



Fish Passage Center

Weekly Report #02 - 2

March 22, 2002

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SUMMARY OF EVENTS:

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 was generally average to slightly above average, with respect to the years 1971 through 2000, throughout much of the Columbia region. Table 1 summarizes both early/mid March precipitation and cumulative October through March precipitation at select locations.

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.

Location	March 1-19, 2002		Cumulative 10-1-01 to 3-19-02	
	Observed (inches)	% Avg	Observed (inches)	% Avg
Columbia Above Coulee	1.46	133	13.18	97
Snake R. Above Ice Harbor	1.06	105	8.90	92
Columbia Above The Dalles	1.42	121	13.26	98
Kootenai	1.25	114	11.83	85
Clark Fork	1.06	145	9.44	111
Flathead	1.60	160	12.50	108
Pend Oreille/Spokane	2.53	149	22.45	117
Central Washington	0.17	33	4.80	86
Snake R. Plain	0.64	92	4.31	76
Clearwater	2.45	149	19.87	113
SW Washington Cascades/Cowlitz	6.61	152	59.43	117
Willamette Valley	6.12	156	49.57	116

Throughout the beginning of Water Year 2002, the highest cumulative precipitation continued to be at the SW Washington Cascades/Cowlitz and Pend Oreille/Spokane locations, both 117% of average. Additionally, the Clearwater and Willamette Valley locations recorded precipitation that was 113% and 116% of average, respectively. From Table 1, six of twelve locations produced precipitation over the start of WY 2002 that were greater than average; only three locations contained precipitation that was less than 90% of average.

The first nineteen days of March continue to be promising concerning precipitation and resulting water yields. The Flathead location recorded precipitation over the mid-point of March that was 160% of average. From Table 1, six of twelve locations produced precipitation over the beginning of March that were greater than 140% of average; only two locations contained precipitation that was less than average.

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. Over the week from 3-14-02 to 3-21-02, the NWRFC released the March Mid-month water supply forecast. The Mid-month updated water supply forecasts are intended to identify significant departures in previous forecasts. Table 2 displays the 2002 February and March final runoff volume forecasts and the March Mid-month forecast for multiple reservoirs. Overall, the March Mid-month forecasts appear to be very similar to the March final values (Table 2). Of the ten locations displayed in Table 2, five of the sites reported increasing forecasts, three sites reported no change, and two sites reported

increasing forecasts between the March final and Mid-month forecasts. Specifically, the water supply forecast at the Hungry Horse reservoir increased 3% between the March final and Mid-month forecasts and Mica and Dworshak increased 2%.

It is important to again point out that the March final runoff volume forecasts (January to July) at The Dalles and Grand Coulee are 91% and 95% of average, respectively. The March final runoff forecast (April to July) at Dworshak was the highest forecast issued in March by the NWRFC, at 112% of average. For comparison, the 2001 March final runoff forecast at the Dalles, Grand Coulee, and Dworshak were 55%, 59%, and 57% of average. Clearly, the water supply outlook for the WY 2002 is much improved relative to WY 2001.

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

Site	February Final		March Final		March Mid-month	
	Runoff Volume (KAF)	%of Avg	Runoff Volume (KAF)	%of Avg	Runoff Volume (KAF)	%of Avg
Mica (April-Sept)	11500	92	11300	90	115000	92
Hungry Horse (April-Sept)	1910	90	1910	90	1970	93
Libby (April-Sept)	6470	97	6290	95	6290	95
Grand Coulee (Jan-July)	60800	97	60000	95	60400	96
The Dalles (Jan-July)	101000	94	97300	91	97300	91
Brownlee (April-July)	4570	72	4090	65	3950	63
Dworshak (April-July)	3000	113	2950	112	3020	114
Lower Granite (Jan-July)	28200	94	25700	86	25700	86
Heise (ID) (April-July)	2960	83	2710	76	2740	77
Weiser (ID) (April-July)	4090	71	3630	63	3490	61

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 are currently (3-21-02) well below the end of March flood control targets determined by USACE (Table 2). These reservoirs will require between 10 and over 20 feet of fill water to reach the end of March flood targets and the April 10th, 2002 Biological Opinion Targets. Figure 1 displays reservoir operations at Grand Coulee; included are reservoir elevations over 2002, February and March flood control targets, and the April 10th Biological Opinion Target elevation estimated using the end of March and Mid-April flood control targets issued by USACE in March.

