



Fish Passage Center

Weekly Report #04 - 9

May 07, 2004

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Highlights:

- Over the past week, snow packs have decreased between 12% and 35%, causing flows in most locations to increase
- Flows have increased considerably at Lower Granite, increasing from near 50 Kcfs to a little over 85 Kcfs (BiOp Flow Objective is 85 Kcfs) in the last week, and flows at McNary have currently increased to near the Biological Opinion level of 220 Kcfs
- SOR 2004-7 was submitted to the Action Agencies on May 4, 2004 and asked for flows at Priest Rapids to be increased to a day average of 120 Kcfs on May 7, 2004 and begin meeting a week average of 135 Kcfs on May 10, 2004.
- Biological Opinion spill at Bonneville Dam was decreased by the Action Agencies to provide operation of the RSW at Lower Granite Dam in a revenue neutral fashion for BPA.
- Record numbers of yearling chinook were collected at Lower Granite Dam on May 5 as peak numbers passed the project this week, forcing COE to operate the RSW to avoid collecting more fish than could be barged.

Summary of Events:

Water Supply: Precipitation throughout the Columbia Basin was very low over most of March and April. Only one site in Table 1 contained greater than average precipitation over the first twenty-six days of April. Over the entire water year, precipitation has been decreasing and is currently below average.

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

| Location | Water Year 2004 April 1-26 | | Water Year 2004 October 1, 2003 to April 26, 2004 | |
|--------------------------------|-------------------------------|--------------|---|--------------|
| | Observed (inches) | % Average | Observed (inches) | % Average |
| Columbia Above Coulee | 0.97 | 68 | 14.31 | 91 |
| Snake River Above Ice Harbor | 0.95 | 75 | 9.97 | 86 |
| Columbia Above The Dalles | 0.96 | 67 | 14.37 | 91 |
| Kootenai | 0.80 | 53 | 14.66 | 91 |
| Clark Fork | 0.79 | 73 | 8.19 | 81 |
| Flathead | 1.54 | 113 | 12.27 | 91 |
| Pend Oreille/Spokane | 1.11 | 57 | 19.5 | 88 |
| Central Washington | 0.39 | 70 | 5.61 | 87 |
| Snake River Plain | 0.75 | 83 | 5.55 | 79 |
| Salmon/Boise/Payette | 0.70 | 51 | 11.48 | 81 |
| Clearwater | 1.53 | 66 | 19.59 | 94 |
| SW Washington Cascades/Cowlitz | 2.17 | 47 | 50.49 | 87 |
| Willamette Valley | 3.02 | 72 | 45.74 | 92 |

Snowpack within the Columbia Basin is below average and decreasing (with respect to average). Over the past week, snow packs have decreased between 12% and 35%, causing flows in most locations to increase. Average snowpack in the Columbia River for basins above the Snake River confluence is 50% of average (12% decrease from last week), for Snake River Basins the average snowpack is 34% of average (24% decrease from last week), and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 38% of average (35% decrease from last week).

Water Supply Forecasts have been decreasing rapidly over the last month. Most locations in Table 2 had significantly decreased runoff volumes in the April Final Forecast relative to the March Final forecast. At most locations, the May Early water supply forecasts have continued to decrease relative to the April Final Forecast. The May Final Forecast is scheduled for release on May 10, 2004.

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

| Location | April Final | | May Early | |
|---|-----------------------|------------------------------|-----------------------|------------------------------|
| | % Average (1971-2000) | Probable Runoff Volume (Kaf) | % Average (1971-2000) | Probable Runoff Volume (Kaf) |
| The Dalles (Jan-July) | 78 | 84200 | 76 | 81600 |
| Grand Coulee (Jan-July) | 85 | 53600 | 83 | 52500 |
| Libby Res. Inflow, MT (Jan-July) | 84 | 5290 | 81 | 5110 |
| Hungry Horse Res. Inflow, MT (Jan-July) | 76 | 1680 | 75 | 1660 |
| Lower Granite Res. Inflow (Apr- July) | 72 | 15600 | 66 | 14300 |
| Brownlee Res. Inflow (Apr-July) | 50 | 3130 | 45 | 2820 |
| Dworshak Res. Inflow (Apr-July) | 81 | 2150 | 76 | 2130 |

The Spring Flow Objective Period started in the Lower Snake River on April 3rd, 2004. Based on the April Final Forecast at Lower Granite (Apr-July), the flow objective will be 85 Kcfs at Lower Granite through June 20th. Over the Spring Flow Objective Period, flows have averaged 52.0 Kcfs at Lower Granite. Over the last week, flows have increased considerably at Lower Granite, increasing from near 50 Kcfs to a little over 85 Kcfs.

The Spring Flow Objective Periods at McNary Dam and Priest Rapids Dam began on April 10th. The flow objectives at McNary and Priest Rapids are 220 Kcfs and 135 Kcfs, respectively. Over the Spring Flow Objective Period, flows have averaged 169.4 Kcfs at McNary Dam and 107.2 Kcfs at Priest Rapids Dam. Flows at McNary have currently increased to near the Biological Opinion level of 220 Kcfs. SOR 2004-7 was submitted to the Action Agencies on May 4, 2004 and asked for flows at Priest Rapids to be increased to a day average of 120 Kcfs on May 7, 2004 and begin meeting a week average of 135 Kcfs on May 10, 2004.

Grand Coulee is currently at an elevation of 1272.0 feet (5-6-04) and has refilled approximately three feet over the last week.

The Libby Reservoir is currently at an elevation of 2415.2 feet (5-6-04). Inflows to Libby over the last week have ranged between 13.9 and 22.8 Kcfs; Libby has been able to refill 5.2 feet in the last week while still maintaining minimum project outflow of 4.0 Kcfs.

The Hungry Horse Reservoir is currently at an elevation of 3538.6 feet (5-6-04). Over the last week, inflows to Hungry Horse have ranged between 4.5 and 16.2 Kcfs, enabling Hungry Horse to refill 5.3 feet. Outflows over the last week have increased from the project minimum (0.9 Kcfs) to above 4 Kcfs.

The Dworshak reservoir is currently at an elevation of 1567.9 feet (5-6-04). Inflows to Dworshak have remained relatively high over the past week ranging between 10.0 and 16.0 Kcfs. Outflows are at a current day average of 3.9 Kcfs. Dworshak has refilled 8.3 feet in the last week.

The Brownlee Reservoir is currently at an elevation of 2072.1 feet (5-6-04). Inflows to

Brownlee have ranged between 10.8 and 14.5 Kcfs; outflows have ranged between 7.9 and 14.0 Kcfs. Brownlee has refilled 1.6 feet in the last week.

Spill: Spill at Lower Granite and Little Goose dams was terminated at 0600 hours on April 23, 2004. Since there is no spill occurring the maximum number of fish possible are being collected for barge transportation to the lower Columbia. Recent increases in flow have resulted in record numbers of fish collected at Lower Granite Dam, which have exceeded the holding capacity of the project. Since the capacity of the facility and transport operations was being exceeded the State, Tribal and USFWS Salmon Manager's requested operation of the Removable Spillway Weir with 12 Kcfs training spill as a preferred passage route. The Federal Action Agencies operated the RSW with 3.2 Kcfs training spill to decrease the number of fish entering the facility and Biological Opinion spill for fish protection at Bonneville Dam was decreased at the same time to conduct the operation as revenue neutral to BPA. This was contrary to the State, Tribal and USFWS Salmon Manager's request. The RSW was operated from 1600 hours on May 5th to 0600 hours on May 6th.

Spill at Lower Monumental Dam began for the conduct of the salvaged study design. Spill averaged 41% of average daily flow over the past week. Spill at Ice Harbor Dam was initiated on the evening of April 13th. Spill has averaged 74% of average daily flow over the past week.

The Biological Opinion spill program started at the lower Columbia River Projects on the evening of April 12, 2004. Over the past week spill averaged 37%, 30%, 39% and 43% of daily flow at McNary, John Day, The Dalles and Bonneville dams, respectively. Concern regarding chum and fall chinook redds and emerging fish below the Project has caused the Salmon Manager's to request slightly lower spill levels to maintain non lethal levels of total dissolved gas from occurring in the area. As already mentioned, on the night of May 5th the spill volume at Bonneville Dam were

further reduced by the federal operating agencies to assure revenue neutrality for BPA due to the short term operations necessary at Lower Granite Dam.

One fish on May 6th was observed at Rock Island Dam with signs of GBT this past week.

Smolt Monitoring: The yearling chinook migration is reaching peak numbers in the Snake River, and steelhead indices are increasing rapidly as well. Combined passage indices surpassed 900,000 on May 5 at Lower Granite. The near record numbers of fish have forced the COE to operate the RSW spill in order to avoid collecting more fish than could be transported at the site. Steelhead numbers have continued relatively high at the Snake River Traps and are likely to predominate in the Snake River in the upcoming weeks.

At Snake River Basin traps yearling chinook numbers were up at all but the White Bird Trap. Steelhead numbers were also up at all but the White Bird Trap, where the daily average was 97 this week for steelhead compared to 111 last week. The White Bird Trap collected fewer yearling chinook with the average daily index at 27 this week compared to 222 last week. The collection of yearling chinook was up at the Imnaha Trap where the average daily catch for this week was 774 compared to over 441 per day last week. Steelhead collection was up this past week with daily collection averaging about 1,300 per day this week compared to 600 per day last week. Numbers of yearling chinook captured at the Grande Ronde trap were also up compared to the previous week with a daily average of just over 260 compared to 130 last week. Steelhead numbers increased to 120 per day after a relatively low week last week of 34 per day. At the Lewiston Trap the numbers of yearling chinook remained low this past week with an average daily catch of 57, while steelhead collection increased to 770 per day average this week compared to 50 per day average last week.

At Lower Granite Dam the numbers of yearling chinook and steelhead continued to increase over the past week. The average passage index for yearling chinook increased this past week to 337,000 compared to 131,000 last week, with a

season high (which is a record high) of 729,000 on May 6. The steelhead average daily passage index also increased from 92,000 last week to 136,000 this week. Coho indices increased from 600 per day to 900 per day this past week and small numbers of subyearling chinook were also captured with an index of 800 on May 6. As mentioned earlier, the numbers of fish have been so high at Lower Granite that on May 5 the COE was forced to operate the RSW spill water in order to avoid collecting more fish than could be barged. The operation began about 4 pm and continued until 6 am on May 6. The same operation may occur again in the next few days, as steelhead numbers are increasing rapidly with the increasing flows in the Snake River.

Little Goose Dam continued to show large numbers of yearling chinook and steelhead over the past week with the average daily index of yearling chinook at 75,000 this week compared to 104,000 last week while steelhead averaged 40,000 per day this week compared to 42,000 per day last week. Little Goose is likely to see increased numbers of yearling chinook and steelhead over the next few days as fish that were passing Lower Granite the past few days reach that project. Lower Monumental Dam had a decrease in the yearling chinook indices with an average daily index of 6,800 compared to 28,000 per day last week. Steelhead indices have continued to increase at the site with an average index of 7,700 this past week compared to 6,000 per day the week past.

In the Mid-Columbia River the Entiat Trap continues to capture small numbers of yearling chinook, subyearling chinook and steelhead.

At Rock Island Dam the numbers of yearling chinook decreased with an average yearling chinook index of 180 this week compared to 280 last week, while steelhead averaged 119 per day compared to 67 last week, and sockeye averaged 70 per day this week compared to 130 per day last week. Subyearling chinook numbers bumped up a bit from 6 per day last week to 22 per day this week with a large one day index of 140 on the 6th. Small numbers of coho continue to be captured at the trap.

In the Lower Columbia, at McNary, based on full samples taken every other day, yearling chinook indices have steadily increased to 66,000 per day this week compared to 34,000 last week, while steelhead indices averaged 3,200 per day compared to 3,700 per day last week. Subyearling chinook indices increased rapidly this past week, with the average daily index at 1,250 per day this week compared to 320 last week. Coho and sockeye indices remained relatively low but sockeye indices increased rapidly over that past three sample dates, with a season high index of 3,000 on May 5. Testing of the high velocity vertical barrier screens will resume May 8. Crews raked trash racks and found relatively large volumes of tumbleweeds in the 5 bays they raked. The COE attributed the increased descaling and mortality rates seen in the SMP samples and collection, but not in PIT tagged releases in the gatewells, to high debris loads on the trash racks.

