



Fish Passage Center

Weekly Report #99 - 28

September 17, 1999

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NOTE: This is our last weekly report for 1999. The next report will be bi-weekly starting October 1, 1999.

SUMMARY OF EVENTS:

Water Supply: Cool and dry weather for the first two weeks of September continues. Precipitation for the September 1 through 14 was normal or below in the whole basin. The highest precipitation was at Columbia above Castlegar with normal precipitation. The lowest precipitation for the period of September 1 through 14 (in the range of 0-5%) were recorded in the areas of Clearwater, SE Washington, John Day basin, and Deschutes basin. Precipitation for Columbia above Coulee was 55% of normal, Snake River above Ice Harbor was 29% of normal and Columbia above The Dalles was 42% 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. BOR is planning to operate the reservoir to IRC defined by State of Montana, to an elevation of 3545 ft by the end of September. Minimum required flows at Columbia Falls below the dam for resident fish are 3.5 kcfs.

- *Libby* is projected to continue drafting at a rate of 12 kcfs in the coming week. The outflow was reduced for three days to 10 kcfs during this weekend for transformer work at the powerhouse. Current inflows for September 10 through 16 were decreasing from 7.7 kcfs to 6.3 kcfs. The major flood control requirement for the reservoir is an elevation of 2411 ft at the end of December. 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 State of Montana.
- *Arrow* reservoir will continue with higher discharges than the previous week in the range of 66 to 68 kcfs.
- *Grand Coulee* continues to be operated for power requirements and kokanee spawning during the coming week. Current outflows fluctuated from 68.8 kcfs on September 12 to 118.8 kcfs on September 13.
- *Dworshak* reservoir finished drafting for flow augmentation of late fall chinook juvenile migration and adults. The outflow was decreased from 2.4 kcfs on September 12 to 1.5 on the following date. COE will draft the reservoir at a minimum rate of 1.5 kcfs. Current inflows are in the range of 0.9 to 1.1 kcfs.
- *Brownlee* continues with planned operations for protection of the fall chinook spawning area below Hells Canyon Dam. Currently it is projected that the reservoir will be drafted to an elevation of 2040 ft by September 26, and then to an elevation of 2030 ft by mid October. Current outflows at Hells Canyon Dam are in the range of 11.97 kcfs to 13.62 kcfs.

A summary of the current elevations on September 16 is given in the following Table:

Reservoir	Actual elev. As of September 16	Max Reservoir pool [ft]
<i>Libby</i>	2452.74	2459
<i>Hungry Horse</i>	3549.58	3560
<i>Grand Coulee</i>	1285.5	1290
<i>Brownlee</i>	2042.88	2077
<i>Dworshak</i>	1231.88	1600

Upper Snake reservoirs:

BOR was releasing its portion of irrigation surplus water at a rate of 1.2 to 1.5 kcfs at Milner during this past week. Idaho Power Company will deliver 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 will deliver in the period of mid September through the first week of October is 45 KAF. The system is currently at 67% of capacity (as of September 16). American Falls Reservoir is currently at 47% of full capacity. Two other major reservoirs in the system, Palisades and Jackson Lake, are at 83% of full capacity and 79% of full capacity.

Boise and Payette River Basins:

The daily average outflow from the Boise River system continues to be 1.2 kcfs. Currently the system reservoirs are at 57% of capacity.

The Payette River reservoir system (Cascade and Deadwood) is at 73% of capacity as of September 16. The daily average outflow from the Payette river system decreased from 700 cfs to 500 cfs during the past week as irrigation demands increased.

Streamflow: Bonneville Pool was operated in the top foot of its operating range to facilitate the 1999 Treaty Fall Fishery in a second week. Flows at Lower Granite fluctuated from 18.4 kcfs to 24.6 kcfs during the week of September 10 through 16. It is anticipated that the flows will be in the range of 22 kcfs to 26 kcfs next week. McNary daily average flows were fluctuating during the past week

from 97.1 kcfs on September 12 to 146 kcfs on September 10.

The average discharges for the major run-of-river projects for September 1-16 are given in the following table:

Project	Average Discharge [kcfs]	
	September 1-9	September 10-16
<i>Priest Rapids</i>	121.9	104.99
<i>McNary</i>	147.7	127.8
<i>Lower Granite</i>	27.5	22.9
<i>Bonneville</i>	150.9	131.98

Smolt Monitoring: Passage indices of subyearling chinook increased again the latter half of this week at Lower Granite, Little Goose, and Lower Monumental dams. Although the fish disease Columnaris continued to be present in many subyearling chinook collected at these dams this week, facility mortality rates for subyearling chinook were finally below 2% by week's end. Passage indices of subyearling chinook decreased over 40% this week at McNary, John Day, and Bonneville dams. Facility mortality rates averaged 1% or less at the lower Columbia River dams.

