



Fish Passage Center

Weekly Report #00 - 5

April 7, 2000

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SUMMARY OF EVENTS:

Water Supply: There have been no significant changes in the water supply forecast this week.

Reservoir Operations: Reservoirs continue to be operated for flood control through the end of April. The new end of April flood control elevations have not been issued yet, pending the April Final Runoff Volume Forecast. A summary of actual elevations on March 31, actual elevations on April 6, and required flood control elevations at the end of March is shown in the following Table.

Reservoir	Actual Elev. 3/31/00 in [ft]	Required End of March Flood Control Elevation in [ft]	Actual Elev. 4/5/00 in [ft]
<i>Libby</i>	2337.0	2331.3	2337.9
<i>Hungry Horse</i>	3502.1	3516.5	3501.9
<i>Grand Coulee</i>	1263.1	1272.0-1265.1*	1261.6
<i>Brownlee</i>	2050.5	2053.1-2077.0*	2051.3
<i>Dworshak</i>	1522.2	1512.2-1526.8*	1523.4

Libby reservoir continues to refill in order to meet the 95 BiOp and the sturgeon BiOp, which includes refill to full pool elevation by June 30 and sturgeon pulse. The reservoir is at minimum outflow of 4 kcfs.

Hungry Horse is drafted below the required end of March flood control elevation for power generation purposes. This operation resulted in 284.4 KAF less water for early April flows in the mid Columbia.

Current outflows are 2.4 kcfs, and the reservoir is in refill to an April 10 BiOp required elevation.

Grand Coulee was drafted for power generation purposes below flood control elevations during the fall/winter period. Instead of being in refill through the end of March required flood control elevation, the reservoir space was used for partial flood control shift from Dworshak reservoir. Current outflows were in the 74.9 kcfs to 110.9 kcfs range between March 31-April 5.

Brownlee was drafted 2.6 ft below the required end of March flood control elevation for power generation purposes. Current outflows below Hells Canyon Dam are in the range of 26.3 kcfs to 30 kcfs for the period of March 31-April 5.

Dworshak is being operated for flood control operations through the end of March. The reservoir was 10 ft above the required end of March flood control elevation due to available space at Grand Coulee. Outflows for flood control operations gradually increased from 4 kcfs on April 2 to 14.8 kcfs on April 5. Outflow is limited by Idaho State Total Dissolved Gas standards.

Spill: Spill was initiated at Dworshak Dam on April 5th as the project increased outflow to achieve its end of April flood control elevation. The outflow was initially increased to 13.8 Kcfs and then was again increased an additional 2

Kcfs to provide the maximum outflow while not exceeding the 110% total dissolved gas standard.

The Lyons Ferry Hatchery released chinook from both the hatchery (450,000) and the Tucannon River (128,000) release sites. These fish were observed at Lower Monumental Dam in substantial numbers. Included in these fish are listed spring chinook from the Tucannon River and yearling fall chinook from Lyons Ferry that are to serve as broodstock for this ESU. Consequently, spill for fish passage was initiated at Lower Monumental and Ice Harbor dams, beginning the evening of April 4th. Pending resolution of the 2000 Spill negotiations, spill was requested as described in the 1998 Supplemental Biological Opinion. Spill to the gas cap was requested at Lower Monumental Dam from 1800 to 0600 daily. At Ice Harbor Dam, the request was to spill to the gas cap during nighttime hours (1800-0600) and to 45 Kcfs during daytime hours.

Some involuntary spill has occurred at McNary Dam over the past few days, but no other lower Columbia Project is spilling water. With the exception of a small amount of spill at Wanapum Dam, no spill occurred in the Mid Columbia over the past week.

Total dissolved gas exemptions to 120% are now in place from the states of Oregon and Washington through August 31, 2000. The gas levels have not exceeded the standards or waiver limits over the past week.

Special Note on reported GBT data: Fish Passage Center is reporting the data collected on April 4 from Lower Granite as received from the site, however, FPC urges caution in interpreting these results. This is the first sample of the season with a new crew. The present numbers show a higher incidence of lateral line signs than would be expected, given the forebay total dissolved gas levels and because there was no spill occurring up-river when fish were collected. Interpretation of the data is further limited by small sample size, well below the program target of 100 fish per species. FPC will be on site for the next sample to assure the accuracy of the data.

Smolt Monitoring Program: Yearling chinook collections at the Salmon River trap (WTB) increased into the thousands again on April 5 and 6. Most marked yearling chinook passing the Salmon River trap this week were hatchery fish from Rapid River Hatchery (PIT tags) and McCall Hatchery's outplants into Johnson Creek (elastomer marks) and wild fish from the South Fork Salmon River drainage. Yearling chinook collections have dropped substantially from last week's highs at the Imnaha River trap (IMN) – the bulk of the Imnaha Acclimation Pond release appears to be in the mainstem Snake River now. Grande Ronde River trap (GRN) collections of both yearling chinook and steelhead (including freeze branded Cottonwood Acclimation Pond steelhead) increased the past several days as flows rose sharply in the Grande Ronde River. Lower Granite Dam yearling chinook and steelhead passage indices increased greatly on April 6 as flows jumped 20 kcfs. Throughout this week large numbers of yearling chinook were collected at Lower Monumental Dam. Most of these fish are from Lyons Ferry Hatchery's outplants of spring chinook in the Tucannon River and its on-site releases of yearling fall chinook (elastomer marks).

In the mid-Columbia River, collections at Rock Island Dam had more subyearling chinook than any other salmonid. In the lower Columbia River, the numbers of yearling chinook collected each day this week increased rapidly at both McNary and John Day dams. This week's marked yearling chinook in the lower Columbia River included Lyons Ferry Hatchery yearling fall chinook (elastomer marks) at both McNary and John Day dams and Umatilla River drainage spring chinook (PIT tags) at both John Day and Bonneville dams. Problems were experienced this week with the rotational sampling gate at Bonneville Dam Powerhouse 2, thus impacting the resulting passage indices on the last two days of this week.

Adult Fish Passage: Most adult fish ladders were operating at full criteria through the week. Adult fish trapping and sampling facilities are presently operating at Bonneville and Lower Granite dams with the sampling program at Wells Dam scheduled to begin operation in May.

Passage of adult chinook at Bonneville Dam was strong through the week (3/31-4/6) with daily counts ranging between 330 and 2,833. The cumulative count through April 6 was 12,580, already 20 and 4.9 times greater than the respective 1999 count and 10-year average. The adult run appears to be passing upstream projects satisfactorily with The Dalles reporting about 3,000, John Day, 1,100, and McNary near 200 adult fish. Adult and jack chinook were counted at Lower Granite during the past week. Note that the Mid-Columbia projects will not start counting until April 15 and May 1 at Wells Dam. Another interesting aspect of this year's spring chinook run is the high number of jack chinook that have been counted at Bonneville (79) and The Dalles (42) dams to date. The 10-year average jack count is 9 and 2, respectively for Bonneville and The Dalles. Although early in the passage season, the adult spring chinook run appears to be on track to surpass the 134,000 projected count made by the Technical Advisory Committee for Bonneville Dam. Steelhead counts ranged between 35 and 61 for the week with the cumulative count through April 6 of 988, very near the 10-year average of 1,015. Wild steelhead totaled 451 for the season.

