0
10/03/99	1.5	0.0	13.2	9.1	25.4	0.0	24.4	0.0	24.1	0.0	21.0	0.0	21.0	0.0
10/04/99	1.5	0.0	14.4	17.0	19.6	0.0	19.3	0.0	21.7	0.0	19.6	0.0	19.6	0.0
10/05/99	1.5	0.0	15.2	19.7	25.4	0.0	25.4	0.0	27.9	0.0	28.4	0.0	28.4	0.0
10/06/99	1.5	0.0	15.7	20.2	26.9	0.0	26.0	0.0	27.2	0.0	26.3	0.0	26.3	0.0
10/07/99	1.5	0.0	14.3	15.9	27.4	0.0	26.7	0.0	28.1	0.0	26.0	0.0	26.0	0.0
10/08/99	1.5	0.0	14.2	19.7	25.2	0.0	25.5	0.0	28.1	0.0	28.6	0.0	28.6	0.0
10/09/99	1.5	0.0	14.4	20.3	26.1	0.0	26.3	0.0	27.0	0.0	25.0	0.0	25.0	0.0
10/10/99	1.5	0.0	14.4	11.9	27.4	0.0	28.6	0.0	31.6	0.0	29.6	0.0	29.6	0.0
10/11/99	1.5	0.0	13.9	15.9	22.7	0.0	22.2	0.0	24.5	0.0	22.6	0.0	22.6	0.0
10/12/99	1.5	0.0	15.6	19.5	24.5	0.0	25.6	0.0	26.2	0.0	26.4	0.0	26.4	0.0
10/13/99	1.5	0.0	15.0	17.7	25.7	0.0	24.8	0.0	25.9	0.0	24.4	0.0	24.4	0.0
10/14/99	1.5	0.0	---	---	26.2	0.0	26.1	0.0	27.7	0.0	26.8	0.0	26.8	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		
10/01/99	136.7	0.0	131.1	1.0	132.2	0.0	134.3	0.0	---	---
10/02/99	102.2	0.0	96.8	0.8	95.4	0.0	116.1	0.0	59.9	47.0
10/03/99	82.2	0.0	88.0	0.9	89.5	0.0	111.1	0.0	60.2	41.7
10/04/99	125.5	0.0	132.4	0.9	132.5	0.0	119.0	0.0	50.2	59.6
10/05/99	136.5	1.9	127.0	1.0	127.0	0.0	128.3	0.0	---	---
10/06/99	135.6	4.1	126.7	1.0	128.3	0.0	131.9	0.0	49.1	73.6
10/07/99	127.1	0.0	133.6	1.0	134.8	0.0	134.8	0.0	49.9	75.7
10/08/99	130.1	0.0	132.6	0.9	131.4	0.0	132.0	0.0	---	---
10/09/99	96.6	0.0	114.6	0.9	122.2	0.0	127.1	0.0	60.9	57.0
10/10/99	99.8	0.0	107.8	0.9	107.4	0.0	126.5	0.0	61.3	56.0
10/11/99	129.6	0.0	112.0	0.9	115.4	0.0	125.8	0.0	66.8	49.8
10/12/99	135.3	0.0	136.4	0.9	136.1	0.0	126.1	0.0	60.9	56.0
10/13/99	119.5	0.0	123.5	1.2	125.1	0.0	126.4	0.0	59.8	57.4
10/14/99	131.1	0.0	139.9	1.0	138.8	0.0	135.2	0.0	60.4	65.6

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>	#	<u>24 h</u>	<u>12 h</u>	#		
	Avg	Avg		High	Avg		Avg	High		Avg	Avg		High	Avg		Avg	High		Avg	Avg
10/1	108	108	109	24	104	105	105	24	103	104	105	24	103	103	104	23	104	105	106	23
10/2	106	107	109	24	104	105	105	24	103	104	106	24	103	103	103	23	104	104	106	23
10/3	105	105	106	24	104	104	104	24	103	103	104	24	103	103	103	23	104	104	105	23
10/4	106	108	109	24	104	104	105	24	102	103	105	24	103	104	104	23	103	103	104	23
10/5	107	108	109	24	105	105	105	24	103	103	105	24	104	104	104	23	104	105	105	23
10/6	106	107	107	24	104	105	105	24	103	103	104	24	103	104	104	23	105	106	106	23
10/7	106	106	107	24	104	104	104	24	102	102	105	14	103	103	103	24	105	106	106	24
10/8	106	107	108	24	104	104	104	24	---	---	---	0	102	102	103	24	104	105	105	24
10/9	106	107	108	24	103	103	104	24	---	---	---	0	101	101	102	23	102	103	104	23
10/10	106	106	107	24	103	103	103	24	---	---	---	0	101	101	102	23	103	104	104	23
10/11	106	107	108	24	103	103	104	24	---	---	---	0	101	102	102	24	102	102	103	24
10/12	108	110	113	24	103	103	103	24	---	---	---	0	101	101	102	24	103	104	104	24
10/13	111	112	112	24	103	103	104	24	---	---	---	0	102	102	102	23	102	103	104	23
10/14	108	110	112	24	103	103	103	24	---	---	---	0	101	101	101	23	102	103	104	23

