Fish Passage Center

Weekly Report #02 - 11

May 24, 2002

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SUMMARY OF EVENTS:

- **Precipitation over the start of May has averaged between 33% and 104% of that recorded over the same period between 1971 and 2000.**
- **Due to increases in flow along much of the Columbia and Snake Rivers, storage reservoirs are currently operating to both meet the BiOp flow objectives and refill.**
- **The Bureau of Reclamation has agreed (5-22-02 TMT meeting) to not refill Grand Coulee above an elevation of 1240 feet AMSL unless flow targets are being met at McNary (246 Kcfs).**
- **In response to SOR #2002-4, USACE has agreed to operate Dworshak to meet the flow objectives at Lower Granite Dam from May 22nd to May 28th.**
- **Flows at Lower Granite have averaged 74.1 Kcfs between April 3rd and May 23rd and 91.0 Kcfs over the week from May 17th to May 23rd (BiOp target = 97 Kcfs).**
- **Flows at McNary have averaged 230.7 Kcfs between April 10th and May 23rd and 239.9 Kcfs over the week May 17th to May 23rd (BiOp target = 246 Kcfs).**
- **Flows at Priest Rapids have averaged 151.5 Kcfs between April 10th and May 23rd and 144.4 Kcfs over the week from May 17th to May 23rd (BiOp target = 135 Kcfs).**
- **Combined storage in the Upper Snake River System is at 61% of capacity, up 1% from last week.**

Water Supply: Over the last week, precipitation generally increased over much of the Columbia Basin; however, May precipitation remains below average. May precipitation has ranged from 33% to 104% of average. May precipitation continues to be especially low in the Snake River Basin and the Willamette Valley. WY 2002 is currently slightly below average in terms of cumulative precipitation.

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

	May 2002		**Cumulative 10/1/01 – 5/21/02**	
Location	**Observed (inches)**	**% Avg**	**Observed (inches)**	**% Avg**
Columbia Above Coulee	1.21	80	16.88	97
Snake R. Above Ice Harbor	0.43	33	11.65	89
Columbia Above The Dalles	0.85	64	16.60	96
Kootenai	1.56	104	15.52	87
Clark Fork	0.65	47	11.51	99
Flathead	0.94	57	15.4	100
Pend Oreille/Spokane	1.19	67	27.43	113
Central Washington	0.33	62	6.43	91
Snake R. Plain	0.36	36	6.04	74
Clearwater	1.10	54	24.29	104
SW Washington Cascades/Cowlitz	1.41	55	67.02	109
Willamette Valley	107	45	53.45	102

According to the Northwest River Forecast Center (NWRFC), warmer conditions are expected to exist throughout the Pacific Northwest (PNW) over the over the next several days, accompanied also with some precipitation. Snowmelt over the next few days is expected to increase throughout much of the Columbia Basin.

The NWRFC released the May Mid-Month water supply forecast on May 16, 2002. Table 2 displays the 2002 May Final runoff volume forecast along with the May Mid-Month forecast for multiple reservoirs. The June early-Bird forecast is expected to be released by the 30th of May 2002.

Table 2. May Final and May Mid-Month Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins during WY 2002.

Site	May Final		May Mid-Month	
	Runoff Volume (Kaf)	% of Avg	Runoff Volume (Kaf)	% of Avg
Mica (April-Sept)	11700	94	11600	93
Hungry Horse (April-Sept)	2180	103	2170	102
Libby (April-Sept)	6750	102	6750	102
Grand Coulee (Jan-July)	62300	99	61600	98
The Dalles (Jan-July)	98200	92	97300	91
Brownlee (April-July)	3580	57	3500	55
Dworshak (April-July)	3050	115	3030	115
Lower Granite (Jan-July)	24200	81	23800	79
Heise (ID) (April-July)	2870	81	2800	79
Weiser (ID) (April-July)	3130	54	3070	53

Because of increasing streamflows, storage reservoirs along the Columbia and Snake Rivers have been operating to meet BiOp flow requirements and to refill.

Due to increased flows in the Columbia River over the last week, the Grand Coulee Reservoir has been refilling; beginning the week at 1240.1 feet (5-17-02) and ending the week at 1244.1 feet AMSL (5-23-02). At the 5-22-02 TMT meeting, the Bureau of Reclamation (BOR) agreed to not refill Grand Coulee above an elevation of 1240 feet AMSL if flows at McNary were not meeting the 246 Kcfs flow objective. The end of May flood control elevation at Grand Coulee is 1245.0 feet AMSL.

Libby has been refilling over the past 6 1/2 weeks. The Libby reservoir has gained 11.2 feet over the last week; outflows continue to be 8.0 Kcfs. Libby is currently (midnight, 5-23-02) at an elevation of 2397.2 feet AMSL, 61.8 feet from the full pool elevation of 2459 feet AMSL.

From 5-17-02 to 5-23-02, the Dworshak reservoir refilled 18.3 feet. Because flows on the Snake River were increasing beyond the flow objective at Lower Granite, an emergency TMT meeting was held early last week concerning decreasing outflows at Dworshak from 10.0 Kcfs to the minimum outflow of 1.5 Kcfs. SOR 2002-4 requested that Dworshak outflows be adjusted in accordance with flows recorded at Lower Granite Dam. Essentially, this request outlined an operations plan where Dworshak could decrease outflows from May 22nd to May 28th if flows at Lower Granite were above the 97 Kcfs flow objective. The following plan was outlined:

When flows at Lower Granite exceed the 97 Kcfs flow target, adjust outflow at Dworshak in accordance with the level at which the flow target is exceeded at Lower Granite, down to the minimum flow of 1.5 Kcfs. For example, if flows at Lower Granite exceed the 97 Kcfs flow target by 6.0 Kcfs, outflows at Dworshak could be lowered to 4.0 Kcfs. Conversely, if flows at Lower Granite Dam are below 97 Kcfs the outflow at Dworshak would be increased to meet the 97 Kcfs Biological Opinion flow target up to a maximum outflow of 10 Kcfs at Dworshak.

In response to the Dworshak request, USACE agreed to use Dworshak to meet the 97 Kcfs flow objective at Lower Granite over the specified time, however decided to limit the volume of water used to 50 Ksfd. Over the last week, outflows have decreased from 9.9 kcfs to the 1.5 Kcfs minimum. Currently (midnight, 5-23-02) Dworshak is at an elevation of 1531.5 feet AMSL; 68.5 feet below the full pool elevation of 1600 feet AMSL.

Over the past week, the Brownlee reservoir continued to refill, increasing 4.4 feet from 5-17-02 to 5-22-02. Currently (midnight, 5-22-02), Brownlee was at an elevation of 2075.5 feet AMSL; 1.5 feet below its full pool elevation of 2077 feet AMSL. At the May 22nd, 2002 TMT meeting, the Idaho Power Company (IPC) agreed to pass inflows for at least the next "few days," beginning 5-22-02. At the time of the TMT meeting, Brownlee was approximately 1.5 feet from full, because they needed at least 1.0 feet of reservoir "cushion" for unexpected runoff events, they essentially had no other choice.

From 5-17-02 to 5-23-02, the Hungry Horse Reservoir refilled 8.2 feet. Over the last week, outflows have decreased from 7.3 Kcfs on 5-17-02 to 1.3 kcfs on 5-22-02. Currently (midnight, 5-23-02), Hungry Horse is at an elevation of 3521.9 feet AMSL; 38.1 feet below its full pool elevation of 3560 feet AMSL.

Flows along the Columbia River have increased over the past week and are projected to continue to be high over the upcoming week. For the first time this year, Biological Opinion flow targets at McNary, Priest Rapids, and Lower Granite are projected to be met for an extended period.