At Lower Granite Dam, the steelhead count totaled 1,553 through April 5 with about 21.5% of the steelhead reported as "wild". To date, the 2000 count of steelhead remains well below the 1999 and 10-year average.

Hatchery Releases: *Snake River* – Volitional release of yearling spring chinook continued at Rapid River Hatchery (Salmon R) with about 75% of the total estimated in the river, Imnaha Acclimation Pond (Imnaha R), and Curl Lake Acclimation Pond (Tucannon R). Other volitional releases began from Sawtooth Hatchery (upper Salmon R) and Lostine Acclimation Pond. Direct stream releases of yearling chinook were completed during the week at Dworshak H (Clearwater R), McCall Hatchery (S.F Salmon R), with about ½ of the yearling spring chinook from Kooskia planted on 4/6. Many of the remaining yearling releases of spring, summer, and fall chinook will occur during the upcoming week and the following.

Most steelhead from Snake River basin hatcheries are scheduled for release from mid-

April through mid-May. Volitional release of juvenile steelhead continues or was initiated in the Grande Ronde, Touchet, Salmon River, with direct stream releases below Hells Canyon Dam from Niagara Springs H and into L. Salmon River (Hazard Cr) during the week. Wallowa Acclimation Ponds began their first release groups from that site during the week.

The volitional release of yearling fall chinook (450,000 total) directly from Lyons Ferry H into the Snake River continued with many of these fish now passing McNary Dam and into the John Day pool. The other releases of yearling fall chinook will be during the upcoming week from the Pittsburg Landing, CPT John, and Big Canyon Acclimation ponds.

Mid-Columbia – (above McNary Dam) Yakama Tribal Supplementation Facilities at Clark Flat and Easton continued volitional release of yearling chinook in the upper Yakama River basin. Yearling chinook were released into the Entiat River during this week. Most spring chinook will be released during the next two weeks into the Methow and Wenatchee rivers. Juvenile steelhead and coho salmon will be released in April and May from Mid-Columbia hatcheries. Sockeye were released into Lake Wenatchee and the Okanogan R this past fall (1999) with no spring releases made into either Basin. Yearling summer chinook releases will occur during the upcoming 2 weeks with subyearling summer and fall chinook released from late May to late June.

Lower Columbia - (from above Bonneville Dam to below McNary Dam). Yearling spring chinook releases were completed in the Klickitat R; on going in the Warm Springs R (Deschutes basin). The Hood and Umatilla, and Deschutes rivers will be planted during the next 2 week. The Wind and Little White Salmon R basin hatcheries will begin their releases in 2 weeks.

The Umatilla River will receive the remaining coho in the upcoming two weeks. Approximately 2.5 million coho were released at various sites in the Klickitat River during this week. The next large release of subyearling Tule fall chinook from Spring Creek NFH is scheduled for mid April. Juvenile steelhead, chinook and coho releases will mainly occur in April.

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

Date	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
03/24/00	87.4	0.0	86.5	0.0	85.0	0.0	83.1	0.0	83.8	0.0	98.1	0.0	99.9	0.0
03/25/00	66.4	0.0	69.9	0.0	73.2	0.0	82.1	0.0	78.9	0.0	71.8	0.0	74.8	0.0
03/26/00	53.8	0.0	55.3	0.0	56.1	0.0	56.2	0.0	58.1	0.0	61.8	0.0	66.2	0.0
03/27/00	109.5	0.0	109.6	0.0	107.6	0.0	108.7	0.0	108.5	0.0	99.2	0.0	97.8	0.0
03/28/00	105.3	0.0	107.0	0.0	111.0	0.5	116.0	0.0	117.3	0.0	116.9	0.0	121.8	0.0
03/29/00	95.5	0.0	98.0	0.0	99.6	0.0	101.7	0.0	102.5	0.0	118.6	0.0	123.4	0.0
03/30/00	96.2	0.0	102.8	0.0	106.8	0.0	106.7	0.0	110.1	0.0	109.6	0.0	113.6	0.0
03/31/00	86.9	0.0	86.0	0.0	86.3	0.0	85.8	0.0	88.4	0.0	107.2	0.0	111.1	0.0
04/01/00	74.9	0.0	76.7	0.0	79.4	0.0	82.0	0.0	83.3	0.0	73.9	0.0	77.9	0.0
04/02/00	81.6	0.0	81.1	0.0	81.6	0.0	83.1	0.0	84.5	0.0	84.1	0.0	88.4	0.0
04/03/00	110.9	0.0	115.6	0.0	118.0	0.0	125.7	0.0	127.1	0.0	113.4	3.0	112.0	0.0
04/04/00	103.9	0.0	104.3	0.0	105.0	0.0	108.4	0.0	111.4	0.0	124.8	0.4	135.2	0.0
04/05/00	91.1	0.0	93.8	0.0	95.4	0.0	98.4	0.0	103.7	0.0	118.7	0.0	120.2	0.0
04/06/00	91.1	0.0	96.8	0.0	101.5	0.6	102.1	0.0	102.6	0.0	111.1	0.0	116.1	0.0

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

Date	Dworshak		Hells Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
03/24/00	4.1	0.0	22.6	26.1	53.2	0.0	53.7	0.0	59.1	0.0	57.7	0.0
03/25/00	4.1	0.0	21.9	24.0	53.4	0.0	57.2	0.0	61.9	0.0	63.0	0.0
03/26/00	4.1	0.0	24.5	22.3	51.3	0.0	53.3	0.0	56.6	0.0	55.3	0.0
03/27/00	4.1	0.0	23.0	23.9	50.1	0.0	49.9	0.0	52.6	0.0	55.6	0.0
03/28/00	4.0	0.0	25.5	22.8	52.7	0.0	56.7	0.0	60.6	0.0	59.0	0.0
03/29/00	4.0	0.0	25.6	28.6	59.3	0.0	60.6	0.0	65.2	0.0	66.0	0.0
03/30/00	4.0	0.0	26.3	29.5	57.4	2.7	55.5	0.0	59.8	0.1	57.1	0.0
03/31/00	4.0	0.0	26.6	26.1	55.4	0.0	56.6	0.0	60.0	0.0	61.6	0.0
04/01/00	4.0	0.0	25.6	28.9	56.1	0.0	60.5	0.0	65.1	0.0	65.7	0.0
04/02/00	4.0	0.0	25.6	30.1	56.3	0.0	51.4	0.0	53.0	0.0	52.0	0.0
04/03/00	9.1	0.0	26.2	28.3	63.4	0.8	65.2	0.0	69.0	0.0	69.0	0.0
04/04/00	10.8	0.0	28.3	28.6	55.2	0.0	59.8	0.0	65.8	7.2	68.5	20.7
04/05/00	14.8	4.0	30.3	26.5	79.5	5.0	75.3	0.0	80.0	16.8	84.9	63.8
04/06/00	15.7	4.9	---	---	86.5	0.3	89.1	0.0	95.6	20.9	101.1	65.6

