Fish Passage Center

Weekly Report #98 - 13

June 12, 1998

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SUMMARY OF EVENTS:

The Upper Snake and Middle Snake sub-basins continue to be the areas with the highest cumulative precipitation in the basin. Areas with the highest precipitation for the period of October through June remained at Harney/Malheur Basin with 145%, at Owyhee/Malheur Basin with 139% and the Upper Deschutes with 134% of average. The lowest precipitation was 88% of average at Flathead. Other areas with precipitation lower than average are the Washington Cascades and Upper Columbia Basin. Precipitation in the entire basin during June 1-9, showed a decreasing trend compared with precipitation in May. Areas with highest precipitation were the Upper Snake with 234% and Central Washington with 232%. Areas with lowest precipitation are SW WA Cascades/Cowlitz with 11%. Precipitation remained low in Upper Columbia Basin. Precipitation in the Columbia above Coulee was 77% of average, the Columbia above The Dalles was 97% of the average and the Snake River above Ice Harbor was 130% of the average for the period of June 1-9.

The new June Final Runoff Volume Forecast has been issued. In general, runoff volume forecast shows the same trend as in the June Early-Bird Runoff Volume Forecast. Runoff volume forecasts increased at all major sites in Columbia basin as the consequence of the heavy rain during May. This increase will mostly contribute to higher flows in the period of mid May to mid June. The runoff volume forecast increased in the range of 2% to 49%. The highest increase was at Brownlee reservoir in the Snake Basin. The summary of results is shown in the following Table:

Location	Period	April 98 Final		May 98 Final		June 98 Final	
		MAF	%	MAF	%	MAF	%
Libby	Apr-Sep	5.52	82	5.38	79	6.31	93
Hungry Horse	Apr-Sep	1.62	74	1.5	69	1.71	78
Grand Coulee	Jan-Jul	55.6	88	53.2	84	5.93	94
The Dalles	Jan-Jul	90.8	86	89.1	84	94	95
Lower Granite	Jan-Jul	25.0	84	25	84	29.9	101
Dworshak	Apr-Jul	1.75	65	1.73	64	2.13	79
Brownlee	Apr-Jul	4.78	82	4.54	78	7.25	125

System Storage: Precipitation decreased during last week in the entire basin and a slow decrease in flows occurred after a period of peak flows. It is expected that a more intense decrease in flows will continue through the end of the month. Major US system reservoirs are almost full or full. The Snake river reservoirs continue passing high inflows. Canadian reservoirs continue to refill.

A summary of actual elevations is shown in the following table:

Reservoir	Actual Elev. [ft] 6/11/98	Max. Pool [ft]
Mica	2429.86	2475.0
Arrow	1427.49	1444.0
Duncan	1855.64	1892.0
Libby	2448.06*	2459.0
HungryHorse	3555.62	3560.0
GrandCoulee	1286.30	1290.0
Brownlee	2076.48	2077.0
Dworshak	1599.77	1600.0

*as of June 10.

- Mica continues the same operations as last week. Actual outflow was 0 kcfs The current treaty elevation is 2442.7 ft. Water continues to be stored in the Non-Treaty accounts of BPA and BC Hydro at rate of 5 kcfs on each side. Currently there is 962 ksfd on the US account and 911 ksfd on the BC Hydro account. It is projected that Mica

will continue with the same operation by the end of June.
- Arrow continues to refill. Current actual elevation remained about 7 ft below Treaty elevation.
- Duncan will continue to be refilled with an outflow of 100 cfs. Full pool should be reached by the end of July.
- Libby continues with similar operations as last week: providing constant flows of 25 kcfs at Bonners Ferry. The actual outflow is projected to be in the range of 20-21 kcfs. It is expected that reservoir will be 5 ft from full by the end of June.
- Hungry Horse is releasing outflows up to 2.4 kcfs to slow refill, as the reservoir is 4.4 ft from full.
- Grand Coulee will refill to 1288 ft by the end of the next week. Average outflows at Priest Rapids are projected not to exceed 135 kcfs.
- Brownlee is full and continues to pass inflow in the range of 40-50 kcfs.
- Dworshak is full and will continue to pass inflow.

Upper Snake reservoirs:

The system continued to be operated for flood control due to the high precipitation in the area. The flows declined compared to the previous week. Irrigation demands continues to be at minimum.

Jackson Lake was refilled up to 90% of full and currently is releasing 5-6 kcfs.

Palisades continues to pass inflow to the end of next week. Currently, the outflow is 16-18 kcfs and the reservoir is 81% full.

American Falls is full and it will continue to pass the inflow of 19.5 kcfs. through the end of the next week.

Millner flow at the lowest point of the Upper Snake system continues to decrease with outflows of 11 kcfs compared to last week flows of 13.5 kcfs. Irrigation withdrawal upstream of Minidoka remained similar as last week up to 6.3 kcfs.

System Streamflow: The weekly average flows continue to be in recession at Snake River and also decreased after peeking week at mid Columbia. The summary of average weekly flows for run of the river projects during the May 29-June 11 period is shown in the following Table:

Spill: Flows in the Snake River continued to recede slowly during this past week and spill levels decreased through the week. Dworshak reservoir is full and passing inflow. Presently, inflow is below powerhouse capacity so there is no spill. Spill averaged 47.5 kcfs, 42.3 kcfs, 34.8 kcfs and 69.4 kcfs at Lower Granite, Little Goose, Lower Monumental and Ice Harbor dams, respectively.

The lower Columbia River continued with high flows, though lower than last week. Spill at the lower Columbia projects was lower than last week, and averaged 164.9 kcfs at McNary Dam, 116.9 kcfs at John Day Dam, 169.7 kcfs at The Dalles Dam, and 130.2 kcfs at Bonneville Dam. Spill continues at all the Mid-Columbia projects.

Total Dissolved Gas Supersaturation and gas Bubble Trauma Monitoring: Total dissolved gas levels exceeded the water quality waivers at all the lower Snake Projects early in the week, due to the high spill, but receded below the cap by mid-week. The Hells Canyon project has been passing inflows of 40-50 kcfs. The hydraulic capacity of that project is only 30 kcfs and, consequently, spill has been occurring yielding TDGS levels near the 120% cap.

The gas levels in the lower Columbia were above the gas waivers early in the week but were declining as flows and spill declined during the week. The TDGS levels for the Mid-Columbia sites were also above the waiver limits for most of the week. But gas levels were declining there as well. Gas bubble trauma monitoring has occurred at all sites over the past week. Some juvenile fish are showing signs throughout the system, but the percentage of fish with signs has decreased significantly with the decrease in TDGS. Monitoring of GBT in yearling chinook has ended in the Snake and lower Columbia due to decreasing numbers of fish. Steelhead monitoring has ended at Little Goose, McNary, John Day and Bonneville but will continue at other sites as long as numbers hold

out. Subyearling chinook are now being monitored at lower Columbia projects.