At John Day Dam the numbers of yearling chinook have increased rapidly with the average daily index at 17,600 this week, compared to 5,700 last week. Steelhead indices increased slowly over the past week with the average daily value at 1,700 compared to 1,500 last week. Small numbers of coho, sockeye, and subyearling chinook smolts have been reported this past week. At Bonneville Dam, the average daily index for yearling chinook was 31,000 compared to 32,000 last week. The steelhead index averaged 1,900 this week compared to 1,400 last week. The indices for coho continued to increase this week with an average index of 30,000 per day versus 23,000 per day last week. Subyearling chinook numbers were down to 1,300 per day index this week compared to 1,600 last week. Small numbers of sockeye continue to be reported this past week.

Hatchery Releases - The scheduled release of juvenile salmonids from Columbia River Basin hatcheries above Bonneville Dam for the 2004 migration season is estimated near 82.0 million. Supplemental and planned releases completed during the fall 2003 season are considered to be 2004 migrants. The Zone Release Report below summarizes "planned" hatchery releases from State, federal or Tribal hatcheries or acclimation ponds for the 2004 Migration Season. These totals will be updated after release from the hatcheries and finalized through the year.

Juvenile sockeye were released from net pens into Lake Wenatchee last summer and fall (2003); the majority of these fish reside in the lake and migrate from the lake and to the ocean the next spring (2004). In the Snake River basin, juvenile sockeye were released in Redfish, Alturas, and Pettit lakes last fall and most begin their migration in late April and May from the lakes.

Hatcheries in the Snake and Columbia basin released greater than 18 million juvenile salmon during the past two weeks. Fish were released in all of the River Zones with yearling spring, summer, and fall chinook completed for the year in the Columbia River basin. For the upcoming two weeks, about 3.5 million fish will be released from hatcheries in the basin. See the Hatchery Release Summary Tables for details of individual release groups.

2004 Hatchery Zone Report

| Race/Species | Friday 6-May-2004 | | | |
|------------------|-------------------|--------------|----------------|---------------|
| | Snake River | Mid-Columbia | Lower Columbia | Total Release |
| Fall Chinook | 2,606,355 | 12,430,000 | 21,738,594 | 36,774,949 |
| Spring Chinook | 10,471,562 | 4,015,312 | 5,186,534 | 19,673,408 |
| Summer Chinook | 2,374,050 | 3,235,990 | | 5,610,040 |
| Coho | 1,199,433 | 1,240,000 | 5,924,000 | 8,363,433 |
| Sockeye | 62,000 | 315,790 | | 377,790 |
| Summer Steelhead | 9,298,143 | 1,302,231 | 471,298 | 11,071,672 |
| Winter Steelhead | | | 90,000 | 90,000 |
| Total | 26,011,543 | 22,539,323 | 33,410,426 | 81,961,292 |

Snake River - Release of yearling chinook from hatcheries in the Snake River basin is completed for the 2004 migration season. About 12.8 million yearling spring/summer chinook and another 1-million yearling fall chinook were released for this year's migration.

Juvenile steelhead releases were nearing completion from most hatcheries this week with trucking of steelhead from the Niagara Springs, Hagerman, and Magic Valley continuing till all fish have been released in the Salmon River basin. Juvenile steelhead releases are completed in the Clearwater River basin with the major releases from Dworshak NFH and Clearwater H in-river for about three weeks. The Grande Ronde, Imnaha, and Tucannon River basins will have direct and volitional releases that should be completed during the upcoming week.

Mid-Columbia - Volitional releases of yearling spring chinook commenced mid-March in the Yakama River at Clark Flat, Easton, and Jack Creek ponds and most fish have emigrated from the ponds. Releases of upper Mid-Columbia spring chinook are in-river. Steelhead releases are ongoing from Wells Hatchery, but completed in the Wenatchee R. The large yearling summer chinook releases from Dryden, Similkameen, and Carlton ponds as well as Wells H should be in-river and migrating downstream. The first group of subyearling chinook will likely be released from Wells H in mid-May.

Lower Columbia - Yearling fall and spring chinook and coho salmon were released from acclimation ponds located in the Umatilla River basin in March and April. Yearling spring chinook have been released from Round Butte H, Warm Springs NFH, Klickitat H, Carson, Warm Springs, and Little White Salmon NFHs. The volitional release from the Hood River Acclimation Ponds should be nearing completion from the pond/raceway system. About 2.5 million yearling coho from Washougal H were trucked and released by the first week of April with the on-site volitional release of coho from Klickitat H. to begin in May. Juvenile steelhead releases will be on-going from mid-April through early May with

the Umatilla R stream planting completed for the season. The final release of subyearling fall chinook from Spring Creek NFH was completed on 5/6.

Adult Fish Passage - At Bonneville Dam, counts of spring chinook ranged from 1,700 to 8,000 per day through the report week, ending May 6. The count of adult spring chinook through May 6 was 130,372, and that compares to 152,086 in 2003 and 101,729 for the 10-year average. A small spike in counts occurred early in the week, but then dropped back down to about 2,000 per day by the end of the week. Numbers of spring chinook estimated by TAC have been reduced to near 200,000 for the season. The majority of the chinook salmon returning to Bonneville Dam this season have been comprised of 4-year old fish that migrated to the ocean in 2002 and spent two wonderful years at sea.

Of the spring chinook past Bonneville Dam, approximately 71% have been counted at The Dalles Dam with 65,950 past McNary Dam through May 6. Most chinook past McNary Dam are choosing the Snake River; 47,228 have been counted at Ice Harbor Dam with 6,721 counted at Priest Rapids Dam (Mid-upper Columbia River). Through May 4, about 3,500 adult chinook have been counted at Prosser Dam on the Yakima River.

Based on PIT tagged adult returns to Bonneville Dam, a 4-ocean adult salmon (few and far between) was detected from McCall Hatchery on May 6. Also, a fair number of 2-ocean age adult "summer" chinook salmon from McCall H have returned to date based on the PIT tag detections at Bonneville. The majority of passage at Bonneville is comprised of chinook destined to Snake River basin, with the Mid-Columbia and Yakima River basins and lower rivers such as Wind and Deschutes R basins still seeing PIT tag detections on a daily basis.

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 |
| 04/23/04 | 96.1 | 0.0 | 95.1 | 0.0 | 101.8 | 11.5 | 101.3 | 0.0 | 107.7 | 26.1 | 115.3 | 46.2 | 106.0 | 65.9 |
| 04/24/04 | 91.0 | 0.0 | 92.6 | 0.0 | 99.4 | 11.3 | 97.1 | 0.0 | 103.7 | 21.6 | 111.8 | 44.8 | 106.6 | 66.1 |
| 04/25/04 | 77.0 | 0.0 | 81.2 | 0.0 | 92.9 | 10.5 | 98.0 | 0.0 | 105.6 | 18.7 | 109.5 | 27.4 | 105.8 | 65.5 |
| 04/26/04 | 117.3 | 0.0 | 113.4 | 0.0 | 119.4 | 11.8 | 111.9 | 0.0 | 118.1 | 25.7 | 106.3 | 20.0 | 102.7 | 63.7 |
| 04/27/04 | 109.7 | 0.0 | 107.7 | 0.0 | 115.2 | 11.6 | 112.1 | 0.0 | 119.5 | 27.5 | 119.4 | 20.1 | 114.8 | 70.9 |
| 04/28/04 | 84.8 | 0.0 | 91.1 | 0.0 | 101.2 | 11.1 | 104.5 | 0.0 | 113.3 | 26.0 | 121.0 | 20.2 | 126.6 | 78.7 |
| 04/29/04 | 83.2 | 0.0 | 88.0 | 0.0 | 98.9 | 11.0 | 98.2 | 0.0 | 106.2 | 21.8 | 116.5 | 19.3 | 117.7 | 73.0 |
| 04/30/04 | 85.8 | 0.0 | 87.4 | 0.0 | 97.9 | 10.9 | 96.3 | 0.0 | 103.9 | 20.9 | 101.2 | 19.3 | 95.3 | 58.8 |
| 05/01/04 | 82.9 | 0.0 | 82.8 | 0.0 | 95.3 | 10.8 | 97.5 | 0.0 | 107.8 | 21.1 | 106.9 | 9.7 | 106.4 | 66.2 |
| 05/02/04 | 80.7 | 0.0 | 81.2 | 0.0 | 91.9 | 10.3 | 82.5 | 0.0 | 91.5 | 20.1 | 102.2 | 0.0 | 108.2 | 67.2 |
| 05/03/04 | 108.2 | 0.0 | 108.8 | 0.0 | 123.6 | 11.9 | 125.9 | 0.0 | 136.9 | 26.1 | 133.5 | 12.0 | 127.9 | 79.7 |
| 05/04/04 | 88.5 | 0.0 | 92.5 | 0.0 | 111.9 | 11.8 | 114.5 | 0.0 | 126.4 | 25.1 | 133.5 | 20.7 | 137.2 | 85.0 |
| 05/05/04 | 74.5 | 0.0 | 77.5 | 0.0 | 93.9 | 10.7 | 92.7 | 0.0 | 103.5 | 23.0 | 118.7 | 19.7 | 125.3 | 77.4 |
| 05/06/04 | 83.5 | 0.0 | 86.7 | 0.0 | 103.1 | 8.9 | 102.7 | 11.6 | 112.7 | 25.3 | 112.5 | 19.8 | 108.5 | 67.0 |

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

| Date | Dworshak | | Hells Canyon | | Lower Granite | | Little Goose | | Lower Monumental | | Ice Harbor | |
|----------|----------|-------|--------------|---------|---------------|-------|--------------|-------|------------------|-------|------------|-------|
| | Flow | Spill | Inflow | Outflow | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill |
| 04/23/04 | 6.6 | 0.0 | 12.8 | 8.9 | 42.1 | 4.6 | 42.6 | 7.4 | 42.0 | 0.0 | 41.6 | 32.7 |
| 04/24/04 | 5.2 | 0.0 | 12.3 | 8.9 | 40.1 | 0.0 | 40.0 | 0.0 | 42.3 | 4.5 | 44.2 | 33.6 |
| 04/25/04 | 5.1 | 0.0 | 11.5 | 8.8 | 41.5 | 0.0 | 41.7 | 0.0 | 45.3 | 11.6 | 49.0 | 38.9 |
| 04/26/04 | 6.6 | 0.0 | 11.7 | 10.5 | 41.8 | 0.0 | 41.9 | 0.0 | 42.9 | 10.2 | 48.5 | 35.0 |
| 04/27/04 | 6.6 | 0.0 | 12.6 | 10.2 | 45.6 | 0.0 | 44.6 | 0.0 | 46.5 | 8.0 | 47.5 | 38.7 |
| 04/28/04 | 6.6 | 0.0 | 11.3 | 9.0 | 54.6 | 0.0 | 53.4 | 0.0 | 55.1 | 10.9 | 56.6 | 48.3 |
| 04/29/04 | 6.6 | 0.0 | 12.4 | 8.9 | 54.1 | 0.0 | 54.4 | 0.0 | 56.9 | 13.8 | 60.3 | 47.9 |
| 04/30/04 | 6.1 | 0.0 | 12.6 | 8.8 | 54.7 | 0.0 | 54.0 | 0.0 | 53.4 | 25.4 | 57.5 | 45.0 |
| 05/01/04 | 2.3 | 0.0 | 10.8 | 8.8 | 50.1 | 0.0 | 48.9 | 0.0 | 51.9 | 24.8 | 52.9 | 39.6 |
| 05/02/04 | 2.3 | 0.0 | 12.7 | 10.5 | 50.3 | 0.0 | 50.5 | 0.0 | 53.3 | 25.5 | 54.6 | 44.8 |
| 05/03/04 | 4.2 | 0.0 | 12.2 | 12.5 | 60.9 | 0.0 | 61.7 | 0.0 | 65.4 | 30.9 | 66.8 | 44.7 |
| 05/04/04 | 4.0 | 0.0 | 13.3 | 14.8 | 70.4 | 0.0 | 70.7 | 0.0 | 76.6 | 27.4 | 75.7 | 44.5 |
| 05/05/04 | 4.0 | 0.0 | 14.5 | 15.1 | 79.1 | 3.7 | 77.8 | 0.0 | 82.3 | 25.7 | 81.3 | 60.1 |
| 05/06/04 | 3.9 | 0.0 | --- | --- | 85.3 | 2.6 | 85.4 | 0.0 | 94.2 | 30.4 | 93.4 | 80.1 |