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
03/24/00	186.1	0.0	201.1	0.0	198.5	0.0	212.2	0.0	91.2	111.8
03/25/00	139.8	0.0	173.2	0.0	171.9	0.0	183.3	0.0	81.8	92.3
03/26/00	123.9	0.0	127.1	0.0	134.7	0.0	166.1	0.0	78.6	78.3
03/27/00	130.5	0.0	155.1	0.0	162.1	0.0	172.5	0.0	76.2	87.1
03/28/00	163.4	0.0	161.8	0.0	161.7	0.0	174.1	0.0	77.2	87.7
03/29/00	173.6	0.0	202.2	0.0	205.9	0.0	199.8	0.0	84.5	106.1
03/30/00	179.8	0.0	186.2	0.0	189.4	0.0	207.4	0.0	87.3	110.8
03/31/00	186.0	0.0	207.9	0.0	204.1	0.0	211.1	0.0	85.8	116.1
04/01/00	142.8	0.0	162.0	0.0	170.5	0.0	180.0	0.0	80.0	90.8
04/02/00	151.6	0.0	168.6	0.0	170.0	0.0	177.9	0.0	77.2	91.5
04/03/00	159.1	0.0	175.2	0.0	180.9	0.0	194.8	0.0	85.1	100.5
04/04/00	175.4	6.0	178.0	0.0	179.9	0.0	190.4	0.0	87.8	93.4
04/05/00	202.2	43.4	212.3	0.0	212.8	0.0	217.6	0.0	91.7	116.7
04/06/00	226.2	59.0	228.9	1.8	239.3	0.0	245.4	19.2	95.7	121.2

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	Hungry H. Dnst			Boundary			Grand Coulee			Grand C. Tlwr			Chief Joseph				#			
	24 h	12 h		24 h	12 h		24 h	12 h		24 h	12 h		24 h	12 h						
	Avg	Avg	High	#	Avg	Avg	High	#	Avg	Avg	High	#	Avg	Avg	High	#				
3/24	97	97	97	24	102	102	103	24	104	105	105	24	103	103	104	23	---	---	---	0
3/25	97	97	97	24	102	102	103	24	105	105	105	24	103	104	104	23	---	---	---	0
3/26	96	97	97	24	102	103	103	24	105	105	105	24	104	104	105	23	---	---	---	0
3/27	97	97	98	24	103	104	104	24	106	106	107	24	104	105	105	23	---	---	---	0
3/28	97	97	98	24	103	103	104	24	105	106	106	24	104	104	104	23	105	105	107	6
3/29	97	97	97	24	102	102	103	24	104	104	105	24	103	103	103	24	104	104	105	24
3/30	96	96	96	24	102	102	103	24	104	104	104	24	102	102	103	24	103	103	103	24
3/31	96	96	96	24	102	103	103	24	104	105	109	24	102	103	104	24	103	103	103	23
4/1	97	97	98	24	103	104	105	24	105	106	107	24	103	104	104	24	104	104	104	21
4/2	96	96	97	23	103	103	104	15	105	105	105	23	103	103	104	23	104	104	105	22
4/3	97	97	97	24	---	---	---	0	106	107	108	24	103	104	104	24	105	106	106	23
4/4	99	101	129	21	---	---	---	0	106	107	108	22	104	105	107	24	105	106	106	22
4/5	97	98	98	20	105	105	106	6	105	106	108	24	104	104	106	24	104	105	105	23
4/6	98	98	98	15	105	106	107	24	105	106	106	24	104	104	106	24	104	105	105	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Chief J. Dnst			Wells			Wells Dwnstrm			Rocky Reach			Rocky R. Tlwr				#			
	24 h	12 h		24 h	12 h		24 h	12 h		24 h	12 h		24 h	12 h						
	Avg	Avg	High	#	Avg	Avg	High	#	Avg	Avg	High	#	Avg	Avg	High	#				
3/24	---	---	---	0	---	---	---	0	---	---	---	0	101	102	102	22	---	---	---	0
3/25	---	---	---	0	---	---	---	0	---	---	---	0	101	101	102	23	---	---	---	0
3/26	---	---	---	0	---	---	---	0	---	---	---	0	101	102	103	23	---	---	---	0
3/27	---	---	---	0	---	---	---	0	---	---	---	0	103	104	104	23	---	---	---	0
3/28	105	105	109	7	103	103	104	9	103	103	104	9	103	103	104	22	---	---	---	0
3/29	105	105	106	24	102	103	103	17	103	103	103	17	102	102	103	24	103	103	104	15
3/30	103	103	104	24	102	103	103	16	102	103	103	16	100	101	101	24	102	103	103	22
3/31	103	104	105	23	102	103	103	19	103	103	104	19	101	101	102	23	103	103	103	22
4/1	104	104	105	21	103	104	104	17	103	104	104	17	101	102	102	24	104	104	105	23
4/2	104	104	105	22	104	104	104	13	104	104	104	13	103	103	104	21	105	105	105	21
4/3	105	105	107	23	104	105	105	20	104	105	106	20	103	104	105	24	105	105	105	2
4/4	105	106	107	23	105	105	105	20	105	105	105	20	104	104	104	20	---	---	---	0
4/5	104	105	106	23	104	104	104	18	104	104	105	18	103	103	103	23	---	---	---	0
4/6	104	105	106	23	103	104	104	18	104	104	104	18	102	102	103	21	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	Rock Island			Rock I. Tlwr			Wanapum			Wanapum Tlwr			Priest Rapids				#			
	24 h	12 h		24 h	12 h		24 h	12 h		24 h	12 h		24 h	12 h						
	Avg	Avg	High	#	Avg	Avg	High	#	Avg	Avg	High	#	Avg	Avg	High	#				
3/24	102	102	102	22	---	---	---	0	103	103	107	24	102	102	103	24	102	103	105	24
3/25	102	102	102	22	---	---	---	0	103	103	104	24	102	102	103	24	102	103	105	24
3/26	101	102	102	23	---	---	---	0	104	104	106	24	102	102	103	24	102	103	106	24
3/27	103	104	104	24	---	---	---	0	105	105	107	24	103	103	104	24	103	105	106	24
3/28	103	103	104	21	---	---	---	0	103	103	104	24	103	103	104	24	103	104	104	24
3/29	102	102	103	24	---	---	---	0	103	103	106	24	102	102	103	24	102	103	104	24
3/30	101	102	102	23	---	---	---	0	103	103	104	24	102	102	102	24	102	103	116	24
3/31	102	102	103	23	---	---	---	0	104	104	107	24	103	103	104	24	103	104	106	23
4/1	103	104	104	24	104	105	105	13	104	104	105	24	104	104	104	24	104	104	105	24
4/2	103	103	104	21	105	105	106	19	104	104	107	23	103	103	103	23	103	104	105	23
4/3	104	105	105	24	106	106	107	23	108	108	112	24	105	105	106	24	105	106	109	24
4/4	105	105	105	24	106	106	106	24	106	106	106	24	105	105	106	24	105	106	107	24
4/5	104	104	104	22	105	105	106	22	105	105	106	23	104	104	105	24	104	105	107	24
4/6	104	104	104	23	105	105	106	23	---	---	---	0	---	---	---	0	---	---	---	0