Smolt Monitoring. *Snake River Drainage.* The Imnaha trap was operated through the week with the Lewiston trap starting on June 8. The Salmon River and Grande Ronde River traps have completed sampling for the 1998 season. The normal decreasing trend for this time of year continues for passage indices of yearling chinook, steelhead, coho and sockeye at Lower Granite, Little Goose, and Lower Monumental dams. Subyearling chinook numbers were fairly steady at the Snake River dams. PIT tagged hatchery subyearling chinook are not adipose clipped and will be counted in the sampling at the dams as wild chinook. As is normal, if any fish are found with adipose clips, they will be listed as hatchery subyearling chinook. Those interested in monitoring the progress of the PIT tagged subyearling chinook may query the following groups of fish in PTAGIS paying particular attention to the beginning release dates of the hatchery fish in order to avoid counting yearling fall chinook tagged and released at the same sites:

Coordinator Identification	Tag Site	Release Site	Species Race RearType	Release Dates Begin
BDA	Lyfe	Clwr	13H	5/29/98
WDM	Lyfe	Clwr	13H	6/2/88
WDM	Lyfe	Snaker	13H	6/2/98
WPC	Lyfe	Snaker	13H	5/14/98
WPC	Snaker	Snaker	15W	4/16/98

Columbia River Drainage. The passage indices at Rock Island Dam are reduced for yearling chinook, coho, steelhead and sockeye compared to the previous week. Subyearling chinook increased through the week but still remain at low numbers. They should begin increasing through the upcoming weeks.

At McNary Dam, the trend in passage indices of yearling chinook, coho, steelhead, and sockeye has been a typical decreasing one. Subyearling chinook passage indices at McNary Dam were at fairly high levels through the sampling week until the juvenile bypass system was shut down for several days for repair. The problems encountered with the screen's dewatering system resulted in the project directly bypassing fish to the tailwater. Passage of yearling migrants at John Day and Bonneville Dams began decreasing for all species during the week. Subyearling chinook increased and averaged about 32,000 for the week at John Day Dam. At Bonneville Dam, passage indices of subyearling chinook were very steady through the week, but below the previous week's passage.

Adult Fish Passage: At Bonneville Dam, numbers of adult summer chinook ranged from near 350 to 520 through the week (June 5-11). The cumulative count at Bonneville Dam through June 11 is 3,833; about 43.4% and 89.6% of the 1997 and 10-year average, respectively. Since there are no summer chinook spawning in the lower river, i.e., below McNary Dam, most of summer chinook passing Bonneville should move through the river and into the Snake and Mid-Columbia rivers. The early counts of summer chinook at Bonneville Dam are fish normally destined for the Snake River with the Mid-Columbia summer chinook dominating the counts after mid-June. The switchover date of counting summer chinook at McNary Dam was June 9 with 816 tallied for the 3-days.

The adult spring chinook count at McNary Dam was 19,456 through June 8 with the Snake River portion of the up-river spring chinook run accounting for 12,420 at Ice Harbor Dam and the Mid-Columbia 4,025 at Priest Rapids Dam. The count of fish past Prosser Dam on the Yakima River was about 1,500 through early June with Ringold Hatchery having about 900 to date. So far this accounts for about 97% of the spring chinook that were counted at McNary Dam. Snake and Mid-Columbia River counts of spring chinook for the 1998 season lagged well behind the 1997 and 10-year averages.

The steelhead run for the 1998/99 cycle ranged between 100 to near 170 for the week at Bonneville Dam. By week's end, about 50 per day were passing the lower Columbia dams (through McNary Dam). The season count at

Bonneville Dam (March – June 11) was 4,205, well below the 1997 and 10-year average to date; however, this is very early in the count season.

Sockeye are now passing Bonneville Dam in small numbers; the high daily count for the week was 25 with the cumulative count 107 through June 11.

Hatchery Releases: Columbia Basin hatcheries began releasing subyearling summer and fall chinook beginning in mid-May and with all fish released by late June with the exception of the Snake River fall chinook from Pittsburg Landing and Big Canyon Acclimation facilities. In the Mid-Columbia Reach, subyearling fall chinook from Priest Rapids Hatchery will be released on 5 separate days (normal 3-days apart) beginning June 12 and ending on June 24. Summer chinook from Wells Hatchery began releasing fish on June 4, with the final fish to be pushed out of the ponds on June 15. Turtle Rock and Ringold Hatcheries are slated to release fish beginning mid-June to late June. The Yakama acclimation ponds allow the fall chinook to volitionally emigrate into the Yakama River with the release beginning in early May and scheduled to end June 12.

Subyearling fall chinook released in the Snake River are from Pittsburg Landing and Big Canyon Acclimation Sites with no fish released from Lyons Ferry Hatchery (on-site).

In the lower Columbia River, subyearling releases of fall chinook from the Umatilla River Basin were completed by the end of May.

Klickitat Hatchery opened tail screens in mid-May and have allowed the fish to volitionally emigrate from the ponds (final end date will be mid to late June). Subyearling fall chinook from Little White Salmon Hatchery will be released in late June (scheduled for June 26).

Subyearling spring chinook were released into the Klickitat (500k) and Entiat (157k) rivers this season.

Releases of coho should be complete for the 1998 season.

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

	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/29/98	170.2	3.9	175.4	19.0	209.0	42.2	217.7	52.0	218.5	44.0	194.7	47.6	209.6	124.6
05/30/98	187.6	19.3	184.9	26.3	212.0	42.3	218.1	59.2	222.6	45.2	217.5	71.0	241.3	145.2
05/31/98	166.3	13.1	153.5	13.2	187.2	65.6	184.4	46.0	187.2	44.1	184.6	42.0	211.4	127.8
06/01/98	192.1	22.2	194.7	27.9	218.4	62.4	216.0	68.3	219.1	48.7	200.9	67.0	214.8	132.8
06/02/98	205.0	22.9	209.6	30.2	241.2	72.8	238.8	83.9	245.0	55.0	237.8	92.3	259.5	161.3
06/03/98	191.9	12.0	189.1	15.0	218.4	47.9	225.1	69.0	233.5	46.8	230.9	85.1	250.5	148.5
06/04/98	170.3	1.8	164.8	8.7	186.1	25.8	190.7	30.5	194.5	36.6	185.5	37.9	213.0	129.2
06/05/98	174.8	6.8	188.2	8.5	213.3	66.1	216.3	61.4	220.7	28.0	212.5	54.7	236.2	141.0
06/06/98	141.1	0.2	137.9	0.0	162.1	32.3	167.5	16.9	174.3	20.2	199.8	39.5	223.9	136.2
06/07/98	167.6	7.7	164.7	7.9	189.8	46.0	193.7	65.0	198.5	22.7	156.1	31.4	171.9	104.9
06/08/98	143.0	0.1	148.4	0.0	174.0	19.6	180.6	27.0	184.4	20.3	184.8	37.0	218.3	131.5
06/09/98	163.5	0.1	155.4	0.0	166.7	13.2	177.2	13.5	181.9	20.3	183.1	36.6	208.2	124.9
06/10/98	132.9	0.1	144.3	0.0	164.1	3.3	0.0	0.0	0.0	0.0	169.0	30.6	175.9	104.8
06/11/98	141.8	0.1	142.4	0.0	158.2	0.0	169.7	2.9	172.7	20.3	172.7	25.7	196.9	120.4