Based upon the April final forecasts, flow objectives are 97 kcfs at Lower Granite between 4/3/02 and 6/20/02, 246 kcfs at McNary between 4/10/02 and 6/30/02, and 135 kcfs at Priest Rapids from 4/10/02 and 6/30/02. The flow objectives are intended to represent averages over the designated time periods. From April 3rd to May 23rd, 2002, outflows at Lower Granite have averaged 74.1 Kcfs; from April 10th to May 23rd, 2002, outflows at McNary have averaged 230.7 Kcfs; from April 10th to May 23rd, 2002, outflows at Priest Rapids have averaged 151.5 Kcfs. Therefore, to date, flow objectives are only being met at Priest Rapids. Over the week from May 17th to 23rd, 2002 flows have averaged 91.0 Kcfs at Lower Granite, 239.9 Kcfs at McNary, and 144.4 Kcfs at Priest Rapids. On a weekly basis, BiOp flow objectives are again only being met at Priest Rapids; however it should be pointed out that flow objectives have been met at all three locations over the last three days.

Over the last week (5-17-02 to 5-23-02), many of the reservoirs on the Upper Snake River have been refilling slightly. Currently, as of May 23rd, 2002, the entire Upper Snake River System is at 61% of capacity (60% last week). Individually, American Falls is at 73% of capacity (78% last week), Palisades is at 47% of capacity (46% last week), Jackson Lake is at 45% of capacity (35% last week) Island Park is at 96% of capacity (97% last week), Lake Walcott is at 101% of capacity (198% last week), Milner is at 97% of capacity (94% last week), and Grassy Lake is at 81% of capacity (74% last week).

Spill. No spill occurred at Dworshak Dam over the past week. Testing of the RSW at Lower Granite Dam continues with alternating spill levels. Spill has averaged 31% of daily flows this past week. At Little Goose Dam the 12-hour spill levels approach the TDG waiver levels and have averaged 25% of average daily flow. Lower Monumental Dam continues to operate in alternating blocks of transportation for two days followed by one day of primary bypass. At Ice Harbor Dam spill is being implemented up to the daytime cap during daylight hours and to the TDG waiver limits during nighttime hours and has averaged 70% of daily flows over the past week.

Spill for fish passage is also being implemented in the lower Columbia River. Spill over the past week averaged 36% of average daily flow at McNary Dam, 30% of average daily flow at John Day Dam, 37% of average daily flow at The Dalles Dam and 41% of average daily flow at Bonneville Dam. Daytime spill test continue at John Day and Bonneville dams. All Mid Columbia River projects are spilling at this time. The total dissolved gas

levels at all federal and Mid Columbia hydroprojects are presently below the water quality waiver standards. Some modifications were made to spill levels at The Dalles and Bonneville based on TDG at the downstream forebay sites. No fish were observed with signs of GBT this past week.

Smolt Monitoring: The yearling chinook numbers collected at Snake River basin Traps were up this week with a total of 785 collected at all SMP traps versus over 329 last week. The average daily collection for all traps combined increased from 15 to 40. Steelhead numbers were up as well compared to the previous week with the average daily collection at all sites combined at 552 this week compared to 429 the previous week, with the largest numbers collected at the Imnaha Trap this past week.

While the year to date passage index for yearling chinook at Lower Granite appears low compared to what we anticipated prior to the season, based on PIT-tag analysis of collection efficiency this year at the project, it now appears that numbers were near to NMFS projections. Using PIT-tag recaptures at Little Goose Dam, we estimated that the seasonal collection efficiency for yearling chinook at Lower Granite has been well below average this season at around 20% compared to NMFS projection of 42%. Since the passage index assumes a 1:1 fish to water volume ratio, we would have to decrease by half our expected seasonal index from a preseason estimate of 5.1 million to 2.4 million. With a year-to-date index of 2.28 million it appears that, based on NMFS projected total population, 90% or more of the yearling chinook have passed Lower Granite at this point in the season.

We are doing a similar analysis of collection efficiency for steelhead passing Lower Granite, because to date those numbers appear quite low compared to preseason projections. At this point the steelhead are passing Lower Granite in the largest numbers of the season with a peak daily index yesterday of 188,000. This is about 2 and 1/2 weeks behind the historic peak date for steelhead which would typically occur the first week of May. With the increased flows in the Snake this past week the passage index for migrant yearling chinook at Lower Granite increased, averaging 60,000 per day this week versus 41,000 average last week. The steelhead index rose sharply this week in response to the increasing flows in the Snake River, rising, at Lower Granite, from 38,000 on 5/18 when flow averaged 70 kcfs, to an index of 188,000 on 5/23, when daily average flow peaked at 112 kcfs. Steelhead numbers usually show the strongest response to increased flows during their active migration. Sockeye numbers continued increasing at Lower Granite. The sockeye daily index rose from an average of 1,700 last week to 4,200 this week. Based on PIT-tag detections of sockeye tagged at Red Fish Lake Trap, those fish are passing Lower Granite in relatively large numbers at this time.

At Little Goose the average daily index for chinook rose from 61,000 last week to 98,000 this week. The steelhead index increased from 11,000 daily average last week to 68,000 this week.

At Lower Monumental the project began sampling on 5/1 with samples collected two days and then no sample the third day as fish are sent through primary bypass, so that indices are only available on those days when fish are being collected. Based on this sampling regime the daily average index for yearling chinook remained relatively steady, with the index down about 3% from last week, at 119,000 fish per day, while steelhead indices were up about 80%, to about 73,000 fish per day compared to 41,000 average index last week.

Rock Island Dam yearling chinook index was down 35% over the past week with the average daily index decreasing from 950 to 620. Steelhead numbers increased throughout the week from an average daily index of 721 on 5/18 to 1,465 on 5/23. The sockeye numbers have decreased at Rock Island Dam with 429 average daily index last week versus 101 this week. Coho passage has increased dramatically over the past week with an average daily index of 2,700 this week compared to 440 last week.

In the lower Columbia, McNary saw a large numbers of juvenile migrants this past week, with an average index of 142,000 yearling chinook this week versus 104,000 last week. Steelhead numbers rose this week with an average daily index of

18,000 this week from 8,200 last week. Sockeye indices were up 30% this week, with the average daily index of 59,000 compared to 45,000 per day last week. Subyearling chinook numbers were again up with an average index of 1,760 this week compared to 640 the previous week. Coho indices increased at McNary, with average daily index of 2,500 this week versus 650 last week.

At John Day Dam passage index for yearling chinook averaged 60,000 per day this week compared to 54,000. Steehead indices averaged 11,000 this week versus 6,800 last. Coho numbers decreased to an average index of 2,900 this week versus about 6,600 per day last week, and sockeye average index increased from 30,000 to 42,000 over the past week.

At Bonneville Dam yearling chinook numbers decreased 35% with average daily index this week of 89,000 versus 56,000 last week. While steelhead numbers rose to 28,000 per day versus 20,000 per day for last week. This week the subyearling chinook index averaged 4,100 compared to 2,700 the previous week. Coho remained relatively steady over the last week with an average index of 85,000 versus 81,000 last week. The sockeye index increased quite rapidly this week with daily average index of 52,000 versus 19,000 last week.

Hatchery Releases. Virtually all hatchery releases of springtime migrants for 2002 are currently in the river. Last week saw the end of the 2002 season's hatchery releases of steelhead in the Snake and lower Columbia rivers, coho in the Mid-Columbia River, and virtually all yearling chinook above Bonneville Dam (the exception is the volitional releases of spring chinook from three acclimation ponds in the Yakima River that extend into the first week of June). The hatchery releases of subyearling fall chinook ("upriver brights") began in earnest last week on May 20 with 1.7 million fish released from Prosser acclimation pond on the Yakima River and 0.3 million fish release from Thornhollow acclimation pond on the Umatilla River. Subyearling fall chinook hatchery releases will increase next week on May 27 when Lyons Ferry Hatchery begins releasing a total of 1.6 million fish from four sites in the Snake River (on-site and three acclimation ponds located above Lower Granite Dam).

