



## Fish Passage Center

# Weekly Report #03 - 10

May 23, 2003

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### Summary of Events:

**Water Supply:** Most Columbia Basin watersheds have received average precipitation over the first three weeks of May (Table 1). For the water year (October 1, 2002 to May 19, 2003), precipitation in most basins has been near average, with the Central Washington and Clearwater locations receiving the highest yearly totals at 116% and 111% of average, respectively. Snowpacks throughout the Columbia Basin are also near normal for this time of year.

**Table 1. Summary of April precipitation and cumulative October through May precipitation**

Location	May 1-19, 2003		Cumulative October, 1 2002 to May 19, 2003	
	Observed (inches)	% Average	Observed (inches)	% Average
Columbia Above Coulee	1.11	81	15.78	91
Snake River Above Ice Harbor	1.33	115	13.09	101
Columbia Above The Dalles	1.06	88	16.48	96
Kootenai	1.00	73	15.11	85
Clark Fork	1.18	94	11.46	100
Flathead	1.27	85	13.24	87
Pend Oreille/Spokane	1.32	82	23.62	98
Central Washington	0.16	34	8.18	116
Snake River Plain	1.15	127	6.60	82
Salmon/Boise/Payette	1.43	130	16.12	104
Clearwater	2.05	110	25.29	111
SW Washington Cascades/Cowlitz	1.82	78	55.45	91
Willamette Valley	2.04	94	50.44	96

Table 2 displays the April Final, May Final, and May Mid-month Update runoff volume forecasts for multiple reservoirs. Generally, runoff volume forecasts have been steadily rising over the spring; however, the May Mid-Month forecast shows slightly decreased runoff volume forecasts for all basins reported in Table 2.

**Table 2. March Final, April Final and May Mid-Month Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.**

Location	April Final		May Final		May Mid-Month	
	% 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)	79	85300	84	90200	83	89300
Grand Coulee (Jan-July)	84	52900	88	55500	87	54900
Libby Res. Inflow, MT (Jan-July)	79	4960	82	5200	80	5060
Hungry Horse Res. Inflow, MT (Jan-July)	81	1800	85	1900	84	1870
Lower Granite Res. Inflow (Apr- July)	79	17100	86	18500	83	17900
Brownlee Res. Inflow (Apr-July)	53	3370	56	3520	53	3360
Dworshak Res. Inflow (Apr-July)	90	2390	88	2330	87	2290

Based on the April Final Forecasts, the following Biological Opinion actions will be targeted in the spring of 2003:

✍ Lower Granite: The Spring Flow Objective will be 89.1 Kcfs between April 3rd and June 20th. To date, the average flow at Lower Granite between April 3rd and May 22nd, 2003 has been 72.1 Kcfs.

✍ McNary: The Spring Flow Objective will be 220 Kcfs between April 10th and June 30th. To date, the average flow at McNary between April 10th and May 22nd, 2003 has been 210.2 Kcfs.

✍ Priest Rapids: The Spring Flow Objective will be 135 Kcfs between April 10th and June 30th. To date, the average flow at Priest Rapids between April 10th and May 22nd, 2003 has been 135.6 Kcfs.

On April 17th, SOR 2003-7 was submitted to the Action Agencies and asked for the Biological Opinion flow objective of 135 Kcfs to be met at Priest Rapids from April 24th through the end of June. This SOR was accepted by the Action Agencies. Outflows at Priest Rapids averaged 139.3 Kcfs April 24-30, 141.5 Kcfs May 1-7, 142.5 Kcfs May 8-14, and 148.4 Kcfs May 15-21. At the 5-21-03 TMT meeting, the Fishery Managers again asked the Action agencies to keep weekly averages as close to 135 Kcfs as possible, to ensure that Grand Coulee will refill and the flow objective of 135 Kcfs could be met through June. The Action Agencies again agreed to tighten up the flows at Priest Rapids to average very close to 135 kcfs.

Also on the 17th of April, SOR 2003-8 was submitted to the Action Agencies based upon survey reports indicating increased stranding and entrapment of juvenile fall chinook below Priest Rapids Dam. The SOR asks for flow fluctuations to be limited relative to the previous days flow average. The action agencies maintain that Grant County PUD is the responsible party and Grant County has maintained that federal flow control is responsible. No indication of compromise between Grant County PUD and the Action Agencies on the implementation of SOR 2003-8 has been indicated to date. However, since the submittal of SOR 2003-8, flow fluctuations have been moni-

tored and compared to the flow bands indicated in the SOR. The following table displays the actual daily average flow (determines flow band), actual daily flow fluctuations, and the flow band suggested by SOR 2003-8 at Priest Rapids Dam over the last week.

**Table 3. Actual daily average flow (determines flow band), actual daily flow fluctuation, and the flow band suggested by SOR 2003-8 at Priest Rapids Dam from May 16th to May 22nd.**

Date	Daily Average Flow (Kcfs)	Daily Flow Fluctuation (Kcfs)	Flow Band According to SOR 2003-8
5-16-2003	160.2	43.1	20
5-17-2003	137.4	25.5	20
5-18-2003	131.5	34.8	20
5-19-2003	128.8	58.1	20
5-20-2003	158.5	51.2	20
5-21-2003	158.9	29.7	20
5-22-2003	192.7	106.8	20

From Table 3, the flow bands recommended by SOR 2003-8 at Priest Rapids Dam were met in four of the thirty-six days since April 17th, 2003.

The Libby Reservoir is currently at an elevation of 2420.7 feet and has been operating to a minimum discharge of 4.0 Kcfs. Inflows to Libby are currently 10.8 Kcfs (5-22-03); over the last week Libby has filled 3.2 feet.

The Hungry Horse Reservoir is currently at an elevation of 3527.5 feet, and has refilled 1.2 feet in the last week.

The Dworshak Reservoir is currently at an elevation of 1560.7 feet and has been releasing approximately 10.0 kcfs of water. At the May 21, 2003 TMT Meeting the Salmon Managers agreed with the flowing operation at Dworshak: outflows of 15 Kcfs on Wednesday (5-21-03), 10 Kcfs on Thursday, Friday, Saturday (5-22, 23, 24), 7.5 Kcfs on Sunday and Monday (5-25, 26), and 1.5 on Tuesday (5-27).

The Grand Coulee Reservoir ended May 22nd at an elevation of 1266.4 feet and has drafted 5.1 feet in the last week.

The Brownlee Reservoir was at an elevation of 2075.1 on May 22nd, 2003, 1.9 feet from its full pool elevation.

The USBR reservoir systems along the Boise, Payette, and Upper Snake Basins are currently 66%, 76%, and 60% of capacity.

**Spill:** Little spill occurred at Dworshak Dam over last weekend because outflow was decreased to take advantage of a natural increase in flows that occurred above Lower Granite Dam. Following the weekend the project was operated at full powerhouse and spilled to the 110% TDG gas cap until midnight on May 21st, when spill was discontinued. Lower Granite, Little Goose, Lower Monumental and Ice Harbor dams over the past week again averaged lower proportions of spill at 26%, 25%, 44% and 58% of average daily flow, respectively.

Spill over the past week at McNary, John Day, The Dalles and Bonneville dams also decreased over the past week averaging 32%, 24%, 39%, and 51% of average daily flow, respectively. A few fish have been sampled at Rock Island Dam and Lower Monumental Dam with signs of GBT in their fins. Total dissolved gas levels remain at, or very near, the gas waiver limits.

**Smolt Monitoring:** At the Snake River tributary traps yearling chinook continued to be collected in low numbers over the past week, while steelhead numbers decreased at all but the Grande Ronde trap. The passage indices of yearling chinook at Lower Snake dams remained high this past week, but lower than the previous week. Steelhead passage in the Lower Snake increased over last week. In the Lower Columbia the numbers of yearling chinook, steelhead, sockeye and coho have again remained relatively high this past week at all SMP sites.