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

| Date | McNary | | John Day | | The Dalles | | Bonneville | | PH1 | PH2 |
|----------|--------|-------|----------|-------|------------|-------|------------|-------|------|-------|
| | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | | |
| 04/23/04 | 154.1 | 45.7 | 158.0 | 45.0 | 169.2 | 65.2 | 184.5 | 94.1 | 0.0 | 79.0 |
| 04/24/04 | 155.0 | 39.1 | 158.5 | 45.2 | 160.4 | 61.5 | 189.3 | 94.0 | 0.0 | 83.9 |
| 04/25/04 | 153.1 | 33.4 | 156.5 | 43.3 | 162.6 | 64.5 | 196.8 | 89.3 | 0.7 | 95.5 |
| 04/26/04 | 154.1 | 37.3 | 154.1 | 45.2 | 151.8 | 59.8 | 188.2 | 85.5 | 4.2 | 86.7 |
| 04/27/04 | 169.7 | 53.2 | 129.7 | 32.0 | 132.2 | 51.4 | 189.3 | 87.9 | 5.1 | 84.8 |
| 04/28/04 | 179.3 | 55.5 | 194.3 | 55.6 | 196.5 | 77.1 | 191.4 | 88.6 | 8.8 | 82.6 |
| 04/29/04 | 175.4 | 58.0 | 169.0 | 54.6 | 169.0 | 66.3 | 195.6 | 89.8 | 8.1 | 85.8 |
| 04/30/04 | 166.5 | 55.1 | 165.7 | 52.5 | 167.7 | 65.3 | 199.1 | 92.9 | 8.5 | 86.3 |
| 05/01/04 | 164.7 | 52.1 | 170.6 | 49.3 | 174.7 | 69.0 | 204.6 | 93.4 | 11.1 | 88.7 |
| 05/02/04 | 164.5 | 52.9 | 156.5 | 44.6 | 159.4 | 62.6 | 185.4 | 94.2 | 7.9 | 71.9 |
| 05/03/04 | 170.2 | 57.4 | 165.6 | 50.2 | 167.9 | 65.7 | 191.3 | 92.6 | 7.7 | 79.7 |
| 05/04/04 | 206.9 | 87.2 | 203.4 | 57.4 | 201.0 | 78.5 | 222.4 | 90.2 | 23.2 | 97.6 |
| 05/05/04 | 226.0 | 98.7 | 211.6 | 63.0 | 218.0 | 84.3 | 250.2 | 87.2 | 48.7 | 102.9 |
| 05/06/04 | 201.8 | 91.6 | 215.2 | 71.8 | 221.3 | 87.1 | 245.7 | 89.4 | 41.7 | 101.8 |

HATCHERY RELEASE LAST TWO WEEKS

Hatchery Release Summary

From: **4/23/2004** to **5/6/2004**

| Agency | Hatchery | Species | Race | MigYr | NumRel | RelStart | RelEnd | RelSite | RelRiver |
|--|--------------------------|---------|------|-------|------------------|----------|----------|----------------------------|-----------------------|
| Colville Tribe | Wells Hatchery | ST | SU | 2004 | 9,000 | 04-26-04 | 04-30-04 | Omak Creek | Okanogan River |
| Colville Tribe Total | | | | | 9,000 | | | | |
| Idaho Dept. of Fish and Game | Clearwater Hatchery | ST | SU | 2004 | 257,005 | 04-21-04 | 04-23-04 | Crooked R Acclim Pond | S Fk Clearwater River |
| Idaho Dept. of Fish and Game | Clearwater Hatchery | ST | SU | 2004 | 260,602 | 04-16-04 | 04-26-04 | Red River Acclim Pond | S Fk Clearwater River |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 29,000 | 04-05-04 | 05-07-04 | Valley Creek | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 33,500 | 04-05-04 | 05-07-04 | Lemhi River | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 50,000 | 04-05-04 | 05-07-04 | East Fk Salmon River | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 82,000 | 04-05-04 | 05-07-04 | Lemhi River | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 180,000 | 04-05-04 | 05-07-04 | Yankee Fk (Salmon R) | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 180,000 | 04-19-04 | 05-07-04 | McNabb/Salmon River | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 190,000 | 04-05-04 | 05-07-04 | Squaw Cr Acclim Pond | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 204,000 | 04-05-04 | 05-07-04 | East Fk Salmon River | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Niagara Springs | ST | SU | 2004 | 445,000 | 04-10-04 | 05-04-04 | Little Salmon River | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Niagara Springs | ST | SU | 2004 | 840,177 | 04-13-04 | 05-01-04 | Pahsimeroi River | Pahsimeroi River |
| Idaho Dept. of Fish and Game | Rapid River Hatchery | CH1 | SP | 2004 | 2,762,058 | 03-15-04 | 04-23-04 | Rapid River Hatchery | Little Salmon River |
| Idaho Dept. of Fish and Game Total | | | | | 5,513,342 | | | | |
| Nez Perce Tribe | Clearwater Hatchery | ST | SU | 2004 | 25,961 | 04-27-04 | 04-27-04 | Meadow Creek - CLES | S Fk Clearwater River |
| Nez Perce Tribe | Clearwater Hatchery | ST | SU | 2004 | 25,962 | 04-27-04 | 04-27-04 | Mill Cr Bridge | S Fk Clearwater River |
| Nez Perce Tribe | Clearwater Hatchery | ST | SU | 2004 | 51,562 | 04-26-04 | 04-26-04 | Lolo Creek | Clearwater River M F |
| Nez Perce Tribe | Dworshak NFH | CO | UN | 2004 | 356,323 | 04-24-04 | 04-24-04 | Clear Creek | Clearwater River M F |
| Nez Perce Tribe | Dworshak NFH | ST | SU | 2004 | 74,620 | 04-22-04 | 04-26-04 | American River | S Fk Clearwater River |
| Nez Perce Tribe Total | | | | | 534,428 | | | | |
| Oregon Dept. of Fish and Wildlife | Cascade Hatchery | CO | UN | 2004 | 562,500 | 04-07-04 | 04-23-04 | Umatilla River | Umatilla River |
| Oregon Dept. of Fish and Wildlife | Irrigon Hatchery Complex | ST | SU | 2004 | 3,000 | 05-06-04 | 05-07-04 | Deer Creek | Grande Ronde River |
| Oregon Dept. of Fish and Wildlife | Irrigon Hatchery Complex | ST | SU | 2004 | 80,000 | 04-29-04 | 05-06-04 | L Sheep Acclim Pond | Imnaha River |
| Oregon Dept. of Fish and Wildlife | Irrigon Hatchery Complex | ST | SU | 2004 | 81,000 | 05-06-04 | 05-13-04 | Big Canyon Acclim.Pd (G R) | Grande Ronde River |
| Oregon Dept. of Fish and Wildlife | Irrigon Hatchery Complex | ST | SU | 2004 | 161,000 | 05-05-04 | 05-13-04 | Wallowa Acclim Pond | Wallowa River |
| Oregon Dept. of Fish and Wildlife Total | | | | | 887,500 | | | | |
| U.S. Fish and Wildlife Service | Dworshak NFH | ST | SU | 2004 | 1,200,000 | 04-19-04 | 04-23-04 | Dworshak Hatchery | Clearwater River M F |
| U.S. Fish and Wildlife Service | Hagerman NFH | ST | SU | 2004 | 772,000 | 04-16-04 | 05-07-04 | Sawtooth Hatchery | Salmon River (ID) |
| U.S. Fish and Wildlife Service | Spring Creek NFH | CH0 | FA | 2004 | 3,381,797 | 05-06-04 | 05-06-04 | Spring Creek Hatchery | L Col R (D/s McN Dam) |
| U.S. Fish and Wildlife Service | Winthrop NFH | CO | UN | 2004 | 305,000 | 04-20-04 | 04-29-04 | Winthrop Hatchery | Methow River |
| U.S. Fish and Wildlife Service | Winthrop NFH | ST | SU | 2004 | 117,000 | 04-15-04 | 04-28-04 | Winthrop Hatchery | Methow River |
| U.S. Fish and Wildlife Service Total | | | | | 5,775,797 | | | | |
| Umatilla Tribe | Umatilla Hatchery | ST | SU | 2004 | 43,115 | 04-21-04 | 04-29-04 | Pendelton Acclim Pond | Umatilla River |
| Umatilla Tribe | Umatilla Hatchery | ST | SU | 2004 | 43,590 | 04-29-04 | 04-29-04 | Meacham Creek | Umatilla River |
| Umatilla Tribe | Umatilla Hatchery | ST | SU | 2004 | 43,863 | 04-21-04 | 04-28-04 | Minthorn Acclimation Pond | Umatilla River |
| Umatilla Tribe Total | | | | | 130,568 | | | | |
| Warm Springs Tribe | Oak Springs Hatchery | ST | SU | 2004 | 40,000 | 04-09-04 | 05-06-04 | Blackberry Acclim Pond | Hood River |
| Warm Springs Tribe | Oak Springs Hatchery | ST | WI | 2004 | 25,000 | 04-08-04 | 05-07-04 | Parkdale Acclim Pond | Hood River |
| Warm Springs Tribe | Oak Springs Hatchery | ST | WI | 2004 | 25,000 | 04-12-04 | 05-07-04 | E Fk Irrig Dist Sand Trap | Hood River |
| Warm Springs Tribe | Round Butte Hatchery | CH1 | SP | 2004 | 22,500 | 04-07-04 | 05-03-04 | Jones Creek Acclim Pond | Hood River |
| Warm Springs Tribe | Round Butte Hatchery | CH1 | SP | 2004 | 22,500 | 04-07-04 | 05-05-04 | Blackberry Acclim Pond | Hood River |
| Warm Springs Tribe | Round Butte Hatchery | CH1 | SP | 2004 | 30,000 | 04-02-04 | 04-30-04 | Parkdale Acclim Pond | Hood River |
| Warm Springs Tribe Total | | | | | 165,000 | | | | |