Adult Returns. Cumulative adult spring chinook counts for return year 2002 through May 22 were 251,699 at Bonneville Dam, 48,266 at Lower Granite Dam, and 29,233 at Priest Rapid Dam. As of May 22, the 2002 cumulative adult spring chinook counts were higher than the 10-year average (1991-2001) by factor of 2.5 at Bonneville Dam, 2.2 at Lower Granite Dam, and 2.5 at Priest Rapids Dam. However, the 2002 adult spring chinook cumulative counts still remain below the 2001 level on this date by a factor of 0.68 at Bonneville Dam, 0.35 at Lower Granite Dam, and 0.63 at Priest Rapids Dam. Cumulative adult steelhead counts for return year 2002 through May were 5,170 at Bonneville Dam, 12,410 at Lower Granite Dam, and 31 at Priest Rapids Dam. As of May 22, the 2002 cumulative adult steelhead counts were higher than the 10-year average (1991-2001) by factor of 1.4 at Bonneville Dam, 2.6 at Lower Granite Dam, and 1.8 at Priest Rapids Dam. The 2002 adult steelhead cumulative counts still remain above the 2001 level on this date by a factor of 1.1 at Bonneville Dam, 2.2 at Lower Granite Dam, and 1.3 at Priest Rapids Dam.

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

	Grand Coulee		Chief Joseph		Wells		Rocky Reach		Rock Island		Wanapum		Priest Rapids	
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/10/02	118.2	0.0	122.0	0.0	130.5	9.1	134.6	34.5	138.5	29.0	144.0	33.6	154.8	61.2
05/11/02	91.4	0.0	98.0	0.0	106.6	7.8	112.0	32.7	114.4	27.2	128.7	49.0	129.2	61.2
05/12/02	91.6	0.0	91.6	0.0	101.2	7.3	103.0	26.9	104.8	23.2	115.2	43.9	121.4	61.2
05/13/02	134.0	0.0	132.8	0.0	136.7	8.0	136.5	32.5	141.6	31.1	169.9	64.9	166.4	63.3
05/14/02	125.4	0.0	125.6	0.0	134.4	9.2	136.8	34.4	140.2	31.2	124.5	38.4	145.0	60.7
05/15/02	115.5	0.0	121.6	0.0	131.3	10.0	131.5	33.5	134.4	29.0	132.8	34.6	127.6	71.9
05/16/02	128.4	0.0	129.1	0.0	140.5	9.0	142.3	27.9	146.3	27.2	144.5	34.5	142.9	86.9
05/17/02	114.0	0.0	120.4	0.0	129.0	8.6	131.1	32.6	136.2	26.8	143.5	35.4	143.0	87.4
05/18/02	111.3	0.0	108.8	0.0	119.2	8.1	120.2	27.7	124.8	26.8	126.0	42.5	126.6	77.5
05/19/02	101.4	0.0	105.6	0.0	116.8	8.5	117.0	17.9	124.7	24.3	133.5	50.7	135.4	83.0
05/20/02	113.6	0.0	115.9	0.0	130.4	7.9	135.8	21.5	144.4	29.2	149.6	55.0	146.7	90.1
05/21/02	111.4	0.0	112.0	0.0	125.0	7.4	125.5	20.5	132.6	27.6	141.1	49.9	148.1	91.5
05/22/02	119.7	0.0	117.6	0.0	136.2	8.4	139.6	21.4	148.8	28.8	149.4	40.6	141.7	86.8
05/23/02	124.4	0.0	128.8	0.0	147.2	9.0	145.1	21.2	156.9	28.9	164.0	34.2	169.3	103.6

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

	Dworshak		Brownlee	Hells Canyon	Lower Granite		Little Goose		Lower Monumental		Ice Harbor	
Date	Flow	Spill	Inflow	Outflow	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill
05/10/02	14.5	3.7	12.8	11.9	60.9	24.9	54.8	22.5	57.7	0.0	60.4	50.5
05/11/02	14.3	3.5	12.5	10.3	56.3	17.9	54.9	23.8	59.1	0.0	61.4	50.6
05/12/02	14.3	3.5	12.2	9.3	56.4	22.1	52.3	21.1	55.4	0.0	57.9	46.3
05/13/02	14.1	3.4	13.1	14.2	55.7	22.4	51.1	22.1	52.8	0.0	55.2	45.6
05/14/02	14.0	3.2	13.4	11.9	64.2	17.0	63.6	21.8	65.3	0.0	70.1	54.7
05/15/02	12.5	2.0	13.0	10.3	68.6	22.7	65.9	22.6	69.1	0.0	70.3	54.0
05/16/02	10.0	0.0	12.6	8.6	65.0	24.6	63.5	22.8	66.7	0.0	71.4	55.2
05/17/02	10.0	0.0	12.9	8.8	66.1	15.5	63.7	22.0	66.7	0.0	67.2	49.9
05/18/02	10.0	0.0	13.4	8.7	70.9	19.5	69.4	22.7	70.9	0.0	72.9	59.3
05/19/02	10.0	0.0	14.0	10.0	78.4	22.9	75.0	21.9	78.2	0.0	80.2	64.2
05/20/02	8.1	0.0	15.2	11.2	98.2	27.5	95.8	20.2	99.4	0.0	101.7	66.4
05/21/02	2.0	0.0	17.6	12.4	109.3	39.9	104.4	19.2	108.2	0.0	111.1	68.2
05/22/02	1.6	0.0	16.9	13.7	112.2	42.0	109.0	19.3	113.1	0.0	112.2	70.0
05/23/02	2.0	0.0	---	---	102.0	34.4	99.4	18.9	103.3	0.0	105.7	70.1

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

	McNary		John Day		The Dalles		Bonneville			
Date	Flow	Spill	Flow	Spill	Flow	Spill	Flow	Spill	PH1	PH2
05/10/02	196.3	72.0	199.2	68.4	187.8	70.8	198.2	99.4	3.1	90.6
05/11/02	208.0	67.2	212.2	63.0	206.9	81.2	223.2	92.5	14.5	109.6
05/12/02	156.3	50.8	170.8	50.9	174.5	68.7	198.3	93.1	9.3	89.5
05/13/02	213.6	77.7	209.7	60.4	206.0	80.2	220.8	91.6	26.8	95.6
05/14/02	210.0	67.4	205.9	46.1	201.4	79.3	205.8	134.7	0.0	64.4
05/15/02	211.6	62.1	219.1	61.7	211.2	82.0	215.9	124.4	1.3	83.5
05/16/02	202.3	60.0	194.3	59.7	186.6	73.7	208.1	118.9	0.0	82.5
05/17/02	216.8	68.5	225.2	70.3	224.7	85.5	221.4	115.4	9.2	90.2
05/18/02	208.4	69.8	205.0	78.6	202.5	76.0	227.2	86.0	32.4	102.0
05/19/02	209.0	70.9	220.1	65.1	214.2	82.8	229.1	85.0	34.7	102.8
05/20/02	226.4	73.2	228.9	67.1	220.9	84.2	232.6	81.6	45.2	103.3
05/21/02	276.5	108.0	262.3	76.9	256.6	86.3	268.3	83.9	60.4	117.3
05/22/02	269.1	107.3	276.7	59.7	273.5	90.6	293.6	117.2	57.9	111.9
05/23/02	201.8	113.4	270.7	77.2	260.6	101.8	271.8	151.1	17.4	96.7

