



*Fish Passage Center*

# Weekly Report #03 - 2

March 28, 2003

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**PLEASE NOTE:**

The Fish Passage Center Weekly Report is available on Friday of each week by 4:00 p.m. on our internet homepage at [www.fpc.org](http://www.fpc.org). If you can get the information from the website, you will get your information sooner and help us utilize our resources more efficiently by saving postage and paper costs. We can also send you the report via email. Reduced use of paper also helps the environment. Please let us know if you want to be taken off the weekly report mailing list or if you would rather receive the report by email rather than traditional mail. You can email us at [fpcstaff@fpc.org](mailto:fpcstaff@fpc.org). Thanks!

**Summary of Events:**

**Water Supply:** Despite minimal early season precipitation, snowpack, and forecasted runoff volumes within the Columbia and Snake River Basins, well above normal precipitation has been recorded in late February and March. Over the last week, snowpacks in the Columbia Basin have increased approximately 5% to a current (3-28-03) level of 77% of average. Precipitation over the first twenty-four days of March has been significant, with recorded precipitation varying between 63-243% of average. Table 1 summarizes both March precipitation and cumulative October through March precipitation at select locations.

**Table 1. Summary of 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 1-24, 2003		Cumulative October, 1 2002 to March 24, 2003	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	2.98	215	12.03	87
SNAKE RIVER ABOVE Ice Harbor	1.66	130	9.13	92
Columbia Above The Dalles	2.65	178	12.57	91
Kootenai	2.84	206	11.69	82
Clark Fork	2.01	216	8.21	94
Flathead	3.07	243	10.39	88
Pend Oreille/Spokane	4.14	193	19.56	100
Central Washington	0.50	78	6.64	116
SNAKE RIVER PLAIN	0.55	63	3.59	61
Clearwater	5.31	245	20.47	114
SW Washington Cascades/Cowlitz	9.58	175	44.95	87
Willamette Valley	8.10	164	39.38	90

Table 2 displays the February and March Final runoff volume forecasts as well as the April Early Bird for multiple reservoirs. Generally, runoff forecasts have remained relatively consistent between the February and March Final Forecasts, however, as result of the higher than average precipitation in March, the April Early Bird Forecast shows increased runoff volumes throughout all basins listed.

**Table 2. February and March 2003 Final Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins, along with the April Early Bird Forecast.**

Location	February Final		March Final		April Early Bird	
	% Average (1971-2000)	Probable Runoff Volume (Kaf)	% Average (1971-2000)	Probable Runoff Volume (Kaf)	% Average (1971-2000)	Probable Runoff Volume (Kaf)
The Dalles (Jan-July)	70	75600	70	74900	77	83100
Grand Coulee (Jan-July)	76	48100	74	46300	83	52400
Libby Res. Inflow, MT (Jan-July)	75	4730	70	4440	80	5040
Hungry Horse Res. Inflow, MT (Jan-July)	69	1530	66	1470	84	1870
Lower Granite Res. Inflow (Apr- July)	68	14700	68	14700	78	16900
Brownlee Res. Inflow (Apr-July)	55	3490	49	3100	51	3250
Dworshak Res. Inflow (Apr-July)	65	1730	70	1860	92	2420

According to the April Early Bird Water Supply Forecasts the following Spring BiOp actions should take place in 2003:

- The Spring Flow Objective at Lower Granite will be 88.4 Kcfs between April 3rd and June 20th, 2003 (based upon the Apr-Jul April Early Bird Forecast of 16.9 Maf at Lower Granite). These estimates could change with subsequent forecasts.
- According to the Apr-Jul April Early Bird Forecast at Lower Granite of 16.9 Maf, Spill will likely occur along the Lower Snake River; however, uncertainty still exists.
- The Spring Flow Objective at McNary will be 220 Kcfs between April 10th and June 30th, 2003 (based upon the Apr-Aug April Early Bird Forecast of 72.7 Maf at The Dalles). These estimates could change with subsequent forecasts.

Operations have varied at the major reservoirs within the Columbia and Snake River Basins. Table 3 displays the March Flood Control Targets along with actual reservoir elevations recorded on March 27, 2003 for Libby, Hungry Horse, Grand Coulee, Brownlee, and Dworshak.

**Table 3. March Flood Control Targets along with actual reservoir elevations recorded on March 27, 2003 for Libby, Hungry Horse, Grand Coulee, Brownlee, and Dworshak.**

Reservoir	Actual Elevation March 27, 2003	March 31 <sup>st</sup> , 2003 Flood Control Target	April 15 <sup>th</sup> , 2003 Flood Control Target
Libby	2404.4	2448.0	2452.5
Hungry Horse	3508.9	3553.0	3553.6
Grand Coulee	1285.7	1283.3	1283.3
Brownlee	2071.5	2076.3	2076.7
Dworshak	1576.8	1578.9	1585.5

The Libby Reservoir is currently 43.6 feet below its end of March Flood Control Target (Table 3). Libby has been operating to a minimum discharge of 4.0 Kcfs.

The Hungry Horse Reservoir is currently 44.1 feet below its end of March Flood Control Target (Table 3). Over the last week, Hungry Horse has refilled approximately 1.1 feet. Hungry Horse continues to operate to meet the Columbia Falls Minimum discharge, which is currently 3,372 cfs.

The Dworshak reservoir is currently 2.1 feet below its end of March system flood Control Elevation (Table 3). Over the last week, increased local inflows have led to Dworshak refilling nine feet. On March 26th, 2003 an SOR was submitted to the Action Agencies, which asked for Dworshak to be filled as high as possible, at least to the local flood control elevations, to save water for the spring juvenile salmonids outmigration. The COE has verbally agreed to operate Dworshak to the end of March Local Flood Control Elevation of 1580.3 feet, 1.4 feet above the system flood control elevation (Table 3).