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

Reservoir	Actual Elevation 3/21/02 (ft. Above MSL)	USACE Determined 3/31/02 Flood Control Target (ft. Above MSL)	USACE Determined 4/15/02 Flood Control Target (ft. Above MSL)
Libby	2371.5	2375.0	na
Hungry Horse	3510.8	3531.6	3528.5
Grand Coulee	1256.4	1279.6	1263.2
Brownlee	2041.3	2052.8	2056.3
Dworshak	1516.0	1505.7	1489.7

The Libby reservoir is currently (3-21-02) within 3.5 feet of its end of March flood control target as determined by USACE (Table 3).

It is important to note that a flood control shift between the Dworshak and Grand Coulee reservoirs is planned by USACE during WY 2002. 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.

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

Currently, the Dworshak reservoir has been operated to meet local flood control requirements. Dworshak must be at or below 1522.6 feet above MSL on March 31st, 2002 to meet local flood control requirements; the reservoir is currently at 1516 feet above MSL, 6.06 feet below the local flood control requirement. Because the system flood control elevation is below the local flood control requirement, it is allowable to draft Dworshak down to the system requirement of 1505.7 feet above MSL. From Table 4, the possible amount of shifted water, or the difference between the useable storage volumes at each respective March 31st, 2002 elevation, is 212.1 KAF.

Over the beginning of WY 2002, reservoirs on the Upper Snake River have been consistently refilling. Currently, as of March 21, 2002, the entire Upper Snake River System is at 49% of capacity. Individually, American Falls is at 77% of capacity, Palisades is at 30% of capacity, Jackson Lake is at 19% of capacity, Island Park is at 77% of capacity, and Grassy Lake is at 64% of capacity.

Spill: No spill has occurred in the system over the past week.

Smolt Monitoring: This past week sampling began at John Day Dam on March 18 and also at the Grande Ronde Trap on March 21. Sampling will begin March 25 at Lower Granite and McNary dams.

At the Snake River basin SMP traps the first significant numbers of yearling chinook were captured at the White Bird Trap in the past week beginning with a weekly high of 780 yearling chinook collected March 18 and a low on March 20 of 184. Nearly all of the fish captured were clipped hatchery fish. It is likely that a good portion of those fish came from releases this past week of Rapid River hatchery fish, both volitionally at the hatchery and into Hazard Creek on the Little Salmon River.

Spring Creek releases of subyearling chinook salmon continued passing Bonneville Dam this past week, with passage index numbers rapidly decreasing from the peak of 385,000 on March 14 to 2,600 on March 21. It is likely that well over 90% of the fish had passed the project by March 21.

Adult Fish Passage: Fish counts will be starting April 1 at most COE projects with exception of Bonneville Dam (March 15) and Lower Granite Dam (March 1). 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 counts were 421 through March 18. Winter steelhead will continue to pass Bonneville Dam with a small number of summer steelhead still moving upstream to spawning sites. At Lower Granite Dam, steelhead passage ranged between 19-49 fish per day, averaging 31 per day for the four days counted.

Hatchery Releases: For the past two weeks, approximately 15 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, many of the chinook hatcheries will begin releasing fish in Idaho and volitional releases of spring chinook into the Yakama River basin. The first release of coho salmon as well as steelhead will be released in the Clearwater River basin and the Snake River, respectively. The Tribal releases of yearling fall and chinook will continue from the Acclimation Ponds in the Umatilla River.

Snake River – For the week, hatchery releases of yearling spring chinook began or are on-going from the Salmon and Imnaha river basins. Additional spring chinook will be released in the next two weeks. About 560,000 coho were released into Lapwai Creek and Potlatch River during the past week.

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. Most hatcheries will be releasing yearling spring chinook during the latter half of 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.

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 April. The initial release of subyearling “tule” fall chinook (7.8 million) was completed from the Spring Creek National Fish Hatchery on March 11th with the first release of yearling “bright” fall chinook made March 12 into the Umatilla River.

