



Fish Passage Center

Weekly Report #02 - 4

April 5, 2002

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SUMMARY OF EVENTS:

- **Water year 2002 is average or better in terms of precipitation and runoff volumes.**
- **The Hungry Horse, Brownlee, and Grand Coulee reservoirs were well below their end of March flood control targets and will likely struggle to reach their April 10th Biological Opinion targets.**
- **A flood control shift is currently occurring between the Dworshak and Grand Coulee reservoirs, USACE is presently only shifting a portion of the useable volume of water.**
- **According to USACE modeling, the Libby reservoir has only a 7% chance of refill by the BiOp June 30th refill target.**

Water Supply: Water Year 2002 continues to be average or better in terms of precipitation and runoff volumes within the Columbia and Snake River Basins. Precipitation remains generally average to slightly above average, with respect to the years 1971 through 2000, throughout much of the Columbia Basin. Table 1 summarizes both early/mid March precipitation and cumulative October through March precipitation at select locations. Weekly precipitation values from 3-27-02 to 4-5-02 were not available at the time of report construction.

Table 1. Summary of early/mid March precipitation and cumulative October through March precipitation with respect to average (1971-2000), at select locations within the Columbia and Snake River Basins (next column).

Location	March 1-26, 2002		Cumulative 10-1-01 to 3-26-02	
	Observed (inches)	% Avg	Observed (inches)	% Avg
Columbia Above Coulee	1.86	124	13.58	97
Snake R. Above Ice Harbor	1.47	106	9.31	93
Columbia Above The Dalles	1.86	115	13.70	98
Kootenai	1.45	97	12.03	84
Clark Fork	1.67	166	10.05	114
Flathead	2.15	157	13.05	109
Pend Oreille/Spokane	3.48	150	23.4	119
Central Washington	0.23	34	4.87	84
Snake R. Plain	0.72	76	4.39	74
Clearwater	3.69	157	21.11	116
SW Washington Cascades/Cowlitz	8.36	141	61.18	117
Willamette Valley	6.61	123	50.05	113

Average to slightly above average precipitation throughout the Columbia and Snake River Basins continues to result in increased runoff volume forecasts relative to WY 2001. On March 28, 2002, the NWRFC released the April Early-Bird water supply forecast. Table 2 displays the 2002 February and March final runoff volume forecasts and the April early-Bird forecast for multiple reservoirs. Overall, the April early-Bird forecasts appear to be increased relative to the March final values (Table 2). Of the ten locations displayed in Table 2, eight of the sites reported increasing forecasts, one site reported no change, and one site reported a decreasing forecast between the March Final and April Early-Bird forecasts. The April final water supply forecasts are expected to be released on the 8th of April, 2002.

Table 2. February and March 2002 Final Runoff Volume Forecasts and the April Early-Bird forecast for various reservoirs within the Columbia and Snake River Basins.

Site	February Final		March Final		April Early-Bird	
	Runoff Volume (KAF)	%of Avg	Runoff Volume (KAF)	%of Avg	Runoff Volume (KAF)	%of Avg
Mica (April-Sept)	11500	92	11300	90	11500	92
Hungry Horse (April-Sept)	1910	90	1910	90	2110	99
Libby (April-Sept)	6470	97	6290	95	6590	99
Grand Coulee (Jan-July)	60800	97	60000	95	62000	99
The Dalles (Jan-July)	101000	94	97300	91	98200	92
Brownlee (April-July)	4570	72	4090	65	4110	65
Dworshak (April-July)	3000	113	2950	112	3070	116
Lower Granite (Jan-July)	28200	94	25700	86	25000	83
Heise (ID) (April-July)	2960	83	2710	76	2840	80
Weiser (ID) (April-July)	4090	71	3630	63	3630	63

Operations have varied at the major reservoirs within the Columbia and Snake River Basins. The Hungry Horse, Grand Coulee, and Brownlee reservoirs have been primarily operated for power generation and were well below their end of March flood control targets determined by USACE.

April 10th Biological Opinion (BiOp) reservoir targets have been estimated by interpolating between the March 31st and April 15th flood control targets at the Hungry Horse, Grand Coulee, Brownlee, and Dworshak reservoirs (Table 2). The Hungry Horse and Brownlee reservoirs do not appear to be on target to reach their estimated April 10th BiOp targets, currently being 20.4 and 13.4 feet below the BiOp targets, respectively (Table 2). Grand Coulee is currently (4-5-02) only 6.6 feet from reaching the BiOp target. Over the past week, Grand Coulee has filled approximately 1.5 feet.

Table 3. USACE determined flood control targets issued in April of 2002 and estimated April 10th BiOp targets along with actual reservoir elevations for Libby, Hungry Horse, Grand Coulee, Brownlee, and Dworshak.

Reservoir	Actual Elevation 4/5/02 (ft. Above MSL)	Estimated 4/10/02 BiOp Target (ft. Above MSL)	USACE Determined 4/15/02 Flood Control Target (ft. Above MSL)
Libby	2370.5	na	na
Hungry Horse	3509.1	3529.5	3528.5
Grand Coulee	1262.1	1268.7	1263.2
Brownlee	2041.7*	2055.1	2056.3
Dworshak	1510.3	1495	1489.7

* Brownlee reservoir elevation measured on April 3rd, 2002.

A flood control shift between the Dworshak and Grand Coulee reservoirs is currently being implemented. Essentially, USACE may potentially shift an amount of water at Dworshak equivalent to the difference in local and system flood control. Table 4 displays the local and system flood control targets at Dworshak for March 31st and April 15th along with the difference in useable storage volumes between local and system flood control. By the end of March, the reservoir elevation at Dworshak was 1515.2 feet AMSL; therefore USACE shifted only a portion of the possible volume of water from Dworshak to Grand Coulee. Dworshak is currently drafting water above the maximum powerhouse outflow of approximately 10.5 Kcfs, spilling between 3.8 and 5.0 kcfs of water over the past four days. Over the past week, the reservoir elevation has dropped 6.2 feet at Dworshak.

Table 4. Local and system flood control targets at Dworshak for March 31st and April 15th along with the difference in useable storage volumes at each elevation.

	Local FCE (MSL)	System FCE (MSL)	Useable Storage for shift (KAF)
March 31, 2002	1522.6	1505.7	212.1
April 15, 2002	1530.7	1489.7	499.4

Based upon the 2000 Biological Opinion, the Hungry Horse reservoir outflow over the month of March and into early April has ranged between 1270 and 2880 cfs, above the 900 cfs minimum. Outflows above the 900 cfs were needed to meet the Columbia Falls flow requirements.

The Libby reservoir has been operating at a minimum outflow of 4 kcfs over the past three weeks. Because outflows have been (on average) slightly larger than inflows, the Libby reservoir has been remaining steady or drafting at a minimal rate of approximately a tenth of a foot a day. As mentioned last week, USACE has released March 2002 QADJ modeling results that show Libby to have only a 7% chance of refilling by June 30th of 2002, but an 88% chance of refill by the end of July. Additionally, QADJ modeling has indicated that the Hungry Horse, Grand Coulee, and Dworshak reservoirs would have a 70%, 100% and 58% chance of refill by June 30th of 2002.

It is important to point out that over the next week flow objectives at several reservoirs will be implemented based upon the April final water supply forecast. Based upon the April early bird forecasts, flow objectives will be 100 kcfs at Lower Granite between 4/3/02 and 6/20/02, between 220 and 260 kcfs at McNary between 4/10/02 and 6/30/02, and 135 kcfs at Priest Rapids from 4/10/02 and 6/30/02. The flow objectives are intended to represent averages over the designated time periods. Total outflows are currently 53 kcfs at Lower Granite, 121.8 kcfs at McNary, and 64.7 kcfs at Priest Rapids.

