Fish Passage Center

Weekly Report #98 - 16

July 2, 1998

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SUMMARY OF EVENTS:

Water Supply: Precipitation and lower than normal temperatures for this time of year continue to dominate over the region. It is expected that this weather pattern will continue for the next few days across the region which could delay the start of projected increasing water withdrawal for the system.

The new July Early Runoff Volume Forecast has been issued. The runoff volumes deteriorated compared to the June Final and Midmonth based on more precise precipitation and snow melt runoff data. This decrease in runoff volume will result in a greater decrease of flows during the summer period than was previously projected. The runoff volume forecast decreased in the range of 1% to 6% for all major sites. The following Table summarizes the forecast:

Location	Period	May 98 Final		June 98 Final		July 98 Early	
		MAF	%	MAF	%	MAF	%
Libby	Apr-Sep	5.38	79	6.31	93	6.26	92
Hungry Horse	Apr-Sep	1.5	69	1.71	78	1.6	73
Grand Coulee	Jan-Jul	53.2	84	59.3	94	58	92
The Dalles	Apr-Sep	89.1	84	94	95	91	92
Lower Granite	Jan-Jul	25	84	29.9	101	28.4	95
Dworshak	Apr-Jul	1.73	64	2.13	79	2.03	75
Brownlee	Apr-Jul	4.54	78	7.25	125	7.07	122

System Storage: Major US reservoirs except Libby are full and passing inflows. The Canadian reservoirs continue to refill.

A summary of actual elevations on July 1, 1998 is shown in the following table:

Reservoir	Actual Elev. [ft] 7/1/98	Max. Pool [ft]
Mica	2447.1	2475.0
Arrow	1434.8	1444.0
Duncan	1873.1	1892.0
Libby	2454.5	2459.0
Hungry Horse	3560.8	3560.0
Grand Coulee	1287.3	1290.0
Brownlee	2076.8	2077.0
Dworshak	1599.6	1600.0

- Mica starts releasing actual outflows of 10 kcfs. Treaty elevation is 2449.6 ft. There is no planned Non Treaty Storage activity during coming week. The current account is showing: US-2114 kaf and BC-2016 kaf.
- Arrow Treaty Storage is almost full. Current actual elevation is 8.5 ft below Treaty elevation. Current outflow of about 30 kcfs is almost the same as Treaty outflow.
- Duncan continues to refill to the end of July full pool elevation with outflow of 100 cfs. Treaty elevation at Duncan is the same as actual.
- Libby continues with outflows of 15 kcfs through July 12.
- Hungry Horse is almost full to one foot of surcharge, releasing outflows up to 7.2 kcfs.
- Grand Coulee will operate between 1287-1290 ft to the end of the next week.
- Brownlee is full and continues to pass inflow in the range of 28-30 kcfs. It is expected that inflows will decrease quickly during the

coming week and therefore it is projected that the reservoir will start drafting with average outflows of 25 kcfs (not exceeding the hydraulic capacity of the Hells Canyon Dam).

- Dworshak is full and will continue to pass inflow in the range of 4-6 kcfs. The final decision on the reservoir management during the summer period is expected after the Implementation Team meeting on July 2. The State of Idaho objected to drafting the reservoir to Biological Opinion required elevation of 1520 ft by the end of August because of the augmentation requirements of the fisheries in the Clearwater during fall period.

Upper Snake reservoirs:

The system is almost full. Local precipitation increased runoff volume from the area resulting in a higher outflow from Milner compared to the previous week. Reservoirs are full (except Palisades) and ready for the beginning of the high irrigation season.

Jackson Lake is currently passing inflow of 3 kcfs.

Palisades was refilled up to 94% of full. Currently, the outflow is 12.9 kcfs.

American Falls is full and it will continue to pass inflow of 17.5 kcfs.

Milner flow at the lowest point of the Upper Snake system increaed up to 7.4 kcfs compared to last week flows of about 4 kcfs. Irrigation withdrawal upstream of Minidoka is still pretty constant up to 7.7 kcfs (the flow from the beginning of June).

Boise River Basin:

All three major reservoirs: Anderson, Arrowrock and Lucky peak are full and the system is continuing to pass inflow. Irrigation demands continues to be on minimum, about 200 cfs. The flow at Glenwood Bridge increased to 3.7 kcfs and 2.4 kcfs at New York Canal.

System Streamflow: The weekly average flows remained in the same range as during the previous week. The summary of average weekly flows for run of the river projects during the June 19 thorough July 1 period is shown in the following Table:

Project	June 19-25	June 26-July 1
Priest Rapids	152.9 kcfs	158.3 kcfs
McNary	248.0 kcfs	254.3 kcfs
Lower Granite	89.7 kcfs	90.1 kcfs
Bonneville	256.8 kcfs	264.1 kcfs

Spill: The summer spill program is now being implemented at Ice Harbor Dam. Spill averaged 60.1 kcfs at Ice Harbor Dam over the past six days.

The lower Columbia River spring spill program ended on June 30, and summer spill began on July 1, 1998. No spill is scheduled to occur at McNary Dam through the summer; however, river flows have resulted in excess hydraulic capacity spill at this project. Spill averaged 89.4 kcfs at McNary Dam, 59.4 kcfs at John Day Dam, 122.4 kcfs at The Dalles Dam, and 91.6 kcfs at Bonneville Dam over the past week.

The summer spill program is being implemented at the Mid Columbia projects.

Total Dissolved Gas Supersaturation and gas Bubble Trauma Monitoring

TDGS levels have been below the gas waivers at all monitoring sites, with the exception of Camas/Washougal where TDGS has slightly exceeded the 115% criteria.