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
03/08/02	91.0	0.0	93.8	0.0	93.2	0.0	100.5	0.0	105.5	0.0	112.9	0.0	117.0	0.0
03/09/02	64.0	0.0	65.7	0.0	65.4	0.0	64.6	0.0	66.2	0.0	69.5	0.0	77.0	0.0
03/10/02	51.3	0.0	53.7	0.0	55.5	0.0	57.8	0.0	60.4	0.0	73.3	0.0	75.7	0.0
03/11/02	91.4	0.0	91.6	0.0	88.2	0.0	90.2	0.0	92.3	0.0	72.6	0.0	74.7	0.0
03/12/02	84.9	0.0	86.0	0.0	84.3	0.0	85.4	0.0	89.8	0.0	96.0	0.0	99.4	0.0
03/13/02	65.0	0.0	68.4	0.0	70.6	0.0	75.5	0.0	79.2	0.0	90.2	0.0	94.3	0.0
03/14/02	67.0	0.0	68.3	0.0	70.2	0.0	72.5	0.0	74.4	0.0	75.0	0.0	77.0	0.0
03/15/02	75.7	0.0	78.8	0.0	79.8	0.0	82.7	0.0	86.6	0.0	73.4	0.0	72.8	0.0
03/16/02	68.1	0.0	67.9	0.0	67.7	0.0	67.9	0.0	71.0	0.0	78.8	0.0	81.8	0.0
03/17/02	47.9	0.0	52.5	0.0	54.4	0.0	60.7	0.0	63.2	0.0	71.5	0.0	77.4	0.0
03/18/02	89.1	0.0	92.8	0.0	88.2	0.0	86.6	0.0	91.3	0.0	94.1	0.0	92.1	0.0
03/19/02	78.9	0.0	77.9	0.0	78.3	0.0	78.2	0.0	79.7	0.0	81.2	0.0	86.5	0.0
03/20/02	99.8	0.0	99.9	0.0	97.8	0.0	99.7	0.0	102.1	0.0	96.1	0.0	100.1	0.0
03/21/02	70.4	0.0	76.2	0.0	79.7	0.0	86.6	0.0	90.1	0.0	82.8	0.0	80.6	0.0

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

Date	Dworshak		Brownlee Canyon		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
03/08/02	2.5	0.0	13.1	13.3	26.6	0.0	28.6	0.0	30.9	0.0	31.7	0.0
03/09/02	2.5	0.0	12.3	9.5	22.9	0.0	22.2	0.0	23.0	0.0	22.0	0.0
03/10/02	2.5	0.0	13.9	11.0	20.1	0.0	20.2	0.0	20.1	0.0	18.7	0.0
03/11/02	5.2	0.0	12.3	9.5	24.2	0.0	25.1	0.0	28.3	0.0	29.3	0.0
03/12/02	6.0	0.0	14.0	16.9	48.5	0.0	48.8	0.0	50.9	0.0	51.5	0.0
03/13/02	6.0	0.0	16.7	15.6	40.7	0.0	40.3	0.0	47.1	0.0	47.5	0.0
03/14/02	5.9	0.0	16.3	16.9	39.9	0.0	40.7	0.4	47.2	0.0	45.7	0.0
03/15/02	1.5	0.0	14.5	14.9	31.6	0.0	34.1	0.0	36.5	0.0	34.6	0.0
03/16/02	1.4	0.0	14.6	13.0	31.6	0.0	32.6	0.0	36.6	0.0	37.0	0.0
03/17/02	1.4	0.0	13.4	9.5	21.5	0.0	20.2	0.0	21.7	0.0	21.7	0.0
03/18/02	1.4	0.0	14.0	19.8	28.9	0.0	30.8	0.0	33.6	0.0	34.9	0.0
03/19/02	1.4	0.0	12.9	17.3	32.4	0.0	32.7	0.0	34.1	0.0	33.4	0.0
03/20/02	1.5	0.0	12.9	14.3	29.9	0.0	29.5	0.0	30.9	0.0	29.5	0.0
03/21/02	1.5	0.0	---	---	27.0	0.0	28.1	0.0	34.1	0.0	35.5	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		
03/08/02	128.2	0.0	108.6	0.0	110.1	0.0	117.8	0.0	17.7	94.6
03/09/02	109.3	0.0	123.7	0.0	123.6	0.0	121.8	0.0	20.0	95.5
03/10/02	86.0	0.0	83.3	0.0	86.0	0.0	117.2	0.0	9.0	101.9
03/11/02	99.1	0.0	108.8	0.0	110.2	0.0	110.4	0.0	7.5	96.6
03/12/02	132.7	0.0	125.8	0.0	127.5	0.0	141.0	36.5	1.6	96.7
03/13/02	152.6	0.0	167.2	0.0	164.8	0.0	191.7	87.2	4.3	93.9
03/14/02	128.7	0.0	138.5	0.0	137.9	0.0	161.0	76.7	0.0	77.8
03/15/02	130.6	0.0	146.8	0.0	149.0	0.0	162.8	13.7	37.9	104.5
03/16/02	131.3	0.0	136.5	0.0	137.0	0.0	151.6	0.0	36.1	108.8
03/17/02	103.9	0.0	112.7	0.0	113.6	0.0	122.9	0.0	17.3	98.9
03/18/02	113.6	0.0	122.1	0.0	125.8	0.0	129.4	0.0	21.6	101.1
03/19/02	121.0	0.0	126.6	0.0	124.4	0.0	133.1	0.0	21.2	105.2
03/20/02	105.2	0.0	107.0	0.0	109.2	0.0	126.3	0.0	17.4	102.2
03/21/02	123.3	0.0	137.5	0.0	137.2	0.0	144.7	0.0	36.5	101.5