Over the beginning of WY 2002, reservoirs on the Upper Snake River have been consistently refilling. Currently, as of April 4th, 2002, the entire Upper Snake River System is at 53% of capacity. Individually, American Falls is at 82% of capacity, Palisades is at 33% of capacity, Jackson Lake is at 20% of capacity, Island Park is at 82% of capacity, and Grassy Lake is at 64% of capacity.

Spill. A total of 4.0 million tule fall chinook were released from Spring Creek Hatchery on March 29, 2002. The late notice and emergency nature of this release did not allow for the coordination or provision of spill protection for these fish.

Spill has been occurring daily at Dworshak Dam as the project releases water to achieve the end of April flood control elevation. The project has initiated spilling now, while maintaining the total dissolved gas levels below the water quality criteria, in order to avoid uncontrolled spill later in the month and possibly exceeding the criteria. Spill at Lower Granite Dam was initiated for the spring migration at 1800 hours on April 3, 2002. Spill to the gas cap will occur nightly until the initiation of the Lower Granite removable spillway weir testing. At that time spill will continue in a modified version according to the test study design.

Total dissolved gas levels remain below the waiver limits throughout the system. The smolt monitoring program will begin sampling for gas bubble trauma next week.

Smolt Monitoring: All SMP sampling facilities were operational during at least a portion of this past week. Modifications of the PIT-tag detection system at McNary were completed and sampling began on April 2.

At the Snake River basin SMP traps the yearling chinook continued to be captured at the White Bird Trap in the past week with a weekly high of 3,226 on 4/3 and weekly total of 8,797 which is a 92% increase over the previous 7 days. Approximately 6% of the yearling chinook captured this past week were unmarked wild fish. At the Imnaha Trap a total of 8,476 yearling chinook were captured this week, about 15% being unmarked wild fish. At the Grande Ronde Trap this past week 233 yearling chinook were captured, with 93% wild fish. All traps are reporting small numbers of steelhead this week as well.

At Lower Granite Dam passage indices for yearling chinook rose above 2,000 on 4/2 and continued upward ending the week at over 3,100. At the beginning of this week nearly 60% of the yearling chinook were unclipped and the proportion ranged downward to near 30%. Of the 264

unclipped chinook in the sample, only 5 were found to have coded wire tags. Based on PIT-tag recoveries of untagged subyearling chinook hatchery release groups, a small portion of these unmarked yearling fish may be hold-over fall chinook. It appears that the bulk of the hold-over fall chinook have already passed Lower Granite. Thus, a large proportion of the chinook passing Lower Granite appear to be wild origin fish. Indices of steelhead passage also increased at Lower Granite this past week. The average daily index this week was 382 compared to 73 fish per day last week. Sockeye numbers at Lower Granite continued low but steady with an average index of 26 fish per day this week versus 23 per day last; a 14% increase. Coho and subyearling chinook were showing up in small numbers again this week.

Rock Island Dam had very few fish their first week of sampling, while in the Lower Columbia, McNary also had low numbers of salmonids the first two days of sampling. At John Day Dam passage index for yearling chinook averaged 200 per day this week compared to 68 per day last. Steelhead indices averaged 101 this week versus 18 last. Coho, subyearling chinook and sockeye were captured in very low numbers this past week. At Bonneville Dam subyearling chinook released from Spring Creek Hatchery began to arrive in large numbers on March 31 when the passage index rose to over 75,000, and the number increased again on April 1 to 152,000. The fish had been released from the hatchery because an outbreak of ICK was causing concern for the confined fish. A portion of the fish examined at Bonneville showed outward symptoms of ICK. On April 2 the juvenile fish sampling facility was dewatered in order to replace a wedgewire screen at the primary dewatering structure. The facility remained dewatered through April 4 to allow the bulk of the ICK infected fish to bypass the facility. Collection tanks and holding troughs were disinfected as a precaution. Small numbers steelhead, coho and sockeye were also sampled at the dam this past week.

Adult Fish Passage: All COE projects are now counting adult fish. The PUD projects on the Mid-Columbia River will begin on or near April 15 at Priest Rapids, Rock Island and Rocky Reach dams with Wells Dam initiating fish counting near May 1. The FPC Weekly Report will list in a Table; the adult fish counts for the week with the previous year (2001) and the 10-year average through the same ending date so the reader can compare passage throughout the year for the individual species.

At Bonneville Dam, adult spring chinook counted through April 4 total 4,684. This compares to 31,682 in 2001 and 6,034 for the 10-year average. As noted, this year's total is about 15% of the 2001 count and about 76% of the 10-year average at this date in the chinook run. A total of 810 adult spring chinook have been counted at The Dalles Dam, about 12% and 67% of last years' count and the ten-year average, respectively. Thirty-four adult spring chinook have been counted at Ice Harbor and six adult spring chinook have been counted at Lower Granite Dam thus far this spring.

Winter steelhead will continue to pass Bonneville Dam with a small number of summer steelhead still moving upstream to spawning sites. The total counted through April 4 was 1,429, and was greater than the 2001 total and the 10-year average. At Lower Granite Dam, steelhead passage ranged between 377 and 487 fish per day with the season total through April 4 of 4,973. This compares to about 3,847 in 2001 and 2,971 for the 10-year average.

Hatchery Releases: For the past two weeks, approximately 22 million chinook and coho salmon were directly or volitionally released from State, Federal or Tribal facilities in the Columbia River basin. During the next two weeks, about 26.7 million chinook, coho, and steelhead are scheduled for release in the various fish basins.

As reported last week, the 2nd release of subyearling fall chinook from Spring Creek NFH was released on March 29. This was moved up from the mid-April schedule due to fish health concerns. The number released was about 4 million.

Snake River – For the week, hatchery releases of yearling spring chinook began or are on-going from the Salmon and Imnaha river basins. Summer chinook from McCall H have been released in the S. Fk Salmon R drainage. Additional spring chinook will be released in the next two weeks from the upper Grande Ronde R basin as well as the Tucannon R. The remainder of the Clearwater R releases from Clearwater H will be completed during the next few weeks as well. About 560,000 coho were released into Lapwai Creek and Potlatch River during the past week. On-site releases of yearling fall chinook started from Lyons Ferry H (direct Snake R releases). The early steelhead releases are nearing completion at the Hells Canyon site in the Snake River. Another 9.5 million additional steelhead will be released in the Snake R basin during April/May.

Mid-Columbia [above McNary Dam] – Volitional releases of spring chinook from the Acclimation Ponds in the Yakama River began in mid March and will continue into June. The Colville Tribal releases of yearling spring chinook salmon are on-going volitional and a direct stream plant in the Okanogan R basin. Most hatcheries will be releasing yearling spring chinook during mid- to late April, either volitionally or directly from the raceways to the streams. Sockeye in the Mid-Columbia are normally released into Lake Wenatchee (direct releases) during the fall prior to their migration in April through May. Also, steelhead releases in the Mid-Columbia Reach are normally released from mid- to late-April through mid-May from State and Federal hatcheries. Coho

will again be released in the Yakama, Wenatchee, and Methow River basins in 2002, normally from Mid-April through late May.

Lower Columbia [Bonneville Dam to McNary Dam] – Yearling spring chinook have been released in the Umatilla, Klickitat and Hood rivers to-date with most other hatchery releases scheduled for mid- to late-April. Yearling “bright” fall chinook were released in the Umatilla River in March. Also coho have been released in the Umatilla River with other releases of coho scheduled for early April through mid-May for other river basins. Normally steelhead are released from mid-April through early May in this River Reach.