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

Total Dissolved Gas Saturation Data at Lower Columbia and Snake River Sites

Date	<u>Priest R. Dnst</u>			<u>Pasco</u>			<u>Dworshak</u>			<u>Clrwtr-Peck</u>			<u>Anatone</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>#</u>				
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	hr				
3/24	103	103	104	24	103	104	104	24	96	96	96	8	---	---	---	0	---	---	---	0
3/25	103	103	104	24	103	103	104	24	---	---	---	0	---	---	---	0	---	---	---	0
3/26	103	103	104	24	103	103	104	24	---	---	---	0	---	---	---	0	---	---	---	0
3/27	104	104	105	24	104	105	105	24	---	---	---	0	---	---	---	0	---	---	---	0
3/28	104	104	104	24	103	103	104	24	---	---	---	0	101	101	102	11	---	---	---	0
3/29	103	103	103	24	102	103	103	24	96	96	96	6	100	100	100	24	---	---	---	0
3/30	102	102	104	24	102	103	103	24	96	96	97	11	100	101	102	24	---	---	---	0
3/31	104	104	105	23	103	104	104	24	96	96	96	11	100	101	102	24	---	---	---	0
4/1	105	105	106	24	104	104	105	18	96	96	97	19	101	102	103	22	103	104	105	15
4/2	104	104	105	23	105	105	106	23	96	96	97	24	101	101	102	24	102	103	104	23
4/3	105	105	106	24	106	106	107	24	97	98	99	22	100	101	102	24	103	104	105	24
4/4	106	106	107	24	105	106	106	21	98	98	99	23	100	101	102	22	102	103	104	23
4/5	105	105	106	24	103	103	104	22	106	109	110	24	103	105	106	24	101	102	103	24
4/6	---	---	---	0	103	103	104	21	109	110	110	24	104	105	105	24	101	101	102	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	<u>Clrwtr-Lewiston</u>			<u>Lower Granite</u>			<u>L. Granite Tlwr</u>			<u>Little Goose</u>			<u>L. Goose Tlwr</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>#</u>				
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	hr				
3/24	---	---	---	0	102	103	103	19	102	102	103	16	102	104	105	24	101	102	102	24
3/25	---	---	---	0	103	103	103	24	102	102	103	24	102	102	103	24	101	102	102	24
3/26	---	---	---	0	103	103	104	24	102	102	102	24	102	102	103	24	101	102	102	24
3/27	---	---	---	0	103	103	103	24	102	102	103	24	103	104	104	24	103	103	103	24
3/28	101	101	103	12	102	103	103	24	102	102	103	24	102	103	103	24	102	102	103	24
3/29	100	100	100	24	102	102	102	24	101	101	102	24	102	102	102	24	101	102	102	24
3/30	101	103	104	24	102	102	104	24	102	103	111	24	101	101	102	24	101	101	101	24
3/31	102	103	105	24	101	102	104	24	100	101	101	24	101	101	101	24	100	101	101	24
4/1	102	103	105	22	102	102	103	22	101	102	102	22	102	102	102	24	101	102	102	24
4/2	102	104	105	24	102	103	104	23	102	102	102	23	102	103	105	24	102	102	102	24
4/3	102	103	105	23	105	106	108	24	104	105	106	24	105	106	108	24	104	105	105	24
4/4	101	102	104	23	105	105	106	23	105	105	105	24	104	105	106	24	104	104	104	24
4/5	101	103	104	23	104	104	104	23	105	107	111	24	102	102	103	17	102	102	103	17
4/6	103	103	104	23	103	104	104	24	103	104	104	24	103	103	103	24	103	103	103	24

Total Dissolved Gas Saturation Data at Snake and Lower Columbia River Sites

Date	<u>Lower Mon.</u>			<u>L. Mon. Tlwr</u>			<u>Ice Harbor</u>			<u>Ice Harbor Tlwr</u>			<u>McNary-Oregon</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>#</u>				
	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	Avg	Avg	High	hr				
3/24	101	102	102	24	---	---	---	0	102	102	103	24	102	102	103	24	102	103	103	24
3/25	101	101	102	24	---	---	---	0	102	102	102	24	102	102	103	24	103	103	103	24
3/26	101	102	103	24	---	---	---	0	102	104	106	24	102	103	103	24	103	104	105	24
3/27	102	103	103	24	---	---	---	0	103	103	103	24	103	104	105	24	103	104	104	24
3/28	102	102	102	24	---	---	---	0	102	102	103	24	103	103	103	24	103	103	103	23
3/29	101	101	102	24	---	---	---	0	101	101	102	24	102	102	102	23	102	102	103	24
3/30	101	101	102	24	100	100	101	24	101	101	102	24	101	101	103	24	101	103	104	24
3/31	101	101	101	7	100	100	101	23	101	102	103	24	101	102	102	24	102	103	104	24
4/1	103	103	103	24	101	101	102	24	103	103	104	24	103	103	103	24	103	104	106	23
4/2	103	104	107	24	101	101	101	24	103	103	104	23	103	103	104	23	104	105	106	23
4/3	104	105	107	24	101	101	102	24	104	104	106	23	104	104	104	23	104	105	107	24
4/4	103	104	105	19	103	104	109	23	104	104	104	23	107	110	116	24	104	104	104	23
4/5	103	103	104	17	106	107	111	17	103	103	103	18	114	115	116	17	104	105	106	24
4/6	103	103	104	24	110	112	115	24	105	106	107	24	116	117	119	24	103	104	104	24

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>McNary-Wash</u>			<u>McNary Tlwr</u>			<u>John Day</u>			<u>John Day Tlwr</u>			<u>The Dalles</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr				
3/24	105	106	106	24	105	105	105	24	103	103	104	15	102	102	103	24	103	103	103	13
3/25	104	105	105	24	104	104	105	24	102	103	103	24	102	102	103	24	102	103	103	24
3/26	105	106	107	24	104	105	105	24	104	105	108	24	102	102	103	24	102	102	103	24
3/27	106	107	108	24	106	106	107	24	103	104	104	24	103	103	103	24	103	104	104	24
3/28	104	105	105	24	104	105	105	24	102	103	103	24	102	103	103	24	102	103	103	24
3/29	103	103	104	24	103	103	104	24	101	102	102	24	101	101	102	22	101	102	102	24
3/30	103	104	105	24	102	103	103	24	102	103	106	24	101	101	101	24	101	101	102	24
3/31	104	105	106	24	103	103	104	24	102	103	104	23	101	101	102	23	102	102	102	24
4/1	106	107	107	24	104	105	106	24	102	103	103	21	102	102	102	22	103	103	103	21
4/2	107	107	109	23	105	105	106	23	104	106	107	23	102	102	103	23	103	103	103	23
4/3	108	109	110	24	106	107	107	24	104	105	105	23	103	103	103	24	103	104	104	23
4/4	107	108	108	23	107	108	111	23	104	104	104	21	103	103	103	23	104	104	104	23
4/5	106	106	107	17	114	114	114	17	103	103	104	23	103	103	104	24	103	103	103	22
4/6	104	105	106	24	113	114	114	24	103	103	103	23	104	104	111	22	102	103	103	23