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<u>Hungry H. Dnst</u>			<u>Boundary</u>			<u>Grand Coulee</u>			<u>Grand C. Tlwr</u>			<u>Chief Joseph</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>24 h</u>	<u>12 h</u>	<u>#</u>		
	<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>
3/8	95	95	96	10	99	99	100	24	100	100	101	24	99	99	100	23	---	---	---	0
3/9	95	95	95	10	99	99	100	24	100	101	101	24	99	100	100	23	---	---	---	0
3/10	95	96	96	24	99	100	100	24	101	101	101	24	100	101	102	23	---	---	---	0
3/11	96	96	97	21	101	101	101	24	101	102	102	24	100	101	102	23	---	---	---	0
3/12	96	97	97	13	100	101	101	24	101	102	102	24	100	100	102	23	---	---	---	0
3/13	97	97	98	6	100	100	101	24	101	101	102	24	100	101	102	23	---	---	---	0
3/14	96	97	97	14	100	100	101	24	101	101	101	24	100	100	101	23	---	---	---	0
3/15	96	96	97	19	100	100	101	24	102	102	102	24	100	101	101	23	---	---	---	0
3/16	96	96	97	22	101	101	102	24	102	102	102	24	101	102	103	24	---	---	---	0
3/17	95	96	96	17	100	100	102	24	101	102	102	24	101	101	102	24	---	---	---	0
3/18	95	95	96	18	100	101	106	24	101	101	102	24	100	100	101	23	---	---	---	0
3/19	95	95	96	10	101	101	101	24	102	102	102	24	101	101	102	23	---	---	---	0
3/20	95	95	95	1	100	100	101	24	101	101	102	24	99	100	101	23	---	---	---	0
3/21	---	---	---	0	100	101	101	24	100	101	101	24	99	100	101	23	---	---	---	0

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	<u>Chief J. Dnst</u>			<u>Wells</u>			<u>Wells Dwnstrm</u>			<u>Rocky Reach</u>			<u>Rocky R. 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>24 h</u>	<u>12 h</u>	<u>#</u>		
	<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>
3/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/9	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/10	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/11	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/12	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/13	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/18	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/19	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/20	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/21	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0

Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	<u>Rock Island</u>			<u>Rock I. Tlwr</u>			<u>Wanapum</u>			<u>Wanapum Tlwr</u>			<u>Priest Rapids</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>24 h</u>	<u>12 h</u>	<u>#</u>		
	<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>		<u>High</u>	<u>Avg</u>		<u>Avg</u>	<u>High</u>		<u>Avg</u>	<u>Avg</u>
3/8	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/9	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/10	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/11	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/12	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/13	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/14	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/18	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/19	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/20	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/21	---	---	---	0	---	---	---	0	---	---	---	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>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	Avg		Avg	High		Avg	Avg		High	Avg			Avg	High	Avg	Avg
3/8	---	---	---	0	101	101	102	24	97	97	102	24	---	---	---	0	---	---	---	0
3/9	---	---	---	0	102	103	103	24	96	97	97	24	---	---	---	0	---	---	---	0
3/10	---	---	---	0	102	103	103	24	97	97	98	24	---	---	---	0	---	---	---	0
3/11	---	---	---	0	103	103	104	24	96	96	97	24	---	---	---	0	---	---	---	0
3/12	---	---	---	0	102	103	103	24	96	96	96	23	---	---	---	0	---	---	---	0
3/13	---	---	---	0	102	102	103	24	95	95	96	23	---	---	---	0	---	---	---	0
3/14	---	---	---	0	102	102	103	24	95	95	95	12	---	---	---	0	---	---	---	0
3/15	---	---	---	0	102	104	104	24	106	107	108	24	---	---	---	0	---	---	---	0
3/16	---	---	---	0	103	103	104	24	107	107	108	24	---	---	---	0	---	---	---	0
3/17	---	---	---	0	101	102	102	24	107	107	108	24	---	---	---	0	---	---	---	0
3/18	---	---	---	0	101	101	102	24	106	106	107	24	---	---	---	0	---	---	---	0
3/19	---	---	---	0	101	102	102	24	105	105	106	24	---	---	---	0	---	---	---	0
3/20	---	---	---	0	100	101	101	24	105	105	107	24	---	---	---	0	---	---	---	0
3/21	---	---	---	0	100	101	101	24	105	106	108	24	---	---	---	0	---	---	---	0