Gas bubble trauma monitoring has ended for the season at the Snake River monitoring sites. Sampling will continue through the summer at Rock Island, McNary, John Day and Bonneville dams. Only a few juvenile fish with signs have been detected in the system. The percentage of fish affected remains well below the action criteria.

Smolt Monitoring. *Snake River Drainage*. The hatchery steelhead continue to dominate the collections at Lower Granite Dam this week. During the past two weeks, daily passage indices at Lower Granite Dam have averaged nearly 1,800 hatchery steelhead, nearly 300 hatchery yearling chinook, nearly 300 wild yearling chinook, and nearly 500 wild subyearling chinook. The hatchery subyearling chinook passage index at the Snake River dams only reflects the few fish that inadvertently end up in the sample tank. Subyearling hatchery chinook released in the Clearwater and Snake rivers above Lower Granite Dam are 100% PIT tagged, and the PIT tag override of the sample timer operation diverts nearly all PIT tagged subyearling hatchery fish directly back to the river. Parties interested in the PIT tagged subyearling hatchery chinook need to query the PTAGIS database. *Columbia River Drainage*. In the Mid-Columbia and lower Columbia River, the passage indices of the remaining springtime migrants are dwarfed by the subyearling chinook passage indices. During the past two weeks, daily passage indices of subyearling chinook (combined hatchery and wild fish) at Rock Island Dam have averaged over 300 fish at Rock Island Dam, over 250,000 fish at McNary Dam, over 50,000 fish at John Day Dam, and under 15,000 fish at Bonneville Dam. These magnitudes reflect that we are in the period of high subyearling chinook passage at each site. Great differences in FGE's among sites preclude any direct comparisons among sites in passage indices. But site-specific trends in passage indices from last week to this week show a relatively flat trend at Rock Island and McNary dams, an increasing trend at John Day Dam, and a decreasing trend at Bonneville Dam. The highest subyearling chinook passage index so far this season occurred at Rock Island Dam on June 23, and at McNary and John Day dams on June 25.

Adult Fish Passage: At Bonneville Dam, numbers of adult summer chinook ranged from about 300 to 400 through the week (June 26 - July 1). The cumulative count at Bonneville Dam through July 1 was 13,254, about 68% of the 1997 and nearly equal the 10-year average. The count of summer chinook at McNary Dam was 8,768, about 76% of the 1997 total. The turnoff into the Snake River (Ice Harbor Dam count) totaled 4,559, only 63% of the 1997 count at the project. Daily counts of adult summer chinook have normally ranged between 80-250 at the Snake River projects, with the daily counts decreasing at week's end to less than 100 per day at the lower Snake River dams. The cumulative count of summer chinook at Lower Granite Dam was 2,816 through July 1. Summer chinook counts increased at Priest Rapids and upper Mid-Columbia projects during this week. The daily counts ranged between 300 and 500 for the week at Priest Rapids with the cumulative count at Priest Rapids Dam of 3,526, and that total is currently greater than the 1997 and 10-year average through July 1.

The steelhead run for the 1998/99 cycle ranged between 350 and 600 for this passage week at Bonneville Dam. The season count at Bonneville Dam (March – July 1) was 10,343, and remains below either the 1997 or the 10-year average to date. The early portion of the steelhead run is the A-Run fish and they generally comprise the bulk of the steelhead run passing above Bonneville Dam. The B-Run steelhead counts, on a calendar date, begin August 26 at Bonneville Dam.

Daily sockeye counts at Bonneville Dam were in the range of 400 to 600 for the week with the total to date of 8,177. This year's run is approximately 32% and 27% of the respective 1997 count and 10 year average. The sockeye are now passing Priest Rapids Dam and upstream past the remaining Mid-Columbia projects. The high daily count of 590 at Priest Rapids on July 1 pushed the cumulative count for the season to 2,202 fairly equal to the 10-year average and 1997 counts. The sockeye will be migrating to Lake Wenatchee and Lake Osoyoos.

Indications so far do not show much promise that many sockeye will be passing into the Snake and up to Red Fish Lake, but maybe some will begin later in the passage season.

Hatchery Releases: Columbia Basin hatcheries completed release of subyearling summer and fall chinook for the year except for a couple of small research fish groups that will be released in the Snake River Basin. In the Mid-Columbia Reach, subyearling fall chinook from Priest Rapids Hatchery were released on five separate days (normally three days apart) beginning June 12 and ending on June 25. Wells Hatchery completed release from their ponds on June 15. Turtle Rock and Ringold Hatcheries completed their scheduled releases during this week. The Yakama acclimation ponds have liberated all fish for the season as of 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). These fish were used as part of the survival studies that are ongoing in the Snake River. All fish from the acclimation ponds were PIT tagged this year. 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 was 6/8). Subyearling fall chinook from Little White Salmon Hatchery were released on June 25 and June 26.