Adult Fish Passage: At Bonneville Dam, numbers of adult fall chinook remained fairly high through the report week (September 10-16), with the peak day of 10,082 on September 10 this week, decreasing to about 4,500 to 5,000 by the end of the week. The cumulative count was 189,258 and this total exceeds the 1998 and 10-year average through September 16. Passage counts of fall chinook have been higher than originally projected for the year. Approximate breakout of "bright" fall and "tule" fall chinook to date is 149,250, and 40,000, respectively past Bonneville Dam (based on WDFW visual sampling at the dam). At The Dalles Dam, the daily counts of fall chinook ranged between a low count of 2,900 on September 11 to a high count of about 4,300 on September 12, with the cumulative total now nearly 92,000 through September 16. Upriver bright fall chinook have been steadily moving upstream with counts averaging greater than 2,000 per day at McNary Dam for the week. Most fall chinook

passing McNary Dam migrate to the Mid-Columbia to spawn. One interesting note: the count at Priest Rapids Dam exceeded 1,000 per day on 3 of the 7 days this week, with the cumulative count now at 20,054 for the season. This total of adult fall chinook passing Priest Rapids already ranks 3rd highest on record for total passage season with many more fish to come. The count to date is now triple the 1998 and 10-year average at the project. The turnoff into the Snake River averaged about 200 per day this week with the cumulative count of adult chinook at Ice Harbor Dam of 3,248. This count total was double the 1998 and 10-year average.

At Bonneville Dam, B-Run steelhead counts ranged between 1,500 to 1,900 with the cumulative count at Bonneville Dam now at 183,974, well above the 1998 count of 140,591 but 93.5% of the 10-year average count. The cumulative count of wild steelhead surpassed 52,000 this week at Bonneville. Numbers of steelhead at The Dalles Dam exceeded the counts at Bonneville each day this week and means that some of the fish that have been "camping out" in some of the lower river tributaries are starting to move upstream. John Day Dam had a high daily count of 5,600 this week with the final 3 days at McNary Dam having counts from 1,400 to more than 2,000; the cumulative count at McNary surpassed 52,000 to date. For the week, the Snake River count at Ice Harbor Dam averaged more than 1,000 steelhead passing per day with the cumulative count at 37,482. This total remained more than double the 1998 total and was about 127% of the 10-year average. Passage of steelhead into the Mid-Columbia again remained fairly consistent throughout the week, with counts between 100 to 170 per day. The cumulative steelhead count at Priest Rapids Dam was at 6,000 through September 15. The 1999 count exceeds both the 1998 count and the 10-year average count.

Passage of coho salmon at Bonneville Dam increased throughout the week with daily counts ranging between 1,600 and 2,000. The season total was 19,772 through September 16. The early returns at Bonneville are 155% and 197% of the respective 1998 count and 10-year average for

adult coho salmon. Most coho salmon passing Bonneville Dam will be returning to Bonneville pool tributaries and hatcheries. Coho counted past The Dalles and John Day dams are primarily destined for the Umatilla River or the Yakama River. The coho counted at McNary Dam would be mainly those migrating to the Yakama River.

Hatchery Releases: No releases are scheduled for the next two weeks. Numbers of juvenile hatchery fish released either in 1999 or late summer or fall 1998 that were expected to migrate in 1999 can be found in the FPC Web Page under 1999 Hatchery Release Schedule. We will be adding some of the projected release numbers for year 2000 in the next few weeks.

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
09/03/99	115.3	0.1	125.1	0.0	125.0	0.0	131.6	0.2	136.1	0.0	136.7	2.0	140.4	2.0
09/04/99	76.1	0.1	77.3	0.0	85.5	0.0	90.3	0.0	90.6	0.0	95.6	1.9	104.5	1.9
09/05/99	97.1	0.1	93.7	0.0	93.5	0.0	90.3	0.0	90.8	0.0	88.6	2.0	85.9	2.0
09/06/99	117.1	0.1	115.5	0.0	116.0	0.0	111.8	0.0	109.3	0.0	108.0	2.1	111.2	2.0
09/07/99	128.3	0.1	126.4	0.0	126.8	0.0	130.4	0.0	131.4	0.0	135.2	2.1	140.3	1.9
09/08/99	107.4	0.2	108.1	0.0	111.6	0.0	117.1	0.0	116.5	0.0	123.1	1.9	128.8	2.0
09/09/99	109.6	0.1	118.9	0.0	119.3	0.0	117.8	0.0	116.0	0.0	117.9	1.9	119.9	1.9
09/10/99	93.1	0.1	91.4	0.0	100.2	0.0	106.8	0.0	109.3	0.0	114.8	1.9	115.5	1.9
09/11/99	68.8	0.1	68.0	0.0	67.6	0.0	60.5	0.0	62.6	0.0	72.0	1.8	77.0	1.7
09/12/99	84.8	0.1	83.6	0.0	84.9	0.0	88.8	0.0	88.9	0.0	86.8	1.9	87.0	1.9
09/13/99	118.8	0.1	118.4	0.0	121.1	0.0	124.0	0.0	119.9	0.0	113.1	2.0	113.0	2.0
09/14/99	106.5	0.1	112.6	0.0	112.9	0.0	114.1	0.0	113.9	0.0	118.3	2.0	121.9	1.9
09/15/99	109.9	0.1	104.0	0.0	104.1	0.0	105.0	0.0	105.5	0.0	111.7	2.0	116.6	2.3
09/16/99	86.5	0.1	90.3	0.0	95.0	0.0	98.8	0.0	98.5	0.0	101.7	2.0	103.9	2.2