The Grand Coulee reservoir is currently 2.4 feet above its end of March Flood Control Elevation. Over the winter, Grand Coulee has been

generally operated to meet the Vernita Bar minimum flows of 70 Kcfs below Priest Rapids.

The Brownlee Reservoir is currently 4.8 feet from its end of March Flood control elevation. Brownlee has refilled 5.3 feet in the last week.

The USBR reservoir systems along the Boise, Payette, and Upper Snake Basins are currently 48% (+4% from last week), 65% (+3% from last week), and 55% (+2% from last week) of capacity.

**Smolt Monitoring:** Sampling at Lower Granite Dam began March 25th while sampling is ongoing at the Snake River basin SMP traps as well as at Bonneville Dam.

At the White Bird Trap a weekly high of 2,640 yearling chinook was collected March 23. Of those fish captured on the 23rd, 2177 were clipped hatchery fish. Over the past week nearly 20% of the yearling chinook captured were of wild origin. Numbers of yearling chinook captured at the Grande Ronde trap increased significantly this past week with a daily maximum of 1,215 and daily average of 548, compared to a maximum of 216 and daily average of 130 last week. Approximately 15% of the yearling chinook captured at Grande Ronde Trap this past week were of wild origin. At the Imnaha Trap the average daily catch this week was 80 compared to 83 fish per day average last week, with 100% of fish of wild origin. At the Lewiston Trap small numbers of yearling chinook were captured this past week with a daily average of 6. At all four traps low numbers of steelhead were reported.

Sampling began March 25 at Lower Granite Dam, so that only two days of sampling have been reported. To date about 60% of the yearling chinook captured at Lower Granite Dam appear to be of wild origin. Small numbers of steelhead were captured the first two days of sampling at Lower Granite. At Bonneville Dam, the average daily index for yearling chinook was 530 this week compared to 580 last week. Low numbers of steelhead, coho, sockeye and subyearling chinook were also reported in the collection at Bonneville Dam.

**Hatchery Releases** - The preliminary hatchery release schedules for the three Columbia River Basin Zones have been received from the fishery agencies and tribal agencies release coordinators or in some cases directly from the hatcheries for the 2003 juvenile fish migration. Updates will be made daily or weekly throughout the migration season. The FPC hatchery release numbers can be obtained from the FPC website.

The following Table gives numbers of juvenile fish that have been or will be released in the River Zones from Bonneville to McNary Dam (Lower Columbia); from above McNary Dam to below Chief Joseph Dam (Mid-Columbia); and upstream from the mouth of the Snake River and its tributaries (Snake River).

Hatchery Zone Release Report	Friday 21-Mar-2003			
	Snake River	Mid-Columbia	Lower Columbia	Total Release
Fall Chinook				
Spring Chinook	4,053,632	12,280,000	25,287,990	41,621,622
Summer Chinook	10,550,239	3,495,419	5,460,500	19,506,158
Coho	2,330,250	3,096,750		5,427,000
Sockeye	1,245,712	1,887,662	5,634,000	8,767,374
Summer Steelhead	140,410	208,986		349,396
Winter Steelhead	9,643,957	1,287,300	466,900	11,398,157
Total			90,000	90,000
Fall Chinook	27,964,200	22,256,117	36,939,390	87,159,707

The release information will include fish release groups that were completed last fall (02) and would be expected to migrate this spring 03. Examples of these fall releases would include sockeye that are released into Lake Wenatchee or the upper Salmon River basin lakes as well as a portion of the spring chinook that are released into the Clearwater River during the fall season.

**Snake River** - Most hatchery facilities were at or near production levels this season, with almost 28 million smolts released from State, Federal, and Tribal hatcheries and acclimation ponds. Yearling spring chinook are being released or have been released into the Clearwater River basin, into the Little Salmon and Rapid R, below Hells Canyon Dam, from acclimation ponds in the Grande Ronde R basin, and into the Tucannon R from the Curl Lake acclimation pond. In addition, yearling summer chinook were released into Johnson Creek (S. Fk. Salmon River basin). Most

yearling spring and summer chinook releases will be completed by Mid-April. The yearling fall chinook are scheduled for release in April from the various acclimation ponds and release hatcheries.

About 140,000 hatchery sockeye were released last fall (02) in the upper Salmon R basin lakes. From March 11-13, about 550,000 yearling coho salmon were released into Lapwai Creek and Potlatch River. Most juvenile steelhead (9.6 million) will be released during April and May, with these fish released throughout the Snake, Salmon, Clearwater, Imnaha, Grande Ronde, and Tucannon River basins.

**Mid-Columbia River** - At present, the Mid-Columbia River Zone will release about 22.3 million yearling and subyearling salmon this migration year. Volitional release of yearling spring chinook are on-going from the acclimation ponds in the Yakima River basin, and they normally are completed by mid-May. Other releases of yearling chinook will occur in April from Federal, State, and Tribal facilities. Subyearling fall chinook will be released later in the season, normally late May or June. About 209,000 sockeye were released last fall into Lake Wenatchee; there will be no sockeye releases made into the Okanogan R basin this year. About 1.9 million coho are scheduled for release in this Zone. The yearling chinook and yearling coho are normally released from early to mid-April through mid-May. Approximately 1.3 million juvenile steelhead will be released in April and early May as well.

**Lower Columbia River** - The Lower Columbia River Zone is scheduled to release about 37 million salmon for the 2003 migration. The majority of fish released in this Zone is comprised of subyearling fall chinook, many from Spring Creek NFH. About 7.6 million subyearling fall chinook were released on March 8 from that hatchery. About 607,000 yearling spring chinook were released into the Klickitat River on March 8 with the acclimation ponds in Umatilla River basin also starting release of yearling fall and spring chinook. Warm Springs NFH began volitional release of their yearling spring chinook this week as well. Most yearling chinook and coho salmon will be released in April with winter and summer steelhead releases in April and May.