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

	Dworshak		Brownlee		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/29/98	9.7	0.3	---	---	191.9	88.1	183.1	85.2	191.8	92.3	189.6	104.3
05/30/98	12.4	3.0	---	---	189.5	88.8	179.8	86.9	198.0	100.9	200.0	107.8
05/31/98	11.9	2.5	---	---	167.5	64.9	163.1	70.9	174.8	87.6	176.5	88.5
06/01/98	10.2	0.9	---	---	162.6	59.7	152.8	65.7	162.7	66.9	164.3	79.1
06/02/98	11.2	1.8	---	---	149.0	49.8	144.1	68.6	153.0	66.2	156.2	82.2
06/03/98	13.0	3.6	---	---	150.7	58.0	146.0	66.1	155.7	64.0	157.2	83.8
06/04/98	10.6	1.2	---	---	142.0	43.4	139.0	52.0	144.1	49.6	149.3	75.7
06/05/98	9.1	0.0	---	---	144.1	56.4	138.7	55.0	147.3	51.4	151.4	75.5
06/06/98	8.4	0.0	---	---	139.2	53.1	131.4	44.8	138.8	39.9	140.5	68.0
06/07/98	8.5	0.0	---	---	131.2	58.0	124.4	46.1	130.3	36.8	133.5	74.9
06/08/98	8.5	0.0	---	---	125.6	42.9	119.5	37.2	123.1	30.4	127.8	65.9
06/09/98	6.6	0.0	---	---	126.6	39.3	123.5	39.2	128.2	33.1	134.4	68.8
06/10/98	6.4	0.0	---	---	121.1	49.3	115.3	37.3	119.3	28.4	122.5	65.3
06/11/98	7.5	0.0	---	---	117.2	33.7	112.9	36.4	118.6	23.4	123.5	67.1

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

	McNary		John Day		The Dalles		Bonneville			
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
05/29/98	409.0	251.0	418.6	190.5	408.1	188.3	418.5	208.5	73.1	127.7
05/30/98	414.3	244.1	438.8	189.3	442.2	337.7	417.9	210.1	79.4	119.2
05/31/98	394.4	226.2	420.3	141.2	416.5	239.4	419.9	203.3	79.3	128.0
06/01/98	366.8	195.4	415.5	147.0	416.2	237.8	418.7	210.8	72.9	125.8
06/02/98	394.0	230.0	404.2	166.4	386.4	180.1	410.4	203.7	75.4	122.1
06/03/98	405.4	237.3	416.1	164.9	412.3	197.2	412.6	207.9	73.5	121.9
06/04/98	390.8	223.2	424.2	151.8	416.0	273.6	398.7	186.3	79.6	123.6
06/05/98	353.5	180.8	370.2	125.4	359.2	243.5	379.8	161.0	81.6	128.0
06/06/98	373.3	202.5	382.9	120.9	370.5	138.5	378.3	157.6	80.1	131.5
06/07/98	316.8	160.0	349.0	131.9	349.6	241.1	356.9	146.4	80.1	121.1
06/08/98	323.0	154.9	330.0	112.9	322.4	116.8	333.8	114.1	77.7	132.8
06/09/98	337.0	164.1	353.4	111.7	349.9	201.4	345.1	124.4	80.6	130.9
06/10/98	315.2	150.9	332.5	109.7	327.4	109.3	325.9	103.1	80.2	133.4
06/11/98	310.8	141.6	318.8	106.1	306.7	137.9	327.6	104.9	82.5	131.0

These data were obtained from the Corps of Engineers through their CAFE reports #96 and #71.

Gas Bubble Trauma Monitoring Results from Representative Sites on the Snake River and Columbia River

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank: Rank 1	Rank 2	Rank 3	Rank 4	Fish with L. Line GBT: Num Fish	Avg. Rank
Lower Granite Dam													
	06/03/98	Steelhead	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/05/98	Steelhead	100	4	1	1.00%	0.00%	1	0	0	0	2	1
	06/08/98	Steelhead	100	1	0	0.00%	0.00%	0	0	0	0	1	1
	06/10/98	Steelhead	95	1	0	0.00%	0.00%	0	0	0	0	1	1
Little Goose Dam													
	06/02/98	Yearling Chinook	8	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/04/98	Steelhead	25	5	5	20.00%	0.00%	5	0	0	0	0	0
	06/06/98	Steelhead	28	2	2	7.14%	0.00%	2	0	0	0	0	0
	06/09/98	Steelhead	39	3	2	5.12%	0.00%	2	0	0	0	0	0
Lower Monumental Dam													
	06/03/98	Yearling Chinook	2	1	0	0.00%	0.00%	0	0	0	0	1	1
	06/03/98	Steelhead	100	9	4	4.00%	0.00%	4	0	0	0	5	1.2
	06/05/98	Steelhead	93	11	6	6.45%	0.00%	5	1	0	0	6	1
	06/09/98	Steelhead	100	11	6	6.00%	0.00%	5	1	0	0	5	1
	06/10/98	Steelhead	84	9	7	8.33%	0.00%	7	0	0	0	3	1
Ice Harbor Dam													
	06/02/98	Yearling Chinook	31	2	1	3.22%	0.00%	1	0	0	0	1	1
	06/02/98	Steelhead	100	17	12	12.00%	0.00%	11	1	0	0	5	1
	06/05/98	Steelhead	53	4	1	1.88%	0.00%	1	0	0	0	3	1
	06/09/98	Steelhead	33	2	0	0.00%	0.00%	0	0	0	0	2	1
McNary Dam													
	06/02/98	Yearling Chinook	57	4	3	5.26%	0.00%	3	0	0	0	1	1
	06/02/98	Steelhead	41	4	2	4.87%	0.00%	1	1	0	0	2	2
	06/04/98	SubYrlng Chinook	100	1	1	1.00%	0.00%	1	0	0	0	0	0
	06/04/98	Steelhead	31	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/06/98	SubYrlng Chinook	100	1	1	1.00%	0.00%	1	0	0	0	0	0
	06/06/98	Steelhead	16	0	0	0.00%	0.00%	0	0	0	0	0	0
John Day Dam													
	06/02/98	Yearling Chinook	100	5	4	4.00%	0.00%	3	1	0	0	0	0
	06/03/98	Steelhead	100	5	5	5.00%	0.00%	5	0	0	0	0	0
	06/04/98	Yearling Chinook	100	7	7	7.00%	1.00%	6	0	1	0	0	0
	06/05/98	Steelhead	100	7	7	7.00%	0.00%	6	1	0	0	0	0
	06/06/98	Yearling Chinook	100	3	3	3.00%	1.00%	2	0	1	0	0	0
	06/07/98	Steelhead	100	3	3	3.00%	0.00%	2	1	0	0	0	0
	06/09/98	Yearling Chinook	100	3	3	3.00%	0.00%	3	0	0	0	0	0
	06/10/98	Steelhead	80	1	1	1.25%	0.00%	1	0	0	0	0	0
	06/11/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0