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			
10/1	---	---	---	0	99	100	100	23	---	---	---	0	99	99	100	23	---	---	---	0
10/2	---	---	---	0	99	100	100	24	---	---	---	0	99	99	99	24	---	---	---	0
10/3	---	---	---	0	100	100	101	24	---	---	---	0	99	99	99	24	---	---	---	0
10/4	---	---	---	0	100	100	101	22	---	---	---	0	100	100	100	22	---	---	---	0
10/5	---	---	---	0	100	100	102	23	---	---	---	0	100	100	101	23	---	---	---	0
10/6	---	---	---	0	99	100	101	22	---	---	---	0	100	100	101	24	---	---	---	0
10/7	---	---	---	0	98	99	99	22	---	---	---	0	99	99	100	23	---	---	---	0
10/8	---	---	---	0	99	99	99	20	---	---	---	0	99	99	100	24	---	---	---	0
10/9	---	---	---	0	98	98	98	24	---	---	---	0	98	98	98	24	---	---	---	0
10/10	---	---	---	0	98	98	99	23	---	---	---	0	98	98	99	24	---	---	---	0
10/11	---	---	---	0	97	98	98	21	---	---	---	0	99	99	99	24	---	---	---	0
10/12	---	---	---	0	97	98	98	23	---	---	---	0	98	98	99	23	---	---	---	0
10/13	---	---	---	0	97	98	99	24	---	---	---	0	98	98	99	24	---	---	---	0
10/14	---	---	---	0	96	97	97	22	---	---	---	0	97	97	98	23	---	---	---	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			
10/1	101	102	103	24	102	103	109	24	102	102	103	24	102	103	104	24	106	107	108	24
10/2	101	102	102	24	101	101	104	24	102	104	105	24	102	103	104	24	106	107	108	24
10/3	101	102	102	24	101	102	108	24	103	104	105	24	103	104	104	24	106	107	108	24
10/4	101	101	103	24	102	103	104	24	103	103	104	24	103	103	104	24	106	107	108	24
10/5	102	102	102	24	102	104	107	24	104	105	105	24	104	104	105	24	107	108	109	24
10/6	101	102	102	24	101	102	103	24	103	103	104	24	103	103	104	24	---	---	---	0
10/7	101	102	105	24	---	---	---	0	103	103	104	24	103	103	104	24	---	---	---	0
10/8	101	101	102	24	102	103	104	24	102	102	103	24	103	103	104	24	---	---	---	0
10/9	100	100	101	24	101	102	106	24	100	101	101	24	102	102	102	24	106	107	108	24
10/10	100	108	101	24	101	102	103	24	102	102	103	24	102	103	103	24	106	107	108	24
10/11	100	100	100	24	101	103	105	24	101	102	102	24	102	102	103	24	---	---	---	0
10/12	100	100	100	24	101	101	101	24	103	102	104	24	103	102	104	24	---	---	---	0
10/13	100	100	100	24	101	101	102	24	102	102	104	24	102	102	103	24	107	108	109	24
10/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	107	107	108	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>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
10/1	---	---	---	0	114	114	115	24	---	---	---	0	97	97	97	24	98	98	98	4
10/2	---	---	---	0	112	114	115	24	---	---	---	0	97	98	98	24	---	---	---	0
10/3	---	---	---	0	113	114	115	24	---	---	---	0	98	99	100	24	99	99	100	22
10/4	---	---	---	0	111	112	115	24	---	---	---	0	99	100	101	19	100	100	102	24
10/5	---	---	---	0	114	115	115	22	---	---	---	0	100	100	101	24	100	100	101	24
10/6	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/7	---	---	---	0	115	115	115	24	---	---	---	0	99	99	99	24	99	99	99	24
10/8	---	---	---	0	114	115	115	24	---	---	---	0	99	99	100	24	99	99	100	24
10/9	---	---	---	0	115	115	115	24	---	---	---	0	98	98	99	24	98	98	99	24
10/10	---	---	---	0	114	115	115	23	---	---	---	0	99	100	100	24	98	99	99	24
10/11	---	---	---	0	112	113	114	24	---	---	---	0	99	99	100	24	99	99	100	24
10/12	---	---	---	0	113	114	114	24	---	---	---	0	100	100	101	24	99	99	100	24
10/13	---	---	---	0	---	---	---	0	---	---	---	0	99	100	100	24	99	99	100	24
10/14	---	---	---	0	---	---	---	0	---	---	---	0	99	99	99	10	99	99	100	10