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>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	Avg		Avg	High		Avg	Avg		High	Avg			Avg	High	Avg	Avg
3/8	---	---	---	0	101	101	102	18	101	101	102	24	---	---	---	0	---	---	---	0
3/9	---	---	---	0	102	102	102	7	101	102	102	24	---	---	---	0	---	---	---	0
3/10	---	---	---	0	102	102	103	11	102	103	103	24	---	---	---	0	---	---	---	0
3/11	---	---	---	0	103	103	104	12	103	103	104	24	---	---	---	0	---	---	---	0
3/12	---	---	---	0	102	102	103	3	103	103	103	24	---	---	---	0	---	---	---	0
3/13	---	---	---	0	101	101	102	12	102	102	102	24	---	---	---	0	---	---	---	0
3/14	---	---	---	0	101	101	102	10	101	101	102	24	---	---	---	0	---	---	---	0
3/15	---	---	---	0	102	102	103	12	102	103	103	24	---	---	---	0	---	---	---	0
3/16	---	---	---	0	102	102	103	8	103	103	103	24	---	---	---	0	---	---	---	0
3/17	---	---	---	0	101	101	102	10	101	101	102	24	---	---	---	0	---	---	---	0
3/18	---	---	---	0	100	100	100	7	100	100	101	24	---	---	---	0	---	---	---	0
3/19	---	---	---	0	101	101	101	15	101	101	101	24	---	---	---	0	---	---	---	0
3/20	---	---	---	0	100	100	100	7	100	100	100	24	---	---	---	0	---	---	---	0
3/21	---	---	---	0	99	99	100	5	100	100	100	20	---	---	---	0	---	---	---	0

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>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#	<u>24 h</u>	<u>12 h</u>	#					
	Avg	Avg		High	Avg		Avg	High		Avg	Avg		High	Avg			Avg	High	Avg	Avg
3/8	---	---	---	0	---	---	---	0	101	102	102	24	101	101	101	24	101	101	102	24
3/9	---	---	---	0	---	---	---	0	101	102	102	24	101	101	102	24	100	101	101	24
3/10	---	---	---	0	---	---	---	0	102	102	102	24	101	101	102	24	101	101	102	24
3/11	---	---	---	0	---	---	---	0	102	102	103	24	102	102	103	24	101	101	101	24
3/12	---	---	---	0	---	---	---	0	102	102	102	24	102	102	102	24	101	101	101	24
3/13	---	---	---	0	---	---	---	0	102	102	103	24	102	102	102	24	101	102	102	24
3/14	---	---	---	0	---	---	---	0	102	102	103	24	101	102	102	24	101	102	102	24
3/15	---	---	---	0	---	---	---	0	103	103	103	24	102	102	103	24	102	103	104	24
3/16	---	---	---	0	---	---	---	0	103	103	103	24	102	103	103	24	102	102	102	24
3/17	---	---	---	0	---	---	---	0	102	102	103	24	101	102	102	24	101	102	102	24
3/18	---	---	---	0	---	---	---	0	101	102	102	24	101	101	102	24	101	101	101	24
3/19	---	---	---	0	---	---	---	0	101	102	102	24	102	102	105	24	101	101	102	24
3/20	---	---	---	0	---	---	---	0	100	101	101	24	100	101	101	24	100	101	101	24
3/21	---	---	---	0	---	---	---	0	100	100	100	24	100	100	100	24	100	100	100	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>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24h</u>	<u>12h</u>	High	<u>24h</u>	<u>12h</u>	High	<u>24h</u>	<u>12h</u>	High					
	Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg			Avg			
3/8	101	102	102	24	100	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0
3/9	101	102	102	24	100	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0
3/10	101	101	101	24	100	100	101	24	---	---	---	0	---	---	---	0	---	---	---	0
3/11	101	101	102	24	101	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0
3/12	102	102	102	24	101	101	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/13	102	102	102	24	101	101	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/14	102	102	102	24	101	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0
3/15	102	103	103	24	101	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/16	103	103	103	24	102	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/17	102	102	102	24	101	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0
3/18	101	101	101	24	101	101	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/19	102	102	102	24	102	102	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/20	100	101	101	24	101	101	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/21	100	100	100	19	100	100	101	15	---	---	---	0	---	---	---	0	---	---	---	0