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Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank: Rank 1	Rank 2	Rank 3	Rank 4	Fish with L. Line GBT: Num Fish	Avg. Rank
Bonneville Dam													
	06/02/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/03/98	Steelhead	33	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/04/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/05/98	Steelhead	17	1	1	5.88%	0.00%	0	1	0	0	0	0
	06/06/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/08/98	Steelhead	23	8	8	34.78%	0.00%	5	3	0	0	0	0
	06/09/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/10/98	Steelhead	18	1	1	5.55%	5.55%	0	0	1	0	0	0
	06/11/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
Rock Island Dam													
	06/03/98	Yearling Chinook	100	13	6	6.00%	1.00%	4	1	1	0	7	1
	06/03/98	Steelhead	46	3	2	4.34%	0.00%	2	0	0	0	1	1
	06/05/98	Yearling Chinook	66	8	6	9.09%	0.00%	6	0	0	0	2	1
	06/05/98	Steelhead	23	1	1	4.34%	0.00%	0	1	0	0	0	0
	06/08/98	Yearling Chinook	68	6	5	7.35%	0.00%	5	0	0	0	2	1
	06/10/98	Yearling Chinook	19	2	2	10.52%	0.00%	2	0	0	0	0	0

Hatchery Release Summary
Schedule for Last Two Weeks
From 05/29/98 to 06/11/98

Hatchery	Species	FPC LotID	Number Released	Release Dates Begin	End	Release Site	River Name
Nez Perce Tribe							
Lyons Ferry	FA Chinook	98087	51,500	05/14/98	07/07/98	Pittsburg Landing	Snake River
	FA Chinook	98086	31,500	06/01/98	07/06/98	Clearwater R	Clearwater River, Main Fk
	Agency Total:		83,000				
Umatilla Tribe							
Thornhollow	FA Chinook	98047	2,682,000	05/28/98	06/01/98	Thornhollow Acclim Pd	Umatilla River
	Agency Total:		2,682,000				
WDFW							
Klickitat	Coho	98095	1,100,000	04/20/98	06/10/98	Klickitat H	Klickitat River
	FA Chinook	98096	4,000,000	05/21/98	06/20/98	Klickitat H	Klickitat River
Wells	SU Chinook	98032	540,000	06/04/98	06/15/98	Wells H	Mid-Columbia River
	Agency Total:		5,640,000				
Warm Springs Tribe							
Oak Springs	WI Steelhead	98157	919	06/04/98	06/04/98	Hood R	Hood River
	Agency Total:		919				
Yakama Tribe							
Lost Creek	Coho	98147	300,000	04/24/98	06/04/98	Naches R	Yakama River
Prosser	FA Chinook	98153	1,700,000	05/08/98	06/12/98	Prosser Acclim Pd	Yakama River
Roza	Coho	98150	690,000	04/30/98	05/30/98	Roza Acclim Pd	Yakama River
	Agency Total:		2,690,000				
	Total Release:		11,095,919				

Hatchery Release Summary
Schedule for Next Two Weeks
From 06/12/98 to 06/25/98

Hatchery	Species	FPC LotID	Number Released	Release Dates Begin	End	Release Site	River Name
USFWS							
L White Salmon	FA Chinook	98071	1,700,000	06/25/98	06/26/98	Little White Salmon H	Little White Salmon River
	Agency Total:		1,700,000				
WDFW							
Priest Rapids	FA Chinook	98140	6,700,000	06/15/98	06/25/98	Priest Rapids H	Mid-Columbia River
Ringold	FA Chinook	98145	3,800,000	06/24/98	06/27/98	Ringold Springs H	Mid-Columbia River
Turtle Rock	SU Chinook	98022	509,000	06/22/98	06/30/98	Turtle Rock H	Mid-Columbia River
	SU Chinook	98021	524,000	06/22/98	06/30/98	Turtle Rock H	Mid-Columbia River
	Agency Total:		11,533,000				
	Total Release:		13,233,000				

Total Dissolved Gas Saturation (%) - Average of 12 Highest Hours, 24 h Average and 24 h High[2]

Total Dissolved Gas Saturation Data at Upper Columbia Sites

	Can. Boundary				Grand Coulee				Tlwtr G. Coulee				Chief Joseph				Wells				Rocky Reach			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/29	124	125	125	24	110	111	111	24	108	108	109	24	108	108	109	23	105	105	106	22	109	109	112	23
5/30	124	124	125	24	109	110	110	24	109	109	110	24	107	107	108	23	105	106	106	22	111	113	116	23
5/31	124	125	126	24	110	110	111	24	109	109	109	24	108	109	110	23	106	107	107	23	111	111	112	23
6/1	124	124	125	24	111	111	111	24	110	111	112	24	110	110	110	23	107	107	108	22	115	116	118	23
6/2	124	125	126	24	110	110	111	24	110	111	111	21	110	110	111	23	108	108	109	21	116	118	120	23
6/3	125	126	127	24	109	110	111	24	110	111	113	24	111	111	112	23	109	109	110	22	117	118	121	22
6/4	123	123	125	24	110	110	110	24	108	108	109	24	110	111	112	23	107	108	109	23	114	115	118	23
6/5	122	123	124	24	109	110	110	24	109	110	113	24	109	110	111	23	107	108	109	23	112	113	115	23
6/6	122	123	123	24	109	109	110	24	108	109	109	24	109	109	110	23	106	106	106	23	115	116	117	23
6/7	122	123	123	24	110	110	110	24	109	110	111	24	110	110	110	23	106	106	106	9	114	116	117	23
6/8	122	123	123	24	110	110	110	24	109	109	109	24	109	109	110	23	107	108	108	14	114	115	117	23
6/9	122	122	123	24	107	110	110	24	109	110	110	24	110	110	110	23	108	108	108	13	112	113	114	21
6/10	122	123	124	24	108	110	111	24	110	110	111	24	110	110	110	23	108	108	108	5	110	110	111	23
6/11	123	123	124	24	109	110	110	24	109	110	110	24	110	110	110	23	107	107	108	16	108	109	110	21