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>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
10/1	97	97	97	24	97	97	97	20	100	100	100	24	96	97	97	24	97	97	97	24
10/2	96	96	97	24	97	97	97	24	100	100	100	24	96	96	97	24	97	97	98	24
10/3	96	97	97	24	97	97	97	24	99	100	100	24	96	97	98	21	97	97	98	24
10/4	97	97	97	21	97	97	97	24	100	100	100	24	96	97	98	24	98	98	98	24
10/5	97	97	97	18	97	97	98	24	100	100	100	24	97	97	98	24	98	98	99	24
10/6	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
10/7	---	---	---	0	96	96	97	24	99	99	99	24	95	96	96	21	97	97	97	24
10/8	---	---	---	0	97	97	97	24	99	99	99	24	96	96	96	24	97	98	98	24
10/9	---	---	---	0	96	96	96	24	98	98	99	24	95	95	96	5	97	97	97	23
10/10	---	---	---	0	96	97	97	24	98	99	99	24	95	95	96	12	97	97	97	24
10/11	---	---	---	0	97	97	98	24	99	99	99	24	95	95	95	10	97	97	98	24
10/12	---	---	---	0	97	97	97	24	98	98	99	24	95	95	96	9	97	97	97	24
10/13	---	---	---	0	97	97	97	9	99	99	99	24	96	96	96	13	97	97	97	24
10/14	---	---	---	0	---	---	---	0	98	98	98	24	95	95	95	5	96	97	97	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>Tlwtr 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>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#
	Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg			Avg	Avg		
10/1	99	99	101	24	---	---	---	0	101	102	103	24	103	103	105	24	101	102	102	24
10/2	99	99	100	24	---	---	---	0	101	102	103	24	103	103	104	24	101	102	102	24
10/3	99	100	101	24	---	---	---	0	101	102	104	23	102	103	105	23	101	102	104	23
10/4	100	100	101	24	---	---	---	0	101	102	104	24	102	103	103	24	102	102	102	24
10/5	100	100	101	24	---	---	---	0	100	101	101	24	102	102	103	24	102	102	104	24
10/6	---	---	---	0	---	---	---	0	100	100	101	23	101	101	101	24	103	106	109	24
10/7	99	99	101	24	---	---	---	0	99	99	100	24	100	101	101	24	100	101	101	24
10/8	99	99	100	24	---	---	---	0	100	100	100	24	101	101	102	24	101	101	102	24
10/9	99	99	100	23	---	---	---	0	99	100	101	24	100	101	101	24	100	100	101	24
10/10	99	99	100	24	---	---	---	0	99	100	100	24	101	101	102	24	100	101	101	24
10/11	99	100	101	24	---	---	---	0	99	99	100	24	101	101	101	24	101	101	101	24
10/12	99	99	100	24	---	---	---	0	100	101	102	24	101	101	102	24	100	100	100	24
10/13	99	100	100	24	---	---	---	0	99	99	100	9	102	102	102	9	100	100	100	9
10/14	98	99	99	24	---	---	---	0	100	101	101	24	101	101	101	23	100	100	101	23