The White Bird Trap collected an average of 27 yearling chinook per day in the seven days from April 25 to May 1 compared to 25 per day the previous week. Steelhead numbers were down this week, with the average daily collection this week at 18 compared to 110 per day last week. At

the Imnaha Trap the average daily catch of yearling chinook this week was 43 compared to 66 last week. The numbers of steelhead were relatively lower at 791 per day average collection compared to 1,900 per day last week. Numbers of yearling chinook captured at the Grande Ronde Trap were low again this week with a daily average of 27 chinook compared to 16 last week. Steelhead collection was higher, at 69 per day this week compared to 31 per day last week. At the Lewiston Trap the collection of yearling chinook was up to 35 per day average, compared to 16 last week, while steelhead collection was lower at 164 per day this week compared to 200 per day last.

At Lower Granite Dam the average daily passage index for yearling chinook decreased to 70,600 this past week while steelhead increased to 83,000. The yearling chinook index averaged 77,000 last week while steelhead rose from 59,000 last week. The index for coho averaged 3,700 this past week, while small numbers of sockeye and subyearling chinook were also captured this past week. Little Goose and Lower Monumental dams both continued to have relatively large numbers of yearling chinook and steelhead at the projects. At Little Goose the index for yearling chinook averaged 50,000 this week compared to 53,000 last week, while at Lower Monumental the index averaged 20,000 this week compared to 15,000 last. The index for steelhead at Little Goose averaged approximately 36,000 compared to 19,000 last week and at Lower Monumental the index was up considerably at 41,000 compared to 26,000 last week.

The bypass at Rock Island was shut down on May 14 this week while repairs were being made to the seals and guides in slide gates that feed water into the bypass. The system is operating at partial capacity while repairs continue. The repairs are projected to be finished by May 27. The site reports a relative increases in steelhead, coho and subyearling chinook indices this week, while small numbers of yearling chinook and sockeye continue to be collected.

In the Lower Columbia, at McNary, where sampling is carried out every other day, in conjunction with NMFS transportation study that began

April 20, the passage index for yearling chinook decreased to 96,000 compared to 107,000 last week. Steelhead indices increased from 5,300 last week to 10,000 this week. The daily average index for subyearling chinook increased from 2,300 per day last week to 4,200 this week. Sockeye indices were up to 76,000 this week compared to 53,000 the previous week. At John Day Dam the average daily index for yearling chinook continued to increase to 63,000 this week compared to 50,000 last week. Steelhead indices were up, with an average of 9,600 this week versus 6,100 last week. Coho indices increased this week averaging 3,270 this week compared to 2,500 last week. Sockeye numbers increased last week to an average of 48,000 per day compared to 12,000 per day last week.

At Bonneville Dam, the average daily index for yearling chinook was at 125,000 this week compared to 86,000 last week. The steelhead index averaged 33,700 this week compared to 20,000 last week. The indices for coho were down this week with an average index of 33,000 compared to 46,000 per day last week. Subyearling chinook daily indices averaged 15,000 per day this week compared to 81,000 per day last week when the peak of 3.4 million Spring Creek Hatcherly releases passed. Sockeye indices increased rapidly over the past two weeks with the weekly average index this week reaching 101,000 compared to 23,700 last week.

**Hatchery Releases** - The preliminary hatchery total of juvenile salmonids released above Bonneville Dam for the 2003 migration season will approximate 86.6 million from Columbia River Basin hatcheries. Approximately 8.6 million juvenile salmonids were released or releases were initiated during the past two weeks, with 5.6 million fish scheduled for release in the upcoming two weeks.

**Snake River** - About 27.5 million smolts will be released in the Snake River Basin from State, Federal, and Tribal hatcheries and acclimation ponds for the 2003 migration year. All yearling spring, summer, and fall chinook have been released from hatcheries, acclimation facilities, or

directly released river systems in Idaho, SE Washington, and NE Oregon.

During fall 2002, approximately 140,000 sockeye were released in the upper Salmon R basin lakes.

About 1.2 million yearling coho salmon were released in the Clearwater River basin for the 2003 migration season.

Releases of juvenile steelhead (9.5 million scheduled) should be completed by the end of this week. Releases occurred throughout the Snake, Salmon, Clearwater, Imnaha, Grande Ronde, and Tucannon River basins for the 2003 migration. Subyearling fall chinook releases are beginning in the Snake River and Clearwater River. Fall chinook releases will continue through June.

**Mid-Columbia River** - About 22.1 million yearling and subyearling salmon species will be released in the Mid-Columbia River and its tributaries during the 2003 migration year. The scheduled yearling spring chinook from the acclimation ponds in the Yakima River basin; releases of yearling spring chinook from the upper mid-Columbia are now completed for the spring season.

Yearling summer chinook released from Wells and Eastbank Complex hatcheries have been completed for the season with only the research release groups remaining. Yearling summer chinook were released into the Methow, Wenatchee, and mainstem Mid-Columbia rivers for the 2003 migration.

Subyearling fall and summer chinook are scheduled for release from late May through June. These fish comprise the highest percentage and numbers of juvenile salmon released in the Mid-Columbia River (about 12.5 million scheduled). 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 yearling coho were released in the Yakama River basin, the Wenatchee River basin and the Methow River basin this migration season.

Approximately 1.3 million juvenile steelhead are scheduled for release from mid-April through mid-May. These releases should be completed by

this week or early next week from the Wells Hatchery complex. Steelhead were released in the Okanogan, Methow, Entiat, Wenatchee, and mainstem Mid-Columbia rivers for the 2003 migration.

Subyearling summer and fall chinook salmon will be released from late May thru late June or early July. About 12 million will be released in this Mid-Columbia Reach.

**Lower Columbia River** - The Lower Columbia River Zone is scheduled to release about 36.9 million salmon and steelhead for the 2003 migration. Fish remaining to be released are the upriver bright fall chinook.

Release of yearling spring chinook from State, Tribal and Federal hatcheries is completed for the year. Fish were released in the Klickitat, Umatilla, Deschutes, Hood, Wind, and Little White Salmon rivers with yearling fall chinook released in the Umatilla River basin.

Yearling coho salmon have been released in the Klickitat, Little White Salmon, and Umatilla rivers to date. Klickitat Hatchery should complete volitional release of about 1.0 million yearling coho the end of May.

Summer steelhead were released in the Klickitat, possibly Little White Salmon (Drano L), Big White Salmon, Umatilla, Deschutes, and Hood rivers this year. Releases should be completed at all the sites. Winter steelhead were released in the Hood River and Big White Salmon River for the 2003 season.

Subyearling fall chinook releases will be ongoing in the Umatilla River this week and to the end of May. Other release groups are scheduled for the Klickitat and Little White Salmon rivers in June.

**Adult Fish Passage** - During the past week, daily counts of adult spring chinook at Bonneville Dam ranged from a high count of 2,378 to a low of 807. Through May 22, the cumulative count of adult spring chinook was 178,742, about 71.2% of the 2002 count, and 155% of the 10-year average count. No updates were posted for sampling of adult fish at Bonneville Dam for the week. Also at Bonneville Dam, counts of Jack spring chinook salmon are greater than double the year 2000 and

10-year average count and now exceeds the Year 2001 Jack chinook total through May 22. Based on PIT tag observations, summer chinook from S. Fork Salmon River and spring/summer chinook from the Imnaha and Grande Ronde River basins have been passing the dam in increasing numbers. A few summer chinook from the Mid-Columbia are also beginning to pass the project.