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

HATCHERY RELEASE LAST TWO WEEKS Continued

Hatchery Release Summary

| From: | | 4/23/2004 | | to | | 5/6/2004 | | | |
|--|----------------------|-----------|----|------|-------------------|----------|----------|------------------------|---------------------------|
| Washington Dept. of Fish and Wildlife | Eastbank Hatchery | CH1 | SP | 2004 | 2,600 | 04-19-04 | 04-30-04 | White River | Wenatchee River |
| Washington Dept. of Fish and Wildlife | Eastbank Hatchery | CH1 | SP | 2004 | 9,000 | 04-19-04 | 04-30-04 | Nason Creek | Wenatchee River |
| Washington Dept. of Fish and Wildlife | Eastbank Hatchery | CH1 | SP | 2004 | 150,179 | 04-15-04 | 05-07-04 | Chiwawa Hatchery | Wenatchee River |
| Washington Dept. of Fish and Wildlife | Eastbank Hatchery | CH1 | SU | 2004 | 195,000 | 04-26-04 | 04-26-04 | Turtle Rock Hatchery | Mid-Columbia River |
| Washington Dept. of Fish and Wildlife | Eastbank Hatchery | CH1 | SU | 2004 | 860,000 | 04-19-04 | 05-03-04 | Dryden Acclim Pond | Wenatchee River |
| Washington Dept. of Fish and Wildlife | Eastbank Hatchery | ST | SU | 2004 | 192,000 | 04-19-04 | 05-14-04 | Chiwawa Hatchery | Wenatchee River |
| Washington Dept. of Fish and Wildlife | Lyons Ferry Hatchery | ST | SU | 2004 | 85,000 | 04-01-04 | 04-30-04 | Dayton Acclim Pond | Touchet River |
| Washington Dept. of Fish and Wildlife | Lyons Ferry Hatchery | ST | SU | 2004 | 160,000 | 04-01-04 | 04-30-04 | Cottonwood Acclim Pond | Grande Ronde River |
| Washington Dept. of Fish and Wildlife | Methow Hatchery | CH1 | SP | 2004 | 62,000 | 04-12-04 | 04-30-04 | Twisp Acclim Pond | Methow River |
| Washington Dept. of Fish and Wildlife | Methow Hatchery | CH1 | SP | 2004 | 186,000 | 04-12-04 | 04-30-04 | Methow Hatchery | Methow River |
| Washington Dept. of Fish and Wildlife | Methow Hatchery | CH1 | SP | 2004 | 254,000 | 04-12-04 | 04-30-04 | Chewuch Acclim Pond | Methow River |
| Washington Dept. of Fish and Wildlife | Methow Hatchery | CH1 | SU | 2004 | 312,000 | 04-19-04 | 05-07-04 | Carlton Acclim Pond | Methow River |
| Washington Dept. of Fish and Wildlife | Skamania Hatchery | ST | SU | 2004 | 20,000 | 05-03-04 | 05-10-04 | Drano Lake | Little White Salmon River |
| Washington Dept. of Fish and Wildlife | Skamania Hatchery | ST | SU | 2004 | 100,000 | 04-30-04 | 05-07-04 | Klickitat River | Klickitat River |
| Washington Dept. of Fish and Wildlife | Skamania Hatchery | ST | WI | 2004 | 20,000 | 04-15-04 | 04-30-04 | White Salmon River | White Salmon River |
| Washington Dept. of Fish and Wildlife | Turtle Rock Hatchery | ST | SU | 2004 | 65,000 | 04-19-04 | 04-30-04 | Nason Creek | Wenatchee River |
| Washington Dept. of Fish and Wildlife | Turtle Rock Hatchery | ST | SU | 2004 | 121,000 | 04-19-04 | 04-30-04 | Wenatchee River | Wenatchee River |
| Washington Dept. of Fish and Wildlife | Wells Hatchery | CH1 | SU | 2004 | 249,000 | 04-19-04 | 04-30-04 | Similkameen Acclim Pd | Okanogan River |
| Washington Dept. of Fish and Wildlife | Wells Hatchery | CH1 | SU | 2004 | 340,917 | 04-15-04 | 04-30-04 | Wells Hatchery | Mid-Columbia River |
| Washington Dept. of Fish and Wildlife | Wells Hatchery | ST | SU | 2004 | 45,000 | 04-15-04 | 05-07-04 | Similkameen Acclim Pd | Okanogan River |
| Washington Dept. of Fish and Wildlife | Wells Hatchery | ST | SU | 2004 | 55,000 | 04-19-04 | 05-14-04 | Okanogan River | Okanogan River |
| Washington Dept. of Fish and Wildlife | Wells Hatchery | ST | SU | 2004 | 76,042 | 04-15-04 | 04-30-04 | Chewuch Acclim Pond | Methow River |
| Washington Dept. of Fish and Wildlife | Wells Hatchery | ST | SU | 2004 | 76,042 | 04-15-04 | 05-14-04 | Methow River | Methow River |
| Washington Dept. of Fish and Wildlife | Wells Hatchery | ST | SU | 2004 | 140,000 | 04-15-04 | 04-30-04 | Twisp River | Methow River |
| Washington Dept. of Fish and Wildlife Total | | | | | 3,775,780 | | | | |
| Yakama Tribe | Cle Elem Hatchery | CH1 | SP | 2004 | 267,000 | 03-15-04 | 04-30-04 | Clark Flat Acclim Pond | Yakama River |
| Yakama Tribe | Cle Elem Hatchery | CH1 | SP | 2004 | 280,000 | 03-15-04 | 04-30-04 | Jack Creek Acclim Pond | Yakama River |
| Yakama Tribe | Cle Elem Hatchery | CH1 | SP | 2004 | 291,400 | 03-15-04 | 04-30-04 | Easton Pond | Yakama River |
| Yakama Tribe | Cle Elem Hatchery | CO | UN | 2004 | 233,750 | 04-12-04 | 04-30-04 | Easton Pond | Yakama River |
| Yakama Tribe | Cle Elem Hatchery | CO | UN | 2004 | 233,750 | 04-12-04 | 04-30-04 | Lost Creek Acclim Pond | Yakama River |
| Yakama Tribe | Cle Elem Hatchery | CO | UN | 2004 | 233,750 | 04-12-04 | 04-30-04 | Stiles Pond | Yakama River |
| Yakama Tribe | Cle Elem Hatchery | CO | UN | 2004 | 233,750 | 04-12-04 | 04-30-04 | Yakama River | Yakama River |
| Yakama Tribe | Prosser Acclim. Pond | CH0 | FA | 2004 | 400,000 | 04-15-04 | 04-30-04 | Prosser Acclim Pond | Yakama River |
| Yakama Tribe Total | | | | | 2,173,400 | | | | |
| Grand Total | | | | | 18,964,815 | | | | |

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

HATCHERY RELEASE NEXT TWO WEEKS

Hatchery Release Summary

From: 5/7/2004 to 5/20/2004

| Agency | Hatchery | Species | Race | MigYr | NumRel | RelStart | RelEnd | RelSite | RelRiver |
|--|--------------------------|---------|------|-------|------------------|----------|----------|----------------------------|---------------------|
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 29,000 | 04-05-04 | 05-07-04 | Valley Creek | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 33,500 | 04-05-04 | 05-07-04 | Lemhi River | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 50,000 | 04-05-04 | 05-07-04 | East Fk Salmon River | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 82,000 | 04-05-04 | 05-07-04 | Lemhi River | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 180,000 | 04-05-04 | 05-07-04 | Yankee Fk (Salmon R) | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 180,000 | 04-19-04 | 05-07-04 | McNabb/Salmon River | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 190,000 | 04-05-04 | 05-07-04 | Squaw Cr Acclim Pond | Salmon River (ID) |
| Idaho Dept. of Fish and Game | Magic Valley Hatchery | ST | SU | 2004 | 204,000 | 04-05-04 | 05-07-04 | East Fk Salmon River | Salmon River (ID) |
| Idaho Dept. of Fish and Game Total | | | | | 948,500 | | | | |
| Oregon Dept. of Fish and Wildlife | Irrigon Hatchery Complex | ST | SU | 2004 | 3,000 | 05-06-04 | 05-07-04 | Deer Creek | Grande Ronde River |
| Oregon Dept. of Fish and Wildlife | Irrigon Hatchery Complex | ST | SU | 2004 | 81,000 | 05-06-04 | 05-13-04 | Big Canyon Acclim.Pd (G R) | Grande Ronde River |
| Oregon Dept. of Fish and Wildlife | Irrigon Hatchery Complex | ST | SU | 2004 | 161,000 | 05-05-04 | 05-13-04 | Wallowa Acclim Pond | Wallowa River |
| Oregon Dept. of Fish and Wildlife Total | | | | | 245,000 | | | | |
| U.S. Fish and Wildlife Service | Hagerman NFH | ST | SU | 2004 | 105,000 | 05-10-04 | 05-11-04 | East Fk Salmon River | Salmon River (ID) |
| U.S. Fish and Wildlife Service | Hagerman NFH | ST | SU | 2004 | 149,000 | 05-12-04 | 05-14-04 | Yankee Fk (Salmon R) | Salmon River (ID) |
| U.S. Fish and Wildlife Service | Hagerman NFH | ST | SU | 2004 | 772,000 | 04-16-04 | 05-07-04 | Sawtooth Hatchery | Salmon River (ID) |
| U.S. Fish and Wildlife Service Total | | | | | 1,026,000 | | | | |
| Warm Springs Tribe | Oak Springs Hatchery | ST | WI | 2004 | 25,000 | 04-08-04 | 05-07-04 | Parkdale Acclim Pond | Hood River |
| Warm Springs Tribe | Oak Springs Hatchery | ST | WI | 2004 | 25,000 | 04-12-04 | 05-07-04 | E Fk Irrig Dist Sand Trap | Hood River |
| Warm Springs Tribe Total | | | | | 50,000 | | | | |
| Washington Dept. of Fish and Wildlife | Eastbank Hatchery | CH1 | SP | 2004 | 150,179 | 04-15-04 | 05-07-04 | Chiwawa Hatchery | Wenatchee River |
| Washington Dept. of Fish and Wildlife | Eastbank Hatchery | ST | SU | 2004 | 192,000 | 04-19-04 | 05-14-04 | Chiwawa Hatchery | Wenatchee River |
| Washington Dept. of Fish and Wildlife | Klickitat Hatchery | CH0 | SP | 2004 | 315,000 | 05-10-04 | 05-15-04 | Upper Klickitat River | Klickitat River |
| Washington Dept. of Fish and Wildlife | Methow Hatchery | CH1 | SU | 2004 | 312,000 | 04-19-04 | 05-07-04 | Carlton Acclim Pond | Methow River |
| Washington Dept. of Fish and Wildlife | Skamania Hatchery | ST | SU | 2004 | 20,000 | 05-03-04 | 05-10-04 | Drano Lake | Little White Salmon |
| Washington Dept. of Fish and Wildlife | Skamania Hatchery | ST | SU | 2004 | 100,000 | 04-30-04 | 05-07-04 | Klickitat River | Klickitat River |
| Washington Dept. of Fish and Wildlife | Wells Hatchery | ST | SU | 2004 | 45,000 | 04-15-04 | 05-07-04 | Similkameen Acclim Pd | Okanogan River |
| Washington Dept. of Fish and Wildlife | Wells Hatchery | ST | SU | 2004 | 55,000 | 04-19-04 | 05-14-04 | Okanogan River | Okanogan River |
| Washington Dept. of Fish and Wildlife | Wells Hatchery | ST | SU | 2004 | 76,042 | 04-15-04 | 05-14-04 | Methow River | Methow River |
| Washington Dept. of Fish and Wildlife Total | | | | | 1,265,221 | | | | |
| Grand Total | | | | | 3,534,721 | | | | |

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

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 | | | | | | | | | | | |
| | 04/27/04 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| Little Goose Dam | | | | | | | | | | | |
| | 04/28/04 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| McNary Dam | | | | | | | | | | | |
| | 04/30/04 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/02/04 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/06/04 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| Bonneville Dam | | | | | | | | | | | |
| | 04/27/04 | Chinook + Steelhead | 101 | 1 | 1 | 0.99% | 0.00% | 1 | 0 | 0 | 0 |
| | 05/01/04 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/04/04 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| Rock Island Dam | | | | | | | | | | | |
| | 04/29/04 | Chinook + Steelhead | 100 | 2 | 2 | 2.00% | 0.00% | 1 | 1 | 0 | 0 |
| | 05/03/04 | Chinook + Steelhead | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 |
| | 05/06/04 | Chinook + Steelhead | 100 | 1 | 1 | 1.00% | 0.00% | 1 | 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 | <u>Hungry H. Dnst</u> | | | <u>Boundary</u> | | | <u>Grand Coulee</u> | | | <u>Grand C. Tlwr</u> | | | <u>Chief Joseph</u> | | | # | | | | |
|------|-----------------------|-------------|------|-----------------|-------------|-------------|---------------------|----|-------------|----------------------|------|----|---------------------|-------------|------|----|-----|-----|-----|----|
| | <u>24 h</u> | <u>12 h</u> | High | # | <u>24 h</u> | <u>12 h</u> | High | # | <u>24 h</u> | <u>12 h</u> | High | # | <u>24 h</u> | <u>12 h</u> | High | | # | | | |
| | Avg | Avg | | hr | Avg | Avg | | hr | Avg | Avg | | hr | Avg | Avg | | | hr | Avg | Avg | hr |
| 4/23 | --- | --- | --- | 0 | 107 | 108 | 108 | 24 | 106 | 107 | 107 | 24 | 103 | 104 | 105 | 24 | 104 | 105 | 105 | 23 |
| 4/24 | --- | --- | --- | 0 | 106 | 107 | 108 | 24 | 105 | 105 | 106 | 21 | 103 | 104 | 104 | 24 | 105 | 105 | 106 | 23 |
| 4/25 | --- | --- | --- | 0 | 107 | 108 | 109 | 24 | 106 | 106 | 106 | 24 | 103 | 104 | 104 | 24 | 105 | 105 | 106 | 23 |
| 4/26 | --- | --- | --- | 0 | 107 | 108 | 109 | 24 | 107 | 108 | 108 | 24 | 104 | 105 | 106 | 24 | 105 | 105 | 106 | 23 |
| 4/27 | --- | --- | --- | 0 | 108 | 109 | 110 | 24 | 108 | 108 | 109 | 24 | 107 | 108 | 108 | 24 | 106 | 107 | 108 | 22 |
| 4/28 | --- | --- | --- | 0 | 108 | 109 | 110 | 24 | 105 | 105 | 106 | 24 | 106 | 106 | 108 | 24 | 106 | 106 | 107 | 23 |
| 4/29 | --- | --- | --- | 0 | 108 | 109 | 110 | 24 | 106 | 106 | 107 | 24 | 106 | 106 | 107 | 24 | 105 | 106 | 106 | 23 |
| 4/30 | --- | --- | --- | 0 | 108 | 109 | 111 | 24 | 106 | 107 | 107 | 24 | 106 | 107 | 109 | 24 | 105 | 106 | 106 | 23 |
| 5/1 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 5/2 | --- | --- | --- | 0 | 110 | 111 | 112 | 24 | 108 | 108 | 108 | 24 | 107 | 108 | 108 | 24 | 106 | 107 | 107 | 23 |
| 5/3 | --- | --- | --- | 0 | 112 | 115 | 119 | 24 | 106 | 107 | 107 | 24 | 106 | 107 | 107 | 24 | 107 | 108 | 109 | 23 |
| 5/4 | --- | --- | --- | 0 | 112 | 114 | 117 | 24 | 108 | 108 | 108 | 24 | 107 | 108 | 109 | 24 | 108 | 108 | 109 | 23 |
| 5/5 | --- | --- | --- | 0 | 112 | 112 | 113 | 24 | 107 | 107 | 108 | 24 | 107 | 107 | 109 | 24 | 108 | 108 | 109 | 23 |
| 5/6 | --- | --- | --- | 0 | 113 | 117 | 117 | 24 | 107 | 107 | 108 | 24 | 106 | 107 | 108 | 24 | 107 | 107 | 108 | 23 |