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>Twtr 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>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>24h</u>	<u>12h</u>	<u>High</u>	<u>24h</u>	<u>12h</u>	<u>High</u>					
10/1	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	99	99	100	23
10/2	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	99	99	100	23
10/3	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	99	99	99	23
10/4	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	99	99	99	23
10/5	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	99	99	100	22
10/6	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	99	99	100	23
10/7	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	98	99	99	24
10/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	98	98	98	24
10/9	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	97	97	98	23
10/10	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	98	98	98	23
10/11	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	98	98	98	24
10/12	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	97	98	98	24
10/13	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	98	98	98	23
10/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	97	97	98	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>Warrendale</u>			<u>Skamania</u>			<u>CamasWash.</u>			#		
	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>24h</u>	<u>12h</u>	<u>High</u>			
10/1	100	100	101	23	---	---	---	0	---	---	---	0
10/2	100	100	101	23	---	---	---	0	---	---	---	0
10/3	99	100	100	23	---	---	---	0	---	---	---	0
10/4	100	100	101	23	---	---	---	0	---	---	---	0
10/5	100	100	100	23	---	---	---	0	---	---	---	0
10/6	100	100	101	23	---	---	---	0	---	---	---	0
10/7	100	100	100	24	---	---	---	0	---	---	---	0
10/8	100	100	101	24	---	---	---	0	---	---	---	0
10/9	100	100	101	23	---	---	---	0	---	---	---	0
10/10	100	101	101	23	---	---	---	0	---	---	---	0
10/11	100	100	101	24	---	---	---	0	---	---	---	0
10/12	100	100	101	24	---	---	---	0	---	---	---	0
10/13	101	101	101	23	---	---	---	0	---	---	---	0
10/14	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)
10/01/99	---	---	---	---	0	0	0	---	0	0	0
10/02/99	---	---	---	---	0	0	0	---	0	0	0
10/03/99	---	---	---	---	0	0	0	---	0	0	0
10/04/99	---	---	---	---	0	0	0	---	0	0	0
10/05/99	---	---	---	---	0	0	0	---	0	0	0
10/06/99	---	---	---	---	0	0	0	---	0	0	0
10/07/99	---	---	---	---	0	0	0	---	0	0	0
10/08/99	---	---	---	---	1	0	0	---	0	0	0
10/09/99	---	---	---	---	0	1	0	---	0	0	0
10/10/99	---	---	---	---	1	0	0	---	0	0	0
10/11/99	---	---	---	---	0	0	0	---	4	0	0
10/12/99	---	---	---	---	1	0	0	---	0	0	0
10/13/99	---	---	---	---	2	0	0	---	0	0	0
10/14/99	---	---	---	---	---	0	---	---	0	0	0
Total:	0	0	0	0	5	1	0	0	4	0	0
# Days:	0	0	0	0	13	14	13	0	14	14	14
Average:	0	0	0	0	0	0	0	0	0	0	0

Wild Yearling Chinook

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
10/01/99	---	---	---	---	0	0	0
10/02/99	---	---	---	---	1	1	0
10/03/99	---	---	---	---	2	0	0
10/04/99	---	---	---	---	0	0	0
10/05/99	---	---	---	---	0	0	0
10/06/99	---	---	---	---	0	0	0
10/07/99	---	---	---	---	0	0	0
10/08/99	---	---	---	---	1	0	0
10/09/99	---	---	---	---	0	0	0
10/10/99	---	---	---	---	0	0	0
10/11/99	---	---	---	---	0	0	0
10/12/99	---	---	---	---	0	0	0
10/13/99	---	---	---	---	0	0	0
10/14/99	---	---	---	---	---	0	---
Total:	0	0	0	0	4	1	0
# Days:	0	0	0	0	13	14	13
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)
10/01/99	---	---	---	---	244	74	10	---	784	185	237
10/02/99	---	---	---	---	215	77	30	---	940	153	86
10/03/99	---	---	---	---	195	49	76	---	360	44	196
10/04/99	---	---	---	---	224	56	65	---	300	121	140
10/05/99	---	---	---	---	247	80	46	---	396	89	48
10/06/99	---	---	---	---	325	86	36	---	348	65	70
10/07/99	---	---	---	---	341	86	29	---	408	40	131
10/08/99	---	---	---	---	297	45	30	---	556	60	27
10/09/99	---	---	---	---	325	51	59	---	924	40	39
10/10/99	---	---	---	---	251	22	43	---	936	52	54
10/11/99	---	---	---	---	246	32	49	---	884	125	28
10/12/99	---	---	---	---	309	59	27	---	1,208	221	46
10/13/99	---	---	---	---	872	46	16	---	1,524	198	39
10/14/99	---	---	---	---	---	26	---	---	988	68	39
Total:	0	0	0	0	4,091	789	516	0	10,556	1,461	1,180
# Days:	0	0	0	0	13	14	13	0	14	14	14
Average:	0	0	0	0	315	56	40	0	754	104	84