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

Date	Dworshak		Hells Brownlee Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
09/03/99	7.9	0.0	12.7	14.2	30.8	0.0	31.9	0.0	28.8	0.0	26.6	0.0
09/04/99	7.9	0.0	12.6	14.1	31.2	0.0	30.4	0.0	30.3	0.0	30.5	0.0
09/05/99	7.9	0.0	13.2	8.8	26.5	0.0	24.0	0.0	22.8	0.0	22.9	0.0
09/06/99	2.4	0.0	12.4	10.9	20.7	0.0	19.1	0.0	20.4	0.0	20.5	0.0
09/07/99	2.4	0.0	13.9	10.7	17.6	0.0	13.9	0.0	14.5	0.0	13.0	0.0
09/08/99	2.4	0.0	12.3	13.3	23.2	0.0	17.5	0.0	17.9	0.0	17.5	0.0
09/09/99	2.4	0.0	13.9	12.2	23.4	0.0	22.1	0.0	22.8	0.0	22.6	0.0
09/10/99	2.4	0.0	13.6	12.6	24.6	0.0	23.5	0.0	23.9	0.0	22.9	0.0
09/11/99	2.4	0.0	12.2	9.3	24.5	0.0	22.6	0.0	23.7	0.0	22.7	0.0
09/12/99	2.4	0.0	12.0	9.3	20.2	0.0	18.3	0.0	17.9	0.0	17.4	0.0
09/13/99	2.3	0.0	13.4	19.3	18.4	0.0	20.4	0.0	21.8	0.0	20.4	0.0
09/14/99	1.5	0.0	13.4	14.2	27.8	0.0	26.3	0.0	26.4	0.0	26.3	0.0
09/15/99	1.5	0.0	13.1	12.0	21.2	0.0	22.4	0.0	23.7	0.0	22.1	0.0
09/16/99	1.5	0.0	---	---	23.6	0.0	23.1	0.0	24.0	0.0	24.8	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		
09/03/99	168.1	13.2	152.8	1.0	147.3	0.0	144.8	0.0	70.4	65.1
09/04/99	168.6	15.9	175.9	1.0	177.9	0.0	178.0	0.0	79.2	89.6
09/05/99	97.7	0.0	104.7	1.0	111.7	0.0	143.5	0.0	77.3	57.0
09/06/99	110.7	0.0	104.2	1.0	98.3	0.0	101.5	0.0	53.8	38.5
09/07/99	137.0	9.6	135.0	0.8	137.5	0.0	123.3	0.0	67.4	46.7
09/08/99	163.3	40.7	167.6	0.7	166.6	0.0	170.2	0.0	76.0	85.0
09/09/99	132.3	1.3	124.1	0.7	122.7	0.0	130.8	0.0	58.2	63.4
09/10/99	146.0	0.0	143.0	0.7	143.2	0.0	136.2	0.0	59.0	68.1
09/11/99	145.1	0.0	150.3	1.0	149.3	0.0	155.1	0.0	68.0	77.9
09/12/99	97.1	0.0	93.9	1.0	98.7	0.0	128.0	0.0	65.4	53.4
09/13/99	119.3	0.0	124.3	1.0	130.1	0.0	117.3	0.0	60.5	47.6
09/14/99	122.8	0.0	129.0	1.0	125.8	0.0	125.2	0.0	62.0	54.0
09/15/99	119.5	0.0	115.1	1.0	116.7	0.0	119.2	0.0	58.7	51.3
09/16/99	144.9	15.8	144.3	1.0	142.7	0.0	142.8	0.0	64.9	68.6