**Adult Fish Passage** - Most COE projects will begin counting on April 1 with the PUD facilities beginning near April 15. Counts officially started at Lower Granite Dam on March 1st with Bonneville Dam counts beginning March 15. Adult fish counts at Bonneville Dam recorded by video prior to March 14 are summarized below the Cumulative Adult Table. Note that the adult chinook total during that time frame exceeded 3,700 while the steelhead exceeded 3,400.

During the past week, daily counts of adult spring chinook at Bonneville Dam ranged from a low of 99 on 3/24 to a high count of 1,843 on the 27th. Since March 15, the cumulative count of adult spring chinook was 7,178, well above the 2002 and 10-year average to date. Based on PIT tagged detections at Bonneville Dam through March 27, the majority of spring chinook have been 5-year old fish that have spent 3-years in the ocean. Only 2 of the PIT tagged chinook were from the 2001 migration year (4-year old spring chinook salmon) from greater than 100 PIT tagged fish detected at the project. The PIT tagged spring chinook have been from the major river basins, i.e., Clearwater, Salmon, Grande Ronde, Wenatchee, Methow, Umatilla, and Yakima rivers. These PIT tags are from specific studies and not designed to reflect the run at large.

About 12,000 adult summer steelhead have been counted at Lower Granite Dam to date, and this total remained far above the 2002 and 10-year average for the spring migration. Basically many of the steelhead that over-wintered below Lower Granite or other dams and are now moving upstream to complete the spawning cycle.

**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
03/14/03	82.5	0.0	86.2	0.0	89.2	6.7	86.4	0.0	91.7	0.0	70.6	0.0	71.3	0.0
03/15/03	59.4	0.0	63.0	0.0	66.7	0.0	71.8	0.0	80.4	0.0	82.6	0.0	71.3	0.0
03/16/03	47.1	0.0	49.6	0.0	61.1	0.0	62.0	0.0	66.6	0.0	70.0	0.0	72.5	0.0
03/17/03	88.3	0.0	86.4	0.0	77.1	0.0	69.2	0.0	77.3	0.0	76.7	0.0	84.2	0.0
03/18/03	74.8	0.0	76.0	0.0	78.2	0.0	77.4	0.0	81.5	0.0	83.1	0.0	79.9	0.0
03/19/03	70.0	0.0	71.9	0.0	72.6	0.0	70.7	0.0	76.9	0.0	80.1	0.0	81.9	0.0
03/20/03	57.3	0.0	61.0	0.0	62.5	0.0	60.4	0.0	64.3	0.0	71.8	0.0	71.5	0.0
03/21/03	77.6	0.0	76.5	0.0	78.5	0.0	76.4	0.0	79.9	0.0	77.1	0.0	73.3	0.0
03/22/03	48.5	0.0	49.6	0.0	52.1	0.0	53.4	0.0	57.6	0.0	74.2	0.0	74.7	0.0
03/23/03	46.7	0.0	46.7	0.0	45.8	0.0	44.2	0.0	50.0	0.0	69.7	0.0	72.8	0.0
03/24/03	88.6	0.0	90.0	0.0	89.2	0.0	82.8	0.0	85.1	0.0	65.9	0.0	72.9	0.0
03/25/03	98.9	0.0	101.0	0.0	103.7	0.0	101.6	0.0	107.2	0.0	106.5	0.0	91.7	0.0
03/26/03	108.8	0.0	111.4	0.0	115.2	0.0	118.1	0.0	121.8	0.0	127.3	0.0	130.7	0.0
03/27/03	122.5	0.0	122.7	0.0	123.8	0.0	115.4	0.0	119.7	0.0	129.5	0.0	133.4	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
03/14/03	1.5	0.0	12.9	10.0	60.4	0.0	61.7	0.0	67.5	0.0	64.4	0.0
03/15/03	1.5	0.0	13.2	9.1	58.6	0.0	58.2	0.0	61.7	0.0	59.7	0.0
03/16/03	1.5	0.0	14.8	8.9	60.7	0.0	62.6	0.0	67.2	0.0	61.4	0.0
03/17/03	1.5	0.0	15.7	16.1	56.9	0.0	58.6	0.0	64.1	0.0	61.8	0.0
03/18/03	1.5	0.0	14.7	18.2	57.3	0.0	58.3	0.0	65.1	0.0	63.4	0.0
03/19/03	2.2	0.0	13.3	16.2	55.4	0.0	55.7	0.0	60.1	0.0	57.2	0.0
03/20/03	3.1	0.0	12.8	10.6	47.6	0.0	48.7	0.0	53.9	0.0	52.3	0.0
03/21/03	1.5	0.0	13.6	12.0	38.3	0.0	38.9	0.0	40.5	0.0	35.3	0.0
03/22/03	1.5	0.0	12.5	10.0	38.2	0.0	39.1	0.0	43.9	0.0	43.1	0.0
03/23/03	1.5	0.0	14.6	11.8	49.4	0.0	48.3	0.0	50.4	0.0	46.6	0.0
03/24/03	1.6	0.0	19.9	10.0	57.7	0.0	59.3	0.0	66.6	0.0	62.5	0.0
03/25/03	6.8	0.0	16.8	12.3	51.2	0.0	52.1	0.0	55.7	0.0	52.8	0.0
03/26/03	8.0	0.0	18.0	15.2	55.5	0.0	55.9	0.0	60.3	0.0	57.0	0.0
03/27/03	7.8	0.0	---	---	61.4	0.0	64.9	0.0	71.6	0.0	68.6	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		
03/14/03	135.9	0.0	137.0	0.0	139.7	0.0	152.9	1.6	28.0	116.6
03/15/03	136.1	0.0	140.3	0.0	143.4	0.0	148.0	1.6	18.7	120.8
03/16/03	134.7	0.0	143.5	0.0	147.0	0.0	161.0	1.6	37.0	115.5
03/17/03	153.4	0.0	168.8	0.0	171.2	0.0	176.4	1.8	45.5	122.4
03/18/03	150.4	0.0	173.8	0.0	178.3	0.0	198.7	1.8	68.9	121.2
03/19/03	157.3	0.0	185.1	0.0	187.5	0.0	190.8	1.8	51.9	130.3
03/20/03	155.3	0.0	165.1	0.0	167.4	0.0	180.8	1.2	52.4	120.4
03/21/03	125.6	0.0	146.5	0.0	149.0	0.0	166.6	1.2	47.7	111.0
03/22/03	115.0	0.0	124.5	0.0	127.2	0.0	157.8	1.9	44.5	104.8
03/23/03	111.0	0.0	105.6	0.0	111.0	0.0	142.4	1.7	30.8	103.1
03/24/03	139.6	0.0	120.4	0.0	126.1	0.0	135.2	1.6	22.0	104.9
03/25/03	147.9	0.0	149.8	0.0	155.1	0.1	166.7	1.7	35.8	122.4
03/26/03	176.1	0.0	169.5	0.0	173.3	0.0	177.1	1.7	44.2	125.4
03/27/03	201.8	0.0	217.5	0.0	215.5	0.0	228.1	1.9	83.3	136.2