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
06/18/98	138.0	0.1	136.7	0.0	145.1	9.8	148.3	1.2	150.1	20.3	146.2	0.0	149.9	3.3
06/19/98	148.7	0.1	151.2	0.0	158.0	11.4	161.8	4.5	160.6	20.2	157.3	1.1	162.4	16.5
06/20/98	109.2	0.1	114.0	0.0	129.6	11.0	143.0	0.0	144.4	20.4	145.3	2.2	151.5	9.1
06/21/98	72.8	0.1	71.5	0.0	78.5	7.6	83.9	0.0	89.4	20.3	105.5	1.9	120.1	3.5
06/22/98	144.4	0.1	145.2	0.0	147.3	11.2	145.0	2.1	141.2	20.3	129.5	1.9	124.7	1.4
06/23/98	156.2	0.1	157.9	0.0	165.8	11.7	173.8	13.3	172.9	20.2	165.8	9.5	171.2	24.5
06/24/98	136.1	0.1	141.2	0.0	151.2	12.1	160.4	17.1	164.6	20.3	162.0	5.1	170.0	31.2
06/25/98	157.1	0.1	159.3	0.0	165.9	12.1	170.0	20.7	167.7	20.3	164.4	4.3	170.2	24.2
06/26/98	142.9	0.1	147.7	0.0	159.1	12.1	168.2	17.4	168.5	20.3	164.1	6.7	176.8	33.8
06/27/98	118.8	0.1	120.1	0.0	130.1	10.9	136.5	21.1	139.2	20.4	142.7	3.4	148.5	9.2
06/28/98	109.3	0.1	111.7	0.0	121.3	10.1	126.4	8.7	126.4	20.4	126.7	2.1	132.8	1.6
06/29/98	153.2	0.1	148.7	0.0	160.4	12.1	158.7	9.3	154.4	20.3	148.2	2.2	152.2	47.6
06/30/98	151.3	0.1	152.1	0.0	159.3	12.1	168.4	9.5	168.1	27.9	168.1	5.0	173.5	63.9
07/01/98	127.8	0.1	133.3	1.7	---	---	157.5	17.7	160.3	23.6	160.4	6.1	166.2	42.8

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
06/18/98	5.2	0.0	---	---	97.6	27.2	100.4	28.5	104.2	17.1	108.4	62.6
06/19/98	5.2	0.0	---	---	94.3	27.4	89.7	24.5	94.6	21.4	98.7	61.4
06/20/98	7.1	0.0	---	---	99.6	27.1	96.8	24.8	100.4	26.2	105.2	61.0
06/21/98	6.3	0.0	---	---	91.6	0.0	90.3	0.0	96.6	0.0	99.4	60.9
06/22/98	5.2	0.0	---	---	89.0	0.0	89.0	0.0	94.3	0.1	96.5	62.2
06/23/98	5.6	0.0	---	---	84.2	0.0	85.0	0.0	91.4	0.3	93.8	57.8
06/24/98	6.1	0.0	---	---	86.0	0.0	85.7	0.0	90.4	0.0	91.4	57.0
06/25/98	6.1	0.0	---	---	83.1	5.3	81.8	0.0	86.1	0.0	86.4	59.9
06/26/98	6.1	0.0	---	---	90.7	0.0	90.0	0.0	94.7	0.0	100.4	61.2
06/27/98	6.3	0.0	---	---	101.3	0.0	100.0	0.0	109.2	0.0	109.7	61.1
06/28/98	6.3	0.0	---	---	98.0	0.0	99.3	0.0	106.5	0.0	110.3	61.1
06/29/98	5.5	0.0	---	---	88.1	0.0	89.7	0.0	96.7	0.0	97.6	61.0
06/30/98	4.6	0.0	---	---	85.1	0.0	83.8	0.0	87.8	0.0	91.3	56.1
07/01/98	4.0	0.0	---	---	77.5	9.1	77.4	7.9	82.1	7.4	83.3	60.2

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
06/18/98	253.3	94.9	250.5	62.8	245.9	92.1	266.8	93.3	63.3	101.0
06/19/98	254.2	106.9	263.0	59.4	250.7	146.0	260.0	93.6	67.4	89.8
06/20/98	276.3	121.6	288.6	86.9	279.3	105.0	281.8	93.9	80.3	98.4
06/21/98	230.9	72.2	237.6	59.4	241.9	128.8	260.4	94.4	76.8	80.0
06/22/98	208.3	72.5	220.0	55.1	222.6	82.2	242.0	94.5	52.5	85.8
06/23/98	214.6	72.6	214.2	56.7	210.8	122.8	205.0	92.1	61.3	42.4
06/24/98	284.1	116.5	275.2	59.3	260.9	93.3	268.7	102.3	77.0	80.2
06/25/98	267.7	95.7	275.4	59.3	267.1	148.0	279.7	88.5	70.0	112.0
06/26/98	258.8	93.2	276.6	60.1	270.3	97.0	262.9	90.1	77.0	86.1
06/27/98	275.8	105.5	275.8	59.3	266.8	79.7	285.2	91.7	77.4	106.9
06/28/98	250.8	77.7	257.2	59.0	256.1	141.6	268.7	91.9	82.7	84.9
06/29/98	242.3	76.0	247.5	59.0	248.8	160.0	255.9	91.8	77.6	77.3
06/30/98	235.3	84.2	249.5	59.5	241.9	86.3	246.3	92.1	72.1	72.9
07/01/98	262.9	99.8	267.8	59.5	257.3	169.6	265.3	92.1	83.1	80.9

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

								Number of Fish with Fin GBT Listed by Highest Rank				Fish with L. Line GBT	
Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Rank 1	Rank 2	Rank 3	Rank 4	Num Fish	Avg. Rank
Lower Granite Dam													
	06/22/98	Steelhead	50	2	0	0.00%	0.00%	0	0	0	0	2	1
	06/24/98	Steelhead	100	1	0	0.00%	0.00%	0	0	0	0	1	1
	06/26/98	Steelhead	75	4	0	0.00%	0.00%	0	0	0	0	3	1
	06/29/98	Steelhead	86	3	0	0.00%	0.00%	0	0	0	0	3	1
Lower Monumental Dam													
	06/22/98	Steelhead	100	8	5	5.00%	0.00%	5	0	0	0	4	1
	06/24/98	Steelhead	20	2	0	0.00%	0.00%	0	0	0	0	2	1
	06/26/98	Steelhead	31	2	0	0.00%	0.00%	0	0	0	0	1	1
	06/29/98	Steelhead	31	0	0	0.00%	0.00%	0	0	0	0	0	0
McNary Dam													
	06/23/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/25/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/27/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/30/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
John Day Dam													
	06/23/98	SubYrlng Chinook	100	1	1	1.00%	0.00%	1	0	0	0	0	0
	06/25/98	SubYrlng Chinook	100	1	0	0.00%	0.00%	0	0	0	0	0	0
	06/27/98	SubYrlng Chinook	100	2	2	2.00%	0.00%	2	0	0	0	0	0
	06/30/98	SubYrlng Chinook	100	1	1	1.00%	0.00%	1	0	0	0	0	0
	07/02/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
Bonneville Dam													
	06/23/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/25/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/27/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	06/30/98	SubYrlng Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
Rock Island Dam													
	06/22/98	SubYrlng Chinook	100	2	2	2.00%	0.00%	2	0	0	0	0	0
	06/26/98	SubYrlng Chinook	100	8	7	7.00%	0.00%	5	2	0	0	0	0
	06/29/98	SubYrlng Chinook	100	3	1	1.00%	0.00%	0	1	0	0	2	1
	07/01/98	SubYrlng Chinook	100	1	1	1.00%	0.00%	1	0	0	0	0	0