Counts of adult spring chinook at The Dalles ranged from 691 to 1,466 with the average passage for the week of 1,178 per day, about 300 less per day than the previous week. The cumulative count was 117,390 about 65.7% of the Bonneville count through May 22nd. At McNary Dam, 81,379 were counted through May 22 with about 62,200 counted into the Snake River at Ice Harbor Dam. At Priest Rapids Dam, close to 15,800 adult spring chinook have been tallied through May 22. For the Yakama River, about 3,500 adult chinook have been counted at Prosser Dam through May 19. These three counting sites account for about 81,500 of the total 81,400 spring chinook past McNary Dam.

**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
05/09/03	108.8	0.0	117.3	0.0	128.7	8.3	127.0	33.9	129.1	28.1	135.8	51.7	140.1	72.1
05/10/03	107.2	0.2	105.3	0.0	110.7	7.7	111.1	28.7	114.8	23.8	116.7	26.2	120.1	62.9
05/11/03	95.6	0.0	94.2	0.0	101.9	7.5	101.2	24.2	107.1	20.2	103.4	12.2	108.1	64.2
05/12/03	140.5	0.0	136.4	0.0	139.2	14.0	133.7	35.8	133.9	29.1	134.0	13.9	130.7	53.0
05/13/03	143.7	0.0	145.5	0.0	158.8	12.6	161.0	32.0	163.7	26.7	180.9	51.7	187.5	114.6
05/14/03	119.8	0.0	131.4	0.0	142.6	8.6	141.1	32.5	145.8	27.8	149.5	56.9	148.3	67.1
05/15/03	136.1	0.0	135.2	0.0	141.8	9.1	140.6	35.2	144.3	29.0	158.9	59.9	163.6	70.8
05/16/03	141.3	0.0	141.8	0.0	150.5	9.1	146.0	33.8	150.0	28.2	155.4	56.2	160.2	62.9
05/17/03	101.5	0.0	108.7	0.0	124.4	8.8	130.0	31.7	135.6	26.2	132.6	48.0	137.4	64.7
05/18/03	91.1	0.0	85.1	0.0	87.7	6.4	83.6	27.5	89.1	22.3	126.4	45.7	131.5	70.9
05/19/03	136.2	0.0	137.9	0.0	146.5	9.1	144.8	34.6	146.0	29.1	122.7	25.7	128.8	79.8
05/20/03	139.2	0.0	138.8	0.0	147.5	9.2	146.9	33.5	149.5	27.8	152.9	12.2	158.5	98.5
05/21/03	144.2	0.0	140.9	5.0	148.3	8.7	148.2	35.0	149.7	28.9	151.7	15.1	158.9	77.7
05/22/03	149.8	0.0	148.8	1.1	166.2	9.8	166.8	35.6	168.6	28.4	183.5	52.5	192.7	96.6

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

Date	Dworshak		Brownlee Canyon		Hells Granite		Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/09/03	15.3	5.3	18.2	17.0	68.0	20.5	68.9	20.3	66.4	30.8	69.9	34.0		
05/10/03	14.9	5.3	17.5	16.2	66.1	25.6	63.5	19.2	62.9	30.2	67.9	44.5		
05/11/03	14.4	5.1	16.7	15.2	64.0	20.5	63.5	18.5	59.9	30.0	68.1	49.2		
05/12/03	14.6	5.1	20.3	19.3	65.2	15.7	65.7	19.7	62.4	29.6	66.7	42.3		
05/13/03	14.7	5.2	19.7	20.9	72.4	20.8	70.5	18.7	69.5	32.5	73.7	36.2		
05/14/03	14.7	5.2	20.5	20.5	78.2	25.5	75.9	18.1	74.5	32.4	79.2	48.4		
05/15/03	14.8	5.2	20.9	20.3	79.2	20.5	79.9	18.3	77.5	32.5	83.1	61.3		
05/16/03	13.1	3.6	20.5	20.8	87.0	15.3	85.7	17.9	84.1	34.3	88.9	52.7		
05/17/03	9.5	0.0	19.4	21.4	89.7	20.4	89.1	18.5	88.7	34.5	94.3	46.9		
05/18/03	7.5	1.4	17.9	21.3	83.8	25.6	81.6	19.9	78.8	35.0	84.0	48.1		
05/19/03	15.3	5.3	17.0	13.5	83.8	20.5	84.1	20.4	82.7	36.9	88.5	60.3		
05/20/03	15.2	5.2	16.7	13.5	72.1	15.4	72.0	20.4	67.8	31.9	75.5	43.9		
05/21/03	14.9	4.9	16.5	14.1	74.4	20.4	75.5	20.4	72.6	32.0	78.8	39.2		
05/22/03	10.0	0.0	---	---	72.0	25.6	66.9	18.9	62.7	28.9	70.4	44.9		

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

Date	McNary		John Day		The Dalles		Bonneville			
	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
05/09/03	224.1	73.9	231.3	70.9	236.0	91.6	257.5	103.1	44.1	103.6
05/10/03	201.0	68.2	216.6	52.4	218.6	84.8	230.9	155.8	0.0	68.4
05/11/03	180.2	65.1	169.6	39.2	168.6	67.0	212.9	148.5	0.0	57.7
05/12/03	189.8	69.1	198.9	51.0	200.3	78.3	217.2	95.6	24.9	90.0
05/13/03	218.0	79.9	201.3	66.4	196.2	77.5	218.0	99.4	14.6	97.3
05/14/03	256.5	102.7	265.0	72.3	260.4	100.1	259.0	143.8	16.4	92.0
05/15/03	226.4	73.3	218.2	64.8	218.8	85.3	254.6	142.2	8.0	97.4
05/16/03	242.7	72.7	244.4	64.3	242.2	96.0	261.5	146.3	9.2	99.3
05/17/03	241.3	71.4	237.9	56.6	235.9	92.7	245.6	148.7	1.1	89.1
05/18/03	224.9	71.2	239.0	60.2	236.9	93.5	254.9	100.2	43.6	104.4
05/19/03	217.8	71.8	222.6	61.4	220.9	86.8	257.4	101.1	49.2	102.9
05/20/03	215.6	72.6	212.3	48.7	212.6	89.2	226.6	153.1	0.0	66.6
05/21/03	217.0	71.7	218.6	42.7	221.9	83.5	245.8	146.6	5.3	87.1
05/22/03	201.8	82.4	248.8	58.3	247.2	93.5	259.8	97.4	60.2	94.8

## Gas Bubble Trauma Monitoring Results from Representative Sites on the Snake River and Columbia River

Site	Date	Species	Number of Fish	Number w GBT signs	Number w Fin Signs	% Fin GBT	% Severe Fin GBT	Number of Fish with Fin GBT Listed by Highest Rank			
								Rank 1	Rank 2	Rank 3	Rank 4
<b>Lower Granite Dam</b>											
	05/13/03	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Little Goose Dam</b>											
	05/14/03	Chinook + Steelhead	100	1	1	1.00%	0.00%	0	1	0	0
	05/21/03	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Lower Monumental Dam</b>											
	05/19/03	Chinook + Steelhead	100	6	6	6.00%	0.00%	6	0	0	0
<b>McNary Dam</b>											
	05/16/03	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/18/03	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Bonneville Dam</b>											
	05/16/03	Chinook + Steelhead	91	1	1	1.10%	0.00%	0	1	0	0
	05/19/03	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/22/03	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
<b>Rock Island Dam</b>											
	05/19/03	Chinook + Steelhead	100	0	0	0.00%	0.00%	0	0	0	0
	05/22/03	Chinook + Steelhead	100	3	3	3.00%	0.00%	3	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 Upper Columbia River Sites