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>Skamania</u>			<u>CamasWashugal</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>					
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr				
3/24	102	102	102	23	102	103	103	24	103	104	104	24	103	103	104	24	103	104	105	23
3/25	102	102	102	23	102	102	103	24	103	103	103	24	102	102	103	24	102	102	103	23
3/26	102	102	103	23	102	102	103	24	103	103	104	24	102	103	104	24	103	104	104	23
3/27	103	103	103	23	103	103	103	24	103	103	104	24	101	102	102	24	103	103	103	23
3/28	102	102	102	23	102	102	103	24	102	102	103	24	101	102	103	24	102	103	103	23
3/29	101	101	101	23	101	102	102	24	102	102	102	24	102	102	103	24	102	103	104	22
3/30	101	101	101	23	101	101	101	24	101	101	102	24	101	102	103	24	102	103	104	23
3/31	101	102	102	23	101	101	102	24	101	102	102	24	102	103	104	24	102	104	104	23
4/1	103	103	104	22	102	102	102	21	103	103	104	21	103	104	104	21	104	105	106	22
4/2	103	103	104	23	102	102	103	23	103	103	104	23	103	104	105	23	104	105	106	23
4/3	104	104	105	24	103	104	104	23	104	105	105	23	104	106	107	23	105	106	107	24
4/4	104	104	104	24	103	103	104	23	104	104	105	23	104	104	104	20	104	104	105	24
4/5	103	104	104	24	102	102	102	22	103	103	104	23	103	103	104	23	104	105	105	24
4/6	103	103	104	24	102	102	102	23	104	105	107	23	103	104	105	23	103	103	104	24

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				Fish with L. Line GBT	
								Rank 1	Rank 2	Rank 3	Rank 4	Num Fish	Avg. Rank
Lower Granite Dam													
	04/04/00	Yearling Chinook	12	4	0	0.00%	0.00%	0	0	0	0	4	1.5
	04/04/00	Steelhead	45	5	0	0.00%	0.00%	0	0	0	0	4	1
Little Goose Dam													
	04/05/00	Yearling Chinook	5	1	1	20.00%	0.00%	1	0	0	0	0	0
	04/05/00	Steelhead	3	0	0	0.00%	0.00%	0	0	0	0	0	0
Lower Monumental Dam													
	04/04/00	Yearling Chinook	100	0	0	0.00%	0.00%	0	0	0	0	0	0
	04/04/00	Steelhead	13	0	0	0.00%	0.00%	0	0	0	0	0	0
McNary Dam													
	04/03/00	Yearling Chinook	49	1	0	0.00%	0.00%	0	0	0	0	1	1
	04/03/00	Steelhead	18	1	0	0.00%	0.00%	0	0	0	0	1	1
	04/06/00	Yearling Chinook	68	1	0	0.00%	0.00%	0	0	0	0	1	1
	04/06/00	Steelhead	25	0	0	0.00%	0.00%	0	0	0	0	0	0
Bonneville Dam													
	04/03/00	Yearling Chinook	25	0	0	0.00%	0.00%	0	0	0	0	0	0
	04/03/00	Steelhead	1	0	0	0.00%	0.00%	0	0	0	0	0	0
	04/06/00	Yearling Chinook	54	0	0	0.00%	0.00%	0	0	0	0	0	0
	04/06/00	Steelhead	11	0	0	0.00%	0.00%	0	0	0	0	0	0

Hatchery Release Summary

From 3/24/00 to 4/6/00

Hatchery	Species...	Migration Year	Number Released	...Release Dates... Begin... ..End	Release Site	River Name
IDFG						
Magic Valley						
SU	Steelhead	2000	52,000	04/03/00 05/12/00	Squaw Cr Acclim Pd	Salmon River
McCall						
SU	Chinook	2000	821,000	04/03/00 04/06/00	S Fk Salmon R	Salmon River
SU	Chinook	2000	195,400	04/03/00 04/06/00	S Fk Salmon R	Salmon River
Niagara Springs						
SU	Steelhead	2000	600,000	03/27/00 04/08/00	Hells Canyon Dam	Snake River
Rapid River						
SP	Chinook	2000	2,463,000	03/16/00 04/15/00	Rapid River H	Little Salmon River
Sawtooth						
SP	Chinook	2000	124,500	04/04/00 04/21/00	Sawtooth H	Salmon River
Agency Totals:			4,255,900	.....	
Nez Perce Tribe						
Lookingglass						
SP	Chinook	2000	35,000	04/01/00 04/18/00	Lostine Accim Pd	Wallowa River
McCall						
SU	Chinook	2000	80,000	03/27/00 03/30/00	Johnson Cr	South Fork Salmon River
Agency Totals:			115,000	.....	
ODFW						
Imnaha						
SP	Chinook	2000	180,000	03/22/00 04/18/00	Imnaha Acclim Pd	Imnaha River
Lookingglass						
SP	Chinook	2000	38,000	04/01/00 04/18/00	Catherine Cr	Grande Ronde River
Round Butte						
SU	Steelhead	2000	161,000	04/04/00 04/14/00	Bel. Pelton Dam	Deschutes River
Wallowa						
SU	Steelhead	2000	348,000	04/05/00 04/07/00	Wallowa Acclim Pd	Wallowa River
Agency Totals:			727,000	.....	
Umatilla Tribe						
Minthorn						
SU	Steelhead	2000	50,000	04/03/00 04/10/00	Bonifer Acclim Pd	Umatilla River
SU	Steelhead	2000	50,000	04/03/00 04/10/00	Minthorn Acclim Pd	Umatilla River
Agency Totals:			100,000	.....	
USFWS						
Dworshak						
SP	Chinook	2000	1,030,000	03/22/00 04/06/00	Dworshak H	Clearwater Rvr M F
Entiat						
SP	Chinook	2000	363,000	04/04/00 04/04/00	Entiat H	Entiat River
Hagerman						
SU	Steelhead	2000	150,000	04/03/00 04/07/00	Little Salmon R	Salmon River
SU	Steelhead	2000	50,000	04/03/00 04/07/00	Hazard Cr	Little Salmon River
Kooskia						
SP	Chinook	2000	379,000	04/06/00 04/07/00	Kooskia H	Clearwater Rvr M F
SP	Chinook	2000	50,000	04/06/00 04/07/00	Clear Cr	Clearwater Rvr M F
Warm Springs						
SP	Chinook	2000	679,982	03/22/00 04/19/00	Warm Springs H	Deschutes River
Agency Totals:			2,701,982	.....	