Hatchery Release Summary
Schedule for Last Two Weeks
From 06/17/98 to 06/30/98

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				
				USFWS			
L White Salmon	FA Chinook	98071	2,000,077	06/25/98	06/26/98	Little White Salmon H	Little White Salmon River
	Agency Total:		2,000,077				
				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:		13,616,077				

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
6/18	123	124	126	24	112	112	112	24	111	111	112	24	110	110	111	22	107	108	108	18	107	109	109	23
6/19	125	125	126	24	112	112	112	24	111	111	112	24	110	110	111	23	107	108	108	23	108	109	109	23
6/20	125	126	127	24	112	112	113	24	111	111	112	24	110	111	111	23	108	109	110	23	107	108	109	23
6/21	125	126	127	24	112	113	113	24	112	113	115	24	111	111	112	23	109	110	111	23	108	109	110	23
6/22	126	126	128	21	114	114	114	24	112	112	113	24	112	112	113	23	109	110	110	23	110	111	112	23
6/23	125	125	125	8	114	114	114	24	113	113	114	24	113	114	114	23	110	110	110	16	111	111	112	23
6/24	124	125	126	24	115	115	115	24	113	113	115	24	113	113	113	24	111	111	111	17	111	111	112	24
6/25	124	124	124	15	115	115	115	15	113	114	115	15	112	113	113	23	109	109	110	11	110	110	111	22
6/26	123	124	124	21	114	114	115	17	113	113	114	17	111	112	112	20	109	109	110	21	109	109	109	23
6/27	123	124	124	21	114	114	115	20	113	113	114	20	111	111	111	15	109	109	109	19	108	109	110	23
6/28	123	124	124	24	114	114	114	24	113	113	114	24	---	---	---	0	109	110	111	23	109	109	111	24
6/29	123	124	124	24	114	114	115	24	113	113	115	24	113	113	114	16	110	110	111	21	110	111	112	22
6/30	123	124	124	21	114	115	115	24	113	113	114	24	113	113	113	23	111	111	112	23	111	112	113	22
7/1	124	124	126	24	114	115	115	24	113	114	115	24	113	114	114	23	112	112	112	21	111	112	112	22

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
6/18	109	110	113	23	108	109	110	23	114	114	115	23	108	108	109	24	108	108	108	1	107	108	108	24
6/19	109	110	112	23	109	109	110	23	114	114	115	23	108	108	108	24	108	109	109	24	107	107	108	24
6/20	110	110	111	23	109	109	110	23	115	115	116	23	111	112	113	24	110	111	111	24	109	110	111	24
6/21	111	111	111	23	107	107	109	23	116	117	118	23	112	113	113	24	112	112	112	24	111	112	115	24
6/22	112	112	112	23	109	111	113	23	115	116	118	23	113	114	115	23	112	113	114	23	113	114	116	23
6/23	112	113	114	23	111	111	112	23	115	116	116	23	---	---	---	0	---	---	---	0	---	---	---	0
6/24	113	113	116	22	111	112	113	23	117	117	118	23	111	112	112	23	112	112	113	23	113	114	115	18
6/25	112	112	113	22	111	112	112	23	116	117	117	23	---	---	---	0	---	---	---	0	---	---	---	0
6/26	111	112	112	23	111	111	112	23	115	116	116	23	---	---	---	0	---	---	---	0	---	---	---	0
6/27	111	112	113	23	110	110	111	24	116	116	117	24	---	---	---	0	---	---	---	0	---	---	---	0
6/28	112	112	113	24	110	112	112	24	117	117	118	24	---	---	---	0	---	---	---	0	---	---	---	0
6/29	112	112	114	22	110	111	111	23	115	116	116	23	---	---	---	0	---	---	---	0	---	---	---	0
6/30	112	112	113	11	112	112	113	22	118	118	119	22	---	---	---	0	---	---	---	0	---	---	---	0
7/1	---	---	---	0	112	113	113	22	118	119	119	22	---	---	---	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
6/18	107	107	108	24	102	102	103	24	102	103	104	24	103	105	106	24	105	105	106	24	111	117	118	24
6/19	107	108	109	24	101	102	102	24	101	101	102	24	101	101	102	24	105	106	106	24	111	117	117	24
6/20	109	110	110	24	101	102	102	24	102	103	104	24	102	103	104	24	107	108	110	24	111	117	118	24
6/21	111	112	112	24	102	102	102	24	102	103	104	24	103	104	105	24	107	108	110	23	106	106	107	13
6/22	112	113	113	23	102	102	103	24	102	103	103	24	102	103	105	24	107	108	110	24	106	106	106	21
6/23	---	---	---	0	102	104	105	24	102	104	105	24	103	104	105	24	106	106	106	24	105	106	106	17
6/24	---	---	---	0	107	107	107	24	103	103	103	24	102	103	104	24	105	105	106	24	105	105	105	7
6/25	---	---	---	0	106	107	107	24	102	103	103	24	102	102	104	24	104	104	105	24	106	107	110	24
6/26	---	---	---	0	101	102	102	24	100	101	101	24	101	102	102	24	102	102	103	24	104	104	104	2
6/27	---	---	---	0	101	101	102	10	100	101	101	24	101	101	101	5	102	102	104	21	---	---	---	0
6/28	---	---	---	0	103	104	105	24	---	---	---	0	103	105	106	24	103	104	105	24	---	---	---	0
6/29	---	---	---	0	104	104	105	24	102	103	104	24	103	105	106	24	104	104	106	13	104	104	105	11
6/30	---	---	---	0	104	105	106	24	103	104	105	24	103	105	106	24	---	---	---	0	105	105	106	24
7/1	---	---	---	0	103	103	103	24	102	103	104	24	103	104	106	24	106	107	109	24	107	108	111	23