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)
10/01/99	---	---	---	---	0	0	0	---	0	0	0
10/02/99	---	---	---	---	0	0	0	---	0	0	0
10/03/99	---	---	---	---	0	0	0	---	0	0	0
10/04/99	---	---	---	---	0	0	0	---	0	0	0
10/05/99	---	---	---	---	1	0	0	---	0	0	0
10/06/99	---	---	---	---	0	2	0	---	0	0	0
10/07/99	---	---	---	---	0	0	0	---	0	0	0
10/08/99	---	---	---	---	1	0	0	---	0	0	0
10/09/99	---	---	---	---	1	0	0	---	0	0	0
10/10/99	---	---	---	---	1	0	0	---	0	0	0
10/11/99	---	---	---	---	3	0	0	---	0	0	0
10/12/99	---	---	---	---	0	0	0	---	0	0	0
10/13/99	---	---	---	---	2	0	0	---	0	0	0
10/14/99	---	---	---	---	---	0	---	---	0	0	0
Total:	0	0	0	0	9	2	0	0	0	0	0
# Days:	0	0	0	0	13	14	13	0	14	14	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)	
10/01/99	---	---	---	---	1	0	0	---	0	0	0	
10/02/99	---	---	---	---	0	1	1	---	0	0	0	
10/03/99	---	---	---	---	1	0	0	---	0	0	0	
10/04/99	---	---	---	---	1	0	0	---	0	0	0	
10/05/99	---	---	---	---	0	0	0	---	0	0	0	
10/06/99	---	---	---	---	0	0	0	---	0	0	0	
10/07/99	---	---	---	---	0	1	0	---	0	0	0	
10/08/99	---	---	---	---	0	0	0	---	0	0	0	
10/09/99	---	---	---	---	0	0	0	---	0	0	0	
10/10/99	---	---	---	---	2	0	0	---	0	0	0	
10/11/99	---	---	---	---	2	0	0	---	0	0	0	
10/12/99	---	---	---	---	0	0	0	---	0	0	0	
10/13/99	---	---	---	---	1	0	0	---	0	0	0	
10/14/99	---	---	---	---	---	0	---	---	0	0	0	
Total:	0	0	0	0	8	2	1	0	0	0	0	
# Days:	0	0	0	0	13	14	13	0	14	14	14	
Average:	0	0	0	0	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)	
10/01/99	---	---	---	---	0	0	0	---	0	0	0	
10/02/99	---	---	---	---	0	0	0	---	0	0	0	
10/03/99	---	---	---	---	0	0	0	---	0	0	0	
10/04/99	---	---	---	---	0	0	1	---	0	0	0	
10/05/99	---	---	---	---	0	0	0	---	0	0	0	
10/06/99	---	---	---	---	1	0	0	---	0	0	0	
10/07/99	---	---	---	---	0	0	0	---	0	0	0	
10/08/99	---	---	---	---	0	0	0	---	0	0	0	
10/09/99	---	---	---	---	0	0	0	---	0	0	0	
10/10/99	---	---	---	---	1	0	0	---	4	0	0	
10/11/99	---	---	---	---	1	0	0	---	0	0	0	
10/12/99	---	---	---	---	0	0	0	---	0	0	0	
10/13/99	---	---	---	---	1	0	0	---	0	0	0	
10/14/99	---	---	---	---	---	0	---	---	0	0	0	
Total:	0	0	0	0	4	0	1	0	4	0	0	
# Days:	0	0	0	0	13	14	13	0	14	14	14	
Average:	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)	
10/01/99	---	---	---	---	0	0	0	---	0	0	0	
10/02/99	---	---	---	---	0	0	0	---	0	0	0	
10/03/99	---	---	---	---	0	0	0	---	0	0	0	
10/04/99	---	---	---	---	0	0	0	---	0	0	0	
10/05/99	---	---	---	---	0	0	0	---	0	0	0	
10/06/99	---	---	---	---	0	0	0	---	0	0	0	
10/07/99	---	---	---	---	0	0	0	---	0	0	0	
10/08/99	---	---	---	---	0	0	0	---	0	4	0	
10/09/99	---	---	---	---	0	0	0	---	4	0	0	
10/10/99	---	---	---	---	0	0	0	---	0	0	0	
10/11/99	---	---	---	---	0	0	0	---	0	0	0	
10/12/99	---	---	---	---	0	0	0	---	0	4	0	
10/13/99	---	---	---	---	0	0	0	---	0	0	0	
10/14/99	---	---	---	---	---	0	---	---	0	0	0	
Total:	0	0	0	0	0	0	0	0	4	8	0	
# Days:	0	0	0	0	13	14	13	0	14	14	14	
Average:	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)	
10/01/99	---	---	---	---	5	2	0	---	0	0	7	
10/02/99	---	---	---	---	3	1	0	---	0	0	7	
10/03/99	---	---	---	---	7	0	0	---	0	0	0	
10/04/99	---	---	---	---	9	1	0	---	0	0	0	
10/05/99	---	---	---	---	9	0	0	---	0	4	0	
10/06/99	---	---	---	---	2	0	0	---	0	0	0	
10/07/99	---	---	---	---	4	0	0	---	0	0	0	
10/08/99	---	---	---	---	3	0	0	---	0	0	0	
10/09/99	---	---	---	---	3	0	0	---	0	0	0	
10/10/99	---	---	---	---	1	0	0	---	0	0	0	
10/11/99	---	---	---	---	2	0	0	---	0	4	0	
10/12/99	---	---	---	---	5	1	0	---	0	0	0	
10/13/99	---	---	---	---	5	1	0	---	0	0	0	
10/14/99	---	---	---	---	---	2	---	---	4	0	0	
Total:	0	0	0	0	58	8	0	0	4	8	14	
# Days:	0	0	0	0	13	14	13	0	14	14	14	
Average:	0	0	0	0	4	1	0	0	0	1	1	