Date	Hungry H. Dnst			Boundary				Grand Coulee				Grand C. Tlwr			Chief Joseph					
	24 h		12 h	#	24 h		12 h	#	24 h		12 h	#	24 h		12 h	#	24 h		12 h	#
	Avg	Avg	High		hr	Avg	Avg		High	hr	Avg		Avg	High	hr		Avg	Avg	High	
5/9	99	99	99	24	117	120	121	24	108	108	108	24	106	106	107	24	106	106	107	23
5/10	98	98	98	24	117	120	121	24	107	108	108	24	106	106	107	24	106	107	107	23
5/11	98	99	99	24	117	121	121	24	108	108	108	24	107	107	108	24	106	107	107	23
5/12	98	99	99	24	118	121	121	24	108	108	109	24	107	107	108	24	107	107	108	23
5/13	98	98	99	24	117	121	122	24	109	110	111	24	107	107	108	24	107	107	108	23
5/14	98	99	100	24	119	122	122	24	111	111	111	24	108	109	109	24	107	108	108	23
5/15	98	99	99	24	119	121	121	24	109	109	110	24	107	108	109	24	107	107	108	23
5/16	98	98	98	24	117	120	121	24	108	108	108	24	106	107	108	24	106	107	107	23
5/17	98	99	99	24	116	119	120	24	108	108	108	24	106	107	109	24	106	106	106	23
5/18	97	97	98	12	112	112	119	9	107	107	107	24	106	106	107	8	105	106	106	23
5/19	97	97	97	24	117	119	119	24	107	107	107	24	105	106	107	24	105	105	106	22
5/20	98	98	99	24	115	120	121	24	107	108	110	24	107	108	127	24	106	107	107	23
5/21	98	99	99	24	114	120	120	23	108	109	109	24	106	107	107	24	107	107	107	23
5/22	99	99	99	24	116	120	121	24	109	109	109	24	107	107	109	24	107	107	107	23

### Total Dissolved Gas Saturation Data at Mid Columbia River Sites

Date	Chief J. Dnst			Wells				Wells Dwnstrm				Rocky Reach			Rocky R. Tlwr					
	24 h		12 h	#	24 h		12 h	#	24 h		12 h	#	24 h		12 h	#	24 h		12 h	#
	Avg	Avg	High		hr	Avg	Avg		High	hr	Avg		Avg	High	hr		Avg	Avg	High	
5/9	106	106	106	23	106	106	107	24	108	108	108	24	107	108	108	23	109	109	111	23
5/10	105	106	107	23	106	107	108	24	108	108	109	24	107	107	107	22	109	109	109	22
5/11	106	106	107	23	107	108	110	23	109	109	110	23	107	107	107	23	109	109	109	23
5/12	106	107	107	23	107	107	108	24	110	111	122	24	108	109	109	23	111	112	113	22
5/13	106	107	107	23	107	107	107	19	111	113	125	19	109	109	110	24	111	112	113	23
5/14	107	107	108	23	108	108	108	24	109	110	110	24	112	113	115	23	114	115	116	22
5/15	107	107	107	23	106	107	107	24	108	108	109	24	108	109	109	23	111	112	113	23
5/16	106	106	107	23	106	106	106	24	107	107	108	24	107	107	107	24	109	110	112	23
5/17	105	106	106	23	106	106	106	17	107	107	108	17	106	106	106	8	108	108	109	6
5/18	105	105	106	23	105	105	105	24	106	107	107	24	105	105	106	23	109	110	111	23
5/19	105	105	105	22	105	105	106	23	107	107	108	23	106	106	107	24	109	110	110	23
5/20	106	106	107	23	106	106	106	23	108	108	108	23	107	107	108	21	109	110	111	19
5/21	111	115	132	23	106	107	107	24	108	109	109	24	108	108	108	23	110	111	112	22
5/22	107	108	112	23	107	107	108	24	109	109	110	24	108	109	109	23	111	111	112	20

### Total Dissolved Gas Saturation at Mid Columbia River Sites

Date	Rock Island			Rock I. Tlwr				Wanapum				Wanapum Tlwr			Priest Rapids					
	24 h		12 h	#	24 h		12 h	#	24 h		12 h	#	24 h		12 h	#	24 h		12 h	#
	Avg	Avg	High		hr	Avg	Avg		High	hr	Avg		Avg	High	hr		Avg	Avg	High	
5/9	109	109	109	24	115	116	123	22	110	111	114	24	116	116	117	24	112	112	115	12
5/10	109	109	109	22	113	113	113	21	111	113	116	24	115	116	126	24	---	---	---	0
5/11	109	109	109	24	113	113	113	24	112	113	114	24	114	115	115	24	---	---	---	0
5/12	110	111	111	24	117	120	123	24	112	112	113	24	115	115	115	9	---	---	---	0
5/13	111	112	112	23	117	119	124	23	111	112	112	24	117	118	119	24	---	---	---	0
5/14	113	114	115	22	120	121	125	21	113	113	114	24	119	119	120	24	117	117	118	8
5/15	111	112	113	22	118	119	122	22	10	10	10	24	10	10	10	24	10	10	10	24
5/16	110	111	111	23	117	119	122	21	110	111	111	24	117	117	118	24	116	116	116	24
5/17	110	110	110	8	121	121	123	8	109	110	110	24	114	115	116	24	113	114	115	24
5/18	109	109	110	23	115	118	121	23	108	108	109	24	114	114	115	24	111	112	112	24
5/19	109	110	110	24	117	120	123	24	109	112	114	24	113	114	115	24	112	113	114	24
5/20	110	111	112	20	118	119	125	20	112	113	114	24	113	113	114	24	113	114	115	24
5/21	111	111	112	23	118	119	123	23	112	114	115	24	114	115	116	24	113	114	115	24
5/22	111	112	112	23	118	119	125	20	---	---	---	0	---	---	---	0	---	---	---	0



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

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

Date	Priest R. Dnst				Pasco				Dworshak				Clrwtr-Peck				Anatone			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
5/9	118	119	120	24	114	115	116	21	108	108	108	24	104	104	105	24	102	103	103	23
5/10	117	117	117	24	113	114	114	24	107	107	108	23	104	105	105	23	103	104	104	24
5/11	117	117	118	24	113	114	114	24	108	108	109	24	104	104	105	24	102	103	104	24
5/12	115	116	117	17	112	113	113	24	108	108	108	24	103	104	104	24	102	102	103	24
5/13	117	117	117	15	113	115	116	24	108	109	109	24	104	105	106	24	103	104	105	24
5/14	116	116	117	24	115	116	116	24	109	109	109	24	104	105	106	24	103	104	105	24
5/15	10	10	10	24	113	113	114	24	108	108	109	24	103	103	104	24	102	102	103	24
5/16	114	114	115	24	111	112	112	24	105	108	108	24	102	103	104	24	102	103	103	24
5/17	113	113	114	24	111	112	112	24	98	98	99	24	101	101	102	24	103	103	104	24
5/18	113	114	114	24	111	111	112	24	103	106	107	24	101	102	103	24	103	103	103	24
5/19	115	116	116	24	111	113	114	23	107	107	108	24	104	105	106	24	104	105	105	24
5/20	117	117	117	24	114	115	115	21	107	108	108	24	104	104	105	24	104	104	105	24
5/21	116	116	117	24	114	115	116	21	107	107	108	24	104	104	104	24	103	104	105	24
5/22	---	---	---	0	114	115	115	24	99	99	99	17	101	102	103	24	104	104	105	23