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

| Date | <u>Chief J. Dnst</u> | | | <u>Wells</u> | | | <u>Wells Dwnstrm</u> | | | <u>Rocky Reach</u> | | | <u>Rocky R. Tlwr</u> | | | # | | | | |
|------|----------------------|-------------|------|--------------|-------------|-------------|----------------------|----|-------------|--------------------|------|----|----------------------|-------------|------|----|-----|-----|-----|----|
| | <u>24 h</u> | <u>12 h</u> | High | # | <u>24 h</u> | <u>12 h</u> | High | # | <u>24 h</u> | <u>12 h</u> | High | # | <u>24 h</u> | <u>12 h</u> | High | | # | | | |
| | Avg | Avg | | hr | Avg | Avg | | hr | Avg | Avg | | hr | Avg | Avg | | | hr | Avg | Avg | hr |
| 4/23 | 105 | 106 | 107 | 23 | 105 | 106 | 106 | 23 | 109 | 109 | 110 | 23 | 108 | 108 | 109 | 24 | 108 | 108 | 109 | 24 |
| 4/24 | 105 | 105 | 106 | 23 | 105 | 105 | 105 | 23 | 108 | 108 | 109 | 23 | 108 | 108 | 108 | 24 | 108 | 108 | 108 | 24 |
| 4/25 | 105 | 106 | 107 | 23 | 105 | 106 | 106 | 20 | 108 | 108 | 109 | 20 | 107 | 108 | 108 | 24 | 107 | 108 | 108 | 24 |
| 4/26 | 105 | 105 | 106 | 23 | 106 | 107 | 107 | 24 | 109 | 110 | 110 | 24 | 108 | 109 | 109 | 24 | 108 | 109 | 109 | 24 |
| 4/27 | 106 | 107 | 108 | 23 | 107 | 108 | 108 | 22 | 110 | 111 | 112 | 22 | 110 | 111 | 111 | 24 | 110 | 111 | 111 | 24 |
| 4/28 | 105 | 106 | 106 | 23 | 105 | 106 | 106 | 23 | 110 | 110 | 110 | 23 | 109 | 109 | 110 | 24 | 111 | 111 | 111 | 24 |
| 4/29 | 106 | 106 | 107 | 23 | 105 | 106 | 107 | 24 | 109 | 110 | 110 | 24 | 109 | 109 | 109 | 23 | 111 | 111 | 111 | 23 |
| 4/30 | 106 | 106 | 107 | 23 | 106 | 107 | 107 | 24 | 109 | 110 | 110 | 24 | 108 | 109 | 109 | 24 | 111 | 111 | 111 | 24 |
| 5/1 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 5/2 | 107 | 107 | 107 | 23 | 106 | 107 | 107 | 24 | 109 | 110 | 110 | 24 | 110 | 110 | 111 | 23 | 111 | 111 | 111 | 23 |
| 5/3 | 107 | 108 | 109 | 23 | 107 | 108 | 108 | 24 | 110 | 111 | 112 | 24 | 110 | 110 | 111 | 24 | 110 | 110 | 111 | 24 |
| 5/4 | 108 | 109 | 110 | 23 | 108 | 108 | 109 | 24 | 111 | 112 | 112 | 24 | 111 | 111 | 111 | 24 | 111 | 111 | 111 | 24 |
| 5/5 | 108 | 108 | 109 | 23 | 107 | 107 | 108 | 19 | 111 | 111 | 111 | 19 | 111 | 111 | 111 | 24 | 111 | 111 | 111 | 24 |
| 5/6 | 107 | 108 | 109 | 23 | 107 | 107 | 108 | 24 | 109 | 109 | 110 | 24 | 110 | 110 | 110 | 24 | 110 | 111 | 112 | 24 |

Total Dissolved Gas Saturation at Mid Columbia River Sites

| Date | <u>Rock Island</u> | | | <u>Rock I. Tlwr</u> | | | <u>Wanapum</u> | | | <u>Wanapum Tlwr</u> | | | <u>Priest Rapids</u> | | | # | | | | |
|------|--------------------|-------------|------|---------------------|-------------|-------------|----------------|----|-------------|---------------------|------|----|----------------------|-------------|------|----|-----|-----|-----|----|
| | <u>24 h</u> | <u>12 h</u> | High | # | <u>24 h</u> | <u>12 h</u> | High | # | <u>24 h</u> | <u>12 h</u> | High | # | <u>24 h</u> | <u>12 h</u> | High | | # | | | |
| | Avg | Avg | | hr | Avg | Avg | | hr | Avg | Avg | | hr | Avg | Avg | | | hr | Avg | Avg | hr |
| 4/23 | 108 | 108 | 108 | 24 | 114 | 115 | 117 | 24 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 4/24 | 107 | 108 | 108 | 24 | 113 | 114 | 115 | 24 | 108 | 109 | 110 | 23 | 117 | 117 | 117 | 23 | 114 | 115 | 116 | 23 |
| 4/25 | 107 | 108 | 108 | 24 | 113 | 113 | 114 | 24 | 110 | 111 | 114 | 23 | 116 | 118 | 118 | 23 | 116 | 116 | 117 | 23 |
| 4/26 | 108 | 109 | 109 | 24 | 114 | 115 | 117 | 24 | 111 | 112 | 114 | 23 | 115 | 116 | 116 | 23 | 115 | 116 | 118 | 23 |
| 4/27 | 109 | 109 | 110 | 24 | 115 | 117 | 119 | 24 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 4/28 | 108 | 109 | 109 | 24 | 114 | 116 | 118 | 24 | 109 | 109 | 110 | 23 | 114 | 115 | 115 | 23 | 111 | 111 | 113 | 23 |
| 4/29 | 108 | 109 | 109 | 23 | 114 | 115 | 117 | 23 | 110 | 112 | 114 | 23 | 114 | 115 | 116 | 23 | 112 | 113 | 114 | 23 |
| 4/30 | 108 | 108 | 109 | 24 | 113 | 114 | 116 | 24 | 111 | 113 | 115 | 23 | 115 | 116 | 117 | 23 | 113 | 113 | 114 | 23 |
| 5/1 | --- | --- | --- | 0 | --- | --- | --- | 0 | 112 | 113 | 114 | 23 | 114 | 116 | 117 | 23 | 114 | 115 | 116 | 23 |
| 5/2 | 109 | 109 | 110 | 23 | 115 | 116 | 119 | 23 | 111 | 112 | 112 | 23 | 112 | 112 | 112 | 23 | 113 | 114 | 116 | 23 |
| 5/3 | 109 | 110 | 110 | 24 | 115 | 116 | 116 | 24 | 112 | 113 | 114 | 23 | 114 | 116 | 117 | 23 | 111 | 111 | 113 | 23 |
| 5/4 | 109 | 110 | 110 | 24 | 115 | 116 | 118 | 24 | 112 | 113 | 113 | 23 | 117 | 117 | 118 | 23 | 115 | 116 | 117 | 23 |
| 5/5 | 109 | 109 | 110 | 24 | 115 | 116 | 120 | 24 | 110 | 111 | 111 | 23 | 115 | 116 | 117 | 23 | 113 | 114 | 116 | 23 |
| 5/6 | 109 | 109 | 111 | 24 | 115 | 116 | 118 | 24 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |

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

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

| Date | <u>Priest R. Dnst</u> | | | <u>Pasco</u> | | | <u>Dworshak</u> | | | <u>Clrwr-Peck</u> | | | <u>Anatone</u> | | | | | | | |
|------|-----------------------|-------------|----------|--------------|-------------|----------|-----------------|-------------|----------|-------------------|-------------|----------|----------------|-------------|----------|----|-----|-----|-----|----|
| | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | | | | | |
| | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | | | | | |
| 4/23 | --- | --- | --- | 0 | --- | --- | --- | 0 | 97 | 97 | 97 | 24 | 100 | 100 | 101 | 24 | 102 | 103 | 104 | 23 |
| 4/24 | 117 | 117 | 118 | 23 | 111 | 112 | 113 | 24 | 97 | 97 | 98 | 24 | 100 | 101 | 102 | 24 | 102 | 103 | 104 | 17 |
| 4/25 | 117 | 118 | 118 | 23 | 113 | 114 | 114 | 24 | 96 | 96 | 97 | 24 | 100 | 101 | 102 | 24 | 102 | 103 | 105 | 24 |
| 4/26 | 117 | 118 | 118 | 23 | 114 | 115 | 116 | 24 | 96 | 96 | 97 | 24 | 100 | 101 | 102 | 24 | 103 | 104 | 105 | 24 |
| 4/27 | --- | --- | --- | 0 | 113 | 114 | 115 | 24 | 97 | 98 | 99 | 20 | 100 | 101 | 102 | 24 | 103 | 104 | 105 | 24 |
| 4/28 | 116 | 117 | 117 | 23 | 108 | 109 | 110 | 24 | 97 | 98 | 98 | 23 | 99 | 100 | 100 | 23 | 101 | 102 | 103 | 22 |
| 4/29 | 117 | 117 | 117 | 23 | 112 | 113 | 114 | 24 | 97 | 97 | 97 | 24 | 100 | 101 | 102 | 24 | 102 | 104 | 105 | 24 |
| 4/30 | 115 | 116 | 116 | 23 | 114 | 114 | 115 | 24 | 96 | 97 | 97 | 24 | 100 | 101 | 102 | 24 | 103 | 104 | 105 | 24 |
| 5/1 | 116 | 116 | 117 | 23 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 5/2 | 115 | 116 | 117 | 23 | 113 | 114 | 115 | 24 | 100 | 101 | 102 | 24 | 101 | 103 | 103 | 24 | 103 | 104 | 105 | 24 |
| 5/3 | 117 | 119 | 120 | 23 | 114 | 115 | 115 | 24 | 100 | 102 | 107 | 24 | 101 | 102 | 102 | 24 | 103 | 104 | 105 | 24 |
| 5/4 | 119 | 120 | 120 | 23 | 113 | 114 | 115 | 24 | 100 | 102 | 106 | 24 | 102 | 103 | 103 | 24 | 103 | 104 | 105 | 24 |
| 5/5 | 119 | 120 | 120 | 23 | 112 | 112 | 113 | 24 | 99 | 100 | 102 | 24 | 102 | 103 | 103 | 24 | 103 | 103 | 104 | 24 |
| 5/6 | --- | --- | --- | 0 | 113 | 114 | 114 | 24 | 99 | 101 | 104 | 24 | 102 | 103 | 103 | 24 | 103 | 104 | 104 | 24 |