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
03/22/02	47.3	0.0	50.6	0.0	49.3	0.0	48.9	0.0	52.1	0.0	80.3	0.0	91.0	0.0
03/23/02	28.5	0.0	33.5	0.0	31.8	0.0	31.0	0.0	33.0	0.0	52.8	0.0	55.3	0.0
03/24/02	29.3	0.0	33.9	0.0	35.8	0.0	41.3	0.0	42.4	0.0	53.0	0.0	52.7	0.0
03/25/02	48.3	0.0	45.4	0.0	47.5	0.0	46.0	0.0	47.7	0.0	53.2	0.0	52.5	0.0
03/26/02	61.7	0.0	61.9	0.0	63.6	0.0	67.5	0.0	68.7	0.0	48.5	0.0	52.5	0.0
03/27/02	54.5	0.0	57.7	0.0	57.3	0.0	57.0	0.0	59.8	0.0	49.1	0.0	53.5	0.0
03/28/02	49.4	0.0	52.1	0.0	52.1	0.0	52.8	0.0	52.5	0.0	50.5	0.0	53.9	0.0
03/29/02	47.4	0.0	46.0	0.0	47.8	0.0	50.2	0.0	55.2	0.0	53.2	0.0	53.8	0.0
03/30/02	31.7	0.0	33.3	0.0	34.7	0.0	36.3	0.0	37.6	0.0	44.9	0.0	54.1	0.0
03/31/02	24.0	0.0	28.4	0.0	28.5	0.0	30.1	0.0	31.3	0.0	48.9	0.0	53.6	0.0
04/01/02	57.0	0.0	53.5	0.0	56.7	0.0	58.5	0.0	60.2	0.0	57.0	4.7	53.3	0.0
04/02/02	66.4	0.0	66.1	0.0	66.1	0.0	67.5	0.0	69.7	0.0	50.9	5.9	53.5	0.0
04/03/02	55.0	0.0	61.3	0.0	59.7	0.0	61.6	0.0	65.0	0.0	63.6	6.8	58.8	0.0
04/04/02	52.2	0.0	51.8	0.0	52.9	0.0	51.7	0.0	54.9	0.0	59.4	7.0	64.7	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
03/22/02	1.5	0.0	15.0	15.0	24.8	0.0	25.5	0.0	27.2	0.0	27.5	0.0
03/23/02	1.5	0.0	16.2	13.0	32.9	0.0	32.2	0.0	36.5	0.0	33.9	0.0
03/24/02	1.5	0.0	16.2	13.0	35.0	0.0	33.2	0.0	36.2	0.0	34.8	0.0
03/25/02	6.7	0.0	16.2	13.0	46.4	0.0	48.1	0.0	53.4	0.0	53.4	0.0
03/26/02	8.3	0.0	21.2	24.4	54.9	0.0	55.6	0.0	63.4	0.0	62.0	0.0
03/27/02	10.3	0.0	20.9	25.0	57.2	0.0	58.7	0.0	63.4	0.0	66.2	0.0
03/28/02	10.8	0.0	19.7	26.1	62.5	0.0	63.6	0.0	67.9	0.0	65.8	0.0
03/29/02	10.8	0.0	18.6	26.9	67.0	0.0	65.2	0.0	69.4	0.0	72.6	0.0
03/30/02	10.8	0.0	17.7	25.7	57.1	0.0	60.7	0.0	66.6	0.0	66.0	0.0
03/31/02	10.8	0.0	17.8	27.7	56.9	0.0	59.1	0.0	63.7	0.0	62.2	0.0
04/01/02	14.6	3.8	17.2	25.2	67.6	0.0	73.6	0.0	78.1	0.0	76.8	0.0
04/02/02	15.6	4.9	18.6	23.0	60.9	0.0	73.2	0.0	84.1	0.0	84.4	0.0
04/03/02	15.7	5.0	18.1	11.1	60.8	13.4	61.1	0.0	66.2	0.0	65.7	0.0
04/04/02	15.6	4.8	---	---	53.9	26.8	51.4	0.0	53.8	0.0	54.3	0.0

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

Date	McNary		John Day		The Dalles		Bonneville		PH1	PH2
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill		
03/22/02	120.5	0.0	127.9	0.0	127.3	0.0	131.4	0.0	26.1	98.6
03/23/02	104.8	0.0	107.7	0.0	107.3	0.0	121.0	0.0	19.6	94.7
03/24/02	82.9	0.0	75.6	0.0	80.6	0.0	118.5	0.0	4.7	107.1
03/25/02	126.5	0.0	143.9	0.0	140.0	0.0	118.5	0.0	5.5	106.3
03/26/02	109.1	0.0	118.3	0.0	119.8	0.0	118.5	0.0	9.8	102.0
03/27/02	117.2	0.0	122.3	0.0	122.1	0.0	134.3	0.0	23.2	104.4
03/28/02	117.6	0.0	117.8	0.0	118.9	0.0	128.9	0.0	20.8	101.4
03/29/02	128.8	0.0	133.3	0.0	131.5	0.0	138.6	0.0	21.3	110.6
03/30/02	121.1	0.0	139.3	0.0	138.0	0.0	130.4	0.0	17.3	106.4
03/31/02	118.0	0.0	117.7	0.0	117.3	0.0	127.8	0.0	21.7	99.4
04/01/02	138.0	0.0	152.9	0.0	153.2	0.0	159.1	0.0	42.1	110.3
04/02/02	148.2	0.0	170.8	0.0	168.8	0.0	175.7	0.0	56.9	112.1
04/03/02	127.9	0.0	140.9	0.0	140.6	0.0	143.3	0.0	24.6	111.9
04/04/02	121.8	0.0	131.6	0.0	133.6	0.0	137.7	0.0	25.3	105.7

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		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
3/22	96	96	97	19	101	102	103	24	102	103	103	24	101	102	102	23	---	---	---	0
3/23	96	96	97	16	100	101	101	24	103	103	103	24	104	105	105	23	---	---	---	0
3/24	96	96	97	10	101	101	102	24	103	103	103	24	104	105	107	23	---	---	---	0
3/25	95	95	95	11	101	102	102	24	102	102	103	21	102	102	103	23	---	---	---	0
3/26	96	96	97	17	102	102	102	24	103	103	103	24	102	103	104	23	---	---	---	0
3/27	96	96	97	24	101	102	102	24	103	103	103	24	102	102	104	23	---	---	---	0
3/28	96	96	96	23	101	101	102	24	102	102	103	24	102	103	104	23	---	---	---	0
3/29	95	96	96	23	101	102	103	24	102	102	103	24	101	102	103	23	---	---	---	0
3/30	95	96	96	20	102	103	103	24	102	103	103	24	102	103	104	23	---	---	---	0
3/31	96	96	97	21	102	104	104	24	103	103	103	24	104	106	107	23	---	---	---	0
4/1	---	---	---	0	103	105	109	24	102	103	103	24	103	103	105	23	---	---	---	0
4/2	---	---	---	0	102	103	104	24	102	103	104	24	101	101	102	23	---	---	---	0
4/3	---	---	---	0	102	103	104	23	103	103	104	23	101	102	102	23	---	---	---	0
4/4	---	---	---	0	103	104	105	24	103	104	104	24	102	102	103	23	---	---	---	0

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		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
3/22	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/25	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/26	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/28	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/29	---	---	---	0	103	103	104	15	103	103	104	15	---	---	---	0	---	---	---	0
3/30	---	---	---	0	104	104	104	24	104	104	105	24	---	---	---	0	---	---	---	0
3/31	---	---	---	0	105	105	105	24	104	105	106	24	---	---	---	0	---	---	---	0
4/1	---	---	---	0	105	105	105	24	104	105	105	24	---	---	---	0	---	---	---	0
4/2	---	---	---	0	105	106	106	24	105	106	106	24	104	104	104	18	103	104	104	18
4/3	---	---	---	0	105	105	106	24	105	106	106	24	104	105	105	23	104	105	105	23
4/4	---	---	---	0	105	106	107	24	105	106	106	24	105	106	106	24	105	106	106	24