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

Date	<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>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
3/14	98	98	99	24	97	98	103	24	102	102	102	24	101	102	104	23	---	---	---	0
3/15	100	100	100	24	101	104	106	24	---	---	---	0	102	102	106	23	---	---	---	0
3/16	100	100	100	24	100	101	107	24	---	---	---	0	102	103	108	24	---	---	---	0
3/17	100	101	102	24	101	103	104	24	101	101	102	21	100	100	103	23	---	---	---	0
3/18	100	100	101	24	98	98	99	24	100	101	101	24	100	101	102	23	---	---	---	0
3/19	99	100	101	24	99	100	105	24	101	102	102	24	101	102	105	23	---	---	---	0
3/20	96	96	97	24	98	99	100	24	102	102	102	24	102	103	106	23	---	---	---	0
3/21	96	96	97	24	98	98	98	24	102	102	102	24	101	102	105	23	---	---	---	0
3/22	99	100	100	24	98	99	99	24	102	102	103	24	103	104	110	24	---	---	---	0
3/23	100	101	101	24	100	103	107	24	101	102	102	24	103	104	106	23	---	---	---	0
3/24	100	101	101	24	99	100	103	24	101	102	102	24	101	101	106	23	---	---	---	0
3/25	101	101	102	24	103	104	105	24	102	102	104	21	101	102	104	19	---	---	---	0
3/26	100	101	102	24	103	105	110	20	102	102	102	24	101	102	105	23	---	---	---	0
3/27	100	100	104	24	107	111	111	24	101	102	103	24	100	101	102	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>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
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
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

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>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High	#	<u>24 h</u>	<u>12 h</u>	High		#			
	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg		hr	Avg	Avg			hr	Avg	Avg	hr
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
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

## 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>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24 h</u>	<u>12 h</u>	High					
	Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg			Avg			
3/14	---	---	---	0	104	105	105	24	105	105	106	24	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	102	103	104	24	107	108	109	24	---	---	---	0	---	---	---	0
3/18	---	---	---	0	102	103	103	24	106	106	107	24	---	---	---	0	---	---	---	0
3/19	---	---	---	0	103	104	105	24	105	107	108	24	---	---	---	0	---	---	---	0
3/20	---	---	---	0	103	103	104	24	103	105	108	24	---	---	---	0	---	---	---	0
3/21	---	---	---	0	103	104	104	24	105	106	106	24	---	---	---	0	---	---	---	0
3/22	---	---	---	0	103	103	104	24	106	107	107	24	---	---	---	0	---	---	---	0
3/23	---	---	---	0	101	102	103	24	107	108	109	24	---	---	---	0	---	---	---	0
3/24	---	---	---	0	103	103	104	19	105	106	107	24	---	---	---	0	---	---	---	0
3/25	---	---	---	0	103	104	104	24	98	100	103	24	---	---	---	0	---	---	---	0
3/26	---	---	---	0	103	103	103	24	97	97	97	23	99	99	100	9	---	---	---	0
3/27	---	---	---	0	102	103	103	24	96	96	96	24	99	99	100	24	102	102	111	9

**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>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24 h</u>	<u>12 h</u>	High					
	Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg			Avg			
3/14	---	---	---	0	102	102	103	24	102	102	103	24	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	100	100	101	24	100	100	101	24	---	---	---	0	---	---	---	0
3/18	---	---	---	0	99	100	102	24	99	100	104	24	---	---	---	0	---	---	---	0
3/19	---	---	---	0	100	101	101	24	100	100	101	24	---	---	---	0	---	---	---	0
3/20	---	---	---	0	101	101	101	24	100	100	101	24	---	---	---	0	---	---	---	0
3/21	---	---	---	0	101	101	102	24	101	101	102	24	---	---	---	0	---	---	---	0
3/22	---	---	---	0	102	102	102	24	102	102	105	24	---	---	---	0	---	---	---	0
3/23	---	---	---	0	102	102	102	24	101	102	102	24	---	---	---	0	---	---	---	0
3/24	---	---	---	0	101	101	102	24	101	101	101	24	---	---	---	0	---	---	---	0
3/25	---	---	---	0	101	102	102	19	101	101	102	14	100	100	101	13	100	100	100	13
3/26	96	96	96	3	101	101	101	24	99	99	99	8	101	101	101	24	100	101	101	24
3/27	---	---	---	0	100	100	101	24	98	98	99	24	100	100	100	24	100	100	101	24