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>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</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>		
9/3	112	113	113	24	114	114	114	24	110	110	111	24	111	111	111	23	112	112	113	23
9/4	110	111	113	24	114	114	114	24	110	111	111	24	110	110	111	23	111	112	112	23
9/5	110	111	111	24	114	114	115	24	110	110	111	24	110	110	110	23	110	111	111	23
9/6	110	111	112	24	113	114	114	24	109	110	110	24	109	109	110	23	110	110	111	23
9/7	109	109	110	24	112	112	113	24	109	110	110	24	108	108	109	24	109	109	110	24
9/8	110	111	115	24	112	112	112	24	109	109	110	24	108	109	109	23	109	110	111	23
9/9	117	118	119	24	112	112	113	24	109	109	110	20	110	110	111	23	110	111	112	23
9/10	118	119	120	24	112	113	113	24	109	109	110	24	109	109	110	24	110	111	112	24
9/11	117	118	118	24	112	112	112	24	108	109	110	24	107	108	108	24	108	109	110	24
9/12	117	118	119	24	111	111	112	24	108	108	109	24	107	107	107	23	107	108	108	23
9/13	111	112	115	24	111	112	112	24	107	108	108	24	107	108	108	23	108	109	110	23
9/14	110	111	113	24	112	112	112	24	108	108	109	12	109	110	110	23	110	110	111	23
9/15	109	110	111	24	112	112	113	24	109	109	110	24	109	109	110	23	110	110	111	23
9/16	109	110	110	24	112	112	113	24	108	109	109	24	109	109	110	23	110	110	111	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>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</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>		
9/3	---	---	---	0	104	105	105	23	108	108	108	13	104	105	105	23	---	---	---	0
9/4	---	---	---	0	104	105	106	23	---	---	---	0	104	104	104	24	---	---	---	0
9/5	---	---	---	0	105	105	106	24	---	---	---	0	104	105	105	23	---	---	---	0
9/6	---	---	---	0	104	105	105	24	---	---	---	0	104	104	105	24	---	---	---	0
9/7	---	---	---	0	103	104	104	23	---	---	---	0	103	104	105	24	---	---	---	0
9/8	---	---	---	0	103	104	104	24	---	---	---	0	102	103	103	24	---	---	---	0
9/9	---	---	---	0	104	104	105	23	---	---	---	0	103	103	104	23	---	---	---	0
9/10	---	---	---	0	104	104	105	23	---	---	---	0	103	104	104	24	---	---	---	0
9/11	---	---	---	0	102	103	104	24	---	---	---	0	103	103	104	24	---	---	---	0
9/12	---	---	---	0	102	103	103	24	---	---	---	0	101	102	102	24	---	---	---	0
9/13	---	---	---	0	103	104	104	23	---	---	---	0	102	103	103	24	---	---	---	0
9/14	---	---	---	0	104	105	106	24	---	---	---	0	103	104	105	24	---	---	---	0
9/15	---	---	---	0	105	105	105	24	---	---	---	0	104	104	105	23	---	---	---	0
9/16	---	---	---	0	104	105	105	23	---	---	---	0	103	104	104	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>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>High</u>	<u>#</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>		
9/3	107	107	109	24	105	106	106	24	106	107	107	24	106	106	107	24	102	102	102	14
9/4	106	106	107	24	105	105	106	24	106	106	108	24	106	107	107	24	101	102	102	24
9/5	106	107	108	24	105	106	106	24	106	106	108	24	106	107	107	24	102	102	103	23
9/6	104	105	106	24	104	104	105	24	104	104	105	24	105	105	106	24	102	102	103	24
9/7	104	105	106	24	103	103	103	24	103	103	104	24	103	103	104	24	101	101	101	24
9/8	105	107	107	24	104	105	105	24	104	104	105	24	104	105	105	24	102	102	103	24
9/9	106	107	109	21	105	106	107	21	105	106	108	24	106	106	107	24	102	103	103	24
9/10	105	106	107	24	104	104	105	24	104	105	107	23	105	105	106	23	101	101	101	24
9/11	103	104	105	24	103	104	104	24	104	105	106	24	105	105	106	24	101	101	101	24
9/12	104	106	107	24	103	104	104	24	105	105	106	24	105	106	106	24	101	102	103	20
9/13	105	107	108	24	104	104	104	24	105	106	107	24	106	106	107	24	102	103	106	24
9/14	106	107	108	24	105	105	105	24	106	106	107	24	106	107	107	24	106	107	108	24
9/15	106	107	108	24	105	106	107	24	107	107	108	24	107	107	108	24	106	107	108	24
9/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	106	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	Clearwater			#	Anatone			#	Snake-Lewiston			#	Lower Granite			#	Tlwr L. Granite			#
	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	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr	
9/3	101	101	104	14	113	113	114	24	101	101	103	14	101	102	102	24	100	100	100	24
9/4	102	103	104	24	111	113	114	24	101	102	103	24	102	103	105	18	99	99	100	21
9/5	102	104	105	23	109	111	111	24	102	103	104	23	104	105	107	24	100	101	101	24
9/6	101	101	101	24	108	108	108	24	101	101	101	24	100	101	102	21	99	100	100	21
9/7	101	101	101	24	105	107	108	23	101	101	101	24	99	99	100	24	99	99	99	24
9/8	101	101	101	24	103	104	106	24	101	101	101	24	100	100	102	14	99	100	100	22
9/9	101	101	101	24	103	104	105	22	101	101	101	24	102	103	103	15	99	100	100	22
9/10	101	101	101	24	102	103	105	24	101	101	101	10	100	100	101	24	99	100	101	24
9/11	101	101	101	24	102	103	105	23	101	101	101	24	99	100	100	24	99	99	99	24
9/12	101	101	101	20	102	103	106	23	101	101	101	24	99	99	99	4	99	99	100	24
9/13	101	101	101	14	102	104	106	24	101	101	101	14	102	102	105	17	100	101	101	24
9/14	---	---	---	0	102	104	105	24	---	---	---	0	103	104	106	24	100	101	101	24
9/15	---	---	---	0	103	104	106	24	---	---	---	0	103	105	106	23	101	101	102	24
9/16	---	---	---	0	102	104	105	24	---	---	---	0	102	103	104	24	100	100	101	24