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
Lower Granite Dam											
	05/14/02	Yearling Chinook	39	0	0	0.00%	0.00%	0	0	0	0
	05/14/02	Steelhead	60	0	0	0.00%	0.00%	0	0	0	0
	05/21/02	Yearling Chinook	48	0	0	0.00%	0.00%	0	0	0	0
	05/21/02	Steelhead	52	0	0	0.00%	0.00%	0	0	0	0
Little Goose Dam											
	05/15/02	Yearling Chinook	80	0	0	0.00%	0.00%	0	0	0	0
	05/15/02	Steelhead	20	0	0	0.00%	0.00%	0	0	0	0
	05/22/02	Yearling Chinook	62	0	0	0.00%	0.00%	0	0	0	0
	05/22/02	Steelhead	38	0	0	0.00%	0.00%	0	0	0	0
Lower Monumental Dam											
	05/20/02	Yearling Chinook	75	0	0	0.00%	0.00%	0	0	0	0
	05/20/02	Steelhead	25	0	0	0.00%	0.00%	0	0	0	0
McNary Dam											
	05/20/02	Yearling Chinook	83	0	0	0.00%	0.00%	0	0	0	0
	05/20/02	Steelhead	17	0	0	0.00%	0.00%	0	0	0	0
	05/23/02	Yearling Chinook	73	0	0	0.00%	0.00%	0	0	0	0
	05/23/02	Steelhead	27	0	0	0.00%	0.00%	0	0	0	0
Bonneville Dam											
	05/16/02	Yearling Chinook	3	0	0	0.00%	0.00%	0	0	0	0
	05/16/02	Steelhead	2	0	0	0.00%	0.00%	0	0	0	0
	05/20/02	Yearling Chinook	90	0	0	0.00%	0.00%	0	0	0	0
	05/20/02	Steelhead	10	0	0	0.00%	0.00%	0	0	0	0
	05/23/02	Yearling Chinook	39	0	0	0.00%	0.00%	0	0	0	0
	05/23/02	Steelhead	21	0	0	0.00%	0.00%	0	0	0	0
Rock Island Dam											
	05/16/02	Yearling Chinook	50	0	0	0.00%	0.00%	0	0	0	0
	05/16/02	Steelhead	50	0	0	0.00%	0.00%	0	0	0	0
	05/23/02	Yearling Chinook	50	0	0	0.00%	0.00%	0	0	0	0
	05/23/02	Steelhead	50	0	0	0.00%	0.00%	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 Upper Columbia River Sites

	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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/10	97	97	97	10	114	114	116	9	109	109	110	5	107	107	107	6	107	107	107	7
5/11	96	96	97	24	114	117	119	24	110	110	110	24	---	---	---	0	108	109	109	24
5/12	96	96	96	24	114	115	116	24	110	110	111	24	---	---	---	0	108	109	110	23
5/13	97	97	98	24	114	115	116	24	112	112	114	24	---	---	---	0	110	110	110	23
5/14	97	98	98	24	113	115	115	24	111	111	111	24	---	---	---	0	110	110	111	23
5/15	97	97	97	24	111	114	115	24	111	111	111	24	---	---	---	0	110	110	111	23
5/16	97	97	98	24	111	114	115	24	110	111	112	24	---	---	---	0	109	110	110	23
5/17	97	97	98	24	106	107	112	24	112	113	113	24	110	110	111	24	110	110	110	23
5/18	97	97	97	24	107	107	107	24	112	113	113	24	110	111	112	24	110	111	111	23
5/19	98	98	98	24	107	108	108	24	113	113	113	24	111	112	112	24	111	112	112	23
5/20	98	98	99	24	109	110	111	24	112	112	113	21	111	111	112	24	111	111	112	23
5/21	98	99	99	24	111	112	113	24	112	112	112	24	110	110	112	24	110	110	111	23
5/22	99	100	100	22	113	114	114	24	111	111	112	21	109	110	111	24	109	110	110	23
5/23	97	98	98	24	117	119	121	21	111	112	112	24	108	109	109	24	109	109	109	23

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

	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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/10	108	108	109	7	106	106	106	9	107	107	108	9	106	106	107	10	108	108	111	10
5/11	109	109	110	24	107	108	108	24	108	109	109	24	107	107	107	24	110	111	114	24
5/12	109	109	110	23	108	109	110	24	109	109	110	24	107	107	108	24	109	110	113	24
5/13	110	110	111	23	108	109	109	24	110	111	111	24	108	109	109	23	111	111	112	23
5/14	110	111	112	23	108	108	108	24	109	109	110	24	108	108	108	24	111	111	112	24
5/15	111	111	111	23	109	109	109	24	110	110	110	24	108	108	109	24	111	112	114	24
5/16	110	110	111	23	109	109	110	24	110	111	111	24	109	109	110	24	110	111	112	24
5/17	111	111	112	23	109	109	110	21	111	111	111	21	109	110	110	23	111	112	113	23
5/18	111	111	113	23	110	110	111	24	111	111	111	24	110	110	110	23	112	112	113	23
5/19	112	113	113	23	110	111	111	24	111	112	112	24	110	111	111	24	111	112	113	24
5/20	112	113	114	23	110	110	110	24	111	111	112	24	110	110	111	24	111	111	111	24
5/21	111	112	113	23	109	109	110	23	110	111	111	23	109	110	110	24	110	111	111	24
5/22	111	112	113	23	108	109	109	24	110	110	110	24	108	108	109	24	109	110	110	24
5/23	109	110	111	23	108	108	108	23	109	109	109	23	107	107	108	23	109	109	110	23

Total Dissolved Gas Saturation at Mid Columbia River Sites

	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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/10	111	111	111	10	116	116	117	10	117	117	120	24	116	116	118	24	115	117	119	24
5/11	111	111	112	24	116	116	117	24	116	117	120	24	115	115	117	24	115	117	120	24
5/12	111	111	112	24	115	116	116	24	116	117	118	24	114	115	119	24	116	118	121	24
5/13	111	111	111	23	115	116	117	23	115	116	117	24	116	118	120	24	116	117	119	24
5/14	110	111	111	24	115	115	116	24	111	112	112	24	114	115	117	24	115	116	118	24
5/15	111	111	112	24	115	116	116	23	111	113	114	24	114	115	115	24	113	114	116	24
5/16	111	111	112	24	115	116	117	24	112	113	113	24	114	114	116	24	113	113	114	24
5/17	112	112	112	23	116	117	118	23	113	114	114	24	115	115	116	24	114	115	116	24
5/18	112	113	113	23	116	117	118	23	114	114	115	24	116	116	117	24	115	115	116	24
5/19	112	112	112	24	116	116	117	24	116	118	120	24	115	116	117	24	116	116	117	24
5/20	110	111	111	24	116	116	117	24	114	115	116	24	116	117	118	24	114	115	115	24
5/21	110	110	110	24	116	118	123	24	112	113	113	24	114	115	116	24	113	114	116	24
5/22	109	109	110	24	114	115	116	23	108	109	110	24	112	114	116	24	110	110	111	24
5/23	109	109	110	23	114	115	115	23	---	---	---	0	---	---	---	0	---	---	---	0

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

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

	Priest R. Dnst				Pasco				Dworshak				Clrwtr-Peck				Anatone			
	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/10	116	116	117	24	110	110	111	9	108	108	108	9	104	104	104	9	101	101	102	9
5/11	115	115	116	24	112	113	113	24	108	108	109	24	---	---	---	0	103	104	105	23
5/12	115	115	116	24	111	112	113	24	108	108	109	24	105	106	106	24	103	104	105	24
5/13	116	117	118	24	111	112	113	24	109	109	109	24	105	105	106	24	103	104	105	24
5/14	116	117	117	24	111	113	114	24	108	108	109	24	104	104	105	24	102	103	104	24
5/15	115	117	119	24	113	114	114	24	106	108	109	24	103	104	105	24	102	103	104	24
5/16	118	119	119	24	112	114	115	24	102	103	103	24	102	103	104	24	103	104	105	24
5/17	119	119	120	24	114	115	115	24	102	103	103	24	102	102	103	24	103	103	104	24
5/18	119	119	120	24	114	114	115	24	103	104	105	24	102	103	104	24	103	104	105	24
5/19	120	120	121	24	114	115	116	24	104	104	105	24	103	104	104	24	104	105	105	24
5/20	119	120	120	24	113	114	114	24	103	103	103	24	102	103	103	24	103	103	103	24
5/21	118	119	120	24	112	112	113	24	106	107	107	24	102	103	103	24	104	104	105	24
5/22	117	117	117	24	110	110	112	24	106	106	106	24	102	102	103	24	104	105	105	23
5/23	---	---	---	0	111	113	114	24	106	107	108	24	102	103	104	24	104	105	105	24