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

Cumulative Adult Passage at Mainstem Dams Through October 14, 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	239,463	22,609	187,297	28,179	176,317	29,646
TDA	17,563	6,180	25,225	518	39,635	1,617	21,730	3,207	15,462	1,444	17,039	1,868	129,576	18,359	91,126	18,010	101,557	20,411
JDA	15,409	5,089	21,820	378	31,309	1,325	22,210	2,504	16,246	1,534	15,357	1,707	103,779	11,555	76,084	11,294	76,351	15,293
MCN	9,260	3,972	19,415	337	30,860	1,525	19,275	2,343	16,226	1,408	16,460	1,733	75,484	8,069	61,314	12,608	64,799	16,718
IHR	5,351	2,657	12,434	130	16,094	620	3,900	1,311	5,473	304	4,420	406	6,178	3,005	4,010	3,174	3,341	1,282
LMN	3,924	2,726	10,598	131	15,276	682	3,372	1,344	4,290	301	4,196	434	5,215	2,863	2,871	2,774	2,039	965
LGS	3,445	2,690	10,512	118	**	**	3,273	1,583	4,298	334	**	**	3,811	1,603	1,852	2,030	**	**
LWG	3,296	2,507	9,854	109	13,146	573	3,260	1,584	4,355	328	4,213	426	3,119	1,493	1,709	1,603	894	351
PRD	4,139	761	4,124	37	9,804	151	20,896	517	13,387	601	13,946	595	26,222	1,029	9,134	1,444	9,198	1,857
RIS	3,309	915	3,187	54	7,271	160	18,588	1,548	11,689	1,165	11,682	933	6,684	772	3,469	876	3,809	1,328
RRH	1,389	233	762	54	1,670	39	10,479	1,111	6,706	326	4,603	383	4,558	4,007	2,318	339	2,194	516
WEL	141	199	6	24	902	41	7,335	541	3,237	733	2,825	322	1,504	560	794	104	816	208

DAM	Coho						Sockeye			Steelhead			Wild 1999
	1999		1998		10-Yr Avg.		1999	1998	10-Yr Avg.	10-Yr			
	Adult	Jack	Adult	Jack	Adult	Jack				1999	1998	Avg.	
BON	36,969	3,573	41,927	3,201	19,915	3,904	17,875	13,218	44,504	204,338	183,103	223,094	54,590
TDA	12,529	1,536	5,476	690	4,143	1,230	13,716	8,828	35,477	152,169	110,413	154,629	40,444
JDA	10,982	1,288	5,026	745	3,202	1,044	14,809	9,837	36,723	154,216	137,728	130,126	37,842
MCN	4,224	187	3,317	144	1,343	481	11,795	9,391	38,698	80,411	85,236	115,183	16,627
IHR	74	4	7	3	7	0	8	7	9	73,914	62,457	84,044	12,086
LMN	22	2	0	0	1	1	11	1	7	65,317	49,845	70,298	9,634
LGS	31	1	1	0	**	**	16	5	**	54,836	44,103	**	8,357
LWG	114	10	5	1	3	0	14	2	6	60,257	43,319	59,245	9,529
PRD	50	4	26	0	10	0	16,360	10,768	43,385	8,063	5,505	8,180	***
RIS	0	0	0	0	22	0	18,369	9,334	37,874	6,158	4,463	6,899	1,671
RRH	22	0	0	0	9	0	14,111	5,682	18,760	4,546	3,716	4,586	619
WEL	29	2	0	0	6	0	12,226	4,659	17,589	3,212	2,217	3,479	475