Total Dissolved Gas Saturation Data at Lower Snake River Sites

Date	Little Goose			#	Tlwr L. Goose			#	L. Monumental			#	Tlwr L. Monum			#	Ice Harbor			#
	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	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr	
9/3	98	98	99	24	98	99	99	24	104	104	104	24	100	100	101	24	99	99	100	24
9/4	98	99	100	24	98	98	99	24	104	104	104	24	98	99	99	24	100	100	101	24
9/5	99	100	101	24	99	99	100	24	104	104	104	24	98	98	99	24	101	101	101	24
9/6	98	98	99	24	97	98	98	24	103	103	104	24	97	98	98	24	101	101	101	24
9/7	97	98	99	24	97	97	97	24	103	103	103	24	97	97	98	24	100	100	101	24
9/8	98	99	100	24	98	98	99	24	103	103	104	24	97	98	99	24	100	100	101	24
9/9	99	100	101	24	98	99	99	24	103	103	104	24	97	98	98	24	99	100	101	24
9/10	97	97	98	24	97	98	98	24	103	103	103	24	96	97	97	24	98	99	100	24
9/11	96	96	96	24	96	96	97	24	102	102	102	24	96	96	97	15	99	101	104	24
9/12	97	98	100	24	96	97	97	24	102	102	103	23	96	96	97	14	99	100	102	24
9/13	98	98	99	24	97	97	98	24	102	102	103	24	97	98	98	24	99	99	100	24
9/14	99	100	102	24	98	98	99	24	102	103	103	24	97	98	99	24	102	103	106	24
9/15	100	102	104	24	98	98	99	24	103	103	103	24	97	98	98	24	101	102	105	24
9/16	101	102	105	24	98	98	99	24	103	103	103	14	96	96	97	14	99	101	103	24

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	Twtr Ice Har.			#	Pasco			#	McNary-Oregon			#	McNary-Wash.			#	Tlwr McNary			#
	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	
	Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr		Avg	Avg	hr	
9/3	100	100	101	24	---	---	---	0	105	106	108	22	106	107	108	22	108	111	112	22
9/4	100	101	101	24	---	---	---	0	105	105	108	24	105	106	107	24	108	110	111	24
9/5	101	102	103	24	---	---	---	0	105	106	108	24	104	105	105	24	104	104	105	24
9/6	102	103	103	24	---	---	---	0	104	104	105	24	103	103	103	24	102	103	103	24
9/7	102	104	105	24	---	---	---	0	103	104	105	24	103	104	105	23	105	108	110	24
9/8	102	103	104	24	---	---	---	0	103	103	104	24	104	105	106	24	110	111	111	24
9/9	101	102	103	24	---	---	---	0	103	105	105	24	103	103	104	24	104	105	108	24
9/10	100	100	102	24	---	---	---	0	105	107	109	24	104	104	106	24	103	103	103	24
9/11	99	100	101	24	---	---	---	0	103	104	105	24	105	106	106	24	103	103	104	24
9/12	100	101	101	24	---	---	---	0	104	106	106	24	105	106	107	24	102	103	103	24
9/13	100	100	102	13	---	---	---	0	103	105	105	24	105	106	107	24	102	103	103	24
9/14	100	101	102	24	---	---	---	0	104	106	110	21	104	105	108	19	103	103	104	24
9/15	101	102	103	24	---	---	---	0	106	108	110	24	105	106	108	24	103	103	104	24
9/16	100	101	102	24	---	---	---	0	107	110	112	24	106	107	108	24	108	111	113	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>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>	
9/3	102	102	103	23	101	101	102	24	101	101	102	23	101	101	101	24	109	111	113	23
9/4	101	101	102	23	101	101	101	24	101	101	101	22	100	101	101	24	106	107	109	23
9/5	101	102	102	23	100	101	101	24	101	101	102	23	100	101	102	24	103	103	103	23
9/6	101	101	101	23	100	101	102	24	100	100	100	22	99	99	100	24	101	101	102	23
9/7	102	103	103	24	100	100	100	24	99	100	100	24	99	100	100	24	101	101	101	24
9/8	103	103	104	23	101	102	103	24	100	101	101	23	100	101	101	24	101	101	102	23
9/9	102	102	102	23	100	101	102	24	101	102	102	23	101	101	101	24	101	102	102	23
9/10	101	101	101	24	99	100	101	24	100	100	101	24	100	100	101	24	101	101	101	23
9/11	101	102	102	24	99	99	100	24	100	100	100	24	100	100	101	24	101	101	101	24
9/12	101	102	102	23	99	100	101	24	100	100	101	23	100	101	101	24	101	101	101	23
9/13	102	103	104	23	100	100	101	24	100	101	101	23	100	101	101	24	101	101	101	23
9/14	101	102	105	23	101	101	102	24	101	101	101	23	101	101	102	24	102	102	103	23
9/15	101	101	102	19	101	101	101	20	101	101	102	23	101	102	102	20	102	103	103	23
9/16	101	101	102	23	101	102	102	24	100	100	101	22	100	101	101	24	101	102	103	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>	
9/3	109	111	113	22	109	111	113	23	110	111	111	24
9/4	106	107	108	23	106	107	108	23	106	108	109	24
9/5	102	103	103	23	102	102	103	23	103	104	106	24
9/6	101	101	101	23	101	101	102	23	101	102	102	24
9/7	101	101	102	24	101	101	101	24	101	102	102	23
9/8	101	101	102	23	101	101	101	23	101	102	102	23
9/9	101	102	102	23	102	104	---	23	101	102	102	24
9/10	101	101	102	24	101	101	101	24	101	102	103	24
9/11	101	101	102	24	100	101	101	24	101	102	102	24
9/12	101	101	102	23	101	101	101	23	101	101	102	24
9/13	101	101	102	23	101	101	101	23	101	101	102	24
9/14	101	102	102	23	101	102	102	23	101	102	103	20
9/15	102	102	103	23	102	102	103	23	102	102	103	16
9/16	101	101	102	23	101	101	102	23	101	102	102	24