Hatchery Release Summary

From 3/24/00 to 4/6/00

Hatchery	Species...	Migration Year	Number Released	...Release Dates...		Release Site	River Name
				Begin...	...End		
WDFW							
Klickitat							
	SP Chinook	2000	563,000	03/01/00	03/24/00	Klickitat H	Klickitat River
Lyons Ferry							
	FA Chinook	2000	450,000	03/22/00	04/15/00	Lyons Ferry H	Snake River
	SU Steelhead	2000	250,000	03/25/00	04/30/00	Cottonwood Acclim Pd	Grande Ronde River
	SU Steelhead	2000	125,000	03/25/00	04/30/00	Dayton Acclim Pd	Touchet River
Ringold Springs							
	SU Steelhead	2000	180,000	04/03/00	04/12/00	Ringold Springs H	Mid-Columbia River
Tucannon							
	SP Chinook	2000	128,000	03/10/00	04/20/00	Curl Lake	Tucannon River
Washougal							
	Coho	2000	2,500,000	03/27/00	04/04/00	Klickitat R	Klickitat River
Agency Totals:			4,196,000	.....		
Yakima Tribe							
Clark Flat							
	SP Chinook	2000	229,000	03/15/00	06/01/00	Clark Flat Acclim Pd	Yakama River
Easton Pond							
	SP Chinook	2000	236,800	03/15/00	06/01/00	Easton Pd	Yakama River
Jack Creek Pond							
	SP Chinook	2000	137,500	03/31/00	06/01/00	Jack Creek Acclim Pd	Yakama River
Agency Totals:			603,300	.....		
Total Release..			12,699,182				

Hatchery Release Summary

From 4/7/00 to 4/20/00

Hatchery	Species...	Migration Year	Number Released	...Release Dates... Begin...	...End	Release Site	River Name
IDFG							
Clearwater							
SP	Chinook	2000	396,800	04/14/00	04/14/00	Crooked R Acclim Pd	S Fk Clearwater River
SP	Chinook	2000	159,000	04/14/00	04/14/00	Red River Acclim Pd	S Fk Clearwater River
Magic Valley							
SU	Steelhead	2000	100,000	04/10/00	04/11/00	Squaw Cr Acclim Pd	Salmon River
SU	Steelhead	2000	115,000	04/12/00	04/13/00	Little Salmon R	Salmon River
SU	Steelhead	2000	190,000	04/13/00	04/17/00	Lemhi R	Salmon River
SU	Steelhead	2000	40,000	04/15/00	04/25/00	Salmon R	Salmon River
SU	Steelhead	2000	60,000	04/15/00	04/25/00	N Fk Salmon R	Salmon River
SU	Steelhead	2000	120,000	04/17/00	04/18/00	Shoup Br (Salmon R)	Salmon River
SU	Steelhead	2000	315,000	04/18/00	04/21/00	McNabb/Salmon R	Salmon River
Niagara Springs							
SU	Steelhead	2000	190,000	04/09/00	04/12/00	Little Salmon R	Salmon River
SU	Steelhead	2000	830,000	04/13/00	05/01/00	Pahsimeroi H	Pahsimeroi River
Pahsimeroi							
SU	Chinook	2000	53,900	04/12/00	04/25/00	Pahsimeroi H	Pahsimeroi River
Powell							
SP	Chinook	2000	328,400	04/13/00	04/13/00	Powell Acclim Pd	Lochsa River
Agency Totals:			2,898,100	.....		
Nez Perce Tribe							
Kooskia							
	Coho	2000	280,000	04/15/00	04/21/00	Kooskia H	Clearwater Rvr M F
Lyons Ferry							
FA	Chinook	2000	150,000	04/08/00	04/12/00	Cpt John Acclim Pd	Snake River
FA	Chinook	2000	150,000	04/11/00	04/13/00	Big Canyon (Clearwater	Clearwater Rvr M F
FA	Chinook	2000	150,000	04/11/00	04/13/00	Pittsburg Landing	Snake River
Agency Totals:			730,000	.....		
ODFW							
Big Canyon							
SU	Steelhead	2000	174,000	04/12/00	04/14/00	Big Canyon H	Grande Ronde River
Irrigon							
SU	Steelhead	2000	100,000	04/19/00	04/21/00	Big Sheep Cr	Imnaha River
Li Sheep							
SU	Steelhead	2000	155,000	04/13/00	04/13/00	L Sheep Acclim Pd	Imnaha River
Round Butte							
SP	Chinook	2000	300,000	04/12/00	04/20/00	Bel. Pelton Dam	Deschutes River
Agency Totals:			729,000	.....		
Umatilla Tribe							
Cascade							
	Coho	2000	750,000	04/10/00	04/20/00	Umatilla R	Umatilla River
Imeques							
SP	Chinook	2000	275,000	04/10/00	04/20/00	Imeques Acclim Pd	Umatilla River
Minthorn							
SU	Steelhead	2000	50,000	04/20/00	04/30/00	Minthorn Acclim Pd	Umatilla River
Thornhollow							
FA	Chinook	2000	240,000	04/10/00	04/20/00	Thornhollow Acclim Pd	Umatilla River
Agency Totals:			1,315,000	.....		