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			
Date	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr
6/18	110	112	113	24	113	116	118	20	115	117	118	24	116	118	121	24	116	117	117	24	119	120	121	24
6/19	109	111	113	24	113	117	118	24	114	116	121	24	115	118	122	24	114	115	115	24	118	119	120	24
6/20	110	111	113	24	114	118	119	24	111	111	113	9	120	120	122	9	114	114	115	15	118	118	119	15
6/21	112	113	114	24	110	110	115	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
6/22	114	116	120	24	111	112	114	19	115	116	117	24	111	112	113	24	117	118	119	24	118	119	119	24
6/23	110	112	113	24	110	111	111	24	113	113	113	24	111	112	112	24	114	115	116	24	118	119	120	24
6/24	105	106	106	24	105	105	106	20	112	112	113	24	110	111	111	24	112	113	113	24	117	118	120	24
6/25	104	105	105	24	104	104	105	24	108	109	110	24	108	109	110	24	109	109	111	24	117	118	118	24
6/26	103	103	104	24	102	102	103	24	104	104	105	24	105	106	106	24	106	107	108	24	117	119	119	24
6/27	102	102	103	21	101	101	102	20	102	102	103	7	104	104	104	7	104	105	107	21	117	118	120	22
6/28	102	102	104	24	101	101	101	24	104	105	108	24	103	104	104	24	104	104	106	24	118	119	120	24
6/29	104	106	109	24	100	101	101	24	105	106	108	24	104	104	105	24	103	103	104	24	117	118	119	24
6/30	103	104	105	24	101	101	102	24	105	106	109	24	104	104	104	24	103	104	105	24	117	118	119	24
7/1	104	104	105	24	105	109	117	24	104	104	106	24	106	108	115	24	103	103	105	24	117	118	119	24

Total Dissolved Gas Saturation Data at Lower Columbia Sites

	McNary-Oregon				McNary-Wash.				Tlwtr McNary				John Day				Tlwtr John Day				The Dalles			
Date	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr
6/18	109	110	111	24	110	111	122	24	116	120	120	24	104	104	105	23	111	118	120	24	108	109	110	23
6/19	108	109	110	24	106	106	107	24	117	119	120	24	103	103	104	23	110	118	120	24	106	109	110	23
6/20	108	109	111	24	108	110	111	24	118	119	119	24	106	109	111	23	117	120	121	24	107	110	113	23
6/21	109	110	112	24	109	111	112	24	114	119	120	24	107	107	109	23	112	118	121	24	111	112	113	23
6/22	112	114	118	24	110	110	112	24	115	119	120	24	107	107	108	24	111	116	119	24	110	112	114	24
6/23	112	113	113	24	110	110	112	24	115	119	120	24	107	107	108	24	112	118	120	24	108	109	111	24
6/24	109	110	110	24	108	109	109	24	118	120	121	24	108	108	108	23	114	120	122	24	109	111	112	23
6/25	106	107	107	24	106	106	107	24	116	120	120	24	106	107	107	23	113	119	122	23	109	110	111	23
6/26	105	106	106	24	104	104	105	24	115	119	119	24	104	104	105	20	111	119	121	24	106	107	111	16
6/27	106	108	110	21	104	105	107	21	116	118	119	21	103	103	103	15	110	115	121	21	106	106	111	15
6/28	108	110	114	24	109	111	113	24	115	119	120	24	---	---	---	0	---	---	---	0	---	---	---	0
6/29	110	112	114	24	111	112	113	24	115	119	119	24	106	107	111	16	109	112	120	19	111	112	114	16
6/30	112	113	116	24	110	112	113	24	116	119	119	24	108	109	112	23	112	118	120	24	109	112	115	23
7/1	111	112	114	24	110	111	111	24	117	118	119	24	110	110	111	23	114	119	121	24	108	110	112	23