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

Wild steelhead numbers are included in the total.

PRD, RIS and RRH are through 10/12; LMN, LGS and WEL are through 10/13.

*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 10/01/99 to 10/14/99

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	9	4,091	12	9	58	4,179
Bypassed	0	98	0	0	4	102
Trucked	10	4,219	14	10	52	4,305
Barged	0	0	0	0	0	0
Total Transported	10	4,219	14	10	52	4,305
LITTLE GOOSE DAM						
Collected	2	789	2	2	8	803
Bypassed	0	0	0	0	0	0
Trucked	2	929	2	3	6	942
Barged	0	0	0	0	0	0
Total Transported	2	929	2	3	6	942
LOWER MONUMENTAL DAM						
Collected	0	516	2	0	0	518
Bypassed	0	0	2	0	0	2
Trucked	0	524	0	0	0	524
Barged	0	0	0	0	0	0
Total Transported	0	524	0	0	0	524
MCNARY DAM						
Collected	4	10,540	4	0	8	10,556
Bypassed	0	0	0	0	0	0
Trucked	4	10,039	4	0	4	10,051
Barged	0	0	0	0	0	0
Total Transported	4	10,039	4	0	4	10,051
PROJECT TOTALS						
Collected	15	15,936	20	11	74	16,056
Bypassed	0	98	2	0	4	104
Trucked	16	15,711	20	13	62	15,822
Barged	0	0	0	0	0	0
Total Transported	16	15,711	20	13	62	15,822

**Transportation Summary Report
Cumulative Transportation Summary
through 10/14/99**

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	2,173,486	248,110	3,355,154	78,597	17,709	5,873,056
Bypassed	115,918	195	266,363	14,608	1,644	398,728
Trucked	32,297	151,745	34,644	1,480	1,604	221,770
Barged	2,011,776	94,052	3,053,028	62,315	14,012	5,235,183
Total Transported	2,044,073	245,797	3,087,672	63,795	15,616	5,456,953
LITTLE GOOSE DAM						
Collected	3,532,359	196,856	3,135,598	117,417	21,055	7,003,285
Bypassed	19,783	0	158,018	4,195	299	182,295
Trucked	8,536	114,135	4,295	1,063	618	128,647
Barged	3,481,124	77,971	2,969,994	111,937	18,954	6,659,980
Total Transported	3,489,660	192,106	2,974,289	113,000	19,572	6,788,627
LOWER MONUMENTAL DAM						
Collected	1,892,443	132,895	1,978,787	51,163	12,871	4,068,159
Bypassed	148,537	1	251,027	7,795	596	407,956
Trucked	5,482	98,896	2,234	128	215	106,955
Barged	1,736,425	33,327	1,724,869	43,237	12,032	3,549,890
Total Transported	1,741,907	132,223	1,727,103	43,365	12,247	3,656,845
MCNARY DAM						
Collected	2,104,596	4,210,987	537,694	140,758	782,930	7,776,965
Bypassed	2,098,392	801,225	532,579	137,083	781,069	4,350,348
Trucked	255	777,547	983	38	426	779,249
Barged	3,490	2,589,486	3,896	3,544	836	2,601,252
Total Transported	3,745	3,367,033	4,879	3,582	1,262	3,380,501
PROJECT TOTALS						
Collected	9,702,884	4,788,848	9,007,233	387,935	834,565	24,721,465
Bypassed	2,382,630	801,421	1,207,987	163,681	783,608	5,339,327
Trucked	46,570	1,142,323	42,156	2,709	2,863	1,236,621
Barged	7,232,815	2,794,836	7,751,787	221,033	45,834	18,046,305
Total Transported	7,279,385	3,937,159	7,793,943	223,742	48,697	19,282,926