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		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
3/22	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/23	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/24	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/25	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/26	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/27	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/28	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/29	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/30	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/31	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
4/1	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
4/2	104	104	104	18	104	104	104	17	---	---	---	0	---	---	---	0	---	---	---	0
4/3	104	105	105	23	104	105	105	23	---	---	---	0	---	---	---	0	---	---	---	0
4/4	105	106	106	24	105	105	106	24	---	---	---	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	Priest R. Dnst			#	Pasco			#	Dworshak			#	Clrwtr-Peck			#	Anatone			#
	24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High	
3/22	---	---	---	0	102	103	103	24	106	107	108	24	---	---	---	0	---	---	---	0
3/23	---	---	---	0	103	103	103	24	105	105	106	24	---	---	---	0	---	---	---	0
3/24	---	---	---	0	102	103	103	24	105	105	106	24	---	---	---	0	---	---	---	0
3/25	---	---	---	0	104	104	105	16	102	102	107	10	---	---	---	0	---	---	---	0
3/26	---	---	---	0	104	105	105	24	96	96	96	17	---	---	---	0	---	---	---	0
3/27	---	---	---	0	102	103	104	24	95	95	96	7	98	98	99	12	102	102	103	10
3/28	---	---	---	0	103	104	104	24	95	95	96	8	98	98	99	24	102	102	103	24
3/29	---	---	---	0	104	105	106	24	95	95	95	2	98	98	98	24	102	102	103	24
3/30	---	---	---	0	104	105	106	24	95	95	96	14	98	98	99	24	102	103	103	24
3/31	---	---	---	0	106	106	107	24	96	97	97	24	99	99	101	24	102	103	104	24
4/1	---	---	---	0	105	105	106	24	105	107	107	24	102	103	104	24	101	102	102	19
4/2	---	---	---	0	103	104	104	24	108	109	110	23	104	106	107	23	101	102	103	24
4/3	---	---	---	0	104	105	105	24	109	109	109	24	105	106	106	24	102	102	103	23
4/4	---	---	---	0	105	107	107	23	109	109	109	24	105	106	107	24	101	102	103	24

Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwtr-Lewiston			#	Lower Granite			#	L. Granite Tlwr			#	Little Goose			#	L. Goose Tlwr			#
	24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High	
3/22	---	---	---	0	102	102	102	8	101	101	102	24	---	---	---	0	---	---	---	0
3/23	---	---	---	0	102	102	102	9	102	102	102	24	---	---	---	0	---	---	---	0
3/24	---	---	---	0	101	101	102	14	101	101	102	24	---	---	---	0	---	---	---	0
3/25	---	---	---	0	101	101	102	5	101	101	101	20	---	---	---	0	---	---	---	0
3/26	---	---	---	0	101	101	103	6	101	101	102	6	103	103	111	12	101	101	102	12
3/27	100	100	101	15	101	101	102	5	---	---	---	0	101	102	102	24	101	101	101	24
3/28	99	100	101	24	101	101	101	13	101	101	101	13	101	101	102	24	101	101	101	24
3/29	99	99	100	24	100	101	101	24	100	101	101	24	101	101	101	24	101	101	101	24
3/30	100	101	102	24	101	101	101	24	100	101	101	24	101	102	102	24	101	101	101	24
3/31	100	101	103	24	101	102	102	24	101	101	102	24	102	102	102	24	101	102	102	24
4/1	100	102	102	24	101	101	101	24	101	101	101	24	101	101	101	24	101	101	101	24
4/2	102	104	105	23	101	102	102	24	101	101	101	24	101	102	103	24	101	101	101	24
4/3	103	105	106	24	102	103	103	24	105	109	121	23	102	102	103	24	101	101	102	24
4/4	103	105	106	24	102	103	104	24	113	120	122	22	103	105	108	22	101	102	102	23

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

Date	Lower Mon.			#	L. Mon. Tlwr			#	Ice Harbor			#	Ice Harbor Tlwr			#	McNary-Oregon			#
	24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High		24 h Avg	12 h Avg	High	
3/22	---	---	---	0	---	---	---	0	101	102	103	24	101	101	102	24	101	102	102	24
3/23	---	---	---	0	---	---	---	0	102	102	102	24	101	102	103	24	102	102	103	24
3/24	---	---	---	0	---	---	---	0	101	102	102	24	101	102	102	24	102	102	103	24
3/25	---	---	---	0	---	---	---	0	102	102	102	16	101	101	102	15	102	103	105	18
3/26	103	103	103	15	102	102	103	16	102	103	103	24	102	102	103	24	102	103	104	24
3/27	102	102	102	24	102	102	103	24	103	103	103	24	102	102	103	24	101	102	102	24
3/28	101	101	102	24	101	102	102	24	103	103	103	24	102	102	103	24	101	101	102	24
3/29	101	101	102	24	101	101	101	24	102	102	103	24	102	102	102	24	102	103	105	24
3/30	101	102	102	24	101	102	102	24	102	102	103	24	101	102	102	24	104	106	108	24
3/31	102	102	103	24	102	103	103	24	102	102	103	24	102	102	103	24	104	107	108	24
4/1	102	103	104	24	102	102	103	24	102	103	103	24	102	102	103	24	104	105	106	24
4/2	102	102	103	23	101	102	102	24	102	103	104	24	102	102	102	24	103	103	104	24
4/3	102	103	105	23	101	102	104	23	103	103	105	24	102	103	103	24	104	105	107	24
4/4	103	104	105	24	102	102	103	24	104	104	108	24	103	103	103	24	104	106	109	24