Two-Week Summary of Passage Indices

Yearling Chinook

Date	Hatchery							Hatchery/Wild Combined			BO1 (INDEX)
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	
09/03/99	---	---	---	---	0	1	---	---	0	0	0
09/04/99	---	---	---	---	1	2	---	---	0	0	0
09/05/99	---	---	---	---	1	0	---	---	0	0	0
09/06/99	---	---	---	---	1	2	---	---	0	0	0
09/07/99	---	---	---	---	0	0	---	---	0	0	0
09/08/99	---	---	---	---	0	0	---	---	0	0	0
09/09/99	---	---	---	---	0	0	0	---	0	0	0
09/10/99	---	---	---	---	0	0	0	---	0	0	0
09/11/99	---	---	---	---	0	0	0	---	0	0	0
09/12/99	---	---	---	---	0	0	0	---	0	0	0
09/13/99	---	---	---	---	0	0	0	---	0	0	0
09/14/99	---	---	---	---	0	0	0	---	0	0	0
09/15/99	---	---	---	---	0	1	0	---	0	0	0
09/16/99	---	---	---	---	0	0	0	---	0	0	0
Total:	0	0	0	0	3	6	0	0	0	0	0
# Days:	0	0	0	0	14	14	8	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)
09/03/99	---	---	---	---	0	0	---
09/04/99	---	---	---	---	1	0	---
09/05/99	---	---	---	---	0	0	---
09/06/99	---	---	---	---	0	0	---
09/07/99	---	---	---	---	0	0	---
09/08/99	---	---	---	---	0	0	---
09/09/99	---	---	---	---	0	0	0
09/10/99	---	---	---	---	0	0	0
09/11/99	---	---	---	---	0	0	0
09/12/99	---	---	---	---	0	0	0
09/13/99	---	---	---	---	0	0	0
09/14/99	---	---	---	---	0	0	0
09/15/99	---	---	---	---	0	0	0
09/16/99	---	---	---	---	2	0	0
Total:	0	0	0	0	3	0	0
# Days:	0	0	0	0	14	14	8
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)
09/03/99	---	---	---	---	270	497	---	---	5,896	1,184	531
09/04/99	---	---	---	---	164	132	---	---	5,206	632	298
09/05/99	---	---	---	---	275	145	---	---	4,557	284	306
09/06/99	---	---	---	---	207	139	---	---	4,044	169	226
09/07/99	---	---	---	---	175	89	---	---	3,066	300	210
09/08/99	---	---	---	---	212	71	---	---	3,885	654	356
09/09/99	---	---	---	---	242	67	12	---	3,480	357	67
09/10/99	---	---	---	---	289	43	37	---	2,904	201	224
09/11/99	---	---	---	---	167	49	27	---	2,658	468	249
09/12/99	---	---	---	---	164	58	12	---	1,224	298	211
09/13/99	---	---	---	---	162	72	62	---	1,688	464	129
09/14/99	---	---	---	---	313	85	119	---	1,204	368	82
09/15/99	---	---	---	---	415	101	154	---	1,064	166	112
09/16/99	---	---	---	---	432	118	296	---	1,001	141	148
Total:	0	0	0	0	3,487	1,666	719	0	41,877	5,686	3,149
# Days:	0	0	0	0	14	14	8	0	14	14	14
Average:	0	0	0	0	249	119	90	0	2,991	406	225