### Total Dissolved Gas Saturation Data at Snake River Sites

Date	Clrwtr-Lewiston				Lower Granite				L. Granite Tlwr				Little Goose				L. Goose Tlwr			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
5/9	103	104	105	24	103	103	104	23	111	118	119	24	107	108	110	23	112	116	118	23
5/10	103	105	106	23	103	103	104	24	112	115	119	24	108	109	109	24	112	116	117	24
5/11	103	104	105	24	104	104	106	24	110	111	112	24	109	110	110	24	112	115	117	24
5/12	102	103	104	24	103	104	104	24	109	114	120	24	109	110	110	24	113	116	117	24
5/13	103	105	107	24	104	105	107	24	111	119	120	24	111	112	113	24	113	116	117	24
5/14	104	105	107	24	104	104	105	24	112	114	119	24	111	112	112	24	113	116	116	24
5/15	102	103	103	24	103	103	104	24	109	110	110	24	109	109	109	24	112	115	116	24
5/16	102	103	104	24	103	103	103	24	108	113	118	24	107	107	108	24	111	114	115	24
5/17	100	101	102	24	101	101	102	24	109	117	118	24	105	106	106	24	110	114	115	24
5/18	100	101	103	24	100	101	101	24	111	114	118	24	104	104	105	24	110	115	116	24
5/19	103	105	106	24	101	102	103	24	108	109	110	24	105	106	107	24	111	116	117	24
5/20	103	104	105	24	102	103	103	23	107	112	118	23	106	108	109	24	112	117	117	24
5/21	103	104	105	24	104	105	107	24	111	118	119	24	109	109	110	24	113	116	117	24
5/22	102	104	105	24	106	106	107	24	113	115	119	24	109	109	109	24	112	116	117	24

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

Date	Lower Mon.				L. Mon. Tlwr				Ice Harbor				Ice Harbor Tlwr				McNary-Oregon			
	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#	24 h		12 h		#
	Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr		Avg	Avg	High	hr	
5/9	112	113	114	24	118	119	120	24	115	116	118	24	112	113	114	24	112	113	115	24
5/10	111	112	113	24	118	119	120	24	114	115	117	24	113	114	114	24	112	113	115	24
5/11	112	114	115	24	118	119	121	24	115	115	115	24	113	114	114	24	113	114	115	24
5/12	113	114	115	24	117	118	119	24	115	115	116	24	113	114	115	24	113	114	116	24
5/13	112	113	114	24	118	119	120	24	116	118	121	24	112	113	115	24	113	115	118	24
5/14	114	115	116	24	119	120	120	24	116	116	117	24	114	114	115	24	112	112	113	24
5/15	114	114	116	24	118	119	120	24	115	115	116	24	114	115	118	24	111	111	112	24
5/16	111	111	112	24	118	119	119	24	112	112	113	24	114	115	117	24	109	110	110	24
5/17	109	111	112	24	118	119	120	24	111	112	112	24	114	114	114	24	108	108	109	24
5/18	109	110	111	24	118	119	119	24	111	112	112	24	113	114	114	24	109	110	111	24
5/19	109	112	114	24	119	120	121	24	112	114	115	24	114	114	115	24	109	110	112	23
5/20	110	112	115	24	118	120	121	24	114	115	117	23	113	114	115	24	110	111	113	24
5/21	111	114	115	24	119	120	121	24	116	117	118	24	113	114	115	24	113	116	121	24
5/22	112	113	115	24	118	120	121	24	117	117	119	24	113	114	116	24	114	116	118	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	McNary-Wash				McNary Tlwr				John Day				John Day Tlwr				The Dalles			
	24 h		12 h		24 h		12 h		24h		12h		24h		12h		24h		12h	
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
5/9	113	114	114	24	116	120	120	24	107	107	107	23	113	118	119	24	109	111	113	23
5/10	114	115	116	24	115	119	120	24	108	109	110	23	113	117	118	24	109	113	114	23
5/11	114	114	115	24	116	118	119	24	109	109	110	23	113	117	119	24	109	110	112	23
5/12	114	115	116	24	116	119	120	24	109	110	110	23	113	118	119	24	110	111	112	23
5/13	113	115	118	24	116	120	121	24	112	114	116	23	114	117	118	24	111	113	116	23
5/14	113	113	115	24	118	121	121	24	113	113	114	23	115	119	120	24	113	115	116	23
5/15	111	111	112	24	115	120	120	24	112	113	113	23	115	118	120	24	111	112	113	23
5/16	108	109	109	24	114	120	120	24	109	110	110	23	114	118	119	24	112	115	116	23
5/17	107	107	108	24	114	120	120	24	108	109	109	23	113	117	119	24	109	110	111	23
5/18	107	108	109	24	113	119	120	24	106	107	107	23	112	117	119	24	108	110	111	23
5/19	109	111	112	24	114	119	120	24	107	108	110	23	111	117	119	24	110	113	116	23
5/20	110	111	112	24	115	120	121	24	107	107	108	23	112	117	118	24	110	113	115	23
5/21	113	114	115	24	116	120	121	24	107	108	109	23	112	117	119	24	109	110	113	19
5/22	115	116	117	24	117	120	121	24	110	110	112	23	113	117	119	24	110	112	113	23

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

Date	The Dalles Dnstr				Bonneville				Warrendale				Camas/Washugal			
	24 h		12 h		24 h		12 h		24h		12h		24h		12h	
	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/9	115	116	117	24	108	109	109	16	112	115	117	23	110	112	113	24
5/10	115	117	119	24	109	109	110	23	117	118	118	23	111	115	116	24
5/11	115	116	118	24	111	112	112	23	118	119	119	23	115	117	117	24
5/12	115	116	116	24	111	112	113	23	114	115	117	23	114	115	116	24
5/13	116	117	119	24	111	112	113	23	114	116	118	23	114	116	118	24
5/14	118	118	119	24	113	113	114	23	117	118	118	23	113	115	116	24
5/15	116	117	117	24	111	111	112	23	116	117	118	23	112	113	113	24
5/16	117	118	119	24	111	111	111	23	117	117	118	23	112	112	112	24
5/17	115	116	118	24	111	112	112	23	118	118	119	23	111	112	112	24
5/18	115	116	116	24	110	111	111	23	113	115	117	23	111	112	114	24
5/19	116	118	119	24	111	111	112	23	113	115	118	23	109	110	112	24
5/20	116	117	118	24	114	115	115	23	119	119	120	23	112	115	116	24
5/21	116	117	118	24	114	115	116	23	119	119	120	23	116	117	118	24
5/22	116	117	118	24	115	116	117	23	116	117	118	23	115	116	117	24