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

Date	<u>Lower Mon.</u>			<u>L. Mon. Tlwr</u>			<u>Ice Harbor</u>			<u>Ice Harbor Tlwr</u>			<u>McNary-Oregon</u>			#				
	<u>24 h</u>	<u>12 h</u>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24 h</u>	<u>12 h</u>	High	<u>24 h</u>	<u>12 h</u>	High					
	Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg		Avg	Avg			Avg			
3/14	---	---	---	0	---	---	---	0	103	103	103	24	102	103	103	24	103	104	104	24
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	---	---	---	0	---	---	---	0	101	102	102	24	101	101	102	24	102	103	104	24
3/18	---	---	---	0	---	---	---	0	101	102	102	24	101	101	102	24	101	102	103	24
3/19	---	---	---	0	---	---	---	0	103	103	105	24	102	103	103	24	101	102	102	24
3/20	---	---	---	0	---	---	---	0	102	102	102	24	102	102	103	24	102	102	102	24
3/21	---	---	---	0	---	---	---	0	102	103	103	24	102	103	103	24	103	103	104	24
3/22	---	---	---	0	---	---	---	0	103	103	103	24	103	103	104	24	103	103	104	24
3/23	---	---	---	0	---	---	---	0	102	102	102	24	102	102	102	24	102	102	102	24
3/24	101	101	101	9	101	101	102	8	101	102	103	24	101	102	102	24	102	103	104	24
3/25	100	101	101	24	101	101	102	24	101	101	101	24	101	101	102	24	102	102	103	24
3/26	100	101	101	24	101	102	103	24	101	101	102	24	101	101	102	24	101	101	102	24
3/27	99	100	100	24	100	101	101	24	100	100	100	24	100	100	100	23	101	101	101	24

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

**Total Dissolved Gas Saturation Data at Lower Columbia River Sites**

Date	<u>McNary-Wash</u>			<u>McNary Tlwr</u>			<u>John Day</u>			<u>John Day Tlwr</u>			<u>The Dalles</u>							
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>AVG</u>	<u>High</u>	<u>#</u>	
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
3/14	104	104	105	24	103	103	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/15	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/16	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0	---	---	---	0
3/17	102	102	103	24	101	101	102	24	---	---	---	0	---	---	---	0	---	---	---	0
3/18	101	102	102	24	101	101	101	24	---	---	---	0	---	---	---	0	---	---	---	0
3/19	102	103	103	24	102	102	103	24	---	---	---	0	---	---	---	0	---	---	---	0
3/20	102	102	102	24	102	102	102	24	102	102	102	14	101	101	102	12	102	102	102	9
3/21	103	104	104	24	103	103	104	24	102	103	104	24	102	102	103	24	102	102	103	24
3/22	104	104	104	24	104	104	104	24	103	103	104	24	102	103	103	24	103	103	104	24
3/23	102	102	102	24	103	103	103	24	102	102	103	24	102	102	102	24	101	101	102	24
3/24	103	104	104	24	102	103	103	23	102	102	103	24	101	101	102	24	101	102	102	24
3/25	103	103	104	24	103	103	103	24	102	103	103	24	102	102	102	24	102	102	103	24
3/26	102	103	103	24	102	102	103	24	102	102	103	24	102	102	102	24	102	102	103	24
3/27	101	101	101	24	101	101	102	24	101	101	101	24	100	101	101	24	101	101	101	24

**Total Dissolved Gas Saturation Data at Lower Columbia River Sites**

Date	<u>The Dalles Dnst</u>			<u>Bonneville</u>			<u>Warrendale</u>			<u>CamasWashugal</u>						
	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24 h</u>	<u>12 h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>24h</u>	<u>12h</u>	<u>#</u>	<u>#</u>			
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
3/14	---	---	---	0	104	104	105	24	104	105	105	24	104	105	106	23
3/15	---	---	---	0	104	104	104	2	105	105	105	2	104	104	104	3
3/16	---	---	---	0	102	102	102	6	103	103	103	2	103	103	104	5
3/17	---	---	---	0	101	101	102	24	102	103	103	24	101	102	102	23
3/18	---	---	---	0	101	101	101	24	104	105	105	24	101	101	101	23
3/19	---	---	---	0	102	102	102	24	104	105	106	24	101	101	102	23
3/20	---	---	---	0	101	102	102	24	103	103	103	24	101	102	102	23
3/21	102	102	102	13	102	102	102	6	103	103	103	24	102	102	102	20
3/22	102	103	103	24	---	---	---	0	103	104	104	24	102	102	102	23
3/23	101	101	101	23	---	---	---	0	103	103	103	24	101	102	102	23
3/24	101	101	102	23	---	---	---	0	103	104	104	24	102	103	103	23
3/25	101	102	102	23	---	---	---	0	103	103	104	24	103	103	104	22
3/26	101	101	102	15	---	---	---	0	102	103	103	24	102	102	103	22
3/27	102	103	104	23	---	---	---	0	102	102	102	19	101	101	102	23