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)
09/03/99	---	---	---	---	0	4	---	---	0	0	0
09/04/99	---	---	---	---	0	0	---	---	0	0	0
09/05/99	---	---	---	---	0	2	---	---	0	0	0
09/06/99	---	---	---	---	0	1	---	---	0	0	0
09/07/99	---	---	---	---	1	0	---	---	0	0	0
09/08/99	---	---	---	---	0	1	---	---	0	0	0
09/09/99	---	---	---	---	0	1	0	---	0	0	0
09/10/99	---	---	---	---	0	0	0	---	0	0	0
09/11/99	---	---	---	---	0	3	0	---	0	0	0
09/12/99	---	---	---	---	1	1	0	---	0	0	0
09/13/99	---	---	---	---	0	0	0	---	0	0	0
09/14/99	---	---	---	---	0	1	0	---	0	0	0
09/15/99	---	---	---	---	0	2	0	---	0	0	0
09/16/99	---	---	---	---	2	0	0	---	0	0	0
Total:	0	0	0	0	4	16	0	0	0	0	0
# Days:	0	0	0	0	14	14	8	0	14	14	14
Average:	0	0	0	0	0	1	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)
09/03/99	---	---	---	---	2	2	---	---	0	0	0
09/04/99	---	---	---	---	4	1	---	---	0	0	0
09/05/99	---	---	---	---	2	0	---	---	0	0	0
09/06/99	---	---	---	---	2	0	---	---	0	0	0
09/07/99	---	---	---	---	1	0	---	---	0	0	0
09/08/99	---	---	---	---	1	0	---	---	0	0	0
09/09/99	---	---	---	---	1	0	0	---	0	5	0
09/10/99	---	---	---	---	2	0	0	---	0	0	0
09/11/99	---	---	---	---	2	1	1	---	0	0	0
09/12/99	---	---	---	---	3	0	0	---	0	0	0
09/13/99	---	---	---	---	0	0	0	---	0	0	0
09/14/99	---	---	---	---	0	0	1	---	0	0	0
09/15/99	---	---	---	---	3	0	1	---	0	0	0
09/16/99	---	---	---	---	4	0	0	---	0	0	0
Total:	0	0	0	0	27	4	3	0	0	5	0
# Days:	0	0	0	0	14	14	8	0	14	14	14
Average:	0	0	0	0	2	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)
09/03/99	---	---	---	---	1	0	---	---	0	0	0
09/04/99	---	---	---	---	0	0	---	---	0	0	0
09/05/99	---	---	---	---	0	0	---	---	0	0	0
09/06/99	---	---	---	---	0	0	---	---	0	0	0
09/07/99	---	---	---	---	0	0	---	---	0	0	0
09/08/99	---	---	---	---	0	0	---	---	0	0	0
09/09/99	---	---	---	---	0	0	0	---	0	0	0
09/10/99	---	---	---	---	0	0	2	---	0	0	0
09/11/99	---	---	---	---	0	0	1	---	0	0	0
09/12/99	---	---	---	---	1	0	0	---	0	0	0
09/13/99	---	---	---	---	0	0	0	---	0	0	0
09/14/99	---	---	---	---	1	0	0	---	0	0	0
09/15/99	---	---	---	---	0	0	0	---	0	0	0
09/16/99	---	---	---	---	1	0	0	---	0	0	0
Total:	0	0	0	0	4	0	3	0	0	0	0
# Days:	0	0	0	0	14	14	8	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)	
09/03/99	---	---	---	---	0	0	---	---	0	0	0	
09/04/99	---	---	---	---	0	0	---	---	0	0	0	
09/05/99	---	---	---	---	0	1	---	---	0	0	0	
09/06/99	---	---	---	---	0	0	---	---	0	0	0	
09/07/99	---	---	---	---	0	0	---	---	0	0	0	
09/08/99	---	---	---	---	0	0	---	---	0	0	0	
09/09/99	---	---	---	---	0	0	0	---	0	0	0	
09/10/99	---	---	---	---	0	0	0	---	6	5	0	
09/11/99	---	---	---	---	0	0	0	---	0	0	0	
09/12/99	---	---	---	---	0	0	0	---	0	0	0	
09/13/99	---	---	---	---	0	0	0	---	0	0	0	
09/14/99	---	---	---	---	0	0	0	---	0	0	0	
09/15/99	---	---	---	---	0	0	0	---	4	0	0	
09/16/99	---	---	---	---	0	0	0	---	4	0	0	
Total:	0	0	0	0	0	1	0	0	14	5	0	
# Days:	0	0	0	0	14	14	8	0	14	14	14	
Average:	0	0	0	0	0	0	0	0	1	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)	
09/03/99	---	---	---	---	0	1	---	---	0	0	0	
09/04/99	---	---	---	---	0	1	---	---	0	0	0	
09/05/99	---	---	---	---	0	1	---	---	0	0	0	
09/06/99	---	---	---	---	2	0	---	---	0	2	0	
09/07/99	---	---	---	---	1	0	---	---	0	0	0	
09/08/99	---	---	---	---	2	0	---	---	0	0	0	
09/09/99	---	---	---	---	3	0	0	---	8	5	0	
09/10/99	---	---	---	---	1	0	0	---	6	0	0	
09/11/99	---	---	---	---	0	0	0	---	0	0	0	
09/12/99	---	---	---	---	0	0	0	---	0	0	0	
09/13/99	---	---	---	---	0	0	0	---	4	0	0	
09/14/99	---	---	---	---	0	0	0	---	0	0	0	
09/15/99	---	---	---	---	3	0	0	---	0	0	0	
09/16/99	---	---	---	---	5	0	0	---	0	0	0	
Total:	0	0	0	0	17	3	0	0	18	7	0	
# Days:	0	0	0	0	14	14	8	0	14	14	14	
Average:	0	0	0	0	1	0	0	0	1	1	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 16, 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	189,258	12,230	146,929	16,209	148,321	16,898
TDA	17,563	6,180	25,225	518	39,635	1,617	21,730	3,207	15,462	1,444	17,039	1,868	92,223	9,659	60,009	8,414	74,786	9,497
JDA	15,409	5,089	21,820	378	31,309	1,325	22,210	2,504	16,246	1,534	15,357	1,707	68,474	5,125	38,442	3,992	51,300	6,038
MCN	9,260	3,972	19,415	337	30,860	1,525	19,275	2,343	16,226	1,408	16,460	1,733	44,054	2,949	24,817	3,108	37,269	5,042
IHR	5,351	2,657	12,434	130	16,094	620	3,900	1,311	5,473	304	4,420	406	3,248	473	1,648	445	1,605	190
LMN	3,924	2,726	10,598	131	15,276	682	3,372	1,344	4,290	301	4,196	434	2,107	352	924	220	788	110
LGS	3,445	2,690	10,512	118	**	**	3,273	1,583	4,298	334	**	**	1,385	211	512	136	**	**
LWG	3,296	2,507	9,854	109	13,146	573	3,260	1,584	4,355	328	4,213	426	1,126	240	372	89	286	30
PRD	4,139	761	4,124	37	9,804	151	20,896	517	13,387	601	13,946	595	20,054	411	6,531	678	6,852	709
RIS	3,309	915	3,187	54	7,271	160	18,588	1,548	11,689	1,165	11,682	933	4,191	413	2,160	497	2,380	499
RRH	1,389	233	762	54	1,670	39	10,479	1,111	6,706	326	4,603	383	3,026	3,149	1,380	150	1,392	216
WEL	141	199	6	24	902	41	7,335	541	3,237	733	2,825	322	891	329	522	43	484	83