Total Dissolved Gas Saturation Data at Snake River Sites

| Date | <u>Clrwr-Lewiston</u> | | | <u>Lower Granite</u> | | | <u>L. Granite Tlwr</u> | | | <u>Little Goose</u> | | | <u>L. Goose Tlwr</u> | | | | | | | |
|------|-----------------------|-------------|----------|----------------------|-------------|----------|------------------------|-------------|----------|---------------------|-------------|----------|----------------------|-------------|----------|----|-----|-----|-----|----|
| | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | | | | | |
| | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | | | | | |
| 4/23 | 101 | 102 | 104 | 24 | 103 | 104 | 105 | 24 | 104 | 106 | 111 | 24 | 107 | 108 | 108 | 24 | 110 | 112 | 114 | 24 |
| 4/24 | 101 | 103 | 104 | 24 | 101 | 101 | 102 | 24 | 101 | 101 | 101 | 24 | 107 | 107 | 107 | 24 | 107 | 107 | 107 | 24 |
| 4/25 | 101 | 103 | 104 | 24 | 103 | 105 | 106 | 24 | 101 | 101 | 102 | 24 | 108 | 110 | 111 | 24 | 107 | 108 | 108 | 24 |
| 4/26 | 102 | 103 | 105 | 24 | 105 | 106 | 108 | 24 | 102 | 103 | 103 | 24 | 110 | 110 | 113 | 24 | 109 | 109 | 110 | 24 |
| 4/27 | 101 | 102 | 103 | 24 | 104 | 104 | 105 | 24 | 103 | 104 | 104 | 24 | 111 | 112 | 115 | 24 | 110 | 111 | 111 | 24 |
| 4/28 | 100 | 101 | 102 | 23 | 103 | 103 | 104 | 24 | 102 | 102 | 103 | 24 | 107 | 107 | 108 | 24 | 106 | 107 | 107 | 24 |
| 4/29 | 101 | 103 | 104 | 24 | 103 | 104 | 106 | 24 | 102 | 102 | 103 | 24 | 106 | 107 | 108 | 24 | 104 | 105 | 108 | 24 |
| 4/30 | 101 | 103 | 104 | 24 | 103 | 103 | 104 | 24 | 101 | 102 | 102 | 24 | 105 | 106 | 109 | 24 | 103 | 104 | 104 | 24 |
| 5/1 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 5/2 | 102 | 104 | 105 | 24 | 102 | 103 | 103 | 24 | 101 | 101 | 102 | 24 | 103 | 105 | 107 | 24 | 102 | 103 | 103 | 24 |
| 5/3 | 102 | 103 | 104 | 24 | 103 | 104 | 104 | 24 | 102 | 103 | 104 | 24 | 103 | 103 | 104 | 24 | 102 | 103 | 103 | 24 |
| 5/4 | 102 | 103 | 104 | 24 | 105 | 105 | 105 | 24 | 104 | 104 | 105 | 24 | 103 | 103 | 104 | 24 | 103 | 103 | 103 | 24 |
| 5/5 | 102 | 102 | 103 | 24 | 103 | 103 | 104 | 24 | 104 | 105 | 108 | 22 | 102 | 102 | 103 | 24 | 102 | 103 | 103 | 24 |
| 5/6 | 101 | 102 | 103 | 24 | 103 | 103 | 103 | 24 | 103 | 105 | 108 | 24 | 103 | 103 | 104 | 24 | 103 | 103 | 103 | 24 |

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

| Date | <u>Lower Mon.</u> | | | <u>L. Mon. Tlwr</u> | | | <u>Ice Harbor</u> | | | <u>Ice Harbor Tlwr</u> | | | <u>McNary-Oregon</u> | | | | | | | |
|------|-------------------|-------------|----------|---------------------|-------------|----------|-------------------|-------------|----------|------------------------|-------------|----------|----------------------|-------------|----------|----|-----|-----|-----|----|
| | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | | | | | |
| | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | | | | | |
| 4/23 | 108 | 108 | 109 | 24 | 107 | 107 | 107 | 23 | 107 | 107 | 107 | 24 | 113 | 114 | 115 | 24 | 107 | 109 | 110 | 24 |
| 4/24 | 107 | 108 | 108 | 24 | 106 | 107 | 111 | 24 | 106 | 106 | 107 | 24 | 114 | 115 | 115 | 24 | 109 | 111 | 112 | 24 |
| 4/25 | 109 | 110 | 111 | 24 | 109 | 111 | 112 | 24 | 107 | 107 | 107 | 24 | 113 | 114 | 115 | 24 | 110 | 111 | 113 | 24 |
| 4/26 | 109 | 110 | 111 | 24 | 109 | 111 | 113 | 24 | 107 | 107 | 108 | 24 | 111 | 112 | 113 | 24 | 111 | 112 | 113 | 24 |
| 4/27 | 109 | 109 | 110 | 24 | 111 | 112 | 113 | 24 | 108 | 109 | 109 | 24 | 114 | 116 | 118 | 24 | 112 | 113 | 114 | 24 |
| 4/28 | 107 | 107 | 108 | 24 | 111 | 115 | 120 | 24 | 109 | 109 | 110 | 23 | 115 | 116 | 117 | 24 | 111 | 111 | 112 | 24 |
| 4/29 | 108 | 108 | 111 | 24 | 113 | 118 | 120 | 24 | 110 | 111 | 112 | 24 | 114 | 115 | 118 | 24 | 111 | 113 | 115 | 24 |
| 4/30 | 108 | 108 | 109 | 24 | 118 | 119 | 120 | 24 | 108 | 109 | 110 | 24 | 113 | 113 | 114 | 24 | 110 | 111 | 115 | 24 |
| 5/1 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 5/2 | 105 | 105 | 106 | 24 | 118 | 119 | 120 | 24 | 111 | 112 | 113 | 24 | 115 | 116 | 117 | 24 | 114 | 116 | 116 | 24 |
| 5/3 | 106 | 106 | 107 | 24 | 119 | 120 | 121 | 23 | 115 | 116 | 118 | 24 | 114 | 114 | 115 | 24 | 116 | 118 | 120 | 24 |
| 5/4 | 105 | 106 | 106 | 24 | 119 | 120 | 121 | 21 | 117 | 118 | 118 | 24 | 114 | 114 | 114 | 24 | 115 | 116 | 118 | 24 |
| 5/5 | 104 | 104 | 105 | 24 | 117 | 118 | 119 | 21 | 115 | 116 | 117 | 24 | 117 | 119 | 120 | 24 | 113 | 113 | 114 | 24 |
| 5/6 | 103 | 104 | 105 | 24 | 119 | 119 | 120 | 23 | 113 | 114 | 115 | 24 | 118 | 119 | 120 | 24 | 112 | 113 | 115 | 24 |

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

| Date | <u>McNary-Wash</u> | | | <u>McNary Tlwr</u> | | | <u>John Day</u> | | | <u>John Day Tlwr</u> | | | <u>The Dalles</u> | | | | | | | |
|------|--------------------|-------------|-----|--------------------|-------------|-----|-----------------|------------|-----|----------------------|------------|----|-------------------|------------|-----|------------|------------|-------------|-----|-----|
| | <u>24 h</u> | <u>12 h</u> | # | <u>24 h</u> | <u>12 h</u> | # | <u>24h</u> | <u>12h</u> | # | <u>24h</u> | <u>12h</u> | # | <u>24h</u> | <u>12h</u> | # | <u>24h</u> | <u>AVG</u> | <u>High</u> | # | |
| | Avg | Avg | | High | Avg | | Avg | High | | Avg | Avg | | High | Avg | | Avg | High | Avg | | AVG |
| 4/23 | 109 | 109 | 109 | 24 | 112 | 116 | 116 | 24 | 107 | 107 | 107 | 23 | 112 | 118 | 119 | 24 | 110 | 111 | 112 | 23 |
| 4/24 | 110 | 111 | 114 | 24 | 112 | 115 | 116 | 24 | 105 | 105 | 106 | 23 | 112 | 118 | 118 | 24 | 109 | 111 | 113 | 23 |
| 4/25 | 112 | 112 | 113 | 24 | 113 | 115 | 115 | 24 | 107 | 108 | 109 | 23 | 111 | 115 | 118 | 21 | 111 | 113 | 115 | 23 |
| 4/26 | 112 | 113 | 114 | 24 | 112 | 115 | 116 | 24 | 108 | 109 | 110 | 23 | 112 | 117 | 118 | 24 | 111 | 113 | 115 | 23 |
| 4/27 | 114 | 115 | 116 | 24 | 114 | 116 | 118 | 24 | 109 | 109 | 110 | 23 | 112 | 115 | 118 | 24 | 111 | 113 | 115 | 23 |
| 4/28 | 111 | 111 | 112 | 24 | 113 | 116 | 117 | 24 | 107 | 107 | 108 | 23 | 111 | 116 | 117 | 24 | 107 | 109 | 111 | 23 |
| 4/29 | 111 | 112 | 113 | 24 | 113 | 117 | 117 | 24 | 107 | 108 | 109 | 23 | 112 | 116 | 117 | 24 | 110 | 112 | 114 | 23 |
| 4/30 | 110 | 111 | 113 | 24 | 113 | 116 | 117 | 24 | 108 | 109 | 109 | 23 | 112 | 116 | 117 | 24 | 111 | 113 | 115 | 23 |
| 5/1 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 5/2 | 114 | 114 | 115 | 24 | 115 | 117 | 117 | 24 | 109 | 109 | 109 | 23 | 113 | 117 | 118 | 24 | 111 | 113 | 115 | 23 |
| 5/3 | 114 | 115 | 115 | 24 | 115 | 117 | 117 | 24 | 108 | 108 | 109 | 23 | 112 | 117 | 118 | 24 | 111 | 113 | 114 | 23 |
| 5/4 | 114 | 115 | 115 | 24 | 116 | 118 | 118 | 24 | 109 | 110 | 111 | 23 | 113 | 117 | 118 | 24 | 112 | 113 | 115 | 23 |
| 5/5 | 112 | 113 | 113 | 24 | 116 | 118 | 119 | 24 | 110 | 110 | 111 | 23 | 114 | 117 | 118 | 23 | 110 | 112 | 113 | 23 |
| 5/6 | 112 | 113 | 114 | 24 | 115 | 119 | 119 | 24 | 110 | 110 | 110 | 23 | 114 | 119 | 119 | 24 | 113 | 115 | 116 | 23 |

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

| Date | <u>The Dalles Dnst</u> | | | <u>Bonneville</u> | | | <u>Warrendale</u> | | | <u>CamasWashugal</u> | | | | | | |
|------|------------------------|-------------|-----|-------------------|-------------|-----|-------------------|------------|-----|----------------------|------------|----|------------|------------|-----|-----|
| | <u>24 h</u> | <u>12 h</u> | # | <u>24 h</u> | <u>12 h</u> | # | <u>24h</u> | <u>12h</u> | # | <u>24h</u> | <u>12h</u> | # | <u>24h</u> | <u>12h</u> | # | |
| | Avg | Avg | | High | Avg | | Avg | High | | Avg | Avg | | High | Avg | | Avg |
| 4/23 | 114 | 114 | 115 | 24 | 111 | 111 | 111 | 23 | 114 | 115 | 117 | 23 | 112 | 113 | 115 | 24 |
| 4/24 | 113 | 114 | 114 | 24 | 110 | 110 | 111 | 23 | 114 | 115 | 116 | 23 | 112 | 115 | 117 | 24 |
| 4/25 | 115 | 116 | 116 | 24 | 110 | 110 | 111 | 23 | 114 | 115 | 116 | 23 | 111 | 112 | 113 | 24 |
| 4/26 | 115 | 115 | 116 | 24 | 111 | 111 | 112 | 23 | 114 | 114 | 115 | 23 | 109 | 112 | 113 | 24 |
| 4/27 | 114 | 116 | 116 | 24 | 114 | 115 | 116 | 23 | 115 | 116 | 116 | 23 | 113 | 114 | 116 | 24 |
| 4/28 | 112 | 112 | 114 | 24 | 109 | 110 | 111 | 23 | 113 | 113 | 114 | 23 | 112 | 114 | 116 | 24 |
| 4/29 | 114 | 114 | 115 | 24 | 109 | 109 | 111 | 23 | 113 | 113 | 114 | 23 | 111 | 113 | 114 | 24 |
| 4/30 | 115 | 115 | 116 | 24 | 110 | 111 | 112 | 23 | 113 | 114 | 115 | 23 | 110 | 112 | 114 | 24 |
| 5/1 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 5/2 | 114 | 115 | 116 | 24 | 113 | 114 | 114 | 23 | 115 | 116 | 117 | 23 | 114 | 117 | 118 | 24 |
| 5/3 | 114 | 114 | 115 | 24 | 113 | 113 | 114 | 23 | 115 | 116 | 117 | 23 | 115 | 117 | 119 | 24 |
| 5/4 | 114 | 114 | 115 | 24 | 112 | 112 | 113 | 23 | 114 | 115 | 116 | 23 | 113 | 114 | 115 | 24 |
| 5/5 | 113 | 114 | 115 | 24 | 111 | 112 | 112 | 23 | 113 | 114 | 116 | 23 | 112 | 114 | 115 | 24 |
| 5/6 | 115 | 117 | 118 | 24 | 112 | 112 | 112 | 23 | 113 | 113 | 114 | 23 | 112 | 113 | 114 | 24 |