Total Dissolved Gas Saturation Data at Lower Columbia Sites

	Dnstr T. Dalles				Bonneville				Warrendale				Skamania				Camas\Wash.				Wauna Mill			
Date	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr	24 h Avg	12 h Avg	High	# hr
6/18	114	116	119	24	109	110	111	23	114	114	116	23	113	115	118	23	111	112	115	24	107	108	108	24
6/19	115	117	119	24	109	111	111	23	114	116	118	23	114	116	119	23	112	114	117	24	107	108	108	24
6/20	115	117	118	24	110	112	115	23	114	115	115	23	114	116	118	23	113	115	118	24	108	109	109	24
6/21	117	119	120	24	115	116	117	23	117	119	120	23	118	120	122	23	116	119	121	24	108	109	110	24
6/22	115	117	120	24	113	113	114	24	116	117	119	24	117	120	123	24	115	116	119	24	107	108	108	24
6/23	115	116	118	24	110	111	112	24	115	117	120	24	116	119	123	24	114	116	119	24	108	109	110	24
6/24	109	110	113	24	100	101	101	24	114	114	115	23	114	115	117	23	112	113	114	23	109	110	110	23
6/25	116	118	118	24	110	112	113	23	114	115	116	23	114	115	115	23	112	112	113	24	108	109	109	24
6/26	109	109	112	16	109	109	110	15	113	113	115	16	113	115	117	24	110	111	113	20	107	107	108	20
6/27	112	112	113	15	100	101	101	24	116	116	117	15	116	116	118	19	113	115	118	20	107	107	108	20
6/28	---	---	---	0	100	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
6/29	113	114	115	16	100	101	101	24	115	116	116	16	117	117	120	20	115	117	120	20	108	108	109	20
6/30	114	115	116	23	100	101	101	24	116	118	118	23	118	120	122	23	114	116	118	24	107	107	108	24
7/1	109	110	111	23	100	101	101	24	114	115	116	23	114	117	120	23	113	115	117	24	107	107	107	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)
06/18/98	---	---	---	---	225	112	15	12	1,480	1,120	20
06/19/98	---	---	---	---	124	94	86	8	330	536	149
06/20/98	---	---	---	---	146	33	0	11	1,245	322	41
06/21/98	---	---	---	---	181	39	5	5	1,375	290	131
06/22/98	---	---	---	---	420	53	36	5	1,071	0	0
06/23/98	---	---	---	---	336	97	20	18	2,637	398	0
06/24/98	---	---	---	---	188	75	36	0	1,337	506	101
06/25/98	---	---	---	---	300	40	12	3	682	376	0
06/26/98	---	---	---	---	381	93	8	6	1,732	196	0
06/27/98	---	---	---	---	276	124	4	4	321	0	14
06/28/98	---	---	---	---	510	132	16	11	4,763	193	13
06/29/98	---	---	---	---	372	66	12	2	3,327	975	0
06/30/98	---	---	---	---	312	90	4	22	295	402	0
07/01/98	---	---	---	---	230	87	17	17	160	196	0
Total:	0	0	0	0	4,001	1,135	271	124	20,755	5,510	469
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	286	81	19	9	1,483	394	34

Wild Yearling Chinook

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
06/18/98	---	---	---	---	233	141	80
06/19/98	---	---	---	---	215	129	122
06/20/98	---	---	---	---	249	133	134
06/21/98	---	---	---	---	232	94	18
06/22/98	---	---	---	---	408	100	52
06/23/98	---	---	---	---	612	187	32
06/24/98	---	---	---	---	156	109	24
06/25/98	---	---	---	---	260	88	16
06/26/98	---	---	---	---	347	106	8
06/27/98	---	---	---	---	184	178	24
06/28/98	---	---	---	---	366	157	16
06/29/98	---	---	---	---	630	218	16
06/30/98	---	---	---	---	222	109	16
07/01/98	---	---	---	---	77	108	4
Total:	0	0	0	0	4,191	1,857	562
# Days:	0	0	0	0	14	14	14
Average:	0	0	0	0	299	133	40

Wild Subyearling Chinook

LGR (INDEX)	LGS (INDEX)	LMN (INDEX)
282	120	168
199	80	122
172	58	117
312	82	285
456	90	300
352	154	100
132	226	104
780	193	180
913	267	56
548	216	184
966	412	292
498	528	352
840	469	264
466	363	325
6,916	3,258	2,849
14	14	14
494	233	204

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)
06/18/98	---	---	---	---	0	4	22	195	188,127	24,833	22,716
06/19/98	---	---	---	---	0	0	14	181	216,493	21,041	33,936
06/20/98	---	---	---	---	0	0	17	242	331,151	32,191	35,524
06/21/98	---	---	---	---	19	8	14	301	268,868	62,685	24,989
06/22/98	---	---	---	---	4	9	28	177	190,099	28,481	12,647
06/23/98	---	---	---	---	0	10	16	597	123,348	19,163	8,899
06/24/98	---	---	---	---	0	13	16	22	200,009	61,688	19,918
06/25/98	---	---	---	---	20	19	24	379	408,300	93,523	8,276
06/26/98	---	---	---	---	0	46	12	316	258,990	65,161	3,208
06/27/98	---	---	---	---	0	13	4	406	164,772	80,501	4,907
06/28/98	---	---	---	---	0	88	8	562	336,845	86,253	14,836
06/29/98	---	---	---	---	0	31	16	457	368,425	53,615	8,520
06/30/98	---	---	---	---	0	40	8	338	220,378	59,893	3,170
07/01/98	---	---	---	---	0	12	4	267	321,053	59,669	3,819
Total:	0	0	0	0	43	293	203	4,440	3,596,858	748,697	205,365
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	3	21	15	317	256,918	53,478	14,669

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)
06/18/98	---	---	---	---	274	116	66	93	820	248	1,119
06/19/98	---	---	---	---	58	48	79	63	163	134	521
06/20/98	---	---	---	---	103	105	109	48	178	373	336
06/21/98	---	---	---	---	200	80	69	50	0	434	65
06/22/98	---	---	---	---	164	32	36	41	459	101	129
06/23/98	---	---	---	---	96	29	28	53	465	0	115
06/24/98	---	---	---	---	80	59	24	0	0	101	304
06/25/98	---	---	---	---	112	60	20	46	340	0	0
06/26/98	---	---	---	---	163	79	24	17	157	0	65
06/27/98	---	---	---	---	36	50	28	10	0	0	57
06/28/98	---	---	---	---	102	53	24	19	159	0	31
06/29/98	---	---	---	---	234	69	44	10	151	0	134
06/30/98	---	---	---	---	168	70	32	1	147	0	33
07/01/98	---	---	---	---	192	22	9	3	317	0	28
Total:	0	0	0	0	1,982	872	592	454	3,356	1,391	2,937
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	142	62	42	32	240	99	210