# HATCHERY RELEASE SUMMARY LAST TWO WEEKS

## Hatchery Release Summary

From: **5/9/2003** to **5/22/2003**

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Idaho Dept. of Fish and Wildlife	Oxbow-Idaho		FA	2003	500,000	05-16-03	05-20-03	Hells Canyon Dam	Snake River
<b>Idaho Dept. of Fish and Wildlife Total</b>					<b>500,000</b>				
Nez Perce Tribe	Cherry Lane Hatchery	CH0	FA	2003	250,000	05-19-03	05-31-03	Lapwai Creek	Clearwater River M F
Nez Perce Tribe	Cherry Lane Hatchery	CH0	FA	2003	250,000	05-19-03	06-07-03	Cherry Lane Hatchery	Clearwater River M F
Nez Perce Tribe	Hagerman NFH	ST	SU	2003	88,093	05-05-03	05-09-03	Newsome Creek	S Fk Clearwater River
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2003		05-19-03	05-30-03	Pittsburg Landing Acclim Pond	Snake River
					400,000				
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2003	500,000	05-19-03	05-30-03	Big Canyon (Clearwater R)	Clearwater River M F
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2003	500,000	05-19-03	05-30-03	Cpt John Acclim Pond	Snake River
<b>Nez Perce Tribe Total</b>					<b>1,988,093</b>				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2003		05-08-03	05-23-03	Big Canyon Acclim.Pd (Grande Ronde)	Grande Ronde River
					130,500				
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2003	217,000	05-07-03	05-22-03	Wallowa Acclim Pond	Wallowa River
<b>Oregon Dept. of Fish and Wildlife Total</b>					<b>347,500</b>				
Shoshone-Bannock Tribe	Hagerman NFH	ST	SU	2003	131,659	05-12-03	05-14-03	Yankee Fk Pond	Salmon River (ID)
<b>Shoshone-Bannock Tribe Total</b>					<b>131,659</b>				
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2003	300,000	05-21-03	05-30-03	Thornhollow Acclim Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2003	300,000	05-21-03	05-30-03	Umatilla River	Umatilla River
<b>Umatilla Tribe Total</b>					<b>600,000</b>				
Washington Dept. of Fish and Wildlife	Klickitat Hatchery	CO	NO	2003	1,000,000	05-19-03	05-31-03	Klickitat Hatchery	Klickitat River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2003	15,000	05-01-03	05-10-03	Drano Lake	Little White Salmon River
Washington Dept. of Fish and Wildlife	Skamania Hatchery	ST	SU	2003	100,000	05-01-03	05-10-03	Klickitat River	Klickitat River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	CH1	SU	2003	120,000	04-13-03	05-23-03	Above Rocky Reach Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2003	121,000	04-07-03	05-30-03	Bel. Priest Rapids Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	57,095	04-21-03	05-16-03	Okanogan River	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	57,095	04-21-03	05-16-03	Similkameen Acclim Pd	Okanogan River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	105,890	04-15-03	05-16-03	Twisp Acclim Pond	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	107,055	04-21-03	05-16-03	Chewuch River	Methow River
Washington Dept. of Fish and Wildlife	Wells Hatchery	ST	SU	2003	107,055	04-21-03	05-16-03	Methow River	Methow River
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>1,790,190</b>				
Yakama Tribe	Cascade Hatchery	CO	UN	2003	75,040	05-01-03	05-15-03	Wenatchee River	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2003	235,214	05-01-03	05-15-03	Nason Creek	Wenatchee River
Yakama Tribe	Cascade Hatchery	CO	UN	2003	491,251	04-24-03	05-15-03	Icicle Creek	Wenatchee River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2003	81,113	03-14-03	05-15-03	Clark Flat Acclim Pond	Yakama River
Yakama Tribe	Cle Elem Hatchery	CH1	SP	2003	250,852	03-14-03	05-15-03	Jack Creek Acclim Pond	Yakama River
Yakama Tribe	Little White Salmon NFH	CH0	FA	2003	1,700,000	05-19-03	06-02-03	Prosser Acclim Pond	Yakama River
Yakama Tribe	Prosser Acclim. Pond	CH0	FA	2003	320,000	05-05-03	05-20-03	Prosser Acclim Pond	Yakama River
Yakama Tribe	Willard Hatchery	CO	UN	2003	37,483	05-06-03	05-15-03	Wenatchee River	Wenatchee River
Yakama Tribe	Willard Hatchery	CO	UN	2003	100,234	04-28-03	05-15-03	Little Wenatchee River	Wenatchee River
<b>Yakama Tribe Total</b>					<b>3,291,187</b>				
<b>Grand Total</b>					<b>8,648,629</b>				

# HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

## Hatchery Release Summary

From: 5/23/2003 to 6/5/2003

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Cherry Lane Hatchery	CH0	FA	2003	250,000	05-19-03	05-31-03	Lapwai Creek	Clearwater River M F
Nez Perce Tribe	Cherry Lane Hatchery	CH0	FA	2003	250,000	05-19-03	06-07-03	Cherry Lane Hatchery Pittsburg Landing Acclim Pond	Clearwater River M F Snake River
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2003	400,000	05-19-03	05-30-03		
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2003	500,000	05-19-03	05-30-03	Big Canyon (Clearwater R)	Clearwater River M F
Nez Perce Tribe	Lyons Ferry Hatchery	CH0	FA	2003	500,000	05-19-03	05-30-03	Cpt John Acclim Pond	Snake River
<b>Nez Perce Tribe Total</b>					<b>1,900,000</b>			Big Canyon Acclim.Pd (Grande Ronde)	Grande Ronde River
Oregon Dept. of Fish and Wildlife	Irrigon Hatchery Complex	ST	SU	2003	130,500	05-08-03	05-23-03		
<b>Oregon Dept. of Fish and Wildlife Total</b>					<b>130,500</b>				
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2003	300,000	05-21-03	05-30-03	Thornhollow Acclim Pond	Umatilla River
Umatilla Tribe	Umatilla Hatchery	CH0	FA	2003	300,000	05-21-03	05-30-03	Umatilla River	Umatilla River
<b>Umatilla Tribe Total</b>					<b>600,000</b>				
Washington Dept. of Fish and Wildlife	Klickitat Hatchery	CO	NO	2003	1,000,000	05-19-03	05-31-03	Klickitat Hatchery	Klickitat River
Washington Dept. of Fish and Wildlife	Turtle Rock Hatchery	CH1	SU	2003	120,000	04-13-03	05-23-03	Above Rocky Reach Dam	Mid-Columbia River
Washington Dept. of Fish and Wildlife	Wells Hatchery	CH1	SU	2003	121,000	04-07-03	05-30-03	Bel. Priest Rapids Dam	Mid-Columbia River
<b>Washington Dept. of Fish and Wildlife Total</b>					<b>1,241,000</b>				
Yakama Tribe	Little White Salmon NFH	CH0	FA	2003	1,700,000	05-19-03	06-02-03	Prosser Acclim Pond	Yakama River
<b>Yakama Tribe Total</b>					<b>1,700,000</b>				
<b>Grand Total</b>					<b>5,571,500</b>				

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

## 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)
05/09/2003 *	2	96	9	24	105,400	75,475	10,694	363	117,270	55,639	114,015
05/10/2003 *	---	62	---	---	49,333	27,132	29,840	319	---	46,452	98,908
05/11/2003 *	---	57	---	---	63,891	44,713	19,845	344	86,579	31,839	90,312
05/12/2003 *	14	56	5	8	51,799	22,138	10,840	511	---	24,512	59,469
05/13/2003 *	77	69	6	23	112,657	42,711	15,121	1,301	127,854	45,558	84,594
05/14/2003 *	17	84	22	7	99,335	86,339	9,877	450	---	26,328	53,834
05/15/2003 *	16	37	38	16	57,410	78,183	12,278	---	96,876	122,244	98,561
05/16/2003 *	24	68	71	13	67,266	85,689	30,619	---	---	76,006	112,103
05/17/2003 *	---	41	---	---	110,367	76,444	31,040	162	127,535	54,159	153,754
05/18/2003 *	---	52	---	---	144,582	59,211	27,820	196	---	65,966	146,837
05/19/2003 *	39	57	33	102	59,444	39,484	13,521	81	104,522	69,454	143,087
05/20/2003 *	42	22	14	28	53,650	31,662	22,782	130	---	65,868	132,522
05/21/2003 *	20	32	10	15	37,756	40,475	5,204	156	56,282	45,354	79,621
05/22/2003 *	10	31	5	17	21,009	17,955	10,476	212	---	65,879	105,323
<b>Total:</b>	<b>261</b>	<b>764</b>	<b>213</b>	<b>253</b>	<b>1,033,899</b>	<b>727,611</b>	<b>249,957</b>	<b>4,225</b>	<b>716,918</b>	<b>795,258</b>	<b>1,472,940</b>
<b># Days:</b>	<b>10</b>	<b>14</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>12</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>26</b>	<b>55</b>	<b>21</b>	<b>25</b>	<b>73,850</b>	<b>51,972</b>	<b>17,854</b>	<b>352</b>	<b>102,417</b>	<b>56,804</b>	<b>105,210</b>
<b>YTD</b>	<b>32,062</b>	<b>33,701</b>	<b>10,835</b>	<b>1,487</b>	<b>3,280,414</b>	<b>1,853,052</b>	<b>654,652</b>	<b>12,517</b>	<b>1,254,541</b>	<b>1,230,599</b>	<b>2,999,824</b>