Total Dissolved Gas Saturation Data at Mid Columbia Sites

	Tlwtr. Rocky R.				Rock Island				Tlwtr. Rock Island				Wanapum				Tlwtr Wanapum				Priest Rapids			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/29	113	115	120	23	112	113	114	23	118	120	122	23	112	113	113	24	---	---	---	0	---	---	---	0
5/30	116	118	123	23	114	115	116	23	121	122	124	23	113	115	117	24	---	---	---	0	---	---	---	0
5/31	115	117	120	23	115	116	117	23	121	122	123	23	116	118	120	24	---	---	---	0	---	---	---	0
6/1	120	122	125	23	117	118	119	23	123	124	125	23	117	118	119	24	---	---	---	0	118	118	118	1
6/2	121	124	127	23	120	122	123	23	125	126	127	23	119	120	121	24	126	127	129	14	121	123	126	24
6/3	121	122	125	21	122	123	125	22	125	127	128	22	122	124	127	24	127	128	129	24	126	127	129	24
6/4	116	118	123	23	117	120	121	23	121	124	125	23	123	125	127	24	125	126	126	24	124	125	126	24
6/5	116	119	121	23	117	118	121	23	119	121	122	23	121	122	124	24	124	125	128	24	123	123	124	24
6/6	119	121	122	23	117	118	118	23	120	121	122	23	119	121	123	24	121	122	123	24	117	123	125	24
6/7	119	121	124	23	118	119	120	22	120	122	124	22	118	119	120	24	121	122	123	24	120	121	122	24
6/8	117	120	121	23	117	118	119	23	119	120	120	23	119	120	122	24	121	121	123	24	120	121	123	24
6/9	114	115	118	21	114	115	116	22	117	119	119	22	118	119	120	23	122	122	122	23	119	120	121	23
6/10	111	111	112	22	111	111	112	22	113	114	115	22	---	---	---	0	---	---	---	0	---	---	---	0
6/11	109	109	110	18	109	110	110	19	113	113	114	17	---	---	---	0	---	---	---	0	---	---	---	0

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

	Dwnstr P Rapids				Dworshak				Clearwater				Snake-Lewiston				Lower Granite				Tlwtr L. Granite			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/29	121	121	122	24	103	104	108	24	101	102	103	24	96	97	98	24	109	109	110	24	125	125	126	24
5/30	123	124	125	24	108	108	109	24	103	103	104	24	98	99	99	21	107	107	108	24	125	125	126	24
5/31	124	126	128	24	107	108	109	24	103	104	105	24	99	100	101	24	108	110	110	24	123	123	124	24
6/1	123	124	125	24	103	103	104	24	102	103	103	24	100	103	104	22	109	110	110	24	121	123	124	24
6/2	127	127	128	24	105	107	109	24	102	104	105	24	102	104	105	24	109	109	110	24	119	121	125	24
6/3	127	128	129	24	109	110	110	24	104	105	106	24	103	104	105	24	108	108	110	24	120	123	126	24
6/4	124	126	127	24	104	104	104	24	102	102	103	24	102	103	104	24	108	108	110	24	117	117	121	24
6/5	125	126	127	24	102	103	103	24	101	102	102	24	101	102	103	24	106	107	107	24	119	120	121	24
6/6	127	127	128	24	103	103	103	24	102	103	103	24	102	103	105	24	107	108	109	24	117	118	118	24
6/7	121	122	123	24	103	104	104	24	102	102	103	24	102	103	104	24	107	108	110	24	119	120	123	19
6/8	120	121	122	24	103	104	104	24	101	102	103	24	102	103	104	24	107	108	110	24	114	115	115	20
6/9	120	120	123	23	104	104	104	24	102	103	104	24	102	104	105	24	107	107	108	24	115	116	117	20
6/10	---	---	---	0	104	104	104	24	102	102	103	24	102	104	104	24	106	107	107	24	116	117	118	24
6/11	---	---	---	0	103	103	103	24	101	102	103	24	102	103	104	24	107	108	110	24	112	114	115	24

[1] Data provided by the Corps of Engineers.

[2] Dissolved gas readings and averages have been rounded to the nearest integer.

Total Dissolved Gas Saturation (%) - Average of 12 Highest Hours, 24 h Average and 24 h High[2]

Total Dissolved Gas Saturation Data at Snake Sites

	Little Goose				Tlwtr L. Goose				Lower Mon.				Tlwtr L. Mon				Ice Harbor				Tlwtr Ice Harbor			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/29	126	127	128	24	127	129	130	24	129	130	131	24	131	132	133	24	127	129	130	24	125	127	129	24
5/30	123	124	124	24	127	128	128	24	126	128	129	24	131	132	132	24	124	125	126	24	125	127	129	24
5/31	126	127	127	24	125	126	127	24	128	129	130	24	130	131	133	24	127	128	128	24	123	123	123	23
6/1	124	126	127	24	124	125	126	24	127	127	127	24	129	130	131	24	127	128	128	24	122	123	124	23
6/2	121	121	122	24	124	126	128	24	124	125	126	17	128	129	130	17	125	125	126	19	121	123	126	19
6/3	119	121	123	24	123	126	129	23	125	126	128	24	127	128	131	23	124	125	127	24	122	124	127	24
6/4	118	121	125	24	120	121	124	24	124	126	128	24	125	126	127	24	123	124	127	23	120	121	122	24
6/5	114	114	116	24	120	122	124	24	120	120	122	24	125	126	129	24	121	122	123	24	121	123	124	24
6/6	115	117	119	24	118	119	119	24	121	123	125	24	122	123	123	24	121	121	123	24	120	121	122	24
6/7	117	118	118	24	119	121	124	24	119	120	120	24	122	123	125	24	120	121	121	24	121	122	124	24
6/8	117	118	120	24	117	119	119	24	120	120	123	11	119	119	120	12	120	120	123	16	119	120	122	16
6/9	118	119	121	24	118	119	120	24	119	120	120	24	120	121	122	24	119	119	120	24	120	121	121	24
6/10	114	114	116	22	117	118	120	22	118	120	121	24	119	119	120	24	118	118	119	24	119	120	121	24
6/11	---	---	---	0	---	---	---	0	116	117	118	24	118	119	120	23	116	117	118	23	119	120	121	23

Total Dissolved Gas Saturation Data at Lower Columbia Sites

	McNary-Oregon				McNary-Wash.				Tlwtr McNary				John Day				Tlwtr John Day				The Dalles			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/29	117	118	119	24	114	116	116	24	127	128	128	24	111	112	114	23	124	125	126	24	116	117	117	23
5/30	116	117	117	24	112	113	114	24	127	127	127	24	115	115	116	23	126	126	127	24	114	115	115	23
5/31	114	114	114	2	110	110	110	2	126	126	126	2	117	118	119	23	124	124	127	24	116	117	117	23
6/1	120	120	121	24	117	118	118	24	125	126	126	24	121	121	122	23	124	125	127	24	117	117	118	23
6/2	119	119	120	14	117	118	119	15	128	128	128	15	120	121	122	23	122	123	125	23	117	118	119	23
6/3	118	119	120	24	117	117	117	24	128	129	129	24	119	120	120	23	124	125	126	24	119	119	120	23
6/4	117	118	119	24	117	117	118	24	127	128	128	24	120	121	122	23	123	123	124	24	116	116	117	23
6/5	117	118	122	24	117	117	119	24	123	124	125	24	121	122	124	23	121	123	124	24	118	119	120	23
6/6	116	117	119	24	116	117	118	24	125	125	126	24	122	123	125	23	121	122	123	24	119	120	120	23
6/7	117	118	120	17	117	117	119	18	122	123	124	17	122	123	123	23	121	123	124	23	120	120	122	23
6/8	117	118	119	24	117	119	120	24	122	123	124	24	120	121	122	23	121	121	122	24	117	118	118	23
6/9	116	117	118	24	116	117	117	24	123	123	124	24	120	120	120	22	121	122	123	24	116	116	117	23
6/10	115	115	116	24	115	115	116	24	121	122	123	24	117	118	118	23	121	122	123	24	115	115	116	23
6/11	113	114	116	24	113	114	114	24	120	121	122	24	113	114	114	23	122	123	124	24	113	114	115	23