Total Dissolved Gas Saturation Data at Snake River Sites

	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		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/10	102	102	102	9	102	102	102	9	112	112	113	9	105	105	105	9	116	116	120	9
5/11	104	106	107	24	104	104	106	24	110	116	121	24	109	109	110	24	115	120	120	24
5/12	104	106	107	24	105	106	107	24	113	120	122	24	111	112	113	24	115	119	120	24
5/13	104	105	107	24	105	105	106	24	113	114	120	18	112	112	113	24	116	119	120	24
5/14	103	104	105	24	104	104	105	24	109	109	110	24	110	110	111	24	115	118	120	24
5/15	103	104	106	24	104	104	105	24	111	112	112	24	109	110	110	24	115	119	120	24
5/16	102	104	105	24	105	106	108	24	111	112	112	23	111	111	113	24	115	119	120	24
5/17	102	103	104	24	104	105	106	24	109	114	118	24	110	111	112	24	114	119	120	24
5/18	102	104	105	24	105	105	107	24	111	118	119	24	112	112	113	24	115	119	120	24
5/19	102	104	104	24	105	105	105	24	111	114	119	24	113	113	115	24	116	119	120	24
5/20	101	101	101	24	104	104	104	24	112	115	117	24	109	110	111	24	113	117	120	24
5/21	101	102	102	24	102	103	103	24	116	116	117	24	109	110	111	24	113	116	116	24
5/22	101	101	102	24	101	101	101	24	116	116	117	24	106	107	108	24	110	115	116	24
5/23	102	102	103	24	102	102	103	24	114	116	117	24	108	109	109	24	112	116	116	24

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

	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		#	24 h	12 h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/10	112	112	113	9	111	111	111	9	109	109	110	9	112	112	115	9	110	110	112	9
5/11	113	114	114	24	112	113	114	24	111	112	112	24	113	113	114	24	114	116	119	24
5/12	112	114	115	24	112	113	114	24	112	112	113	24	112	113	114	24	112	114	115	24
5/13	114	115	115	24	113	115	115	24	112	113	113	24	112	113	114	24	112	112	114	24
5/14	113	114	116	24	113	114	115	24	111	111	111	24	114	114	116	24	111	113	115	24
5/15	113	114	115	24	113	113	115	24	111	111	113	24	113	114	115	24	111	111	113	24
5/16	113	114	114	24	113	114	114	24	112	113	115	24	113	114	115	21	110	112	118	22
5/17	114	115	115	23	114	115	115	23	113	114	115	24	113	114	115	24	112	114	117	24
5/18	115	116	117	24	115	115	116	24	114	114	115	24	114	115	117	24	113	114	116	24
5/19	117	117	118	24	115	116	116	24	115	116	117	24	115	116	119	24	113	114	115	24
5/20	115	116	118	24	115	116	117	24	115	115	115	24	116	118	120	24	113	114	117	24
5/21	113	115	116	24	113	114	116	24	113	114	114	24	116	119	120	24	111	111	112	24
5/22	110	111	112	24	110	111	112	24	111	112	112	24	117	119	120	24	109	109	109	24
5/23	110	111	112	24	109	110	112	24	110	111	113	24	116	119	120	24	109	111	113	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

	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		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	AVG	High	hr
5/10	112	112	113	9	119	119	121	9	104	104	105	7	117	117	118	9	108	108	111	7
5/11	114	115	115	24	117	120	121	23	107	108	111	24	116	118	119	24	108	109	111	23
5/12	114	115	117	24	115	118	121	24	111	112	114	23	115	116	118	24	110	110	111	22
5/13	113	113	114	24	117	120	121	24	111	112	113	23	116	118	119	24	110	110	111	23
5/14	111	112	113	23	116	120	121	24	110	110	111	23	113	116	118	24	108	109	109	23
5/15	111	112	113	24	115	120	121	24	111	111	112	23	114	118	119	24	110	113	114	23
5/16	112	114	115	24	115	118	119	24	112	113	115	23	114	117	118	21	112	114	116	20
5/17	114	114	116	24	116	118	119	24	111	112	113	23	115	118	119	24	113	114	115	23
5/18	113	113	114	24	116	118	119	24	111	111	112	23	116	118	118	24	114	116	117	23
5/19	115	116	117	24	116	118	119	24	113	114	115	23	117	118	119	24	112	113	116	23
5/20	114	114	114	24	116	119	120	24	113	114	114	23	118	119	120	24	111	112	112	22
5/21	112	113	114	24	117	119	120	24	112	112	113	23	119	119	120	24	110	110	111	23
5/22	109	109	110	24	116	119	119	24	109	109	110	23	114	119	120	24	108	109	109	23
5/23	110	111	112	24	117	119	120	24	108	108	109	23	113	119	119	24	110	112	116	18

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

	The Dalles Dnst				Bonneville				Warrendale				Camas\Washugal			
	24 h	12 h		#	24 h	12 h		#	24h	12h		#	24h	12h		#
Date	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr	Avg	Avg	High	hr
5/10	116	116	118	8	113	113	113	7	118	118	119	7	116	116	116	8
5/11	116	116	117	20	111	113	114	24	114	115	116	24	113	115	117	24
5/12	117	117	118	24	112	113	114	23	114	115	117	23	112	113	113	24
5/13	116	117	117	24	113	114	115	23	114	115	117	23	112	113	114	24
5/14	115	116	116	24	110	111	111	23	117	118	119	23	113	116	117	24
5/15	117	118	119	24	111	111	111	23	117	117	117	23	114	115	117	24
5/16	117	118	119	24	112	113	113	23	117	117	118	23	114	116	117	24
5/17	118	119	120	24	114	114	115	23	117	118	118	23	115	117	117	24
5/18	118	119	120	24	114	115	115	23	116	117	118	23	115	116	116	24
5/19	118	119	120	24	115	116	116	23	119	119	120	23	114	114	116	24
5/20	117	118	118	24	115	116	116	23	118	119	119	23	114	115	116	24
5/21	116	116	117	23	111	112	113	23	115	117	118	23	112	113	113	24
5/22	115	116	116	24	110	110	110	23	113	114	116	23	110	110	111	24
5/23	117	119	119	24	111	111	112	23	118	118	119	23	114	116	117	24