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)
06/18/98	---	---	---	---	3,293	1,332	393	1	0	169	98
06/19/98	---	---	---	---	2,287	745	562	4	0	67	223
06/20/98	---	---	---	---	1,416	711	351	1	0	39	14
06/21/98	---	---	---	---	1,353	1,527	501	0	345	290	0
06/22/98	---	---	---	---	1,232	523	718	0	306	203	0
06/23/98	---	---	---	---	1,440	449	161	3	0	0	19
06/24/98	---	---	---	---	1,156	471	144	0	0	101	0
06/25/98	---	---	---	---	1,444	263	168	0	0	188	0
06/26/98	---	---	---	---	1,765	284	48	4	2	0	0
06/27/98	---	---	---	---	1,451	227	175	0	0	191	0
06/28/98	---	---	---	---	2,322	498	336	0	0	0	0
06/29/98	---	---	---	---	2,238	495	292	1	0	0	0
06/30/98	---	---	---	---	1,991	582	249	1	0	0	0
07/01/98	---	---	---	---	1,687	430	230	0	0	196	14
Total:	0	0	0	0	25,075	8,537	4,328	15	653	1,444	368
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	1,791	610	309	1	47	103	26

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)
06/18/98	---	---	---	---	236	114	73	11	0	39	488
06/19/98	---	---	---	---	199	88	60	12	0	67	149
06/20/98	---	---	---	---	143	67	58	11	0	64	171
06/21/98	---	---	---	---	88	77	64	11	0	0	0
06/22/98	---	---	---	---	120	46	67	4	0	101	86
06/23/98	---	---	---	---	66	46	32	12	0	0	0
06/24/98	---	---	---	---	48	44	28	2	0	0	0
06/25/98	---	---	---	---	56	39	36	7	2	0	0
06/26/98	---	---	---	---	77	24	12	1	0	0	0
06/27/98	---	---	---	---	64	25	32	7	0	0	0
06/28/98	---	---	---	---	60	29	48	4	0	0	0
06/29/98	---	---	---	---	78	32	36	4	0	0	0
06/30/98	---	---	---	---	51	31	22	3	0	0	0
07/01/98	---	---	---	---	77	19	22	3	0	0	0
Total:	0	0	0	0	1,363	681	590	92	2	271	894
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	97	49	42	7	0	19	64

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)
06/18/98	---	---	---	---	137	110	51	6	164	104	20
06/19/98	---	---	---	---	75	94	158	7	0	0	0
06/20/98	---	---	---	---	103	139	92	4	178	64	0
06/21/98	---	---	---	---	107	232	83	1	343	0	0
06/22/98	---	---	---	---	88	30	36	3	0	0	0
06/23/98	---	---	---	---	56	13	36	1	0	0	0
06/24/98	---	---	---	---	24	31	40	2	149	0	34
06/25/98	---	---	---	---	68	50	48	4	0	0	0
06/26/98	---	---	---	---	77	90	40	1	0	0	0
06/27/98	---	---	---	---	48	68	20	0	161	0	0
06/28/98	---	---	---	---	90	76	20	0	0	0	0
06/29/98	---	---	---	---	18	47	12	0	0	0	0
06/30/98	---	---	---	---	36	56	8	0	147	0	0
07/01/98	---	---	---	---	51	16	4	0	0	0	0
Total:	0	0	0	0	978	1,052	648	29	1,142	168	54
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	70	75	46	2	82	12	4

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)
06/18/98	---	---	---	---	0	3	7	3	0	117	0
06/19/98	---	---	---	---	0	0	7	0	488	0	0
06/20/98	---	---	---	---	0	6	8	0	178	232	0
06/21/98	---	---	---	---	0	8	5	0	0	217	0
06/22/98	---	---	---	---	0	0	4	1	306	0	0
06/23/98	---	---	---	---	0	0	0	4	310	40	0
06/24/98	---	---	---	---	0	0	0	0	149	0	0
06/25/98	---	---	---	---	0	2	4	0	172	0	0
06/26/98	---	---	---	---	4	2	4	7	159	196	33
06/27/98	---	---	---	---	0	0	0	1	161	191	29
06/28/98	---	---	---	---	0	0	0	7	159	0	0
06/29/98	---	---	---	---	0	2	0	1	151	195	0
06/30/98	---	---	---	---	0	0	0	1	147	0	0
07/01/98	---	---	---	---	0	0	0	0	0	0	0
Total:	0	0	0	0	4	23	39	25	2,380	1,188	62
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	0	2	3	2	170	85	4

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 July 01, 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	13,254	1,280	19,518	468	13,145	1,239						
TDA	25,330	503	69,365	375	44,144	1,889	9,763	547	13,249	270	10,075	763						
JDA	22,495	418	62,253	327	34,393	1,541	10,066	523	13,259	235	8,991	728						
MCN	19,456	335	57,832	404	33,819	1,722	8,768	409	11,483	189	8,251	582						
IHR	12,420	131	41,398	75	18,178	714	4,559	155	7,193	58	3,489	252						
LMN	10,627	126	38,479	146	17,565	767	3,059	151	6,967	61	3,137	240						
LGS	10,218	104	37,874	108	n/a	n/a	3,036	132	6,544	27	n/a	n/a						
LWG	9,881	106	33,855	81	15,110	655	2,816	140	7,323	57	2,750	200						
PRD	4,147	37	6,780	8	10,704	173	3,526	58	2,491	32	3,284	80						
RIS	3,270	54	6,153	52	8,534	192	1,557	44	1,602	25	1,905	75						
RRH	789	53	1,856	10	2,066	52	320	7	459	9	355	13						
WEL	6	4	942	29	1,204	50	13	4	62	1	62	6						