Total Dissolved Gas Saturation Data at Lower Columbia Sites

	Dnstr T. Dalles				Bonneville				Warrendale				Skamania				Camas\Wash.				Wauna Mill			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/29	120	122	124	24	119	119	120	23	125	126	126	23	124	125	125	23	121	122	122	24	112	113	114	24
5/30	122	123	124	24	116	117	118	23	123	124	125	23	123	123	124	23	122	122	123	24	112	112	113	24
5/31	121	122	122	24	121	122	122	23	126	127	127	23	125	127	127	23	123	125	126	24	114	115	116	24
6/1	121	122	123	24	120	121	121	23	126	126	127	23	125	125	126	23	124	125	125	23	114	114	114	23
6/2	121	122	122	24	117	118	119	23	124	124	125	23	123	124	125	23	123	123	125	23	115	116	116	23
6/3	122	123	124	24	118	118	119	23	125	126	127	23	124	125	126	23	123	124	125	24	115	115	115	24
6/4	121	122	122	24	117	118	120	23	124	124	125	23	123	124	124	23	122	122	122	24	114	114	114	24
6/5	122	122	123	24	116	116	117	23	122	122	124	23	121	122	124	23	121	122	123	24	113	114	114	24
6/6	121	122	122	24	119	121	122	23	123	124	125	23	123	124	125	23	120	122	122	24	114	115	115	24
6/7	122	123	123	24	120	120	122	23	124	126	126	23	124	126	127	23	123	125	126	24	113	113	115	24
6/8	120	121	123	24	118	119	119	23	122	123	124	23	121	122	123	23	120	121	122	24	112	112	113	24
6/9	120	121	122	24	115	116	117	23	121	122	123	23	120	121	123	23	119	120	121	24	113	113	114	24
6/10	118	119	122	24	115	115	115	23	119	120	122	23	118	120	121	23	117	118	118	24	112	112	113	24
6/11	118	120	121	24	113	114	116	23	118	119	122	23	117	119	120	23	116	117	118	24	111	111	112	24

[1] Data provided by the Corps of Engineers.
[2] Dissolved gas readings and averages have been rounded to the nearest integer.

Two-Week Summary of Passage Indices

Yearling Chinook

	Hatchery							Hatchery/Wild Combined			
Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO1 (INDEX)
05/29/98	---	---	---	---	524	1,546	1,167	445	18,601	11,515	2,968
05/30/98	---	---	---	---	398	1,106	1,250	773	37,151	10,148	2,666
05/31/98	---	---	---	---	110	747	384	818	16,111	11,014	2,009
06/01/98	---	---	---	---	194	509	320	508	8,961	21,965	2,382
06/02/98	---	0	---	---	179	636	280	644	11,706	99,226	2,182
06/03/98	---	0	---	---	127	395	109	393	7,442	28,200	3,073
06/04/98	---	0	---	---	220	349	248	292	5,069	22,091	2,447
06/05/98	---	0	---	---	346	145	70	151	6,303	14,556	954
06/06/98	---	---	---	---	195	184	259	157	2,832	8,200	1,060
06/07/98	---	---	---	---	133	168	212	120	2,608	10,203	933
06/08/98	---	0	---	---	138	170	158	113	2,679	4,039	458
06/09/98	---	0	---	0	90	106	206	66	4	2,045	383
06/10/98	---	0	---	0	41	183	79	40	---	2,252	379
06/11/98	---	0	---	0	51	99	76	43	---	2,026	147
Total:	0	0	0	0	2,746	6,343	4,818	4,563	119,467	247,480	22,041
# Days:	0	8	0	3	14	14	14	14	12	14	14
Average:	0	0	0	0	196	453	344	326	9,956	17,677	1,574

Wild Yearling Chinook

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
05/29/98	---	---	---	---	615	1,335	1,030
05/30/98	---	---	---	---	448	1,449	1,369
05/31/98	---	---	---	---	37	1,223	703
06/01/98	---	---	---	---	194	707	245
06/02/98	---	1	---	---	102	369	245
06/03/98	---	1	---	---	111	531	73
06/04/98	---	0	---	---	117	400	186
06/05/98	---	0	---	---	120	216	210
06/06/98	---	---	---	---	97	207	302
06/07/98	---	---	---	---	199	330	233
06/08/98	---	0	---	---	138	427	257
06/09/98	---	0	---	2	135	242	350
06/10/98	---	0	---	11	111	317	79
06/11/98	---	2	---	8	93	155	76
Total:	0	4	0	21	2,517	7,908	5,358
# Days:	0	8	0	3	14	14	14
Average:	0	1	0	7	180	565	383

Wild Subyearling Chinook

Date	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
05/29/98	258	0	102
05/30/98	298	0	298
05/31/98	438	143	256
06/01/98	355	140	171
06/02/98	275	0	35
06/03/98	127	82	214
06/04/98	205	65	93
06/05/98	301	26	23
06/06/98	665	46	86
06/07/98	399	56	85
06/08/98	172	79	178
06/09/98	165	45	330
06/10/98	152	67	105
06/11/98	76	62	38
Total:	3,886	811	2,014
# Days:	14	14	14
Average:	278	58	144

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

	Hatchery Subyearling Chinook							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)
05/29/98	---	---	---	---	0	0	102	11	22,923	484	12,178
05/30/98	---	---	---	---	0	0	0	26	42,602	70	16,183
05/31/98	---	---	---	---	0	0	0	17	52,366	1,398	11,412
06/01/98	---	---	---	---	97	35	34	14	52,296	4,755	27,435
06/02/98	---	0	---	---	97	0	70	10	50,682	29,228	53,635
06/03/98	---	0	---	---	0	0	71	13	129,108	11,537	87,738
06/04/98	---	0	---	---	29	0	31	6	84,390	6,080	34,252
06/05/98	---	0	---	---	15	0	0	12	74,734	5,196	28,567
06/06/98	---	---	---	---	49	0	22	17	55,088	9,772	24,798
06/07/98	---	---	---	---	50	0	0	21	49,327	38,239	15,406
06/08/98	---	0	---	---	52	0	0	36	34,588	37,596	14,720
06/09/98	---	0	---	0	60	0	21	34	8	25,174	16,370
06/10/98	---	0	---	0	6	10	0	49	---	25,482	13,110
06/11/98	---	0	---	0	8	0	0	53	---	37,372	20,848
Total:	0	0	0	0	463	45	351	319	648,112	232,383	376,652
# Days:	0	8	0	3	14	14	14	14	12	14	14
Average:	0	0	0	0	33	3	25	23	54,009	16,599	26,904