HATCHERY RELEASE SUMMARY LAST TWO WEEKS

Hatchery Release Summary

From: 5/10/02 to 5/23/02

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
Nez Perce Tribe	Dworshak	CO	UN	2002	280,000	05-15-02	05-15-02	Kooskia H	Clearwater Rvr M F
Nez Perce Tribe	Hagerman	ST	SU	2002	100,000	05-06-02	05-13-02	Newsome Cr	S Fk Clearwater R.
Nez Perce Tribe	Hagerman	ST	SU	2002	140,000	05-14-02	05-17-02	Yankee Fk (Salmon R)	Salmon River
Nez Perce Tribe Total					**520,000**				
ODFW	Irrigon	ST	SU	2002	76,500	05-09-02	05-10-02	L Sheep Acclim Pd	Imnaha River
ODFW	Irrigon	ST	SU	2002	125,000	05-08-02	05-23-02	Big Canyon Acclim.Pd	Grande Ronde River
ODFW	Wallowa	ST	SU	2002	217,500	05-01-02	05-16-02	Wallowa Acclim Pd	Wallowa River
ODFW Total					**419,000**				
Umatilla Tribe	Umatilla	CH0	FA	2002	300,000	05-20-02	05-31-02	Thornhollow Acclim Pd	Umatilla River
Umatilla Tribe Total					**300,000**				
Warm Spgs Tribe	Oak Springs	ST	SU	2002	42,000	04-26-02	05-10-02	Blackberry Acclim Pd	Hood River
Warm Spgs Tribe	Oak Springs	ST	WI	2002	30,000	05-01-02	05-17-02	E Fk Irrig Dist Sand Trap	Hood River
Warm Spgs Tribe	Oak Springs	ST	WI	2002	30,000	05-01-02	05-17-02	Parkdale Acclim Pd	Hood River
Warm Spgs Tribe Total					**102,000**				
WDFW	East Bank	CH1	SU	2002	127,926	04-08-02	05-10-02	Bel. Rocky Reach Dam	Mid-Columbia River
WDFW	East Bank	ST	SU	2002	92,757	04-29-02	05-15-02	Chiwawa H	Wenatchee River
WDFW	East Bank	ST	SU	2002	120,567	04-29-02	05-15-02	Chiwawa H	Wenatchee River
WDFW	Klickitat	CO	SO	2002	1,025,000	05-01-02	05-10-02	Klickitat H	Klickitat River
WDFW	Skamania	ST	SU	2002	20,000	05-01-02	05-10-02	Drano L	Little White Salmon R.
WDFW	Skamania	ST	SU	2002	100,000	05-01-02	05-10-02	Klickitat R	Klickitat River
WDFW	Wells	ST	SU	2002	88,000	04-29-02	05-10-02	Chewuch R	Methow River
WDFW	Wells	ST	SU	2002	88,000	04-29-02	05-10-02	Methow R	Methow River
WDFW	Wells	ST	SU	2002	88,000	04-29-02	05-10-02	Twisp R	Methow River
WDFW	Wells	ST	SU	2002	118,890	04-29-02	05-10-02	Okanogan R	Okanogan River
WDFW Total					**1,869,140**				
Yakima Tribe	Cle Elum	CH1	SP	2002	264,708	03-15-02	06-07-02	Easton Pd	Yakama River
Yakima Tribe	Cle Elum	CH1	SP	2002	286,384	03-15-02	06-07-02	Jack Creek Acclim Pd	Yakama River
Yakima Tribe	Cle Elum	CH1	SP	2002	287,082	03-15-02	06-07-02	Clark Flat Acclim Pd	Yakama River
Yakima Tribe	Cle Elum	CO	UN	2002	185,000	05-06-02	05-20-02	Cle Elem Slough	Yakama River
Yakima Tribe	Easton Pond	CO	UN	2002	209,000	05-06-02	05-20-02	Easton Pd	Yakama River
Yakima Tribe	Lost Creek	CO	UN	2002	185,000	05-06-02	05-20-02	Lost Creek Acclim Pd	Yakama River
Yakima Tribe	Prosser	CH0	FA	2002	80,000	04-22-02	05-22-02	Prosser Acclim Pd	Yakama River
Yakima Tribe	Prosser	CH0	FA	2002	1,700,000	05-20-02	06-01-02	Prosser Acclim Pd	Yakama River
Yakima Tribe	Stiles Pond	CO	UN	2002	209,000	05-06-02	05-20-02	Naches R	Yakama River
Yakima Tribe	Winthrop	CO	UN	2002	150,000	04-25-02	05-10-02	Winthrop H	Methow River
Yakima Tribe Total					**3,556,174**				
Grand Total					**6,766,314**				

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

HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

Hatchery Release Summary

From: 5/24/02 to 6/6/02

Agency	Hatchery	Species	Race	MigYr	NumRel	RelStart	RelEnd	RelSite	RelRiver
IDFG	Oxbow-Idaho	CH0	FA	2002	197,000	06-02-02	06-07-02	Hells Canyon Dam	Snake River
IDFG Total					**197,000**				
Nez Perce Tribe	Lyons Ferry	CH0	FA	2002	400,000	05-27-02	06-04-02	Pittsburg Landing	Snake River
Nez Perce Tribe	Lyons Ferry	CH0	FA	2002	500,000	05-27-02	06-04-02	Big Canyon (Clearwater R)	Clearwater R. M F
Nez Perce Tribe	Lyons Ferry	CH0	FA	2002	500,000	05-27-02	06-04-02	Cpt John Acclim Pd	Snake River
Nez Perce Tribe Total					**1,400,000**				
Umatilla Tribe	Umatilla	CH0	FA	2002	300,000	05-20-02	05-31-02	Thornhollow Acclim Pd	Umatilla River
Umatilla Tribe	Umatilla	CH0	FA	2002	300,000	05-27-02	05-31-02	Umatilla R	Umatilla River
Umatilla Tribe Total					**600,000**				
WDFW	Klickitat	CH0	FA	2002	4,000,000	06-01-02	06-30-02	Klickitat H	Klickitat River
WDFW	Lyons Ferry	CH0	FA	2002	200,000	05-27-02	06-13-02	Lyons Ferry H	Snake River
WDFW	Ringold Springs	CH0	FA	2002	3,500,000	06-04-02	06-28-02	Ringold Springs H	Mid-Columbia R.
WDFW Total					**7,700,000**				
Yakima Tribe	Cle Elum	CH1	SP	2002	264,708	03-15-02	06-07-02	Easton Pd	Yakama River
Yakima Tribe	Cle Elum	CH1	SP	2002	286,384	03-15-02	06-07-02	Jack Creek Acclim Pd	Yakama River
Yakima Tribe	Cle Elum	CH1	SP	2002	287,082	03-15-02	06-07-02	Clark Flat Acclim Pd	Yakama River
Yakima Tribe	Prosser	CH0	FA	2002	1,700,000	05-20-02	06-01-02	Prosser Acclim Pd	Yakama River
Yakima Tribe Total					**2,538,174**				
Grand Total					**12,435,174**				

Two-Week Summary of Passage Indices

* See sampling comments http://www.fpc.org/currentDaily/smpcomments.htm
this means that one or more of the sites on this date had an incomplete or biased sample.
NOTE for 2002 Lower Monumental Data: Due to the non-standard operation of Lower Monumental this year, the passage index reliability is in question and is being looked into.

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)
05/10/2002 *	9	4	13	5	33,440	53,730	84,003	1,237	66,672	61,570	45,971
05/11/2002 *	---	---	---	---	35,130	51,833	177,468	585	87,692	27,947	49,747
05/12/2002 *	---	22	---	---	30,535	53,108	---	836	80,415	33,271	74,525
05/13/2002	3	89	9	3	32,672	47,563	165,902	1,534	95,799	23,054	34,589
05/14/2002 *	2	43	2	14	29,921	96,118	105,146	1,019	153,384	33,576	65,827
05/15/2002 *	2	17	10	3	62,468	65,586	---	869	134,652	77,556	54,707
05/16/2002 *	39	20	16	4	64,660	56,950	80,900	615	121,202	124,081	35,801
05/17/2002 *	11	22	17	6	46,052	53,387	71,322	595	135,134	70,193	40,975
05/18/2002 *	---	10	---	---	59,297	211,284	---	845	160,462	92,429	84,885
05/19/2002 *	---	26	---	---	89,531	94,341	120,154	697	149,319	61,558	75,494
05/20/2002 *	2	---	72	8	70,854	97,393	163,839	629	100,302	28,661	83,522
05/21/2002 *	---	---	155	95	67,684	46,009	---	776	122,648	40,728	88,373
05/22/2002 *	---	7	66	94	50,389	118,096	138,749	415	167,137	48,572	121,222
05/23/2002 *	---	0	24	170	33,090	68,169	102,884	365	158,511	79,098	131,152
Total:	**68**	**260**	**384**	**402**	**705,723**	**1,113,567**	**1,210,367**	**11,017**	**1,733,329**	**802,294**	**986,790**
# Days:	**7**	**11**	**10**	**10**	**14**	**14**	**10**	**14**	**14**	**14**	**14**
Average:	**10**	**24**	**38**	**40**	**50,409**	**79,541**	**121,037**	**787**	**123,809**	**57,307**	**70,485**
YTD	**38,197**	**28,520**	**7,776**	**7,191**	**2,282,532**	**2,594,692**	**1,964,809**	**19,875**	**2,733,554**	**1,420,189**	**2,215,225**