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>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24h</u>	<u>12h</u>	High	<u>24h</u>	<u>12h</u>	High	<u>24h</u>	<u>12h</u>	High					
	Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg			Avg			
3/8	---	---	---	0	102	102	103	24	102	102	103	24	101	102	102	24	102	102	103	23
3/9	---	---	---	0	102	102	102	24	102	103	103	24	101	102	103	24	101	102	102	23
3/10	---	---	---	0	102	102	103	24	102	103	103	24	101	101	102	24	101	102	102	23
3/11	---	---	---	0	103	103	103	24	103	103	103	24	101	102	102	24	102	103	103	23
3/12	---	---	---	0	103	103	103	24	104	106	107	24	102	103	104	24	102	103	103	23
3/13	---	---	---	0	102	103	103	24	110	111	112	24	103	104	105	24	103	104	105	23
3/14	---	---	---	0	102	102	103	24	110	112	112	24	104	105	107	24	105	107	108	23
3/15	---	---	---	0	102	102	103	10	105	106	106	18	103	103	104	24	107	108	109	23
3/16	---	---	---	0	---	---	---	0	103	103	103	4	102	103	104	24	103	103	104	24
3/17	---	---	---	0	---	---	---	0	103	103	103	22	102	103	104	24	102	102	103	24
3/18	---	---	---	0	102	102	103	18	103	103	103	23	102	102	102	24	102	102	102	23
3/19	---	---	---	0	102	102	102	24	102	102	103	24	102	102	102	24	102	102	102	23
3/20	---	---	---	0	102	102	102	24	102	103	103	24	101	102	103	24	102	103	103	23
3/21	---	---	---	0	101	101	101	24	101	102	102	24	98	99	100	24	101	101	101	23

HATCHERY RELEASE SUMMARY LAST TWO WEEKS

Hatchery Release Summary

From: **3/8/02** to **3/21/02**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Colville Tribe	Winthrop	CH1	SP	2002	265,000	03-18-02	03-25-02	Okanogan R	Okanogan River
Colville Tribe Total					265,000				
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	300,000	03-14-02	03-15-02	Hazard Cr/Little Salmon R	Little Salmon River
IDFG	Rapid River	CH1	SP	2002	500,000	03-11-02	03-13-02	Hells Canyon Dam	Snake River
IDFG	Rapid River	CH1	SP	2002	2,600,000	03-11-02	04-22-02	Rapid River H	Little Salmon River
IDFG Total					3,908,444				
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					617,000				
ODFW	Lookingglass	CH1	SP	2002	303,800	03-21-02	04-17-02	Imnaha Acclim Pd	Imnaha River
ODFW Total					303,800				
Umatilla Tribe	Bonneville	CH1	FA	2002	40,000	03-12-02	03-19-02	Umatilla R	Umatilla River
Umatilla Tribe	Umatilla	CH1	SP	2002	363,932	03-01-02	03-08-02	Imeques Acclim Pd	Umatilla River
Umatilla Tribe	Willard	CH1	SP	2002	143,516	03-08-02	03-14-02	Imeques Acclim Pd	Umatilla River
Umatilla Tribe Total					547,448				
USFWS	Spring Creek	CH0	FA	2002	7,791,715	03-11-02	03-11-02	Spring Creek H	L Col R (D/s McN Dam)
USFWS Total					7,791,715				
WDFW	Klickitat	CH1	SP	2002	610,000	03-08-02	03-12-02	Klickitat H	Klickitat River
WDFW Total					610,000				
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

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

HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

Hatchery Release Summary

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

Agency	Hatchery	Species	Race	MigYr	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	03-25-02	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	03-29-02	Knox Bridge	Salmon River
IDFG	McCall	CH1	SU	2002	1,023,000	03-25-02	03-29-02	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	03-25-02	04-05-02	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	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					3,632,800				