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)
05/29/98	---	---	---	---	1,548	2,429	3,455	2,762	7,886	6,856	16,182
05/30/98	---	---	---	---	1,228	1,499	1,607	4,445	8,795	11,503	10,511
05/31/98	---	---	---	---	876	1,192	1,343	4,412	4,750	6,605	13,017
06/01/98	---	---	---	---	1,098	1,410	754	3,242	5,314	8,620	18,211
06/02/98	---	0	---	---	1,147	719	982	5,429	5,164	47,015	16,335
06/03/98	---	0	---	---	1,030	576	927	4,691	7,636	5,684	34,678
06/04/98	---	0	---	---	1,129	441	434	1,984	3,463	9,236	11,744
06/05/98	---	0	---	---	1,490	255	514	921	3,938	6,983	6,949
06/06/98	---	---	---	---	827	254	324	1,344	2,705	3,914	5,946
06/07/98	---	---	---	---	814	239	275	699	564	4,181	6,444
06/08/98	---	0	---	---	293	343	257	743	790	4,661	2,351
06/09/98	---	0	---	0	240	254	742	763	0	2,041	3,759
06/10/98	---	0	---	0	269	184	527	423	---	2,296	3,482
06/11/98	---	0	---	0	263	163	214	400	---	2,139	4,901
Total:	0	0	0	0	12,252	9,958	12,355	32,258	51,005	121,734	154,510
# Days:	0	8	0	3	14	14	14	14	12	14	14
Average:	0	0	0	0	875	711	883	2,304	4,250	8,695	11,036

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)
05/29/98	---	---	---	---	23,334	13,541	18,575	147	9,395	17,000	10,302
05/30/98	---	---	---	---	15,341	25,519	21,016	204	8,797	7,368	7,083
05/31/98	---	---	---	---	17,197	10,764	9,270	43	7,865	10,365	6,472
06/01/98	---	---	---	---	12,597	11,580	8,277	13	5,663	16,382	8,673
06/02/98	---	14	---	---	11,331	10,057	5,715	17	8,155	15,289	2,394
06/03/98	---	16	---	---	7,730	3,975	4,194	19	2,644	12,844	7,627
06/04/98	---	6	---	---	8,036	2,668	3,472	28	2,226	8,307	1,174
06/05/98	---	0	---	---	11,875	2,984	1,926	14	3,544	6,852	500
06/06/98	---	---	---	---	8,938	1,832	3,109	14	1,143	3,286	807
06/07/98	---	---	---	---	6,813	2,648	1,883	11	361	3,869	434
06/08/98	---	5	---	---	6,045	2,589	1,323	16	494	2,020	543
06/09/98	---	15	---	4	2,569	1,786	3,190	18	0	1,747	267
06/10/98	---	35	---	9	2,307	2,746	1,547	7	---	789	498
06/11/98	---	50	---	5	1,506	1,379	757	7	---	563	69
Total:	0	141	0	18	135,619	94,068	84,254	558	50,287	106,681	46,843
# Days:	0	8	0	3	14	14	14	14	12	14	14
Average:	0	18	0	6	9,687	6,719	6,018	40	4,191	7,620	3,346

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)
05/29/98	---	---	---	---	3,988	3,388	4,085	113	3,143	9,155	4,899
05/30/98	---	---	---	---	2,430	4,485	4,882	0	3,894	3,041	4,097
05/31/98	---	---	---	---	1,753	2,384	1,087	67	2,856	5,024	6,773
06/01/98	---	---	---	---	1,647	1,692	1,348	16	2,998	8,129	3,269
06/02/98	---	6	---	---	1,223	1,603	631	52	1,918	9,543	905
06/03/98	---	4	---	---	1,045	988	763	74	616	6,787	4,774
06/04/98	---	2	---	---	1,028	786	465	37	494	2,831	1,174
06/05/98	---	0	---	---	1,309	487	463	21	466	2,426	545
06/06/98	---	---	---	---	1,008	291	130	65	416	629	968
06/07/98	---	---	---	---	914	534	444	42	239	1,186	434
06/08/98	---	0	---	---	1,085	451	316	42	99	1,243	246
06/09/98	---	1	---	0	421	236	614	59	0	488	208
06/10/98	---	0	---	0	293	458	303	39	---	1,046	87
06/11/98	---	1	---	0	139	232	227	30	---	563	108
Total:	0	14	0	0	18,283	18,015	15,758	657	17,139	52,091	28,487
# Days:	0	8	0	3	14	14	14	14	12	14	14
Average:	0	2	0	0	1,306	1,287	1,126	47	1,428	3,721	2,035

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)
05/29/98	---	---	---	---	218	314	915	53	1,148	343	252
05/30/98	---	---	---	---	205	564	1,667	75	2,138	0	62
05/31/98	---	---	---	---	146	337	575	155	1,463	250	72
06/01/98	---	---	---	---	242	325	582	55	348	31	0
06/02/98	---	0	---	---	275	204	526	63	719	849	160
06/03/98	---	0	---	---	95	82	357	32	727	153	0
06/04/98	---	0	---	---	205	16	527	33	371	789	98
06/05/98	---	0	---	---	316	87	210	17	675	377	182
06/06/98	---	---	---	---	162	69	302	26	0	0	0
06/07/98	---	---	---	---	299	48	85	11	113	250	43
06/08/98	---	0	---	---	86	88	198	25	99	311	102
06/09/98	---	0	---	11	165	91	350	13	0	307	17
06/10/98	---	0	---	4	59	47	171	10	---	35	95
06/11/98	---	0	---	18	59	70	139	13	---	225	39
Total:	0	0	0	33	2,532	2,342	6,604	581	7,801	3,920	1,122
# Days:	0	8	0	3	14	14	14	14	12	14	14
Average:	0	0	0	11	181	167	472	42	650	280	80

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)
05/29/98	---	---	---	---	20	0	0	198	13,093	6,251	1,344
05/30/98	---	---	---	---	0	0	0	88	10,428	4,240	577
05/31/98	---	---	---	---	0	99	64	29	6,340	2,629	673
06/01/98	---	---	---	---	0	35	0	17	5,669	3,988	1,786
06/02/98	---	0	---	---	16	0	0	27	5,044	10,242	905
06/03/98	---	0	---	---	0	0	0	19	4,498	8,925	1,646
06/04/98	---	0	---	---	0	32	31	7	4,698	4,038	489
06/05/98	---	0	---	---	0	0	47	5	3,717	5,163	182
06/06/98	---	---	---	---	0	0	0	3	2,811	3,886	530
06/07/98	---	---	---	---	0	16	0	2	1,585	3,963	239
06/08/98	---	0	---	---	0	0	0	2	1,786	1,087	68
06/09/98	---	0	---	0	0	0	41	2	0	1,201	33
06/10/98	---	0	---	0	0	0	0	0	---	1,011	166
06/11/98	---	0	---	0	0	7	0	0	---	1,013	124
Total:	0	0	0	0	36	189	183	399	59,669	57,637	8,762
# Days:	0	8	0	3	14	14	14	14	12	14	14
Average:	0	0	0	0	3	14	13	29	4,972	4,117	626