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)
05/10/2002 *	0	0	1	0	0	0	0	3	165	206	3,127
05/11/2002 *	---	---	---	---	84	0	0	5	614	143	3,058
05/12/2002 *	---	0	---	---	0	0	---	0	461	156	2,957
05/13/2002	0	0	1	0	80	0	0	1	435	144	1,774
05/14/2002 *	0	0	0	0	72	0	0	4	789	61	1,980
05/15/2002 *	0	0	0	0	0	0	---	1	1,472	72	2,222
05/16/2002 *	0	0	2	0	0	0	0	0	581	0	3,533
05/17/2002 *	0	0	1	2	77	0	0	1	562	153	3,585
05/18/2002 *	---	0	---	---	0	0	---	1	757	81	3,900
05/19/2002 *	---	0	---	---	0	0	0	0	1,547	71	2,373
05/20/2002 *	0	---	0	4	0	0	0	0	2,121	222	3,471
05/21/2002 *	---	---	0	11	0	0	---	1	2,774	360	2,363
05/22/2002 *	---	0	1	14	0	0	0	4	2,328	350	4,862
05/23/2002 *	---	0	0	18	0	0	0	4	2,240	632	8,149
Total:	**0**	**0**	**6**	**49**	**313**	**0**	**0**	**25**	**16,846**	**2,651**	**47,354**
# Days:	**7**	**11**	**10**	**10**	**14**	**14**	**10**	**14**	**14**	**14**	**14**
Average:	**0**	**0**	**1**	**5**	**22**	**0**	**0**	**2**	**1,203**	**189**	**3,382**
YTD	**0**	**4**	**17**	**76**	**2,512**	**0**	**0**	**484**	**80,917**	**7,430**	**1,848,159**

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

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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)
05/10/2002 *	0	0	0	0	251	0	143	107	496	9,523	30,648
05/11/2002 *	---	---	---	---	0	0	143	130	923	3,895	55,660
05/12/2002 *	---	0	---	---	501	0	---	166	1,230	9,250	114,350
05/13/2002	0	0	0	0	483	0	286	246	0	4,639	59,865
05/14/2002 *	0	0	0	0	718	0	0	573	473	4,897	138,089
05/15/2002 *	0	0	0	0	1,095	103	---	945	736	5,103	97,196
05/16/2002 *	0	0	0	0	1,881	0	143	971	726	9,337	71,838
05/17/2002 *	0	0	0	1	2,550	450	143	914	563	6,961	68,889
05/18/2002 *	---	0	---	---	2,076	458	---	1,214	1,665	2,614	90,849
05/19/2002 *	---	0	---	---	2,574	212	429	1,819	2,939	3,090	80,024
05/20/2002 *	0	---	0	6	6,579	1,171	286	2,107	1,818	1,391	70,506
05/21/2002 *	---	---	0	23	20,246	1,957	---	3,213	2,044	2,492	91,521
05/22/2002 *	---	0	0	12	13,636	4,391	1,881	4,257	2,661	1,695	93,347
05/23/2002 *	---	0	0	7	8,189	5,879	1,204	5,416	5,685	2,163	97,398
Total:	**0**	**0**	**0**	**49**	**60,779**	**14,621**	**4,658**	**22,078**	**21,959**	**67,050**	**1,160,180**
# Days:	**7**	**11**	**10**	**10**	**14**	**14**	**10**	**14**	**14**	**14**	**14**
Average:	**0**	**0**	**0**	**5**	**4,341**	**1,044**	**466**	**1,577**	**1,569**	**4,789**	**82,870**
YTD	**0**	**0**	**0**	**66**	**64,160**	**14,970**	**5,314**	**22,687**	**38,954**	**129,939**	**1,576,772**

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)
05/10/2002 *	152	1,305	7	473	17,852	21,398	47,412	553	5,812	8,710	12,196
05/11/2002 *	---	---	---	---	24,037	22,524	47,410	304	6,297	4,566	23,650
05/12/2002 *	---	1,174	---	---	25,446	10,093	---	277	6,622	7,553	33,714
05/13/2002	67	1,324	1	326	18,991	4,495	43,029	473	8,419	7,813	8,869
05/14/2002 *	76	2,154	1	359	15,140	5,354	18,918	340	13,910	8,905	33,161
05/15/2002 *	74	2,644	3	540	31,699	7,607	---	536	9,418	5,719	14,163
05/16/2002 *	77	1,834	6	187	33,310	7,493	46,063	470	6,977	4,436	12,483
05/17/2002 *	20	1,294	4	264	19,472	7,500	29,352	607	10,694	6,408	10,244
05/18/2002 *	---	1,186	---	---	38,303	20,366	---	721	10,604	7,211	24,089
05/19/2002 *	---	3,065	---	---	68,650	36,200	34,173	696	11,672	9,799	33,433
05/20/2002 *	3	---	76	193	63,642	130,794	66,534	966	9,702	12,090	40,568
05/21/2002 *	---	---	389	1,598	71,378	116,247	---	1,381	19,465	11,223	33,794
05/22/2002 *	---	297	161	662	130,333	102,511	150,545	1,136	20,461	14,840	31,439
05/23/2002 *	---	0	62	654	188,682	63,007	84,272	1,465	44,115	15,122	24,446
Total:	**469**	**16,277**	**710**	**5,256**	**746,935**	**555,589**	**567,708**	**9,925**	**184,168**	**124,395**	**336,249**
# Days:	**7**	**11**	**10**	**10**	**14**	**14**	**10**	**14**	**14**	**14**	**14**
Average:	**67**	**1,480**	**71**	**526**	**53,353**	**39,685**	**56,771**	**709**	**13,155**	**8,885**	**24,018**
YTD	**2,833**	**28,818**	**3,111**	**10,985**	**1,969,524**	**1,512,176**	**847,145**	**14,027**	**489,231**	**352,858**	**636,933**

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)
05/10/2002 *	2	0	0	0	1,760	930	431	462	44,206	19,867	5,942
05/11/2002 *	---	---	---	---	1,345	933	1,001	352	62,068	16,761	10,194
05/12/2002 *	---	0	---	---	834	778	---	274	37,996	18,110	19,913
05/13/2002	1	0	0	6	885	499	1,309	301	38,047	19,153	12,638
05/14/2002 *	2	0	0	13	933	1,276	1,143	331	42,021	31,562	29,944
05/15/2002 *	0	0	0	9	2,601	2,181	---	860	46,365	45,348	26,382
05/16/2002 *	2	0	0	11	3,684	765	600	420	43,998	57,151	27,557
05/17/2002 *	1	0	0	7	3,941	750	1,247	193	62,556	24,808	16,646
05/18/2002 *	---	0	---	---	3,944	1,493	---	102	73,589	36,657	36,936
05/19/2002 *	---	0	---	---	5,578	4,232	1,004	85	133,395	26,499	29,766
05/20/2002 *	0	---	0	40	3,669	2,540	3,869	95	55,319	26,409	36,229
05/21/2002 *	---	---	0	48	6,355	5,636	---	103	44,418	50,409	39,147
05/22/2002 *	---	0	0	23	4,232	6,358	2,599	86	28,950	56,474	80,383
05/23/2002 *	---	0	0	20	4,847	3,675	3,440	40	15,683	75,855	122,618
Total:	**8**	**0**	**0**	**177**	**44,608**	**32,046**	**16,643**	**3,704**	**728,611**	**505,063**	**494,295**
# Days:	**7**	**11**	**10**	**10**	**14**	**14**	**10**	**14**	**14**	**14**	**14**
Average:	**1**	**0**	**0**	**18**	**3,186**	**2,289**	**1,664**	**265**	**52,044**	**36,076**	**35,307**
YTD	**18**	**0**	**0**	**182**	**62,800**	**42,978**	**23,572**	**13,652**	**1,216,188**	**615,961**	**533,739**