Two-Week Summary of Passage Indices

| COMBINED YEARLING CHINOOK | | | | | | | | | | | | |
|---------------------------|------------|---------------|---------------|--------------|--------------|------------------|------------------|----------------|--------------|----------------|----------------|----------------|
| | ENT | WTB | IMN | GRN | LEW | LGR | LGS | LMN | RIS | MCN | JDA | BO2 |
| Date | (Coll) | (Coll) | (Coll) | (Coll) | (Coll) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) |
| 04/23/2004 * | 2 | 528 | 409 | 63 | 11 | 30,928 | 34,351 | 42,500 | 218 | 10,100 | 9,015 | 30,748 |
| 04/24/2004 | --- | --- | 281 | --- | --- | 61,194 | 111,903 | 55,400 | 70 | 666 | 3,740 | 29,044 |
| 04/25/2004 | --- | --- | 360 | --- | --- | 113,283 | 147,405 | 28,880 | 272 | 28,253 | 3,961 | 23,546 |
| 04/26/2004 * | 2 | 147 | 368 | 41 | 18 | 108,236 | 99,008 | 20,657 | 646 | 2,908 | 4,446 | 32,125 |
| 04/27/2004 * | 0 | 84 | 464 | 46 | 29 | 193,582 | 49,802 | 14,302 | 337 | 34,015 | 3,795 | 21,397 |
| 04/28/2004 * | 3 | 17 | 398 | 110 | 135 | 143,037 | 164,009 | 22,239 | 291 | 1,853 | 5,912 | 47,272 |
| 04/29/2004 * | 2 | 335 | 804 | 393 | 3 | 268,358 | 121,684 | 12,957 | 138 | 63,377 | 8,705 | 43,465 |
| 04/30/2004 * | 1 | 72 | 603 | 212 | 58 | 200,746 | 41,603 | 17,230 | 139 | 3,425 | 8,301 | 40,003 |
| 05/01/2004 * | --- | --- | 414 | --- | --- | 185,798 | 55,000 | 5,607 | 113 | 68,205 | 5,317 | 29,230 |
| 05/02/2004 * | --- | --- | 464 | --- | --- | 127,331 | 45,405 | 3,540 | 176 | 2,386 | 5,924 | 33,887 |
| 05/03/2004 * | 0 | 19 | 2,995 | 144 | 17 | 206,233 | 172,005 | 1,748 | 188 | 67,677 | 9,590 | 19,403 |
| 05/04/2004 * | 1 | 18 | 111 | 426 | 15 | 297,714 | 59,201 | 637 | 303 | 2,490 | 14,926 | 29,336 |
| 05/05/2004 * | 0 | 15 | 54 | 390 | 61 | 613,583 | 82,213 | 9,921 | 184 | 63,782 | 28,275 | 33,176 |
| 05/06/2004 * | 0 | 10 | --- | 131 | 135 | 729,649 | 70,416 | 9,384 | 181 | 1,927 | 50,784 | 34,315 |
| 05/07/2004 * | --- | 55 | --- | --- | --- | --- | --- | --- | --- | --- | 27,723 | --- |
| <hr/> | | | | | | | | | | | | |
| Total: | 11 | 1,300 | 7,725 | 1,956 | 482 | 3,279,672 | 1,254,005 | 245,002 | 3,256 | 351,064 | 190,414 | 446,947 |
| # Days: | 10 | 11 | 13 | 10 | 10 | 14 | 14 | 14 | 14 | 14 | 15 | 14 |
| Average: | 1 | 118 | 594 | 196 | 48 | 234,262 | 89,572 | 17,500 | 233 | 25,076 | 12,694 | 31,925 |
| YTD | 741 | 28,962 | 71,395 | 9,254 | 1,277 | 3,969,348 | 1,451,152 | 692,160 | 6,177 | 396,081 | 264,236 | 802,443 |

| COMBINED SUBYEARLING CHINOOK | | | | | | | | | | | | |
|------------------------------|------------|-----------|-----------|-----------|------------|--------------|--------------|--------------|--------------|--------------|------------|------------------|
| | ENT | WTB | IMN | GRN | LEW | LGR | LGS | LMN | RIS | MCN | JDA | BO2 |
| Date | (Coll) | (Coll) | (Coll) | (Coll) | (Coll) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) |
| 04/23/2004 * | 0 | 0 | 0 | 1 | 2 | 0 | 148 | 0 | 1 | 238 | 20 | 2,598 |
| 04/24/2004 | --- | --- | 0 | --- | --- | 0 | 0 | 0 | 0 | 9 | 0 | 2,276 |
| 04/25/2004 | --- | --- | 0 | --- | --- | 0 | 0 | 0 | 16 | 213 | 0 | 1,090 |
| 04/26/2004 * | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 133 | 1 | 5 | 0 | 1,841 |
| 04/27/2004 * | 0 | 0 | 0 | 0 | 0 | 149 | 0 | 0 | 18 | 461 | 0 | 831 |
| 04/28/2004 * | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 61 | 1 | 3 | 3 | 1,291 |
| 04/29/2004 * | 8 | 0 | 0 | 0 | 4 | 149 | 0 | 0 | 4 | 365 | 7 | 1,432 |
| 04/30/2004 * | 1 | 0 | 0 | 0 | 0 | 0 | 200 | 0 | 1 | 3 | 6 | 653 |
| 05/01/2004 * | --- | --- | 1 | --- | --- | 0 | 201 | 0 | 1 | 874 | 12 | 268 |
| 05/02/2004 * | --- | --- | 3 | --- | --- | 0 | 0 | 57 | 1 | 6 | 7 | 739 |
| 05/03/2004 * | 36 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 6 | 587 | 16 | 906 |
| 05/04/2004 * | 15 | 0 | 0 | 0 | 21 | 0 | 0 | 17 | 3 | 13 | 6 | 1,014 |
| 05/05/2004 * | 5 | 0 | 0 | 0 | 60 | 149 | 0 | 563 | 4 | 2,289 | 11 | 2,384 |
| 05/06/2004 * | 15 | 0 | --- | 0 | 77 | 808 | 0 | 925 | 140 | 12 | 7 | 3,147 |
| 05/07/2004 * | --- | 0 | --- | --- | --- | --- | --- | --- | --- | --- | 0 | --- |
| <hr/> | | | | | | | | | | | | |
| Total: | 81 | 0 | 4 | 2 | 172 | 1,255 | 549 | 1,756 | 197 | 5,078 | 95 | 20,470 |
| # Days: | 10 | 11 | 13 | 10 | 10 | 14 | 14 | 14 | 14 | 14 | 15 | 14 |
| Average: | 8 | 0 | 0 | 0 | 17 | 90 | 39 | 125 | 14 | 363 | 6 | 1,462 |
| YTD | 172 | 0 | 23 | 4 | 274 | 3,865 | 1,000 | 2,403 | 1,268 | 5,855 | 105 | 1,446,657 |

* 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.

For clip information see: [Daily Catch Report](#)

For sockeye and yearling chinook (Snake only) race information see: [Current Passage Index Query](#)

If the text appears garbled, please hit the refresh button on your browser

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.

Fall (post SMP season) trapping at the Imnaha River Fish Trap (IMN) is funded by the Lower Snake River Compensation Program (LSRCP)

Two-Week Summary of Passage Indices

| COMBINED COHO | | | | | | | | | | | | |
|-----------------|-----------|-----------|-----------|-----------|-----------|---------------|------------|------------|------------|--------------|--------------|----------------|
| | ENT | WTB | IMN | GRN | LEW | LGR | LGS | LMN | RIS | MCN | JDA | BO2 |
| Date | (Coll) | (Coll) | (Coll) | (Coll) | (Coll) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) |
| 04/23/2004 * | 0 | 0 | 0 | 0 | 0 | 251 | 0 | 300 | 1 | 142 | 259 | 23,385 |
| 04/24/2004 | --- | --- | 0 | --- | --- | 597 | 0 | 0 | 3 | 0 | 124 | 14,414 |
| 04/25/2004 | --- | --- | 0 | --- | --- | 448 | 200 | 260 | 19 | 78 | 204 | 18,633 |
| 04/26/2004 * | 0 | 0 | 0 | 0 | 1 | 298 | 0 | 0 | 8 | 0 | 133 | 23,472 |
| 04/27/2004 * | 0 | 0 | 0 | 0 | 0 | 746 | 0 | 0 | 7 | 0 | 59 | 21,916 |
| 04/28/2004 * | 0 | 0 | 0 | 0 | 0 | 895 | 0 | 0 | 5 | 20 | 136 | 29,539 |
| 04/29/2004 * | 0 | 0 | 0 | 0 | 0 | 1,194 | 0 | 0 | 3 | 362 | 126 | 28,684 |
| 04/30/2004 * | 0 | 0 | 0 | 0 | 0 | 597 | 0 | 0 | 1 | 27 | 303 | 37,545 |
| 05/01/2004 * | --- | --- | 0 | --- | --- | 299 | 200 | 0 | 11 | 437 | 104 | 34,216 |
| 05/02/2004 * | --- | --- | 0 | --- | --- | 0 | 0 | 0 | 10 | 11 | 69 | 32,771 |
| 05/03/2004 * | 0 | 0 | 0 | 0 | 0 | 0 | 200 | 0 | 14 | 587 | 78 | 22,448 |
| 05/04/2004 * | 0 | 0 | 0 | 0 | 0 | 448 | 0 | 0 | 23 | 18 | 67 | 25,987 |
| 05/05/2004 * | 0 | 0 | 0 | 0 | 0 | 1,344 | 200 | 4 | 34 | 178 | 307 | 30,070 |
| 05/06/2004 * | 0 | 0 | --- | 0 | 4 | 3,559 | 0 | 2 | 18 | 39 | 528 | 26,067 |
| 05/07/2004 * | --- | 0 | --- | --- | --- | --- | --- | --- | --- | --- | 533 | --- |
| <hr/> | | | | | | | | | | | | |
| Total: | 0 | 0 | 0 | 0 | 5 | 10,676 | 800 | 566 | 157 | 1,899 | 3,030 | 369,147 |
| # Days: | 10 | 11 | 13 | 10 | 10 | 14 | 14 | 14 | 14 | 14 | 15 | 14 |
| Average: | 0 | 0 | 0 | 0 | 1 | 763 | 57 | 40 | 11 | 136 | 202 | 26,368 |
| YTD | 0 | 0 | 0 | 0 | 14 | 13,844 | 800 | 796 | 165 | 2,495 | 3,490 | 516,324 |

| COMBINED STEELHEAD | | | | | | | | | | | | |
|--------------------|------------|--------------|---------------|--------------|--------------|------------------|----------------|----------------|--------------|---------------|---------------|---------------|
| | ENT | WTB | IMN | GRN | LEW | LGR | LGS | LMN | RIS | MCN | JDA | BO2 |
| Date | (Coll) | (Coll) | (Coll) | (Coll) | (Coll) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) |
| 04/23/2004 * | 8 | 121 | 116 | 12 | 8 | 9,555 | 8,589 | 6,000 | 68 | 2,488 | 1,592 | 541 |
| 04/24/2004 | --- | --- | 146 | --- | --- | 18,358 | 36,603 | 8,500 | 76 | 255 | 1,397 | 2,059 |
| 04/25/2004 | --- | --- | 234 | --- | --- | 58,806 | 33,204 | 5,204 | 53 | 5,274 | 1,654 | 1,514 |
| 04/26/2004 * | 5 | 58 | 240 | 4 | 13 | 176,163 | 52,006 | 5,860 | 79 | 415 | 1,382 | 1,013 |
| 04/27/2004 * | 2 | 75 | 306 | 6 | 79 | 221,642 | 43,605 | 5,059 | 81 | 2,711 | 1,273 | 1,143 |
| 04/28/2004 * | 15 | 142 | 723 | 19 | 89 | 65,421 | 51,403 | 6,232 | 46 | 334 | 1,314 | 1,891 |
| 04/29/2004 * | 11 | 159 | 2,305 | 128 | 55 | 90,747 | 69,220 | 6,412 | 63 | 4,208 | 1,858 | 1,565 |
| 04/30/2004 * | 14 | 115 | 811 | 67 | 598 | 195,671 | 112,402 | 12,276 | 58 | 365 | 1,689 | 1,474 |
| 05/01/2004 * | --- | --- | 1,033 | --- | --- | 142,089 | 63,405 | 18,227 | 42 | 2,491 | 1,945 | 1,426 |
| 05/02/2004 * | --- | --- | 1,801 | --- | --- | 107,165 | 20,802 | 9,315 | 65 | 347 | 1,466 | 2,555 |
| 05/03/2004 * | 2 | 75 | 2,441 | 71 | 135 | 78,060 | 17,203 | 4,260 | 86 | 3,534 | 628 | 1,939 |
| 05/04/2004 * | 2 | 203 | 548 | 276 | 174 | 80,597 | 22,201 | 1,756 | 137 | 375 | 950 | 1,874 |
| 05/05/2004 * | 2 | 62 | 1,303 | 176 | 1,269 | 190,447 | 13,410 | 2,880 | 137 | 3,710 | 2,034 | 2,318 |
| 05/06/2004 * | 0 | 29 | --- | 52 | 1,650 | 157,542 | 32,209 | 5,328 | 306 | 753 | 3,202 | 1,667 |
| 05/07/2004 * | --- | 78 | --- | --- | --- | --- | --- | --- | --- | --- | 4,350 | --- |
| <hr/> | | | | | | | | | | | | |
| Total: | 61 | 1,117 | 12,007 | 811 | 4,070 | 1,592,263 | 576,262 | 97,309 | 1,297 | 27,260 | 26,734 | 22,979 |
| # Days: | 10 | 11 | 13 | 10 | 10 | 14 | 14 | 14 | 14 | 14 | 15 | 14 |
| Average: | 6 | 102 | 924 | 81 | 407 | 113,733 | 41,162 | 6,951 | 93 | 1,947 | 1,782 | 1,641 |
| YTD | 184 | 1,735 | 22,043 | 1,168 | 5,190 | 1,819,058 | 646,875 | 137,353 | 1,701 | 36,768 | 36,332 | 38,049 |