# HATCHERY RELEASE SUMMARY LAST TWO WEEKS

## Hatchery Release Summary

From: 3/14/03 to 3/27/03

Agency	Hatchery	Specie	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Wildlife	Clearwater Hatchery	CH1	SP	2003	101,421	03-20-03	03-20-03	Boulder Creek	Lochsa River
Idaho Dept. of Fish and Wildlife	Niagara Springs	ST	SU	2003	525,000	03-24-03	04-04-03	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Wildlife	Rapid River Hatchery	CH1	SP	2003	200,000	03-17-03	03-17-03	Hazard Creek/Little Salmon R	Little Salmon River
Idaho Dept. of Fish and Wildlife	Rapid River Hatchery	CH1	SP	2003	300,000	03-18-03	03-19-03	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Wildlife	Rapid River Hatchery	CH1	SP	2003	2,330,000	03-17-03	04-25-03	Rapid River Hatchery	Little Salmon River
<b>Idaho Dept. of Fish and Wildlife Total</b>					<b>3,456,421</b>				
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2003	43,615	03-14-03	03-14-03	Mill Cr Bridge	S Fk Clearwater River
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2003	73,090	03-21-03	03-21-03	Newsome Creek	S Fk Clearwater River
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2003	147,450	03-19-03	03-19-03	Lolo Creek	Clearwater River M F
Nez Perce Tribe	Clearwater Hatchery	CH1	SP	2003	286,575	03-17-03	03-18-03	Meadow Creek - SELW	Selway River
Nez Perce Tribe	Lookingglass Hatchery	CH1	SP	2003	109,900	03-17-03	03-24-03	Lostine Accim Pond	Wallowa River
Nez Perce Tribe	McCall Hatchery	CH1	SU	2003	72,000	03-18-03	03-19-03	Johnson Cr Idaho	South Fork Salmon Rive
<b>Nez Perce Tribe Total</b>					<b>732,630</b>				
U.S. Fish and Wildlife Service	Dworshak NFH	CH1	SP	2003	1,035,703	03-19-03	03-20-03	Dworshak Hatchery	Clearwater River M F
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2003	620,000	03-26-03	04-16-03	Warm Springs Hatchery	Deschutes River
<b>U.S. Fish and Wildlife Service Total</b>					<b>1,655,703</b>				
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2003	105,400	03-17-03	03-24-03	Catherine Cr Acclim Pond	Grande Ronde River
Umatilla Tribe	Lookingglass Hatchery	CH1	SP	2003	110,200	03-17-03	03-24-03	Grande Ronde Acclim Pond	Grande Ronde River
<b>Umatilla Tribe Total</b>					<b>215,600</b>				
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2003	150,000	03-15-03	04-18-03	Curl Lake	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2003	150,000	03-15-03	04-18-03	Curl Lake	Tucannon River
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>300,000</b>				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2003	38,564	03-14-03	05-15-03	Easton Pond	Yakama River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2003	81,301	03-14-03	05-15-03	Clark Flat Acclim Pond	Yakama River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2003	249,854	03-14-03	05-15-03	Jack Creek Acclim Pond	Yakama River
<b>Yakama Tribe Total</b>					<b>369,719</b>				
<b>Grand Total</b>					<b>6,730,073</b>				

## HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

### Hatchery Release Summary

From: **3/28/03** to **4/10/03**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Wildlife	Clearwater Hatchery	CH1	SP	2003	350,000	04-10-03	04-10-03	Powell Acclim Pond	Lochsa River
Idaho Dept. of Fish and Wildlife	Magic Valley Hatchery	ST	SU	2003	132,000	04-07-03	04-08-03	Squaw Cr Acclim Pond	Salmon River (ID)
Idaho Dept. of Fish and Wildlife	McCall Hatchery	CH1	SU	2003	1,052,000	03-31-03	04-04-03	Knox Bridge	Salmon River (ID)
Idaho Dept. of Fish and Wildlife	Niagara Springs	ST	SU	2003	275,000	04-05-03	04-10-03	Little Salmon River	Salmon River (ID)
Idaho Dept. of Fish and Wildlife	Niagara Springs	ST	SU	2003	525,000	03-24-03	04-04-03	Hells Canyon Dam	Snake River
Idaho Dept. of Fish and Wildlife	Rapid River Hatchery	CH1	SP	2003	2,330,000	03-17-03	04-25-03	Rapid River Hatchery	Little Salmon River
<b>Idaho Dept. of Fish and Wildlife Total</b>					<b>4,664,000</b>				
Nez Perce Tribe	Hagerman NFH	ST	SU	2003	200,000	03-31-03	04-09-03	Hazard Creek/Little Salmon R	Little Salmon River
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2003	150,000	04-01-03	04-10-03	Big Canyon (Clearwater R)	Clearwater River M I
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2003	150,000	04-01-03	04-10-03	Cpt John Acclim Pond	Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH1	FA	2003	150,000	04-01-03	04-10-03	Pittsburg Landing Acclim Pond	Snake River
<b>Nez Perce Tribe Total</b>					<b>650,000</b>				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2003	128,500	04-09-03	04-10-03	L Sheep Acclim Pond	Imnaha River
Oregon Dept. of Fish and Wildlife	Round Butte Hatchery	ST	SU	2003	162,000	04-08-03	04-08-03	Bel. Pelton Dam	Deschutes River
<b>Oregon Dept. of Fish and Wildlife Total</b>					<b>290,500</b>				
U.S. Fish and Wildlife Service	Entiat Hatchery	CH1	SP	2003	395,000	04-10-03	04-10-03	Entiat Hatchery	Entiat River
U.S. Fish and Wildlife Service	Kooskia NFH	CH1	SP	2003	600,000	03-28-03	04-04-03	Kooskia Hatchery	Clearwater River M I
U.S. Fish and Wildlife Service	Spring Creek NFH	CH0	FA	2003	4,100,000	04-10-03	04-10-03	Spring Creek Hatchery	L Col R (D/s McN D)
U.S. Fish and Wildlife Service	Warm Springs NFH	CH1	SP	2003	620,000	03-26-03	04-16-03	Warm Springs Hatchery	Deschutes River
<b>U.S. Fish and Wildlife Service Total</b>					<b>5,715,000</b>				
Warm Springs Tribe	Round Butte Hatchery	CH1	SP	2003	30,000	04-04-03	04-04-03	Parkdale Acclim Pond	Hood River
<b>Warm Springs Tribe Total</b>					<b>30,000</b>				
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2003	150,000	03-15-03	04-18-03	Curl Lake	Tucannon River
Washington Dept. of Fish and Wildlife	Tucannon Hatchery	CH1	SP	2003	150,000	03-15-03	04-18-03	Curl Lake	Tucannon River
Washington Dept. of Fish and Wildlife	Washougal Hatchery	CO	NO	2003	2,500,000	03-31-03	04-04-03	Klickitat River	Klickitat River
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>2,800,000</b>				
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2003	38,564	03-14-03	05-15-03	Easton Pond	Yakama River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2003	81,301	03-14-03	05-15-03	Clark Flat Acclim Pond	Yakama River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2003	249,854	03-14-03	05-15-03	Jack Creek Acclim Pond	Yakama River
<b>Yakama Tribe Total</b>					<b>369,719</b>				
<b>Grand Total</b>					<b>14,519,219</b>				