HATCHERY RELEASE SUMMARY LAST TWO WEEKS

Hatchery Release Summary

From: 3/22/02 to 4/4/02

Agency	Hatchery	Species	Race	MiaYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe	Leavenworth	CH1	SP	2002	50,000	04-02-02	04-02-02	Omak Cr	Okanogan River
Colville Tribe	Winthrop	CH1	SP	2002	265,000	03-18-02	04-15-02	Okanogan R	Okanogan River
Colville Tribe Total					315,000				
IDFG	Clearwater	CH1	SP	2002	350,100	03-25-02	03-25-02	Powell Acclim Pd	Lochsa River
IDFG	Clearwater	CH1	SP	2002	350,500	03-28-02	03-28-02	Red River Acclim Pd	S Fk Clearwater River
IDFG	Clearwater	CH1	SP	2002	732,800	04-01-02	04-01-02	Crooked R Acclim Pd	S Fk Clearwater River
IDFG	McCall	CH1	SU	2002	41,700	03-25-02	03-28-02	Knox Bridge	Salmon River
IDFG	McCall	CH1	SU	2002	1,023,000	03-25-02	03-28-02	Knox Bridge	Salmon River
IDFG	Niagara Springs	ST	SU	2002	525,000	03-25-02	04-05-02	Hells Canyon Dam	Snake River
IDFG	Pahsimeroi	CH1	SU	2002	89,944	03-15-02	03-22-02	Pahsimeroi H	Pahsimeroi River
IDFG	Pahsimeroi	CH1	SU	2002	418,500	03-15-02	03-22-02	Pahsimeroi H	Pahsimeroi River
IDFG	Rapid River	CH1	SP	2002	2,600,000	03-11-02	04-22-02	Rapid River H	Little Salmon River
IDFG Total					6,131,544				
Nez Perce Tribe	Clearwater	CH1	SP	2002	20,200	04-01-02	04-19-02	Lochsa R	Clearwater Rvr M F
Nez Perce Tribe	Clearwater	CH1	SP	2002	81,500	04-01-02	04-19-02	Lochsa R	Clearwater Rvr M F
Nez Perce Tribe	Clearwater	CH1	SP	2002	115,000	04-01-02	04-19-02	Newsome Cr	S Fk Clearwater River
Nez Perce Tribe	Clearwater	CH1	SP	2002	149,300	04-01-02	04-19-02	Lolo Cr	Clearwater Rvr M F
Nez Perce Tribe	Clearwater	CH1	SP	2002	297,500	04-01-02	04-19-02	Meadow Cr	Selway River
Nez Perce Tribe	Clearwater	ST	SU	2002	29,700	04-02-02	04-30-02	Lolo Cr	Clearwater Rvr M F
Nez Perce Tribe	Clearwater	ST	SU	2002	50,000	04-02-02	04-30-02	Meadow Cr	S Fk Clearwater River
Nez Perce Tribe	Hagerman	ST	SU	2002	50,000	04-01-02	05-07-02	Hazard Cr/Little Salmon R	Little Salmon River
Nez Perce Tribe	Hagerman	ST	SU	2002	100,000	04-01-02	05-07-02	American R	S Fk Clearwater River
Nez Perce Tribe	Hagerman	ST	SU	2002	100,000	04-01-02	05-07-02	Newsome Cr	S Fk Clearwater River
Nez Perce Tribe	Hagerman	ST	SU	2002	140,000	04-01-02	05-07-02	Yankee Fk (Salmon R)	Salmon River
Nez Perce Tribe	Hagerman	ST	SU	2002	150,000	04-01-02	05-07-02	Little Salmon R	Salmon River
Nez Perce Tribe	Lookingglass	CH1	SP	2002	31,000	04-01-02	04-15-02	Lostine Accim Pd	Wallowa River
Nez Perce Tribe	Lookingglass	CH1	SP	2002	77,500	04-01-02	04-15-02	Lostine Accim Pd	Wallowa River
Nez Perce Tribe	McCall	CH1	SU	2002	57,000	03-18-02	03-22-02	Johnson Cr Idaho	South Fork Salmon River
Nez Perce Tribe	Willard	CO	UN	2002	280,000	03-15-02	03-29-02	Lapwai Cr	Clearwater Rvr M F
Nez Perce Tribe	Willard	CO	UN	2002	280,000	03-15-02	03-29-02	Potlatch R	Clearwater Rvr M F
Nez Perce Tribe Total					2,008,700				
ODFW	Lookingglass	CH1	SP	2002	303,800	03-21-02	04-17-02	Imnaha Acclim Pd	Imnaha River
ODFW	Round Butte	ST	SU	2002	162,000	04-01-02	04-05-02	Bel. Pelton Dam	Deschutes River
ODFW	Wallowa	ST	SU	2002	348,000	04-04-02	04-06-02	Wallowa Acclim Pd	Wallowa River
ODFW Total					813,800				
Umatilla Tribe	Lookingglass	CH1	SP	2002	151,388	04-01-02	04-15-02	Grande Ronde Acclim Pd	Grande Ronde River
Umatilla Tribe	Lookingglass	CH1	SP	2002	180,500	04-01-02	04-15-02	Catherine Cr Acclim Pd	Grande Ronde River
Umatilla Tribe	Umatilla	ST	SU	2002	54,000	04-01-02	04-05-02	Bonifer Acclim Pd	Umatilla River
Umatilla Tribe Total					385,888				
USFWS	Dworshak	CH1	SP	2002	500,000	03-25-02	04-05-02	Kooskia H	Clearwater Rvr M F
USFWS	Dworshak	CH1	SP	2002	1,000,000	03-27-02	03-28-02	Dworshak H	Clearwater Rvr M F
USFWS	Entiat	CH1	SP	2002	550,000	04-01-02	04-02-02	Entiat H	Entiat River
USFWS	Hagerman	ST	SU	2002	750,000	04-01-02	05-07-02	Sawtooth H	Salmon River
USFWS	Kooskia	CH1	SP	2002	50,000	03-25-02	04-05-02	Clear Cr	Clearwater Rvr M F
USFWS	Spring Creek	CH0	FA	2002	4,000,000	03-29-02	03-29-02	Spring Creek H	L Col R (D/s McN Dam)
USFWS	Warm Springs	CH1	SP	2002	582,800	03-26-02	04-18-02	Warm Springs H	Deschutes River
USFWS	Winthrop	CO	SO	2002	200,000	04-02-02	04-02-02	Winthrop H	Methow River
USFWS Total					7,632,800				
Warm Spgs Tribe	Blackberry Pond	CH1	SP	2002	47,000	04-01-02	04-26-02	Blackberry Acclim Pd	Hood River
Warm Spgs Tribe	Jones Cr Pond	CH1	SP	2002	33,000	04-01-02	04-26-02	Jones Creek Acclim Pd	Hood River
Warm Spgs Tribe	Round Butte	CH1	SP	2002	31,000	04-01-02	04-15-02	Parkdale Acclim Pd	Hood River
Warm Spgs Tribe Total					111,000				
WDFW	Lyons Ferry	CH1	FA	2002	600,000	04-01-02	04-15-02	Lyons Ferry H	Snake River
WDFW	Lyons Ferry	ST	SU	2002	45,000	04-01-02	04-30-02	Dayton Acclim Pd	Touchet River
WDFW	Lyons Ferry	ST	SU	2002	100,000	04-01-02	04-30-02	Dayton Acclim Pd	Touchet River
WDFW	Lyons Ferry	ST	SU	2002	200,000	04-01-02	04-30-02	Cottonwood Acclim Pd	Grande Ronde River
WDFW	Ringold Springs	ST	SU	2002	160,000	04-01-02	04-15-02	Ringold Springs H	Mid-Columbia River
WDFW	Tucannon	CH1	SP	2002	3,000	04-01-02	04-30-02	Curl Lake	Tucannon River
WDFW	Tucannon	CH1	SP	2002	105,000	04-01-02	04-30-02	Curl Lake	Tucannon River
WDFW	Washougal	CO	NO	2002	2,500,000	04-02-02	04-10-02	Klickitat R	Klickitat River
WDFW Total					3,713,000				
Yakima Tribe	Cle Elum	CH1	SP	2002	265,500	03-18-02	06-07-02	Easton Pd	Yakama River
Yakima Tribe	Cle Elum	CH1	SP	2002	288,000	03-18-02	06-07-02	Clark Flat Acclim Pd	Yakama River
Yakima Tribe	Cle Elum	CH1	SP	2002	288,000	03-18-02	06-07-02	Jack Creek Acclim Pd	Yakama River
Yakima Tribe Total					841,500				
Grand Total					21,953,232				

CH = Chinook, ST = Steelhead, CO = Coho, SO = Sockeye, CT = Cutthroat Trout, CM = Chum

HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

Hatchery Release Summary									
From:	4/5/02				to	4/18/02			
Agency	Hatchery	Species	Race	MiqYr	NumRel	RelStart	RelEnd	RelSite	
Colville Tribe	Winthrop	CH1	SP	2002	265,000	03-18-02	04-15-02	Okanogan R	
Colville Tribe Total					265,000				
IDFG	Clearwater	CH1	SP	2002	206,000	04-10-02	04-10-02	N Fk Clearwater R	
IDFG	Clearwater	ST	SU	2002	40,000	04-14-02	04-14-02	Clear Cr	
IDFG	Clearwater	ST	SU	2002	135,000	04-18-02	04-18-02	Crooked R Acclim Pd	
IDFG	Clearwater	ST	SU	2002	180,000	04-17-02	04-17-02	Red River Acclim Pd	
IDFG	Magic Valley	ST	SU	2002	40,000	04-15-02	04-15-02	Salmon R Idaho	
IDFG	Magic Valley	ST	SU	2002	40,000	04-15-02	04-15-02	Salmon R Idaho	
IDFG	Magic Valley	ST	SU	2002	40,000	04-17-02	04-17-02	Salmon R Idaho	
IDFG	Magic Valley	ST	SU	2002	50,000	04-12-02	04-12-02	Little Salmon R	
IDFG	Magic Valley	ST	SU	2002	80,000	04-16-02	04-17-02	Lemhi R	
IDFG	Magic Valley	ST	SU	2002	85,000	04-09-02	04-09-02	Little Salmon R	
IDFG	Magic Valley	ST	SU	2002	100,000	04-08-02	04-09-02	Squaw Cr Acclim Pd	
IDFG	Magic Valley	ST	SU	2002	110,000	04-18-02	04-22-02	Salmon R Idaho	
IDFG	Magic Valley	ST	SU	2002	150,000	04-12-02	04-18-02	Shoup Br (Salmon R)	
IDFG	Magic Valley	ST	SU	2002	180,000	04-09-02	04-11-02	Hammer Cr	
IDFG	Niagara Springs	ST	SU	2002	445,000	04-06-02	05-05-02	Little Salmon R	
IDFG	Niagara Springs	ST	SU	2002	525,000	03-25-02	04-05-02	Hells Canyon Dam	
IDFG	Niagara Springs	ST	SU	2002	830,000	04-13-02	05-01-02	Pahsimeroi H	
IDFG	Rapid River	CH1	SP	2002	2,600,000	03-11-02	04-22-02	Rapid River H	
IDFG	Sawtooth	CH1	SP	2002	390,000	04-08-02	04-22-02	Sawtooth H	
IDFG Total					6,226,000				
Nez Perce Tribe	Clearwater	CH1	SP	2002	20,200	04-01-02	04-19-02	Lochsa R	
Nez Perce Tribe	Clearwater	CH1	SP	2002	57,400	04-10-02	04-10-02	Papoose Cr	
Nez Perce Tribe	Clearwater	CH1	SP	2002	81,500	04-01-02	04-19-02	Lochsa R	
Nez Perce Tribe	Clearwater	CH1	SP	2002	115,000	04-01-02	04-19-02	Newsome Cr	
Nez Perce Tribe	Clearwater	CH1	SP	2002	149,300	04-01-02	04-19-02	Lolo Cr	
Nez Perce Tribe	Clearwater	CH1	SP	2002	297,500	04-01-02	04-19-02	Meadow Cr	
Nez Perce Tribe	Clearwater	ST	SU	2002	29,700	04-02-02	04-30-02	Lolo Cr	
Nez Perce Tribe	Clearwater	ST	SU	2002	50,000	04-02-02	04-30-02	Meadow Cr	
Nez Perce Tribe	Hagerman	ST	SU	2002	50,000	04-01-02	05-07-02	Hazard Cr/Little Salmon R	
Nez Perce Tribe	Hagerman	ST	SU	2002	100,000	04-01-02	05-07-02	American R	
Nez Perce Tribe	Hagerman	ST	SU	2002	100,000	04-01-02	05-07-02	Newsome Cr	
Nez Perce Tribe	Hagerman	ST	SU	2002	140,000	04-01-02	05-07-02	Yankee Fk (Salmon R)	
Nez Perce Tribe	Hagerman	ST	SU	2002	150,000	04-01-02	05-07-02	Little Salmon R	
Nez Perce Tribe	Lookingglass	CH1	SP	2002	31,000	04-01-02	04-15-02	Lostine Accim Pd	
Nez Perce Tribe	Lookingglass	CH1	SP	2002	77,500	04-01-02	04-15-02	Lostine Accim Pd	
Nez Perce Tribe	Lyons Ferry	CH1	FA	2002	150,000	04-09-02	04-17-02	Big Canyon (Clearwater R)	
Nez Perce Tribe	Lyons Ferry	CH1	FA	2002	150,000	04-09-02	04-17-02	Cpt John Acclim Pd	
Nez Perce Tribe	Lyons Ferry	CH1	FA	2002	150,000	04-09-02	04-17-02	Pittsburg Landing	
Nez Perce Tribe Total					1,899,100				
ODFW	Irrigon	ST	SU	2002	100,000	04-17-02	04-18-02	Big Sheep Cr	
ODFW	Irrigon	ST	SU	2002	128,500	04-11-02	04-12-02	L Sheep Acclim Pd	
ODFW	Irrigon	ST	SU	2002	174,000	04-10-02	04-12-02	Big Canyon Acclim.Pd	
ODFW	Lookingglass	CH1	SP	2002	303,800	03-21-02	04-17-02	Imnaha Acclim Pd	
ODFW	Round Butte	ST	SU	2002	162,000	04-01-02	04-05-02	Bel. Pelton Dam	
ODFW	Wallowa	ST	SU	2002	348,000	04-04-02	04-06-02	Wallowa Acclim Pd	
ODFW Total					1,216,300				
Umatilla Tribe	Bonneville	CH1	FA	2002	260,000	04-10-02	04-19-02	Thornhollow Acclim Pd	
Umatilla Tribe	Cascade	CO	UN	2002	750,000	04-08-02	04-19-02	Pendelton Acclim Pd	
Umatilla Tribe	Lookingglass	CH1	SP	2002	151,388	04-01-02	04-15-02	Grande Ronde Acclim Pd	
Umatilla Tribe	Lookingglass	CH1	SP	2002	180,500	04-01-02	04-15-02	Catherine Cr Acclim Pd	
Umatilla Tribe	Umatilla	ST	SU	2002	54,000	04-01-02	04-05-02	Bonifer Acclim Pd	
Umatilla Tribe	Willard	CH1	SP	2002	255,000	04-12-02	04-22-02	Imeques Acclim Pd	
Umatilla Tribe Total					1,650,888				
USFWS	Carson	CH1	SP	2002	1,420,000	04-18-02	04-25-02	Carson H	
USFWS	Dworshak	CH1	SP	2002	500,000	03-25-02	04-05-02	Kooskia H	
USFWS	Dworshak	ST	SU	2002	580,000	04-15-02	04-19-02	Redhouse (SFk ClearH20 R)	
USFWS	Hagerman	ST	SU	2002	750,000	04-01-02	05-07-02	Sawtooth H	
USFWS	Kooskia	CH1	SP	2002	50,000	03-25-02	04-05-02	Clear Cr	
USFWS	Kooskia	ST	SU	2002	260,000	04-15-02	04-19-02	Kooskia H	
USFWS	L White Salmon	CH1	SP	2002	1,000,000	04-18-02	04-18-02	Little White Salmon H	
USFWS	Leavenworth	CH1	SP	2002	1,620,000	04-18-02	04-18-02	Leavenworth H	
USFWS	Warm Springs	CH1	SP	2002	582,800	03-26-02	04-18-02	Warm Springs H	
USFWS	Willard	CO	UN	2002	950,000	04-18-02	04-18-02	Little White Salmon R	
USFWS	Winthrop	CH1	SP	2002	201,000	04-18-02	04-18-02	Winthrop H	
USFWS	Winthrop	ST	SU	2002	150,000	04-15-02	04-30-02	Winthrop H	
USFWS Total					8,063,800				

CH = Chinook, ST = Steelhead, CO = Coho, SO = Sockeye, CT = Cutthroat Trout, CM = Chum

HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

From: 4/5/02 to 4/18/02

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite
Warm Spgs Tribe	Blackberry Pond	CH1	SP	2002	47,000	04-01-02	04-26-02	Blackberry Acclim Pd
Warm Spgs Tribe	Jones Cr Pond	CH1	SP	2002	33,000	04-01-02	04-26-02	Jones Creek Acclim Pd
Warm Spgs Tribe	Parkdale Pond	CH1	SP	2002	7,000	04-10-02	04-22-02	Parkdale Acclim Pd
Warm Spgs Tribe	Round Butte	CH1	SP	2002	31,000	04-01-02	04-15-02	Parkdale Acclim Pd
Warm Spgs Tribe Total					118,000			
WDFW	East Bank	CH1	SP	2002	47,000	04-15-02	04-30-02	Chiwawa H
WDFW	East Bank	CH1	SU	2002	335,000	04-15-02	05-15-02	Turtle Rock H
WDFW	Lyons Ferry	CH1	FA	2002	600,000	04-01-02	04-15-02	Lyons Ferry H
WDFW	Lyons Ferry	ST	SU	2002	45,000	04-01-02	04-30-02	Dayton Acclim Pd
WDFW	Lyons Ferry	ST	SU	2002	50,000	04-15-02	04-30-02	Lyons Ferry H
WDFW	Lyons Ferry	ST	SU	2002	60,000	04-10-02	04-30-02	Tucannon H
WDFW	Lyons Ferry	ST	SU	2002	100,000	04-01-02	04-30-02	Dayton Acclim Pd
WDFW	Lyons Ferry	ST	SU	2002	100,000	04-10-02	04-30-02	Tucannon R
WDFW	Lyons Ferry	ST	SU	2002	100,000	04-15-02	04-30-02	Walla Walla R
WDFW	Lyons Ferry	ST	SU	2002	200,000	04-01-02	04-30-02	Cottonwood Acclim Pd
WDFW	Methow	CH1	SP	2002	157,000	04-17-02	04-20-02	Twisp Acclim Pd
WDFW	Methow	CH1	SP	2002	266,000	04-17-02	04-20-02	Methow H
WDFW	Methow	CH1	SU	2002	360,000	04-18-02	04-18-02	Carlton Acclim Pd
WDFW	Ringold Springs	ST	SU	2002	160,000	04-01-02	04-15-02	Ringold Springs H
WDFW	Tucannon	CH1	SP	2002	3,000	04-01-02	04-30-02	Curl Lake
WDFW	Tucannon	CH1	SP	2002	105,000	04-01-02	04-30-02	Curl Lake
WDFW	Washougal	CO	NO	2002	2,500,000	04-02-02	04-10-02	Klickitat R
WDFW	Wells	CH1	SU	2002	343,000	04-16-02	04-20-02	Wells H
WDFW	Wells	CH1	SU	2002	551,000	04-11-02	04-25-02	Similkameen Acclim Pd
WDFW	Wells	ST	SU	2002	88,000	04-16-02	05-10-02	Chewuch R
WDFW	Wells	ST	SU	2002	88,000	04-16-02	05-10-02	Methow R
WDFW	Wells	ST	SU	2002	88,000	04-16-02	05-10-02	Twisp R
WDFW	Wells	ST	SU	2002	113,000	04-16-02	05-10-02	Okanogan R
WDFW Total					6,459,000			
Yakima Tribe	Cle Elum	CH1	SP	2002	265,500	03-18-02	06-07-02	Easton Pd
Yakima Tribe	Cle Elum	CH1	SP	2002	288,000	03-18-02	06-07-02	Clark Flat Acclim Pd
Yakima Tribe	Cle Elum	CH1	SP	2002	288,000	03-18-02	06-07-02	Jack Creek Acclim Pd
Yakima Tribe Total					841,500			
Grand Total					26,739,588			

Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK

Date	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/22/2002 *	565	1	7	---	---	---	---	---	---	135	---
03/23/2002 *	---	143	---	---	---	---	---	---	---	50	76
03/24/2002	---	437	---	---	---	---	---	---	---	65	153
03/25/2002	912	401	11	2	---	---	---	---	---	25	101
03/26/2002	2,164	241	5	9	310	---	---	---	---	125	172
03/27/2002	483	1,810	5	4	380	---	---	---	---	15	168
03/28/2002	447	6,981	22	0	330	---	---	---	---	80	171
03/29/2002	700	3,831	16	0	330	---	---	---	---	115	158
03/30/2002	---	---	---	---	370	---	---	---	---	130	228
03/31/2002	---	1,767	---	---	210	---	---	---	---	140	307
04/01/2002	528	2,721	38	5	590	---	---	2	---	120	354
04/02/2002 *	1,343	---	26	11	2,080	188	---	4	---	280	---
04/03/2002 *	3,226	157	72	12	2,040	406	1,000	1	180	290	---
04/04/2002 *	3,000	---	81	4	3,115	198	5,390	1	532	325	---
04/05/2002	---	---	---	---	---	---	---	---	---	---	189
Total:	13,368	18,490	283	47	9,755	792	6,390	8	712	1,895	2,077
# Days:	10	11	10	9	10	3	2	4	2	14	11
Average:	1,337	1,681	28	5	976	264	3,195	2	356	135	189
YTD	15,995	19,994	295	48	9,755	792	6,390	8	712	2,010	8,348

COMBINED SUBYEARLING CHINOOK

Date	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/22/2002 *	0	0	2	---	---	---	---	---	---	5	---
03/23/2002 *	---	0	---	---	---	---	---	---	---	0	756
03/24/2002	---	0	---	---	---	---	---	---	---	0	766
03/25/2002	0	0	0	0	---	---	---	---	---	10	605
03/26/2002	0	0	0	1	0	---	---	---	---	0	473
03/27/2002	0	0	0	0	0	---	---	---	---	0	461
03/28/2002	0	0	0	0	10	---	---	---	---	0	494
03/29/2002	0	0	0	2	0	---	---	---	---	0	515
03/30/2002	---	---	---	---	0	---	---	---	---	10	548
03/31/2002	---	0	---	---	0	---	---	---	---	10	78,289
04/01/2002	0	0	0	1	0	---	---	0	---	0	152,904
04/02/2002 *	0	---	0	3	0	0	---	2	---	0	---
04/03/2002 *	0	0	0	0	20	0	0	0	0	10	---
04/04/2002 *	0	---	0	1	0	0	0	0	60	20	---
04/05/2002	---	---	---	---	---	---	---	---	---	---	3,785
Total:	0	0	2	8	30	0	0	2	60	65	239,596
# Days:	10	11	10	9	10	3	2	4	2	14	11
Average:	0	0	0	1	3	0	0	1	30	5	21,781
YTD	0	1	3	11	30	0	0	2	60	65	1,034,669

*The total, #days and average do not include the current day's data. *See sampling comments. <http://www.fpc.org/current/daily/smpcomments.htm>. This means that one or more of the sites on this date had an incomplete or biased sample.

These data are preliminary and have been derived from various sources. For verification and/or origin of these data, contact the operators of the Fish Passage Data System at (503) 230-4099.

Smolt indices, clipped & unclipped 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 sampled powerhouse. 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-hr 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	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/22/2002 *	0	0	0	---	---	---	---	---	---	0	---
03/23/2002 *	---	0	---	---	---	---	---	---	---	5	50
03/24/2002	---	0	---	---	---	---	---	---	---	5	12
03/25/2002	0	0	0	0	---	---	---	---	---	0	0
03/26/2002	0	0	0	0	0	---	---	---	---	0	0
03/27/2002	0	0	0	0	0	---	---	---	---	0	11
03/28/2002	0	0	0	0	0	---	---	---	---	0	5
03/29/2002	0	0	0	0	0	---	---	---	---	5	6
03/30/2002	---	---	---	---	10	---	---	---	---	5	13
03/31/2002	---	0	---	---	0	---	---	---	---	0	12
04/01/2002	0	0	0	1	0	---	---	0	---	0	0
04/02/2002 *	0	---	0	0	0	0	---	0	---	5	---
04/03/2002 *	0	0	0	0	10	0	0	0	20	5	---
04/04/2002 *	0	---	0	1	0	4	0	0	24	0	---
04/05/2002	---	---	---	---	---	---	---	---	---	---	0
Total:	0	0	0	2	20	4	0	0	44	30	109
# Days:	10	11	10	9	10	3	2	4	2	14	11
Average:	0	0	0	0	2	1	0	0	22	2	10
YTD	0	0	0	2	20	4	0	0	44	35	144

COMBINED STEELHEAD

Date	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/22/2002 *	0	0	0	---	---	---	---	---	---	10	---
03/23/2002 *	---	0	---	---	---	---	---	---	---	15	0
03/24/2002	---	0	---	---	---	---	---	---	---	25	0
03/25/2002	0	6	0	1	---	---	---	---	---	5	10
03/26/2002	0	9	1	5	30	---	---	---	---	30	11
03/27/2002	0	8	2	0	80	---	---	---	---	20	11
03/28/2002	0	35	0	1	90	---	---	---	---	15	11
03/29/2002	0	16	1	1	90	---	---	---	---	15	19
03/30/2002	---	---	---	---	150	---	---	---	---	20	18
03/31/2002	---	12	---	---	140	---	---	---	---	15	25
04/01/2002	3	15	5	10	160	---	---	0	---	45	0
04/02/2002 *	0	---	2	14	520	188	---	0	---	135	---
04/03/2002 *	5	10	4	17	470	304	130	1	330	230	---
04/04/2002 *	6	---	4	9	1,141	224	180	0	548	245	---
04/05/2002	---	---	---	---	---	---	---	---	---	---	0
Total:	14	111	19	58	2,871	716	310	1	878	825	105
# Days:	10	11	10	9	10	3	2	4	2	14	11
Average:	1	10	2	6	287	239	155	0	439	59	10
YTD	14	143	19	61	2,871	716	310	1	878	840	105