Hatchery Release Summary

From 4/7/00 to 4/20/00

Hatchery	Species...	Migration	Year	Number Released	...Release Begin...	Dates... End	Release Site	River Name
USFWS								
Carson								
	SP	Chinook	2000	1,420,000	04/20/00	04/20/00	Carson H	Wind River
Dworshak								
	SU	Steelhead	2000	200,000	04/17/00	04/21/00	Clear Cr	Clearwater Rvr M F
	SU	Steelhead	2000	600,000	04/17/00	04/21/00	Redhouse (SFk)	Clearwater Rvr M F
Leavenworth								
	SP	Chinook	2000	1,695,000	04/18/00	04/18/00	Leavenworth H	Wenatchee River
L White Salmon								
		Coho	2000	550,000	04/20/00	04/20/00	Little White Salmon H	Little White Salmon River
	SP	Chinook	2000	1,100,000	04/20/00	04/20/00	Little White Salmon H	Little White Salmon River
Spring Creek								
	FA	Chinook	2000	4,300,000	04/20/00	04/20/00	Spring Creek H	Columbia River
Willard								
		Coho	2000	980,000	04/20/00	04/20/00	Willard H	Little White Salmon River
Winthrop								
	SU	Steelhead	2000	105,000	04/12/00	05/31/00	Winthrop H	Methow River
	SP	Chinook	2000	376,500	04/12/00	04/12/00	Winthrop H	Methow River
	Agency Totals:			11,326,50	.....		
WDFW								
Chewuch								
	SP	Chinook	2000	218,000	04/15/00	04/25/00	Chewuch R	Methow River
Chiwawa								
	SP	Chinook	2000	76,000	04/20/00	04/30/00	Chiwawa H	Wenatchee River
East Bank								
	SU	Steelhead	2000	45,000	04/20/00	04/30/00	Wenatchee R	Wenatchee River
Klickitat								
		Coho	2000	1,400,000	04/15/00	06/05/00	Klickitat H	Klickitat River
Lyons Ferry								
	SU	Steelhead	2000	160,000	04/15/00	04/15/00	Tucannon R	Tucannon River
	SU	Steelhead	2000	175,000	04/15/00	04/30/00	Walla Walla R	Walla Walla River
	SU	Steelhead	2000	20,179	04/15/00	04/15/00	Lyons Ferry H	Snake River
Methow								
	SP	Chinook	2000	216,000	04/15/00	04/25/00	Methow H	Methow River
	SP	Chinook	2000	15,200	04/15/00	04/25/00	Twisp R	Methow River
Turtle Rock								
	SU	Chinook	2000	218,000	04/10/00	04/20/00	Turtle Rock H	Mid-Columbia River
Wells								
	SU	Steelhead	2000	140,000	04/10/00	04/30/00	Chewuch R	Methow River
	SU	Chinook	2000	293,000	04/10/00	04/25/00	Similkameen Acclim Pd	Okanogan River
	SU	Steelhead	2000	140,000	04/10/00	04/30/00	Twisp R	Methow River
	SU	Steelhead	2000	68,000	04/10/00	04/25/00	Similkameen Acclim Pd	Okanogan River
	SU	Steelhead	2000	140,000	04/10/00	04/30/00	Methow R	Methow River
	SU	Chinook	2000	205,000	04/15/00	04/30/00	Carlton Acclim Pd	Methow River
	SU	Chinook	2000	466,000	04/17/00	04/25/00	Wells H	Mid-Columbia River
	Agency Totals:			3,995,379	.....		
Warm Springs Tribe								
Oak Springs								
	SU	Steelhead	2000	34,000	04/13/00	04/27/00	Blackberry Acclim Pd	Hood River
	WI	Steelhead	2000	31,000	04/17/00	05/01/00	E Fk Irrig Dist Sand Trap	Hood River
	WI	Steelhead	2000	32,000	04/17/00	05/01/00	Parkdale Acclim Pd	Hood River
Round Butte								
	SP	Chinook	2000	30,500	04/10/00	04/25/00	Parkdale Acclim Pd	Hood River
	SP	Chinook	2000	56,000	04/10/00	04/24/00	Blackberry Acclim Pd	Hood River
	SP	Chinook	2000	40,000	04/10/00	04/24/00	Jones Creek Acclim Pd	Hood River
	Agency Totals:			223,500	.....		
	Total Release..			21,217,479				

Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/25/00	---	662	---	---	---	---	---	---	---	---	715
03/26/00	---	289	---	---	20	---	---	---	---	---	727
03/27/00	364	390	12	12	250	---	---	---	---	---	374
03/28/00	640	4,109	32	3	250	---	---	---	---	---	452
03/29/00	2,022	7,017	32	6	300	---	---	---	---	---	458
03/30/00	934	2,421	34	35	200	---	---	---	---	---	583
03/31/00	682	883	57	21	599	---	---	---	---	---	394
04/01/00	---	834	---	---	588	---	---	0	540	---	703
04/02/00	---	339	---	---	440	185	3,920	0	462	---	614
04/03/00	164	943	31	15	532	390	6,290	0	624	---	602
04/04/00	569	305	92	46	790	415	8,365	1	1,636	250	2,046
04/05/00	1,790	721	122	14	633	314	4,997	19	2,395	585	307*
04/06/00	2,877	250	98	57	1,738	339	4,382	49	4,407	1,015	831*
04/07/00	---	---	---	---	---	---	---	---	---	---	---
Total:	10,042	19,163	510	209	6,340	1,643	27,954	69	10,064	1,850	7,668
# Days:	9	13	9	9	12	5	5	6	6	3	13
Average:	1,116	1,474	57	23	528	329	5,591	12	1,677	617	697

COMBINED SUBYEARLING CHINOOK

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/25/00	---	0	---	---	---	---	---	---	---	---	1,173
03/26/00	---	0	---	---	0	---	---	---	---	---	2,610
03/27/00	0	0	0	32	0	---	---	---	---	---	1,600
03/28/00	0	0	0	0	0	---	---	---	---	---	1,572
03/29/00	0	0	0	2	30	---	---	---	---	---	1,355
03/30/00	0	0	0	4	10	---	---	---	---	---	212
03/31/00	0	0	0	13	0	---	---	---	---	---	1,951
04/01/00	---	0	---	---	0	---	---	78	80	---	931
04/02/00	---	0	---	---	0	0	0	67	54	---	850
04/03/00	0	0	0	51	0	0	0	63	150	---	824
04/04/00	0	0	0	2	0	0	0	52	106	0	1,328
04/05/00	0	1	0	12	4	0	0	242	75	0	201*
04/06/00	0	0	0	6	79	0	0	57	46	0	674*
04/07/00	---	---	---	---	---	---	---	---	---	---	---
Total:	0	1	0	122	123	0	0	559	511	0	14,406
# Days:	9	13	9	9	12	5	5	6	6	3	13
Average:	0	0	0	14	10	0	0	93	85	0	1,310

The data presented in the following passage index section is preliminary and has been derived from various sources. For verification and/or origin of data, contact the operators of the Fish Passage Data System at (503) 230-4099.

Smolt indices, wild & hatchery or combined, are presented in the following order: yearling chinook (chinook 1's), subyearling chinook (chinook 0's), steelhead, coho, and sockeye. Two classes of fish counts are shown in these tables: collection counts, which account for sample rates but are not adjusted for flow; and passage indices, which are collection counts divided by the proportion of water passing through the sampling system. Collection counts may be constrained due to sampling effort or river flow. Passage indices are not population estimates, but are used to adjust collection counts for daily fluctuations in the site's or project's operations. The classes of counts presented in the report are defined below for each site. Most samples occur over a 24 hour period that spans two calendar days. In this report, the date shown corresponds with the sample end date.