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

HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

Hatchery Release Summary

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

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				

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)
03/08/2002	---	4	---	---	---	---	---	---	---	---	---
03/09/2002	---	8	---	---	---	---	---	---	---	---	---
03/10/2002	---	---	---	---	---	---	---	---	---	---	---
03/11/2002	0	8	---	0	---	---	---	---	---	---	---
03/12/2002 *	1	3	0	0	---	---	---	---	---	---	106
03/13/2002 *	1	1	0	0	---	---	---	---	---	---	0
03/14/2002 *	151	3	0	0	---	---	---	---	---	---	976
03/15/2002 *	78	5	0	1	---	---	---	---	---	---	0
03/16/2002 *	579	7	---	---	---	---	---	---	---	---	2,804
03/17/2002	---	3	---	---	---	---	---	---	---	---	1,354
03/18/2002 *	730	11	0	0	---	---	---	---	---	---	481
03/19/2002 *	545	3	0	0	---	---	---	---	---	40	315
03/20/2002 *	158	1	0	0	---	---	---	---	---	20	104
03/21/2002 *	384	---	12	---	---	---	---	---	---	55	131
03/22/2002 *	---	---	---	---	---	---	---	---	---	135	0
Total:	2,627	57	12	1	0	0	0	0	0	250	6,271
# Days:	10	12	8	8	0	0	0	0	0	4	11
Average:	263	5	2	0	0	0	0	0	0	63	570
YTD	2,627	62	12	1	0	0	0	0	0	250	6,271

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)
03/08/2002	---	0	---	---	---	---	---	---	---	---	---
03/09/2002	---	1	---	---	---	---	---	---	---	---	---
03/10/2002	---	---	---	---	---	---	---	---	---	---	---
03/11/2002	0	0	---	0	---	---	---	---	---	---	---
03/12/2002 *	0	0	0	1	---	---	---	---	---	---	847
03/13/2002 *	0	0	0	0	---	---	---	---	---	---	18,242
03/14/2002 *	0	0	0	0	---	---	---	---	---	---	385,935
03/15/2002 *	0	0	0	0	---	---	---	---	---	---	197,382
03/16/2002 *	0	0	---	---	---	---	---	---	---	---	166,540
03/17/2002	---	0	---	---	---	---	---	---	---	---	12,186
03/18/2002 *	0	0	0	1	---	---	---	---	---	---	5,927
03/19/2002 *	0	0	0	1	---	---	---	---	---	0	3,718
03/20/2002 *	0	0	0	0	---	---	---	---	---	0	1,672
03/21/2002 *	0	---	1	---	---	---	---	---	---	0	2,624
03/22/2002 *	---	---	---	---	---	---	---	---	---	5	0
Total:	0	1	1	3	0	0	0	0	0	5	795,073
# Days:	10	12	8	8	0	0	0	0	0	4	11
Average:	0	0	0	0	0	0	0	0	0	1	72,279
YTD	0	1	1	3	0	0	0	0	0	5	795,073

*The total, #days and average do not include the current day's data. *See sampling comments. [http://www.fpc.org/current daily/smpcomments.htm](http://www.fpc.org/current%20daily/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)
03/08/2002	---	0	---	---	---	---	---	---	---	---	---
03/09/2002	---	0	---	---	---	---	---	---	---	---	---
03/10/2002	---	---	---	---	---	---	---	---	---	---	---
03/11/2002	0	0	---	0	---	---	---	---	---	---	---
03/12/2002 *	0	0	0	0	---	---	---	---	---	---	0
03/13/2002 *	0	0	0	0	---	---	---	---	---	---	0
03/14/2002 *	0	0	0	0	---	---	---	---	---	---	0
03/15/2002 *	0	0	0	0	---	---	---	---	---	---	0
03/16/2002 *	0	0	---	---	---	---	---	---	---	---	0
03/17/2002	---	0	---	---	---	---	---	---	---	---	0
03/18/2002 *	0	0	0	0	---	---	---	---	---	---	0
03/19/2002 *	0	0	0	0	---	---	---	---	---	0	0
03/20/2002 *	0	0	0	0	---	---	---	---	---	0	23
03/21/2002 *	0	---	0	---	---	---	---	---	---	5	12
03/22/2002 *	---	---	---	---	---	---	---	---	---	0	0
Total:	0	0	0	0	0	0	0	0	0	5	35
# Days:	10	12	8	8	0	0	0	0	0	4	11
Average:	0	0	0	0	0	0	0	0	0	1	3
YTD	0	0	0	0	0	0	0	0	0	5	35