* See sampling comments

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

Two-Week Summary of Passage Indices

| Date | COMBINED SOCKEYE | | | | | | | | | | | BO2 |
|-----------------|------------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|------------|
| | ENT (Coll) | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | |
| 04/23/2004 * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45 | 333 | 0 | |
| 04/24/2004 | --- | --- | 0 | --- | --- | 0 | 0 | 0 | 92 | 14 | 20 | |
| 04/25/2004 | --- | --- | 0 | --- | --- | 0 | 0 | 0 | 222 | 679 | 0 | |
| 04/26/2004 * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 191 | 45 | 7 | |
| 04/27/2004 * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 140 | 856 | 17 | |
| 04/28/2004 * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 198 | 61 | 13 | 29 |
| 04/29/2004 * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 1,537 | 52 | 30 |
| 04/30/2004 * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 143 | 67 | 4 |
| 05/01/2004 * | --- | --- | 0 | --- | --- | 0 | 200 | 0 | 141 | 1,020 | 91 | 112 |
| 05/02/2004 * | --- | --- | 0 | --- | --- | 0 | 0 | 0 | 110 | 176 | 28 | 172 |
| 05/03/2004 * | 0 | 0 | 0 | 0 | 0 | 0 | 400 | 0 | 68 | 1,032 | 65 | 142 |
| 05/04/2004 * | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 55 | 167 | 72 |
| 05/05/2004 * | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 23 | 2,997 | 492 | 60 |
| 05/06/2004 * | 0 | 0 | --- | 0 | 2 | 0 | 0 | 2 | 70 | 141 | 519 | 72 |
| 05/07/2004 * | --- | 0 | --- | --- | --- | --- | --- | --- | --- | --- | 222 | -- |
| Total: | 5 | 0 | 0 | 0 | 4 | 0 | 600 | 2 | 1,388 | 9,089 | 1,760 | 712 |
| # Days: | 10 | 11 | 13 | 10 | 10 | 14 | 14 | 14 | 14 | 14 | 15 | 14 |
| Average: | 1 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 99 | 649 | 117 | 51 |
| YTD | 5 | 0 | 0 | 0 | 6 | 445 | 624 | 83 | 3,779 | 9,549 | 1,808 | 852 |

* 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.

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

ENT (Collection) = Entiat River Trap : 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. ENT data collected for the FPC by USFWS.

Two Week Transportation Summary

Source: Fish Passage Center

Updated:

5/7/04 8:43 AM

| | | 04/24/04 | TO | 05/07/04 | | | |
|--------------------------------------|--------------------------------|----------|-----------|----------|-------|-----------|-------------|
| | | Species | | | | | |
| Site | Data | CH0 | CH1 | CO | SO | ST | Grand Total |
| LGR | Sum of NumberCollected | 1,193 | 3,210,711 | 10,299 | | 1,576,167 | 4,798,370 |
| | Sum of NumberBarged | 1,129 | 3,105,887 | 10,001 | | 1,545,744 | 4,662,761 |
| | Sum of NumberBypassed | 55 | 86,478 | 289 | | 28,976 | 115,798 |
| | Sum of Numbertrucked | 0 | 0 | 0 | | 0 | 0 |
| | Sum of TotalProjectMortalities | 9 | 18,346 | 9 | | 1,447 | 19,811 |
| LGS | Sum of NumberCollected | 501 | 1,242,855 | 800 | 600 | 573,474 | 1,818,230 |
| | Sum of NumberBarged | 499 | 1,242,556 | 800 | 600 | 573,323 | 1,817,778 |
| | Sum of NumberBypassed | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of Numbertrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMortalities | 2 | 296 | 0 | 0 | 148 | 446 |
| LMN | Sum of NumberCollected | 1,204 | 204,537 | 504 | 1 | 67,142 | 273,388 |
| | Sum of NumberBarged | 1,204 | 202,368 | 504 | 1 | 66,854 | 270,931 |
| | Sum of NumberBypassed | 0 | 1,689 | 0 | 0 | 205 | 1,894 |
| | Sum of Numbertrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMortalities | 0 | 480 | 0 | 0 | 83 | 563 |
| MCN | Sum of NumberCollected | 3,267 | 237,890 | 1,281 | 5,979 | 18,839 | 267,256 |
| | Sum of NumberBarged | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of NumberBypassed | 3,260 | 236,546 | 1,279 | 5,952 | 18,798 | 265,835 |
| | Sum of Numbertrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMortalities | 8 | 1,343 | 2 | 27 | 41 | 1,421 |
| Total Sum of NumberCollected | | 6,165 | 4,895,993 | 12,884 | 6,580 | 2,235,622 | 7,157,244 |
| Total Sum of NumberBarged | | 2,832 | 4,550,811 | 11,305 | 601 | 2,185,921 | 6,751,470 |
| Total Sum of NumberBypassed | | 3,315 | 324,713 | 1,568 | 5,952 | 47,979 | 383,527 |
| Total Sum of Numbertrucked | | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Sum of TotalProjectMortalities | | 19 | 20,465 | 11 | 27 | 1,719 | 22,241 |

YTD Transportation Summary

Source: Fish Passage Center

Updated:

5/7/04 8:43 AM

TO: 05/07/04

| | | Species | | | | | |
|--------------------------------------|--------------------------------|---------|-----------|--------|-------|-----------|-------------|
| Site | Data | CH0 | CH1 | CO | SO | ST | Grand Total |
| LGR | Sum of NumberCollected | 2,898 | 3,653,142 | 12,405 | 310 | 1,721,852 | 5,390,607 |
| | Sum of NumberBarged | 2,696 | 3,501,009 | 11,887 | 120 | 1,672,653 | 5,188,365 |
| | Sum of NumberBypassed | 55 | 88,881 | 289 | 0 | 32,208 | 121,433 |
| | Sum of NumberTrucked | 129 | 43,991 | 220 | 181 | 15,496 | 60,017 |
| | Sum of TotalProjectMortalities | 18 | 19,261 | 9 | 9 | 1,495 | 20,792 |
| LGS | Sum of NumberCollected | 791 | 1,368,750 | 800 | 615 | 618,707 | 1,989,663 |
| | Sum of NumberBarged | 783 | 1,366,345 | 800 | 613 | 617,210 | 1,985,751 |
| | Sum of NumberBypassed | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of NumberTrucked | 0 | 2,096 | 0 | 2 | 1,333 | 3,431 |
| | Sum of TotalProjectMortalities | 8 | 373 | 0 | 0 | 163 | 544 |
| LMN | Sum of NumberCollected | 1,851 | 651,695 | 734 | 82 | 107,186 | 761,548 |
| | Sum of NumberBarged | 1,841 | 647,460 | 734 | 82 | 106,101 | 756,218 |
| | Sum of NumberBypassed | 0 | 1,794 | 0 | 0 | 300 | 2,094 |
| | Sum of NumberTrucked | 10 | 1,352 | 0 | 0 | 604 | 1,966 |
| | Sum of TotalProjectMortalities | 0 | 1,089 | 0 | 0 | 181 | 1,270 |
| MCN | Sum of NumberCollected | 3,827 | 268,115 | 1,676 | 6,336 | 25,219 | 305,173 |
| | Sum of NumberBarged | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of NumberBypassed | 3,816 | 266,704 | 1,674 | 6,309 | 25,167 | 303,670 |
| | Sum of NumberTrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMortalities | 12 | 1,402 | 2 | 27 | 52 | 1,495 |
| Total Sum of NumberCollected | | 9,367 | 5,941,702 | 15,615 | 7,343 | 2,472,964 | 8,446,991 |
| Total Sum of NumberBarged | | 5,320 | 5,514,814 | 13,421 | 815 | 2,395,964 | 7,930,334 |
| Total Sum of NumberBypassed | | 3,871 | 357,379 | 1,963 | 6,309 | 57,675 | 427,197 |
| Total Sum of NumberTrucked | | 139 | 47,439 | 220 | 183 | 17,433 | 65,414 |
| Total Sum of TotalProjectMortalities | | 38 | 22,125 | 11 | 36 | 1,891 | 24,101 |

Cumulative Adult Passage at Mainstem Dams Through: 05/06

| DAM | Spring Chinook | | | | | | Summer Chinook | | | | | | Fall Chinook | | | | | |
|-----|----------------|-------|---------|-------|------------|-------|----------------|------|-------|------|------------|------|--------------|------|-------|------|------------|------|
| | 2004 | | 2003 | | 10-Yr Avg. | | 2004 | | 2003 | | 10-Yr Avg. | | 2004 | | 2003 | | 10-Yr Avg. | |
| | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack |
| BON | 130,216 | 2,197 | 152,086 | 4,215 | 101,729 | 2,697 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TDA | 92,289 | 1,715 | 97,920 | 2,364 | 62,112 | 1,315 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| JDA | 75,973 | 1,069 | 72,608 | 1,952 | 47,584 | 857 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MCN | 65,950 | 1,171 | 67,332 | 1,561 | 38,096 | 664 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IHR | 47,228 | 718 | 50,094 | 856 | 23,812 | 362 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LMN | 41,062 | 419 | 41,418 | 512 | 21,274 | 270 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LGS | 27,382 | 160 | 38,529 | 484 | 18,752 | 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LWG | 34,242 | 256 | 35,357 | 280 | 16,637 | 167 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PRD | 6,721 | 5 | 12,380 | 7 | 6,529 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RIS | 2,883 | 1 | 8,864 | 62 | 3,223 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RRH | 818 | 1 | 1,603 | 0 | 884 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WEL | 41 | 0 | 220 | 0 | 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| DAM | Coho | | | | | | Sockeye | | | Steelhead | | | |
|-----|-------|------|-------|------|------------|------|---------|------|-------|-----------|--------|-------|-------|
| | 2004 | | 2003 | | 10-Yr Avg. | | 10-Yr | | 10-Yr | | | Wild | |
| | Adult | Jack | Adult | Jack | Adult | Jack | 2004 | 2003 | Avg. | 2004 | 2003 | Avg. | 2004 |
| BON | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,476 | 2,840 | 2,512 | 867 |
| TDA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,148 | 844 | 873 | 556 |
| JDA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,500 | 1,385 | 2,915 | 864 |
| MCN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,139 | 1,348 | 1,516 | 556 |
| IHR | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,728 | 1,584 | 1,677 | 761 |
| LMN | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,517 | 1,898 | 1,755 | 828 |
| LGS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,508 | 2,046 | 1,785 | 833 |
| LWG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,504 | 15,710 | 5,847 | 2,569 |
| PRD | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 7 | 1 | * |
| RIS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 20 | 18 | 0 |
| RRH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 171 | 44 | 47 | 0 |
| WEL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 47 | 11 | 4 | 24 |

PRD, RIS, RRH are through 05/05; WEL is through 05/03.

RIS is missing 04/18; 04/30; MCN is missing 04/11; LGS is missing 04/09, 04/13 and 04/14, 04/28.

**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: 05/07/04

BON counts from January 1, 2004 to March 14, 2004 (our traditional counts begin March 15)

| Chinook Adult | Chinook Jack | Steelhead | Wild Steelhead |
|---------------|--------------|-----------|----------------|
| 156 | 1 | 1,489 | 238 |