Two-Week Summary of Passage Indices

COMBINED COHO

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/25/00	---	0	---	---	---	---	---	---	---	---	0
03/26/00	---	0	---	---	0	---	---	---	---	---	0
03/27/00	0	0	0	1	0	---	---	---	---	---	0
03/28/00	0	0	0	0	0	---	---	---	---	---	0
03/29/00	0	0	0	0	0	---	---	---	---	---	0
03/30/00	0	0	0	1	0	---	---	---	---	---	35
03/31/00	0	0	0	3	0	---	---	---	---	---	18
04/01/00	---	0	---	---	0	---	---	0	20	---	158
04/02/00	---	0	---	---	0	0	10	0	12	---	217
04/03/00	0	0	0	1	0	0	0	0	0	---	106
04/04/00	0	0	0	0	0	0	0	0	0	0	465
04/05/00	0	0	0	0	12	7	0	1	20	5	96*
04/06/00	0	0	0	0	4	0	0	6	0	20	569*
04/07/00	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	6	16	7	10	7	52	25	999
# Days:	9	13	9	9	12	5	5	6	6	3	13
Average:	0	0	0	1	1	1	2	1	9	8	91

COMBINED STEELHEAD

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/25/00	---	0	---	---	---	---	---	---	---	---	0
03/26/00	---	0	---	---	50	---	---	---	---	---	19
03/27/00	0	0	6	3	100	---	---	---	---	---	42
03/28/00	0	2	6	2	230	---	---	---	---	---	0
03/29/00	0	3	8	2	190	---	---	---	---	---	0
03/30/00	0	3	2	5	200	---	---	---	---	---	35
03/31/00	0	1	1	2	465	---	---	---	---	---	36
04/01/00	---	0	---	---	612	---	---	1	260	---	35
04/02/00	---	0	---	---	530	16	70	0	115	---	38
04/03/00	0	0	12	8	1,148	156	120	1	181	---	27
04/04/00	1	2	79	15	2,280	93	373	1	272	80	378
04/05/00	0	58	259	24	1,814	95	227	6	347	115	86*
04/06/00	9	18	201	37	5,301	229	104	14	593	200	166*
04/07/00	---	---	---	---	---	---	---	---	---	---	---
Total:	10	87	574	98	12,920	589	894	23	1,768	395	610
# Days:	9	13	9	9	12	5	5	6	6	3	13
Average:	1	7	64	11	1,077	118	179	4	295	132	55

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

COMBINED SOCKEYE

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/25/00	---	0	---	---	---	---	---	---	---	---	0
03/26/00	---	0	---	---	0	---	---	---	---	---	0
03/27/00	0	0	0	0	10	---	---	---	---	---	0
03/28/00	0	0	0	0	30	---	---	---	---	---	0
03/29/00	0	0	0	0	0	---	---	---	---	---	0
03/30/00	0	0	0	0	10	---	---	---	---	---	0
03/31/00	0	0	0	0	21	---	---	---	---	---	0
04/01/00	---	0	---	---	12	---	---	0	0	---	0
04/02/00	---	0	---	---	20	0	10	0	6	---	0
04/03/00	0	0	0	0	16	4	0	0	6	---	9
04/04/00	0	0	0	0	20	12	0	0	4	0	29
04/05/00	0	0	0	0	37	5	0	0	7	5	0*
04/06/00	0	0	0	0	25	6	0	0	0	0	0*
04/07/00	---	---	---	---	---	---	---	---	---	---	---
Total:	0	0	0	0	201	27	10	0	23	5	38
# Days:	9	13	9	9	12	5	5	6	6	3	13
Average:	0	0	0	0	17	5	2	0	4	2	3

* See sampling comments <http://www.fpc.org/2000Daily/smpcomments.htm>

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)}

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 04/06

DAM	Spring Chinook						Summer Chinook						Fall Chinook					
	2000		1999		10-Yr Avg.		2000		1999		10-Yr Avg.		2000		1999		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	12,580	79	498	3	2,576	9	0	0	0	0	0	0	0	0	0	0	0	0
TDA	3,012	42	42	0	659	2	0	0					0	0				
JDA	1,114	2	10	0	219	3	0	0					0	0				
MCN	160	1	4	0	59	0	0	0					0	0				
IHR	25	1	1	0	16	0	0	0					0	0				
LMN	3	2	0	0	2	0	0	0					0	0				
LGS	2	1	0	0	**	**	0	0			**	**	0	0			**	**
LWG	1	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
PRD	0	0					0	0					0	0				
RIS	0	0					0	0					0	0				
RRH	0	0					0	0					0	0				
WEL	0	0					0	0					0	0				

DAM	Coho						Sockeye			Steelhead			
	2000		1999		10-Yr Avg.		10-Yr Avg.			10-Yr Avg.			Wild
	Adult	Jack	Adult	Jack	Adult	Jack	2000	1999	Avg.	2000	1999	Avg.	2000
BON	0	0	0	0	0	0	0	0	0	988	529	1,015	451
TDA	0	0					0			186	74	462	69
JDA	0	0					0			890	794	722	253
MCN	0	0					0			165	45	543	24
IHR	0	0					0			184	220	811	83
LMN	0	0					0			125	180	424	61
LGS	0	0			**	**	0		**	116	277	**	41
LWG	0	0	0	0	0	0	0	0	0	1,553	2,431	3,231	334
PRD	0	0					0			0			***
RIS	0	0					0			0			0
RRH	0	0					0			0			0
WEL	0	0					0			0			0

Note: LGS and LMN are through 04/03, LGR and MCN are through 04/05.

Note: IHR is missing data for 04/02 and 04/03.

Note: LGR's fish ladder was out of service on 03/22 and 03/23; partial counts were collected.

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

Wild steelhead numbers are included in the total.

**Adult count records at Little Goose Dam have been maintained since 1991, visual counts were not conducted at Little Goose Dam between 1982 and 1990.

***PRD is not reporting Wild Steelhead numbers.

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

Historic counts 1997 to present were obtained from the Corps of Engineers.

TRANSPORTATION SUMMARY FOR THE PAST TWO WEEKS

March 24 through April 7, 2000

		Species Age		Sockeye	Steelhead	Coho	Grand Total
		Chinook					
Site	Data	age 0	age 1				
LGR	Collected	110	5038	94	9616		14858
	Number By Passed	478	339	0	549		1366
	Number Trucked	4011	6084	216	7204		17515
	Number Barged	0	0	0	0		0
	Sum of Total Transported	4011	6084	216	7204	0	17515
LGS	Collected		932	8	327		1267
	Number By Passed		0	0	0		0
	Number Trucked		1561	8	639		2208
	Number Barged		0	0	0		0
	Sum of Total Transported	0	1561	8	639	0	2208
LMN	Collected		15658	10	510	10	16188
	Number By Passed		13	0	100	0	113
	Number Trucked		12878	10	12595	10	25493
	Number Barged		0	0	0	0	0
	Sum of Total Transported	0	12878	10	12595	10	25493
MCN	Collected	426	8805	22	1576	38	10867
	Number By Passed	692	7881	60	1369	38	10040
	Number Trucked	0	0	0	0	0	0
	Number Barged	0	0	0	0	0	0
	Sum of Total Transported	0	0	0	0	0	0
Total Collected		536	30433	134	12029	48	43180
Total Number By Passed		1170	8233	60	2018	38	11519
Total Number Trucked		4011	20523	234	20438	10	45216
Total Number Barged		0	0	0	0	0	0
Total Sum of Total Transported		4011	20523	234	20438	10	45216

Fish Passage Center

4/7/00 12:24 PM

Numbers reported are preliminary. Call FPC Data Center Staff at (503)230-4099 for more information