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)
03/08/2002	---	1	---	---	---	---	---	---	---	---	---
03/09/2002	---	0	---	---	---	---	---	---	---	---	---
03/10/2002	---	---	---	---	---	---	---	---	---	---	---
03/11/2002	0	5	---	0	---	---	---	---	---	---	---
03/12/2002 *	0	2	0	0	---	---	---	---	---	---	0
03/13/2002 *	0	2	0	0	---	---	---	---	---	---	0
03/14/2002 *	0	3	0	1	---	---	---	---	---	---	0
03/15/2002 *	0	1	0	0	---	---	---	---	---	---	0
03/16/2002 *	0	1	---	---	---	---	---	---	---	---	0
03/17/2002	---	1	---	---	---	---	---	---	---	---	0
03/18/2002 *	0	1	0	2	---	---	---	---	---	---	0
03/19/2002 *	0	0	0	0	---	---	---	---	---	0	0
03/20/2002 *	0	0	0	0	---	---	---	---	---	10	0
03/21/2002 *	0	---	0	---	---	---	---	---	---	5	0
03/22/2002 *	---	---	---	---	---	---	---	---	---	10	0
Total:	0	17	0	3	0	0	0	0	0	25	0
# Days:	10	12	8	8	0	0	0	0	0	4	11
Average:	0	1	0	0	0	0	0	0	0	6	0
YTD	0	25	0	3	0	0	0	0	0	25	0

Two-Week Summary of Passage Indices

COMBINED SOCKEYE

Date	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/08/2002	---	0	---	---	---	---	---	---	---	---	---
03/09/2002	---	0	---	---	---	---	---	---	---	---	---
03/10/2002	---	---	---	---	---	---	---	---	---	---	---
03/11/2002	0	0	---	0	---	---	---	---	---	---	---
03/12/2002 *	0	0	0	0	---	---	---	---	---	---	0
03/13/2002 *	0	0	0	0	---	---	---	---	---	---	0
03/14/2002 *	0	0	0	0	---	---	---	---	---	---	0
03/15/2002 *	0	0	0	0	---	---	---	---	---	---	0
03/16/2002 *	0	0	---	---	---	---	---	---	---	---	0
03/17/2002	---	0	---	---	---	---	---	---	---	---	0
03/18/2002 *	0	0	0	0	---	---	---	---	---	---	0
03/19/2002 *	0	0	0	0	---	---	---	---	---	0	0
03/20/2002 *	0	0	0	1	---	---	---	---	---	0	0
03/21/2002 *	0	---	0	---	---	---	---	---	---	0	0
03/22/2002 *	---	---	---	---	---	---	---	---	---	0	0
Total:	0	0	0	1	0	0	0	0	0	0	0
# Days:	10	12	8	8	0	0	0	0	0	4	11
Average:	0	0	0	0	0	0	0	0	0	0	0
YTD	0	0	0	1	0	0	0	0	0	0	0

Definitions for Smolt Index Counts

WTB (Collection) = Salmon River Trap at Whitebird : Collection Counts

IMN (Collection) = Imnaha River Trap : Collection Counts

GRN (Collection) = Grande Ronde River Trap : Collection Counts

LEW (Collection) = Snake River Trap at Lewiston : Collection Counts

LGR (Index) = Lower Granite Dam Bypass Collection System : Passage Index Counts

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

LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts

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

LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts

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

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: 03/19

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	421	0	1,154	1	225	0	0	0	0					0	0				
TDA	---	---					---	---						---	---				
JDA	---	---					---	---						---	---				
MCN	---	---					---	---						---	---				
IHR	---	---					---	---						---	---				
LMN	---	---					---	---						---	---				
LGS	---	---					---	---						---	---				
LWG	0	0	0	0	0	0	0	0						0	0				
PRD	---	---					---	---						---	---				
RIS	---	---					---	---						---	---				
RRH	---	---					---	---						---	---				
WEL	---	---					---	---						---	---				

DAM	Coho						Sockeye			Steelhead			Wild 2002
	2002		2001		10-Yr Avg.		2002	2001	10-Yr Avg.	2002	2001	10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack							
BON	0	0					0			122	420	266	0
TDA	---	---					---			---			---
JDA	---	---					---			---			---
MCN	---	---					---			---			---
IHR	---	---					---			---			---
LMN	---	---					---			---			---
LGS	---	---					---			---			---
LWG	0	0					0			2,664	2,115	1,425	137
PRD	---	---					---			---			**
RIS	---	---					---			---			---
RRH	---	---					---			---			---
WEL	---	---					---			---			---

BO2 through March 18, LGR through March 19.

**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.