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

## Two-Week Summary of Passage Indices

<b>COMBINED YEARLING CHINOOK</b>											
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/14/2003	* 79	10	---	13	---	---	---	---	---	---	1,111
03/15/2003	* ---	29	---	---	---	---	---	---	---	---	501
03/16/2003	* ---	---	---	---	---	---	---	---	---	---	398
03/17/2003	* 379	18	14	2	---	---	---	---	---	---	409
03/18/2003	493	90	76	4	---	---	---	---	---	---	605
03/19/2003	1,729	178	100	3	---	---	---	---	---	---	532
03/20/2003	979	107	260	1	---	---	---	---	---	---	522
03/21/2003	986	94	185	0	---	---	---	---	---	---	429
03/22/2003	* ---	82	---	---	---	---	---	---	---	---	391
03/23/2003	* ---	13	---	---	---	---	---	---	---	---	450
03/24/2003	2,640	49	415	10	---	---	---	---	---	---	524
03/25/2003	737	103	1,215	3	---	---	---	---	---	---	508
03/26/2003	565	83	516	16	1,050	---	---	---	---	---	605
03/27/2003	254	67	410	2	1,550	---	---	---	---	---	798
03/28/2003	---	---	334	---	1,950	---	---	---	---	---	---
<b>Total:</b>	<b>8,841</b>	<b>923</b>	<b>3,525</b>	<b>54</b>	<b>4,550</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,783</b>
<b># Days:</b>	<b>10</b>	<b>13</b>	<b>10</b>	<b>10</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>
<b>Average:</b>	<b>884</b>	<b>71</b>	<b>353</b>	<b>5</b>	<b>1,517</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>556</b>
<b>YTD</b>	<b>8,867</b>	<b>1,038</b>	<b>3,561</b>	<b>70</b>	<b>4,550</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,114</b>

<b>COMBINED SUBYEARLING CHINOOK</b>											
	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/14/2003	* 0	0	---	4	---	---	---	---	---	---	5,861
03/15/2003	* ---	0	---	---	---	---	---	---	---	---	940
03/16/2003	* ---	---	---	---	---	---	---	---	---	---	1,148
03/17/2003	* 0	0	0	5	---	---	---	---	---	---	708
03/18/2003	0	0	0	3	---	---	---	---	---	---	576
03/19/2003	0	0	0	1	---	---	---	---	---	---	745
03/20/2003	0	0	0	0	---	---	---	---	---	---	386
03/21/2003	0	0	0	0	---	---	---	---	---	---	259
03/22/2003	* ---	0	---	---	---	---	---	---	---	---	309
03/23/2003	* ---	0	---	---	---	---	---	---	---	---	129
03/24/2003	0	0	0	0	---	---	---	---	---	---	346
03/25/2003	0	0	0	14	---	---	---	---	---	---	259
03/26/2003	0	0	0	2	50	---	---	---	---	---	173
03/27/2003	0	0	0	1	40	---	---	---	---	---	416
03/28/2003	---	---	0	---	60	---	---	---	---	---	---
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>150</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,255</b>
<b># Days:</b>	<b>10</b>	<b>13</b>	<b>10</b>	<b>10</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>875</b>
<b>YTD</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>50</b>	<b>150</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>347,762</b>

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

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										
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/14/2003	*	0	0	---	0	---	---	---	---	---	---	0
03/15/2003	*	---	0	---	---	---	---	---	---	---	---	0
03/16/2003	*	---	---	---	---	---	---	---	---	---	---	0
03/17/2003	*	0	0	0	0	---	---	---	---	---	---	0
03/18/2003		0	0	0	2	---	---	---	---	---	---	15
03/19/2003		0	0	0	1	---	---	---	---	---	---	8
03/20/2003		0	0	0	0	---	---	---	---	---	---	7
03/21/2003		0	0	0	2	---	---	---	---	---	---	6
03/22/2003	*	---	0	---	---	---	---	---	---	---	---	0
03/23/2003	*	---	0	---	---	---	---	---	---	---	---	11
03/24/2003		0	0	0	0	---	---	---	---	---	---	16
03/25/2003		0	0	0	0	---	---	---	---	---	---	5
03/26/2003		0	0	0	0	0	---	---	---	---	---	11
03/27/2003		0	0	0	0	0	---	---	---	---	---	17
03/28/2003		---	---	0	---	0	---	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>96</b>
<b># Days:</b>		<b>10</b>	<b>13</b>	<b>10</b>	<b>10</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>
<b>YTD</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>96</b>

		COMBINED STEELHEAD										
		WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date		(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
03/14/2003	*	0	30	---	2	---	---	---	---	---	---	62
03/15/2003	*	---	76	---	---	---	---	---	---	---	---	251
03/16/2003	*	---	---	---	---	---	---	---	---	---	---	23
03/17/2003	*	3	5	8	0	---	---	---	---	---	---	82
03/18/2003		10	15	10	2	---	---	---	---	---	---	30
03/19/2003		0	27	6	3	---	---	---	---	---	---	68
03/20/2003		0	18	6	1	---	---	---	---	---	---	57
03/21/2003		2	19	4	0	---	---	---	---	---	---	19
03/22/2003	*	---	23	---	---	---	---	---	---	---	---	35
03/23/2003	*	---	19	---	---	---	---	---	---	---	---	28
03/24/2003		1	42	22	4	---	---	---	---	---	---	84
03/25/2003		1	39	6	4	---	---	---	---	---	---	108
03/26/2003		0	34	2	6	230	---	---	---	---	---	124
03/27/2003		0	37	4	3	300	---	---	---	---	---	86
03/28/2003		---	---	7	---	440	---	---	---	---	---	---
<b>Total:</b>		<b>17</b>	<b>384</b>	<b>75</b>	<b>25</b>	<b>970</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,057</b>
<b># Days:</b>		<b>10</b>	<b>13</b>	<b>10</b>	<b>10</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>
<b>Average:</b>		<b>2</b>	<b>30</b>	<b>8</b>	<b>3</b>	<b>323</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>76</b>
<b>YTD</b>		<b>17</b>	<b>476</b>	<b>81</b>	<b>26</b>	<b>970</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,057</b>