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 June 11, 1998

	Spring Chinook						Summer Chinook						Fall Chinook					
	1998		1997		10-Yr Avg.		1998		1997		10-Yr Avg.		1998		1997		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	38,253	762	114,000	963	71,826	2,812	3,833	286	8,837	76	4,279	302						
TDA	25,330	503	69,365	375	44,144	1,889	1,889	107	4,124	39	10,075	763						
JDA	22,495	418	62,253	327	34,393	1,541	1,647	57	3,371	48	8,603	684						
MCN	19,456	335	57,832	404	33,819		816	28	2,259	26	7,806							
IHR	12,420	131	41,851	77	18,178	714	0	0	0	0								
LMN	10,025	104	37,812	145	17,565	767	0	0	0	0								
LGS	9,478	79	36,078	104	n/a	n/a	0	0	0	0								
LWG	8,891	81	30,492	57	15,110	655	0	0	0	0								
PRD	4,025	33	6,780	8	10,704	173	0	0	0	0								
RIS	3,003	45	6,153	52	8,534	192	0	0	0	0								
RRH	703	40	1,856	10	2,066	52	0	0	0	0								
WEL	1	2	680	26	1,204	50	0	0	0	0								

CRhR						SRFNHyH			StHH0aHad		
1998		1997		10-Yr Avg.				10-Yr			10-Yr
Adult	Jack	Adult	Jack	Adult	Jack	1998	1997	Avg.	1998	1997	Avg.
0	0	0	0	0	0	107	461	620	4,205	6,723	7,533
0	0	0	0	0	0	39	97	19,888	1,533	1,557	5,108
0	0	0	0	0	0	8	65	17,751	7,803	3,436	5,182
0	0	0	0	0	0	6	9	13,868	1,974	1,886	4,467
0	0	0	0	0	0	0	0	0	1,820	1,448	3,175
0	0	0	0	0	0	0	0	0	1,404	1,215	2,823
0	0	0	0	0	0	0	0	n/a	2,037	1,419	n/a
0	0	0	0	0	0	1	0	0	4,165	3,644	5,968
0	1	0	0	0	0	6	3	101	23	29	103
0	0	0	0	1	0	4	1	34	36	44	181
0	0	0	0	1	0	1	0	18	92	55	110
0	0	0	0	0	0	0	17	127	7	38	65

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

1996, 1997, and 1998 counts were obtained from the Corps of Engineers.

1998 totals at LMN, RIS, and RRH are based on video counts accumulated through June 10.

1998 totals at LGS are based on video counts accumulated through June 09.

Adult count records at LGS have been maintained since 1993.

** - Through June 28, all (spring) chinook are being trapped and removed from the ladder at Wells prior to the counting window.

Transportation Summary Report

Two-Week Transportation Summary from 05/29/98 through 6/11/98

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	3,092	2,688	90,426	7,389	1,565	105,160
Bypassed	189	0	2,104	0	0	2,293
Trucked	0	0	0	0	0	0
Barged	3,885	2,962	111,829	8,387	1,915	128,978
Total Transported	**3,885**	**2,962**	**111,829**	**8,387**	**1,915**	**128,978**
LITTLE GOOSE DAM						
Collected	7,932	516	61,866	5,498	1,414	77,226
Bypassed	0	0	0	0	0	0
Trucked	0	0	0	0	0	0
Barged	11,063	572	88,286	8,678	2,522	111,121
Total Transported	**11,063**	**572**	**88,286**	**8,678**	**2,522**	**111,121**
LOWER MONUMENTAL DAM						
Collected	5,768	1,440	55,252	6,995	3,900	73,355
Bypassed	656	179	9,708	997	639	12,179
Trucked	0	0	0	0	0	0
Barged	7,913	1,375	63,095	7,840	4,421	84,644
Total Transported	**7,913**	**1,375**	**63,095**	**7,840**	**4,421**	**84,644**
MCNARY DAM						
Collected	48,780	277,209	27,543	21,049	27,649	402,230
Bypassed	32,665	72,343	18,428	10,937	16,338	150,711
Trucked	7,035	70,968	4,888	4,978	4,115	91,984
Barged	8,119	130,521	4,131	5,059	6,925	154,755
Total Transported	**15,154**	**201,489**	**9,019**	**10,037**	**11,040**	**246,739**
PROJECT TOTALS						
Collected	65,572	281,853	235,087	40,931	34,528	657,971
Bypassed	33,510	72,522	30,240	11,934	16,977	165,183
Trucked	7,035	70,968	4,888	4,978	4,115	91,984
Barged	30,980	135,430	267,341	29,964	15,783	479,498
Total Transported	**38,015**	**206,398**	**272,229**	**34,942**	**19,898**	**571,482**

Transportation Summary Report

Cumulative Transportation Summary through 6/11/98

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	1,497,256	6,038	4,969,139	146,733	47,985	6,667,151
Bypassed	102,064	33	124,446	1,425	0	227,968
Trucked	24,303	46	33,352	93	10	57,804
Barged	1,444,863	5,878	4,853,905	144,839	47,872	6,497,357
Total Transported	**1,469,166**	**5,924**	**4,887,257**	**144,932**	**47,882**	**6,555,161**
LITTLE GOOSE DAM						
Collected	884,325	666	1,487,110	46,603	15,669	2,434,373
Bypassed	0	0	0	0	0	0
Trucked	568	0	1,097	5	0	1,670
Barged	872,167	622	1,480,791	46,052	15,485	2,415,117
Total Transported	**872,735**	**622**	**1,481,888**	**46,057**	**15,485**	**2,416,787**
LOWER MONUMENTAL DAM						
Collected	490,288	1,942	939,073	27,837	13,445	1,472,585
Bypassed	4,255	189	11,943	1,008	639	18,034
Trucked	797	0	780	0	0	1,577
Barged	483,989	1,717	925,011	26,641	12,690	1,450,048
Total Transported	**484,786**	**1,717**	**925,791**	**26,641**	**12,690**	**1,451,625**
MCNARY DAM						
Collected	1,022,237	327,764	325,340	119,370	505,822	2,300,533
Bypassed	1,004,308	122,732	316,015	109,189	492,648	2,044,892
Trucked	7,035	70,968	4,888	4,978	4,115	91,984
Barged	8,119	130,521	4,131	5,059	6,925	154,755
Total Transported	**15,154**	**201,489**	**9,019**	**10,037**	**11,040**	**246,739**
PROJECT TOTALS						
Collected	3,894,106	336,410	7,720,662	340,543	582,921	12,874,642
Bypassed	1,110,627	122,954	452,404	111,622	493,287	2,290,894
Trucked	32,703	71,014	40,117	5,076	4,125	153,035
Barged	2,809,138	138,738	7,263,838	222,591	82,972	10,517,277
Total Transported	**2,841,841**	**209,752**	**7,303,955**	**227,667**	**87,097**	**10,670,312**