### 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)
05/09/2003 *	0	0	6	4	0	284	0	3	1,883	0	2,581
05/10/2003 *	---	0	---	---	0	4	0	3	---	0	132,591
05/11/2003 *	---	0	---	---	0	0	0	3	780	0	255,563
05/12/2003 *	0	0	1	9	216	0	0	3	---	0	106,010
05/13/2003 *	0	1	2	4	0	3	0	5	2,314	0	34,119
05/14/2003 *	0	0	1	7	420	0	0	4	---	0	19,226
05/15/2003 *	0	0	2	23	204	0	0	---	4,334	0	18,544
05/16/2003 *	0	4	1	63	0	0	0	---	---	98	20,429
05/17/2003 *	---	6	---	---	0	0	166	15	4,024	0	16,594
05/18/2003 *	---	4	---	---	197	0	135	3	---	0	8,287
05/19/2003 *	0	0	1	9	0	0	0	8	5,127	0	13,878
05/20/2003 *	0	0	2	10	198	0	0	66	---	0	14,962
05/21/2003 *	0	1	4	14	0	566	114	8	3,527	0	14,126
05/22/2003 *	0	1	1	24	0	0	18	7	---	0	15,850
<b>Total:</b>	<b>0</b>	<b>17</b>	<b>21</b>	<b>167</b>	<b>1,235</b>	<b>857</b>	<b>433</b>	<b>128</b>	<b>21,989</b>	<b>98</b>	<b>672,760</b>
<b># Days:</b>	<b>10</b>	<b>14</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>12</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>17</b>	<b>88</b>	<b>61</b>	<b>31</b>	<b>11</b>	<b>3,141</b>	<b>7</b>	<b>48,054</b>
<b>YTD</b>	<b>1</b>	<b>60</b>	<b>31</b>	<b>255</b>	<b>5,541</b>	<b>926</b>	<b>635</b>	<b>1,489</b>	<b>46,347</b>	<b>972</b>	<b>1,780,174</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

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
05/09/2003 *	0	0	0	0	0	302	194	19	157	4,269	66,043
05/10/2003 *	---	0	---	---	438	9	306	46	---	2,711	55,603
05/11/2003 *	---	0	---	---	437	0	29	14	780	2,301	33,947
05/12/2003 *	0	0	0	0	651	0	30	64	---	1,488	33,613
05/13/2003 *	0	0	0	0	0	0	112	147	330	1,166	43,362
05/14/2003 *	0	0	0	0	209	20	92	203	---	838	45,629
05/15/2003 *	0	0	0	0	204	11	221	---	333	4,630	41,660
05/16/2003 *	0	0	0	0	1,385	1,040	306	---	---	3,226	42,901
05/17/2003 *	---	0	---	---	3,859	1,287	1,093	162	862	2,966	42,263
05/18/2003 *	---	0	---	---	5,910	4	438	179	---	6,337	19,682
05/19/2003 *	0	0	0	1	8,323	796	1,043	144	754	3,007	34,934
05/20/2003 *	0	0	0	0	3,378	658	446	311	---	4,451	45,955
05/21/2003 *	0	0	0	0	2,278	1,205	1,139	296	613	792	23,116
05/22/2003 *	0	0	0	0	1,260	3,469	1,826	1,148	---	2,079	25,052
<b>Total:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>28,332</b>	<b>8,801</b>	<b>7,275</b>	<b>2,733</b>	<b>3,829</b>	<b>40,261</b>	<b>553,760</b>
<b># Days:</b>	<b>10</b>	<b>14</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>12</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,024</b>	<b>629</b>	<b>520</b>	<b>228</b>	<b>547</b>	<b>2,876</b>	<b>39,554</b>
<b>YTD</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>31,600</b>	<b>10,502</b>	<b>8,703</b>	<b>2,840</b>	<b>5,346</b>	<b>65,696</b>	<b>1,265,129</b>

### COMBINED STEELHEAD

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
05/09/2003 *	68	3,280	11	217	74,474	20,470	31,268	294	8,325	8,682	24,954
05/10/2003 *	---	3,011	---	---	42,098	26,975	58,426	309	---	7,064	23,524
05/11/2003 *	---	1,446	---	---	103,276	25,030	26,976	294	4,370	5,659	17,934
05/12/2003 *	86	989	34	129	53,749	8,450	12,409	307	---	5,077	13,574
05/13/2003 *	225	1,342	43	139	38,855	12,607	12,735	441	3,984	5,102	16,586
05/14/2003 *	74	1,765	46	284	44,540	20,970	25,200	327	---	5,280	21,533
05/15/2003 *	86	1,368	22	231	52,712	20,191	15,329	---	4,669	6,012	23,878
05/16/2003 *	9	1,503	101	104	67,266	47,377	23,890	---	---	9,238	37,538
05/17/2003 *	---	885	---	---	81,424	43,814	42,237	152	15,103	7,995	41,485
05/18/2003 *	---	712	---	---	105,974	23,272	55,842	294	---	13,663	32,112
05/19/2003 *	24	708	129	480	117,700	28,883	24,368	262	8,004	13,101	29,191
05/20/2003 *	24	482	70	150	91,204	45,442	63,999	443	---	9,977	30,459
05/21/2003 *	15	403	27	41	46,874	36,722	29,930	599	6,906	4,399	25,042
05/22/2003 *	16	847	17	46	70,376	28,253	44,488	541	---	8,617	39,879
<b>Total:</b>	<b>627</b>	<b>18,741</b>	<b>500</b>	<b>1,821</b>	<b>990,522</b>	<b>388,456</b>	<b>467,097</b>	<b>4,263</b>	<b>51,361</b>	<b>109,866</b>	<b>377,689</b>
<b># Days:</b>	<b>10</b>	<b>14</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>12</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>63</b>	<b>1,339</b>	<b>50</b>	<b>182</b>	<b>70,752</b>	<b>27,747</b>	<b>33,364</b>	<b>355</b>	<b>7,337</b>	<b>7,848</b>	<b>26,978</b>
<b>YTD</b>	<b>2,336</b>	<b>45,870</b>	<b>2,183</b>	<b>4,878</b>	<b>2,219,096</b>	<b>1,269,150</b>	<b>851,271</b>	<b>6,594</b>	<b>96,655</b>	<b>210,310</b>	<b>600,026</b>

Note 1: 4/27-5/1 Little Goose Dam coho -potential misidentification of species; sample correction pending further analysis

Note 2: May 1 Little Goose Dam sample partly estimated based on electronic counts.