	Coho						Sockeye			Steelhead		
	1998		1997		10-Yr Avg.				10-Yr			10-Yr
	Adult	Jack	Adult	Jack	Adult	Jack	1998	1997	Avg.	1998	1997	Avg.
BON	0	0	0	0	0	0	8177	25,252	30,064	10,343	13,414	15,374
TDA	0	0	0	0	0	0	5,102	13,563	21,564	3,730	3,557	5,375
JDA	0	0	0	0	0	0	4,936	13,568	19,560	10,081	5,154	5,354
MCN	0	0	0	0	0	0	3,911	9,058	15,636	3,160	3,003	4,615
IHR	0	0	0	0	0	0	0	0	2	2,115	1,714	3,598
LMN	0	0	0	0	0	0	0	0	2	1,566	1,403	3,069
LGS	0	0	0	0	n/a	n/a	0	1	n/a	2,167	1,507	n/a
LWG	0	0	0	0	0	0	1	1	1	4,266	3,707	6,048
PRD	0	1	0	0	0	0	2,202	2,273	7,686	56	66	212
RIS	9	0	0	0	1	0	308	274	2,801	60	50	244
RRH	0	0	0	0	1	0	187	103	1,003	115	56	140
WEL	0	0	0	0	0	0	29	20	390	7	44	73

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 30.

1998 totals at LGS are based on video counts accumulated through June 29.

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 06/18/98 to 07/01/98

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	7,740	6,650	23,955	1,814	872	41,031
Bypassed	567	0	0	0	0	567
Trucked	2,287	3,077	6,783	374	272	12,793
Barged	4,787	3,307	18,876	1,533	606	29,109
Total Transported	**7,074**	**6,384**	**25,659**	**1,907**	**878**	**41,902**
LITTLE GOOSE DAM						
Collected	2,791	3,464	8,133	785	943	16,116
Bypassed	0	0	0	0	0	0
Trucked	1,349	2,264	2,500	379	384	6,876
Barged	1,253	787	5,885	437	649	9,011
Total Transported	**2,602**	**3,051**	**8,385**	**816**	**1,033**	**15,887**
LOWER MONUMENTAL DAM						
Collected	740	2,894	4,524	526	610	9,294
Bypassed	0	0	233	0	0	233
Trucked	146	1,395	1,378	171	156	3,246
Barged	668	1,430	3,301	426	551	6,376
Total Transported	**814**	**2,825**	**4,679**	**597**	**707**	**9,622**
MCNARY DAM						
Collected	13,114	2,245,310	403	2,100	2,202	2,263,129
Bypassed	0	0	0	0	0	0
Trucked	0	0	0	0	0	0
Barged	12,615	2,218,248	392	2,053	2,137	2,235,445
Total Transported	**12,615**	**2,218,248**	**392**	**2,053**	**2,137**	**2,235,445**
PROJECT TOTALS						
Collected	24,385	2,258,318	37,015	5,225	4,627	2,329,570
Bypassed	567	0	233	0	0	800
Trucked	3,782	6,736	10,661	924	812	22,915
Barged	19,323	2,223,772	28,454	4,449	3,943	2,279,941
Total Transported	**23,105**	**2,230,508**	**39,115**	**5,373**	**4,755**	**2,302,856**

Transportation Summary Report

Cumulative Transportation Summary through 07/01/98

	Yearling Chinook	Subyearling Chinook	Steelhead	Coho	Sockeye	Total
LOWER GRANITE DAM						
Collected	1,506,851	13,613	5,016,149	149,912	49,382	6,735,907
Bypassed	102,728	33	124,448	1,425	0	228,634
Trucked	26,590	3,123	40,135	467	282	70,597
Barged	1,451,062	9,846	4,892,531	147,543	48,965	6,549,947
Total Transported	**1,477,652**	**12,969**	**4,932,666**	**148,010**	**49,247**	**6,620,544**
LITTLE GOOSE DAM						
Collected	888,210	4,374	1,499,023	47,989	17,249	2,456,845
Bypassed	0	0	0	0	0	0
Trucked	1,917	2,264	3,597	384	384	8,546
Barged	874,548	1,663	1,490,712	47,129	16,696	2,430,748
Total Transported	**876,465**	**3,927**	**1,494,309**	**47,513**	**17,080**	**2,439,294**
LOWER MONUMENTAL DAM						
Collected	492,274	5,812	946,963	29,277	14,773	1,489,099
Bypassed	4,255	189	12,449	1,008	639	18,540
Trucked	943	1,395	2,158	171	156	4,823
Barged	485,912	3,913	931,488	28,063	13,963	1,463,339
Total Transported	**486,855**	**5,308**	**933,646**	**28,234**	**14,119**	**1,468,162**
MCNARY DAM						
Collected	1,039,573	2,785,083	326,969	125,160	511,345	4,788,130
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	24,623	2,558,899	5,708	10,768	12,340	2,612,338
Total Transported	**31,658**	**2,629,867**	**10,596**	**15,746**	**16,455**	**2,704,322**
PROJECT TOTALS						
Collected	3,926,908	2,808,882	7,789,104	352,338	592,749	15,469,981
Bypassed	1,111,291	122,954	452,912	111,622	493,287	2,292,066
Trucked	36,485	77,750	50,778	6,000	4,937	175,950
Barged	2,836,145	2,574,321	7,320,439	233,503	91,964	13,056,372
Total Transported	**2,872,630**	**2,652,071**	**7,371,217**	**239,503**	**96,901**	**13,232,322**