\* See sampling comments

<http://www.fpc.org/currentDaily/smpcomments.htm>

## Two-Week Summary of Passage Indices

Date	COMBINED SOCKEYE										
	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
03/14/2003	*	0	0	---	0	---	---	---	---	---	0
03/15/2003	*	---	0	---	---	---	---	---	---	---	0
03/16/2003	*	---	---	---	---	---	---	---	---	---	0
03/17/2003	*	0	0	0	0	---	---	---	---	---	0
03/18/2003		0	0	0	0	---	---	---	---	---	0
03/19/2003		0	0	0	0	---	---	---	---	---	8
03/20/2003		0	0	0	0	---	---	---	---	---	7
03/21/2003		0	0	0	0	---	---	---	---	---	6
03/22/2003	*	---	0	---	---	---	---	---	---	---	0
03/23/2003	*	---	0	---	---	---	---	---	---	---	6
03/24/2003		0	0	0	0	---	---	---	---	---	10
03/25/2003		0	0	0	0	---	---	---	---	---	0
03/26/2003		0	0	0	0	10	---	---	---	---	5
03/27/2003		0	0	0	0	10	---	---	---	---	0
03/28/2003		---	---	0	---	0	---	---	---	---	---
<b>Total:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>42</b>
<b># Days:</b>		<b>10</b>	<b>13</b>	<b>10</b>	<b>10</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>
<b>Average:</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>
<b>YTD</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>42</b>

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

### 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: 03/27**

DAM	Spring Chinook						Summer Chinook						Fall Chinook					
	2003		2002		10-Yr Avg.		2003		2002		10-Yr Avg.		2003		2002		10-Yr Avg.	
	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack
BON	7,178	6	1,337	0	748	0	0	0	0	0	0	0	0	0	0	0	0	0
TDA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JDA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MCN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IHR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LMN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LWG	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RRH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DAM	Coho						Sockeye			Steelhead			
	2003		2002		10-Yr Avg.		2003	2002	10-Yr Avg.	10-Yr			Wild 2003
	Adult	Jack	Adult	Jack	Adult	Jack				2003	2002	Avg.	
BON	0	0	0	0	0	0	0	0	0	632	670	522	42
TDA	0	0	0	0	0	0	0	0	0	0	0	0	0
JDA	0	0	0	0	0	0	0	0	0	0	0	0	0
MCN	0	0	0	0	0	0	0	0	0	0	0	0	0
IHR	0	0	0	0	0	0	0	0	0	0	0	0	0
LMN	0	0	0	0	0	0	0	0	0	0	0	0	0
LGS	0	0	0	0	0	0	0	0	0	0	0	0	0
LWG	0	0	0	0	0	0	0	0	0	11,880	3,204	2,115	1,694
PRD	0	0	0	0	0	0	0	0	0	0	0	0	0
RIS	0	0	0	0	0	0	0	0	0	0	0	0	0
RRH	0	0	0	0	0	0	0	0	0	0	0	0	0
WEL	0	0	0	0	0	0	0	0	0	0	0	0	0

LGR is through 03/25. LGR is missing data for 3/3, 3/4 and 3/6.

\*\*PRD is not reporting Wild Steelhead numbers.

These numbers were collected from the COE's Running Sums text files, except where otherwise noted.

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.

\*As Chelan CO PUD does not report wild, these numbers are from the COE.

Page last updated on: 3/28/03

BON counts from January 1, 2003 to March 14, 2003 (our counts begin March 15)

Chinook Adult	Chinook Jack	Steelhead	Wild Steelhead
3,758	0	3,443	408

### Two Week Transportation Summary

03/15/03 TO 03/28/03

		Species					
Site	Data	CH0	CH1	SO	ST	Grand Total	
<b>LGR</b>	Sum of NumberCollected	90	2,600	20	530	3,240	
	Sum of NumberBarged	0	0	0	0	0	
	Sum of NumberBypassed	0	0	0	0	0	
	Sum of Numbertrucked	89	2,583	20	530	3,222	
	Sum of TotalProjectMortalities	1	17	0	0	18	
Total Sum of NumberCollected		90	2,600	20	530	3,240	
Total Sum of NumberBarged		0	0	0	0	0	
Total Sum of NumberBypassed		0	0	0	0	0	
Total Sum of Numbertrucked		89	2,583	20	530	3,222	
Total Sum of TotalProjectMortalities		1	17	0	0	18	

### YTD Transportation Summary

TO: 03/28/03

		Species					
Site	Data	CH0	CH1	SO	ST	Grand Total	
<b>LGR</b>	Sum of NumberCollected	90	2,600	20	530	3,240	
	Sum of NumberBarged	0	0	0	0	0	
	Sum of NumberBypassed	0	0	0	0	0	
	Sum of NumberTrucked	89	2,583	20	530	3,222	
	Sum of TotalProjectMortalities	1	17	0	0	18	
Total Sum of NumberCollected		90	2,600	20	530	3,240	
Total Sum of NumberBarged		0	0	0	0	0	
Total Sum of NumberBypassed		0	0	0	0	0	
Total Sum of NumberTrucked		89	2,583	20	530	3,222	
Total Sum of TotalProjectMortalities		1	17	0	0	18	