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	19,772	1,578	12,741	837	10,017	1,977	17,874	13,218	44,504	183,974	140,591	196,826	52,271
TDA	4,560	433	777	160	1,277	476	13,713	8,826	35,474	121,420	49,770	101,725	35,343
JDA	2,594	335	367	125	726	318	14,802	9,829	36,720	100,521	51,787	68,438	26,651
MCN	520	17	24	1	139	99	11,791	9,391	38,693	52,329	25,163	54,147	11,659
IHR	1	0	0	0	0	0	8	7	8	37,482	17,276	29,576	6,610
LMN	1	1	0	0	0	0	11	1	7	25,670	11,147	20,750	4,230
LGS	2	0	1	0	**	**	16	5	**	18,618	6,321	**	3,734
LWG	0	0	0	0	0	0	14	2	5	21,052	7,919	14,623	4,121
PRD	46	4	23	0	5	0	16,360	10,768	43,385	6,047	3,428	5,736	***
RIS	0	0	0	0	5	0	18,318	9,324	37,824	4,230	2,321	4,315	1,233
RRH	22	0	0	0	0	0	14,091	5,680	18,752	2,985	1,911	2,767	428
WEL	0	0	0	0	1	0	12,222	4,552	17,566	2,057	966	1,949	263

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

Wild steelhead numbers are included in the total.

LMN, LGS, RIS, RRH are through 09/14 - LWG, PRD, WEL are through 09/15.

*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 09/03/99 to 09/16/99

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	6	3,487	31	4	17	3,545
Bypassed	0	14	0	0	0	14
Trucked	4	3,341	33	2	12	3,392
Barged	0	0	0	0	0	0
Total Transported	4	3,341	33	2	12	3,392
LITTLE GOOSE DAM						
Collected	6	1,666	4	16	4	1,696
Bypassed	0	0	0	0	0	0
Trucked	3	1,631	3	16	4	1,657
Barged	0	0	0	0	0	0
Total Transported	3	1,631	3	16	4	1,657
LOWER MONUMENTAL DAM						
Collected	0	719	6	0	0	725
Bypassed	0	0	6	0	0	6
Trucked	0	701	0	0	0	701
Barged	0	0	0	0	0	0
Total Transported	0	701	0	0	0	701
MCNARY DAM						
Collected	0	38,942	0	0	30	38,972
Bypassed	0	0	0	0	0	0
Trucked	0	44,341	0	0	24	44,365
Barged	0	0	0	0	0	0
Total Transported	0	44,341	0	0	24	44,365
PROJECT TOTALS						
Collected	12	44,814	41	20	51	44,938
Bypassed	0	14	6	0	0	20
Trucked	7	50,014	36	18	40	50,115
Barged	0	0	0	0	0	0
Total Transported	7	50,014	36	18	40	50,115

**Transportation Summary Report
Cumulative Transportation Summary
through 09/16/99**

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	2,173,473	240,010	3,355,124	78,544	17,630	5,864,781
Bypassed	115,918	97	266,363	14,608	1,640	398,626
Trucked	32,282	143,383	34,609	1,425	1,532	213,231
Barged	2,011,776	94,052	3,053,028	62,315	14,012	5,235,183
Total Transported	2,044,058	237,435	3,087,637	63,740	15,544	5,448,414
LITTLE GOOSE DAM						
Collected	3,532,369	194,727	3,135,589	117,406	21,044	7,001,135
Bypassed	19,783	0	158,018	4,195	299	182,295
Trucked	8,529	112,105	4,286	1,052	610	126,582
Barged	3,481,142	77,971	2,969,994	111,937	18,954	6,659,998
Total Transported	3,489,671	190,076	2,974,280	112,989	19,564	6,786,580
LOWER MONUMENTAL DAM						
Collected	1,892,443	131,762	1,978,777	51,163	12,870	4,067,015
Bypassed	148,537	1	251,019	7,795	596	407,948
Trucked	5,482	97,841	2,234	128	214	105,899
Barged	1,736,425	33,327	1,724,869	43,237	12,032	3,549,890
Total Transported	1,741,907	131,168	1,727,103	43,365	12,246	3,655,789
MCNARY DAM						
Collected	2,104,592	4,191,391	537,674	140,758	782,914	7,757,329
Bypassed	2,098,392	801,225	532,579	137,083	781,069	4,350,348
Trucked	251	758,114	963	38	410	759,776
Barged	3,490	2,589,486	3,896	3,544	836	2,601,252
Total Transported	3,741	3,347,600	4,859	3,582	1,246	3,361,028
PROJECT TOTALS						
Collected	9,702,877	4,757,890	9,007,164	387,871	834,458	24,690,260
Bypassed	2,382,630	801,323	1,207,979	163,681	783,604	5,339,217
Trucked	46,544	1,111,443	42,092	2,643	2,766	1,205,488
Barged	7,232,833	2,794,836	7,751,787	221,033	45,834	18,046,323
Total Transported	7,279,377	3,906,279	7,793,879	223,676	48,600	19,251,811