\* See sampling comments

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

## Two-Week Summary of Passage Indices

### COMBINED SOCKEYE

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
05/09/2003 *	0	0	0	0	0	0	0	578	35,940	11,432	29,472
05/10/2003 *	---	0	---	---	0	3	0	607	---	8,848	55,603
05/11/2003 *	---	0	---	---	0	0	0	741	24,034	5,597	21,137
05/12/2003 *	0	0	0	0	0	0	0	1,312	---	6,784	15,514
05/13/2003 *	0	0	0	0	0	0	0	876	37,331	7,071	16,112
05/14/2003 *	0	0	0	0	0	0	0	320	---	3,496	8,972
05/15/2003 *	0	0	0	0	204	0	37	---	115,697	39,596	19,560
05/16/2003 *	0	0	0	0	0	0	0	---	---	40,765	12,257
05/17/2003 *	---	0	---	---	0	3	0	13	151,658	63,057	62,487
05/18/2003 *	---	0	---	---	0	0	0	20	---	94,687	84,425
05/19/2003 *	1	0	0	3	0	0	0	15	53,250	60,096	191,903
05/20/2003 *	0	0	0	1	0	1	0	11	---	25,339	149,087
05/21/2003 *	0	0	0	0	0	1	0	10	25,003	31,896	118,789
05/22/2003 *	0	0	0	0	421	549	0	10	---	22,328	91,007
<b>Total:</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>625</b>	<b>557</b>	<b>37</b>	<b>4,513</b>	<b>442,913</b>	<b>420,992</b>	<b>876,325</b>
<b># Days:</b>	<b>10</b>	<b>14</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>14</b>	<b>14</b>	<b>12</b>	<b>7</b>	<b>14</b>	<b>14</b>
<b>Average:</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>45</b>	<b>40</b>	<b>3</b>	<b>376</b>	<b>63,273</b>	<b>30,071</b>	<b>62,595</b>
<b>YTD</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1,617</b>	<b>1,309</b>	<b>304</b>	<b>9,038</b>	<b>729,793</b>	<b>477,087</b>	<b>888,423</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: 05/22**

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	178,742	12,642	250,887	5,396	115,649	5,351	0	0	0	0	0	0	0	0	0	0	0	0
TDA	117,390	9,180	162,001	2,911	74,240	3,384	0	0	0	0	0	0	0	0	0	0	0	0
JDA	88,666	7,838	122,856	1,734	60,442	2,430	0	0	0	0	0	0	0	0	0	0	0	0
MCN	81,379	7,266	109,515	2,583	53,497	2,172	0	0	0	0	0	0	0	0	0	0	0	0
IHR	62,157	4,508	65,482	993	30,866	1,213	0	0	0	0	0	0	0	0	0	0	0	0
LMN	52,624	3,957	55,791	671	28,736	1,116	0	0	0	0	0	0	0	0	0	0	0	0
LGS	50,781	3,544	53,572	658	26,622	1,083	0	0	0	0	0	0	0	0	0	0	0	0
LWG	48,315	3,345	48,266	910	24,878	959	0	0	0	0	0	0	0	0	0	0	0	0
PRD	15,789	296	31,394	86	13,100	144	0	0	0	0	0	0	0	0	0	0	0	0
RIS	14,086	246	17,727	591	8,235	186	0	0	0	0	0	0	0	0	0	0	0	0
RRH	3,494	53	6,789	20	2,763	32	0	0	0	0	0	0	0	0	0	0	0	0
WEL	995	9	3,372	2	1,422	20	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	3,598	5,170	3,635	865
TDA	0	0	0	0	0	0	0	0	0	943	2,582	1,238	479
JDA	0	0	0	0	0	0	0	0	0	1,433	8,137	3,474	824
MCN	0	0	0	0	0	0	0	0	0	1,415	4,858	2,065	825
IHR	0	0	0	0	0	0	0	0	0	1,604	4,627	2,314	789
LMN	0	0	0	0	0	0	0	0	0	1,909	5,063	2,388	1,155
LGS	0	0	0	0	0	0	0	0	0	2,105	6,154	1,827	1,314
LWG	0	0	0	0	0	0	2	0	0	15,792	12,451	5,504	3,711
PRD	0	0	0	0	0	0	1	0	4	9	29	5	0
RIS	0	0	0	0	0	0	2	1	0	29	65	37	25
RRH	0	0	1	0	0	0	0	2	0	46	172	54	35
WEL	0	0	0	0	0	0	0	0	0	21	60	12	13

PRD, RIS, RRH, WEL are through 5/21. IHR is missing 5/16.

LGR is missing data for 3/6 and 5/12.

Although WEL began their counts early on 4/15, they won't have data posted until later in the season.

\*\*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.

Page last updated on: 5/23/03

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

		05/10/03 TO 05/23/03					
		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	895	750,556	21,193	448	720,839	1,493,931
	Sum of NumberBarged	893	740,827	21,184	446	701,576	1,464,926
	Sum of NumberBypassed	0	8,621	0	0	18,995	27,616
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	2	1,108	9	2	268	1,389
<b>LGS</b>	Sum of NumberCollected	607	541,145	6,545	406	288,356	837,059
	Sum of NumberBarged	606	513,491	6,532	406	288,117	809,152
	Sum of NumberBypassed	0	13	0	0	2	15
	Sum of Numbertrucked	0	27,265	0	0	0	27,265
	Sum of TotalProjectMortalities	1	377	13	0	237	628
<b>LMN</b>	Sum of NumberCollected	250	138,101	4,019	20	255,734	398,124
	Sum of NumberBarged	250	136,472	4,017	20	255,283	396,042
	Sum of NumberBypassed	0	1,440	0	0	114	1,554
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	0	189	2	0	337	528
<b>MCN</b>	Sum of NumberCollected	14,202	460,559	2,500	287,474	33,643	798,378
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	14,198	460,210	2,500	287,330	33,601	797,839
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	4	349	0	144	42	539
Total Sum of NumberCollected		15,954	1,890,361	34,257	288,348	1,298,572	3,527,492
Total Sum of NumberBarged		1,749	1,390,790	31,733	872	1,244,976	2,670,120
Total Sum of NumberBypassed		14,198	470,284	2,500	287,330	52,712	827,024
Total Sum of Numbertrucked		0	27,265	0	0	0	27,265
Total Sum of TotalProjectMortalities		7	2,023	24	146	884	3,084

### YTD Transportation Summary

TO: 05/23/03

		Species					
Site	Data	CH0	CH1	CO	SO	ST	Grand Total
<b>LGR</b>	Sum of NumberCollected	4,100	2,365,487	23,532	1,185	1,605,914	4,000,218
	Sum of NumberBarged	3,275	2,300,866	23,582	1,193	1,571,641	3,900,557
	Sum of NumberBypassed	0	31,544	0	0	35,031	66,575
	Sum of NumberTrucked	816	54,208	40	78	15,402	70,544
	Sum of TotalProjectMortalities	9	4,200	10	11	517	4,747
<b>LGS</b>	Sum of NumberCollected	658	1,367,773	7,794	938	935,363	2,312,526
	Sum of NumberBarged	649	1,317,647	7,777	929	934,112	2,261,114
	Sum of NumberBypassed	0	18	0	0	2	20
	Sum of NumberTrucked	5	50,875	0	5	850	51,735
	Sum of TotalProjectMortalities	4	1,172	16	4	399	1,595
<b>LMN</b>	Sum of NumberCollected	415	366,732	4,769	200	462,481	834,597
	Sum of NumberBarged	355	348,185	4,762	160	460,023	813,485
	Sum of NumberBypassed	0	2,786	0	0	296	3,082
	Sum of NumberTrucked	60	15,149	0	40	1,637	16,886
	Sum of TotalProjectMortalities	0	612	7	0	525	1,144
<b>MCN</b>	Sum of NumberCollected	33,725	811,530	3,506	474,023	63,752	1,386,536
	Sum of NumberBarged	0	0	0	0	0	0
	Sum of NumberBypassed	33,687	810,933	3,506	473,823	63,640	1,385,589
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	38	504	0	204	69	815
Total Sum of NumberCollected		38,898	4,911,522	39,601	476,346	3,067,510	8,533,877
Total Sum of NumberBarged		4,279	3,966,698	36,121	2,282	2,965,776	6,975,156
Total Sum of NumberBypassed		33,687	845,281	3,506	473,823	98,969	1,455,266
Total Sum of NumberTrucked		881	120,232	40	123	17,889	139,165
Total Sum of TotalProjectMortalities		51	6,488	33	219	1,510	8,301