Two-Week Summary of Passage Indices

COMBINED SOCKEYE

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/22/2002 *	0	0	0	---	---	---	---	---	---	0	---
03/23/2002 *	---	0	---	---	---	---	---	---	---	0	13
03/24/2002	---	0	---	---	---	---	---	---	---	0	0
03/25/2002	0	0	0	1	---	---	---	---	---	0	10
03/26/2002	0	0	0	0	20	---	---	---	---	0	11
03/27/2002	0	0	0	0	30	---	---	---	---	0	0
03/28/2002	0	0	0	0	20	---	---	---	---	0	5
03/29/2002	0	0	0	0	20	---	---	---	---	5	5
03/30/2002	---	---	---	---	30	---	---	---	---	0	1
03/31/2002	---	0	---	---	0	---	---	---	---	0	0
04/01/2002	0	0	0	3	20	---	---	0	---	0	0
04/02/2002 *	0	---	0	6	30	24	---	0	---	15	---
04/03/2002 *	0	0	0	0	40	8	10	2	0	5	---
04/04/2002 *	0	---	0	0	39	32	0	1	16	40	---
04/05/2002	---	---	---	---	---	---	---	---	---	---	0
Total:	0	0	0	10	249	64	10	3	16	65	45
# Days:	10	11	10	9	10	3	2	4	2	14	11
Average:	0	0	0	1	25	21	5	1	8	5	4
YTD	0	0	0	11	249	64	10	3	16	65	45

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

These data are preliminary and have been derived from various sources. For verification and/or origin of these data, contact the operators of the Fish Passage Data System at (503) 230-4099.

Smolt indices, clipped & unclipped 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 sampled powerhouse. 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-hr period that spans two calendar days. In this report, the date shown corresponds with the sample end date.

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)}

RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouse 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)}

BO2 (Index) = Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouse 1 & 2 Flow + Spill)}

BO1 (Index) = Bonneville Dam First Powerhouse Bypass Collection System : Passage Index Counts

Passage Index = Collection Counts / {Powerhouse 1 Flow / (Powerhouse 1 & 2 Flow + Spill)}

JDA and BO2 data collected for the FPC by Pacific States Marine Fisheries Commission.

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: 04/04

DAM	Spring Chinook						Summer Chinook						Fall Chinook					
	2002		2001		10-Yr Avg.		2002		2001		10-Yr Avg.		2002		2001		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	4,684	2	31,682	24	6,034	12	0	0	0	0	0	0	0	0	0	0	0	0
TDA	810	0	7,001	12	1,217	3	0	0	0	0	0	0	0	0	0	0	0	0
JDA	236	0	3,766	2	725	1	0	0	0	0	0	0	0	0	0	0	0	0
MCN	213	1	990	0	195	0	0	0	0	0	0	0	0	0	0	0	0	0
IHR	34	0	470	7	69	1	0	0	0	0	0	0	0	0	0	0	0	0
LMN	13	0	226	3	36	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS	7	0	74	3	14	0	0	0	0	0	0	0	0	0	0	0	0	0
LWG	6	0	16	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
PRD	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RIS	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
RRH	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WEL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

DAM	Coho						Sockeye			Steelhead			
	2002		2001		10-Yr Avg.		10-Yr			10-Yr			Wild
	Adult	Jack	Adult	Jack	Adult	Jack	2002	2001	Avg.	2002	2001	Avg.	2002
BON	0	0	0	0	0	0	0	0	0	1,429	1,322	913	247
TDA	0	0	0	0	0	0	0	0	0	536	234	218	162
JDA	0	0	0	0	0	0	0	0	0	2,477	435	484	702
MCN	0	0	0	0	0	0	0	0	0	894	399	434	331
IHR	0	0	0	0	0	0	0	0	0	900	427	557	139
LMN	0	0	0	0	0	0	0	0	0	1,404	407	570	394
LGS	0	0	0	0	0	0	0	0	0	751	483	215	207
LWG	0	0	0	0	0	0	0	0	0	4,973	3,847	2,977	634
PRD	---	---	---	---	---	---	---	---	---	---	---	---	**
RIS	---	---	---	---	---	---	---	---	---	---	---	---	---
RRH	---	---	---	---	---	---	---	---	---	---	---	---	---
WEL	---	---	---	---	---	---	---	---	---	---	---	---	---

**PRD is not reporting Wild Steelhead numbers.
 These numbers were collected from the COE's Running Sums text files.
 Wild steelhead numbers are included in the total.
 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.

Two Week Transportation Summary

		03/23/02 TO 04/05/02					
		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	30	8,250	20	230	2,320	10,850
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of NumberTrucked	29	8,214	20	225	2,314	10,802
	Sum of TotalProjectMortalities	1	36	0	5	6	48
LGS	Sum of NumberCollected		792	4	64	716	1,576
	Sum of NumberBarged		0	0	0	0	0
	Sum of NumberBypassed		0	0	0	0	0
	Sum of NumberTrucked		786	4	64	716	1,570
	Sum of TotalProjectMortalities		6	0	0	0	6
LMN	Sum of NumberCollected		6,390		10	310	6,710
	Sum of NumberBarged		0		0	0	0
	Sum of NumberBypassed		0		0	0	0
	Sum of NumberTrucked		6,384		10	310	6,704
	Sum of TotalProjectMortalities		6		0	0	6
MCN	Sum of NumberCollected	60	712	44	16	878	1,710
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	60	711	44	16	878	1,709
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	0	1	0	0	0	1
Total Sum of NumberCollected		90	16,144	68	320	4,224	20,846
Total Sum of NumberBarged		0	0	0	0	0	0
Total Sum of NumberBypassed		60	711	44	16	878	1,709
Total Sum of NumberTrucked		29	15,384	24	299	3,340	19,076
Total Sum of TotalProjectMortalities		1	49	0	5	6	61

YTD Transportation Summary

		TO: 04/05/02					
		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
LGR	Sum of NumberCollected	30	8,250	20	230	2,320	10,850
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	0	0	0	0	0	0
	Sum of NumberTrucked	29	8,214	20	225	2,314	10,802
	Sum of TotalProjectMortalities	1	36	0	5	6	48
LGS	Sum of NumberCollected		792	4	64	716	1,576
	Sum of NumberBarged		0	0	0	0	0
	Sum of NumberBypassed		0	0	0	0	0
	Sum of NumberTrucked		786	4	64	716	1,570
	Sum of TotalProjectMortalities		6	0	0	0	6
LMN	Sum of NumberCollected		6,390		10	310	6,710
	Sum of NumberBarged		0		0	0	0
	Sum of NumberBypassed		0		0	0	0
	Sum of NumberTrucked		6,384		10	310	6,704
	Sum of TotalProjectMortalities		6		0	0	6
MCN	Sum of NumberCollected	60	712	44	16	878	1,710
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	60	711	44	16	878	1,709
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	0	1	0	0	0	1
Total Sum of NumberCollected		90	16,144	68	320	4,224	20,846
Total Sum of NumberBarged		0	0	0	0	0	0
Total Sum of NumberBypassed		60	711	44	16	878	1,709
Total Sum of NumberTrucked		29	15,384	24	299	3,340	19,076
Total Sum of TotalProjectMortalities		1	49	0	5	6	61