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

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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: 05/23

	Spring Chinook						Summer Chinook						Fall Chinook				
	2002		2001		10-Yr Avg.		2002		2001		10-Yr Avg.		2002		2001	10-Yr Avg.	
DAM	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Jack	Adult	Adult	Jack
BON	252,552	5,463	373,028	12,399	99,606	5,093	0	0	0	0	0	0	0	0	0	0	0
TDA	163,582	2,936	284,479	8,097	63,804	3,296	0	0	0	0	0	0	0	0	0	0	0
JDA	123,790	1,785	242,230	4,755	52,568	2,472	0	0	0	0	0	0	0	0	0	0	0
MCN	107,096	2,648	230,960	4,476	47,391	2,155	0	0	0	0	0	0	0	0	0	0	0
IHR	66,051	1,019	147,463	1,935	26,647	1,192	0	0	0	0	0	0	0	0	0	0	0
LMN	56,470	708	152,255	1,054	25,373	1,152	0	0	0	0	0	0	0	0	0	0	0
LGS	54,208	688	143,850	1,744	23,410	1,116	0	0	0	0	0	0	0	0	0	0	0
LWG	50,071	951	139,293	1,322	22,046	960	0	0	0	0	0	0	0	0	0	0	0
PRD	29,507	79	46,089	572	11,733	176	0	0	0	0	0	0	0	0	0	0	0
RIS	16,771	563	34,510	613	7,570	137	0	0	0	0	0	0	0	0	0	0	0
RRH	6,084	15	14,118	185	2,241	34	0	0	0	0	0	0	0	0	0	0	0
WEL	3,322	2	8,490	147	1,202	27	0	0	0	0	0	0	0	0	0	0	0

	Coho						Sockeye			Steelhead			
	2002		2001		10-Yr Avg.				10-Yr			10-Yr	Wild
DAM	Adult	Jack	Adult	Jack	Adult	Jack	2002	2001	Avg.	2002	2001	Avg.	2002
BON	0	0	0	0	0	0	0	0	0	5,242	4,872	3,666	1,526
TDA	0	0	0	0	0	0	0	0	0	2,552	1,092	1,157	977
JDA	0	0	0	0	0	0	0	0	0	8,166	2,307	2,836	2,992
MCN	0	0	0	0	0	0	0	0	0	4,752	1,631	1,784	1,861
IHR	0	0	0	0	0	0	0	0	0	4,502	1,411	2,020	1,271
LMN	1	0	0	0	0	0	0	0	0	5,076	1,718	2,043	2,104
LGS	0	0	0	0	0	0	0	0	0	6,161	1,975	1,278	2,523
LWG	0	0	0	0	0	0	0	0	0	12,412	5,719	4,750	3,391
PRD	0	0	0	0	0	0	0	22	11	31	24	35	**
RIS	0	0	0	0	0	0	1	4	1	64	54	64	44
RRH	1	0	0	0	0	0	2	0	0	172	92	65	79
WEL	0	0	0	0	0	0	0	0	0	58	24	17	44

RIS, RRH numbers are through 5/20
WEL numbers are from Douglas CO PUD and are through 05/21.
PRD numbers are from Grant CO PUD and are through 05/22. MCN missing 04/27.
**PRD is not reporting Wild Steelhead numbers.
These numbers were collected from the COE's Running Sums text files.
Wild steelhead numbers are included in the total.
Historic counts (pre-1996) were obtained from CRITFC and compiled by the FPC.
Historic counts 1997 to present were obtained from the Corps of Engineers.

Page last updated on: 5/24/02

Two Week Transportation Summary

05/11/02 TO 05/24/02

		Species					
Site	Data	**CH0**	**CH1**	**CO**	**SO**	**ST**	**Grand Total**
LGR	Sum of NumberCollected	200	476,188	40,700	29,900	489,891	1,036,879
	Sum of NumberBarged	199	464,767	40,667	29,190	470,716	1,005,539
	Sum of NumberBypassed	0	9,914	5	3	18,563	28,485
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	1	1,503	28	706	605	2,843
LGS	Sum of NumberCollected		759,939	11,677	23,543	416,859	1,212,018
	Sum of NumberBarged		759,578	11,669	23,484	416,328	1,211,059
	Sum of NumberBypassed		0	0	0	0	0
	Sum of Numbertrucked		0	0	0	0	0
	Sum of TotalProjectMortalities		361	8	59	531	959
LMN	Sum of NumberCollected		1,210,367	4,658	16,643	567,708	1,799,376
	Sum of NumberBarged		1,193,100	4,657	16,248	565,780	1,779,785
	Sum of NumberBypassed		14,486	0	0	58	14,544
	Sum of Numbertrucked		0	0	0	0	0
	Sum of TotalProjectMortalities		2,781	1	395	1,870	5,047
MCN	Sum of NumberCollected	10,900	1,129,413	13,902	479,361	117,556	1,751,132
	Sum of NumberBarged	0	0	0	0	28	28
	Sum of NumberBypassed	10,897	1,128,863	13,899	478,810	117,404	1,749,873
	Sum of Numbertrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	3	550	3	551	124	1,231
Total Sum of NumberCollected		11,100	3,575,907	70,937	549,447	1,592,014	5,799,405
Total Sum of NumberBarged		199	2,417,445	56,993	68,922	1,452,852	3,996,411
Total Sum of NumberBypassed		10,897	1,153,263	13,904	478,813	136,025	1,792,902
Total Sum of Numbertrucked		0	0	0	0	0	0
Total Sum of TotalProjectMortalities		4	5,195	40	1,711	3,130	10,080

YTD Transportation Summary

TO: 05/24/02

		Species					
Site	Data	**CH0**	**CH1**	**CO**	**SO**	**ST**	**Grand Total**
LGR	Sum of NumberCollected	1,633	1,416,211	42,670	41,725	1,275,562	2,777,801
	Sum of NumberBarged	1,576	1,375,987	42,617	40,309	1,228,000	2,688,489
	Sum of NumberBypassed	1	26,877	5	7	43,278	70,168
	Sum of NumberTrucked	29	9,847	20	343	3,383	13,622
	Sum of TotalProjectMortalities	27	3,494	28	1,065	894	5,508
LGS	Sum of NumberCollected		1,719,651	11,900	29,798	992,967	2,754,316
	Sum of NumberBarged		1,717,593	11,886	29,557	991,102	2,750,138
	Sum of NumberBypassed		0	0	0	0	0
	Sum of NumberTrucked		1,034	4	74	1,024	2,136
	Sum of TotalProjectMortalities		1,024	10	167	841	2,042
LMN	Sum of NumberCollected		1,964,809	5,314	23,572	847,145	2,840,840
	Sum of NumberBarged		1,881,727	5,312	22,987	841,119	2,751,145
	Sum of NumberBypassed		59,658	1	95	3,155	62,909
	Sum of NumberTrucked		20,104	0	13	356	20,473
	Sum of TotalProjectMortalities		3,320	1	477	2,515	6,313
MCN	Sum of NumberCollected	45,345	1,772,051	24,662	802,001	301,438	2,945,497
	Sum of NumberBarged	0	0	0	0	67	67
	Sum of NumberBypassed	45,314	1,771,273	24,657	801,232	301,191	2,943,667
	Sum of NumberTrucked	0	0	0	0	0	0
	Sum of TotalProjectMortalities	31	778	5	769	180	1,763
Total Sum of NumberCollected		46,978	6,872,722	84,546	897,096	3,417,112	11,318,454
Total Sum of NumberBarged		1,576	4,975,307	59,815	92,853	3,060,288	8,189,839
Total Sum of NumberBypassed		45,315	1,857,808	24,663	801,334	347,624	3,076,744
Total Sum of NumberTrucked		29	30,985	24	430	4,763	36,231
Total Sum of TotalProjectMortalities		58	8,616	44	2,478	4,430	15,626