



*Fish Passage Center*

# Weekly Report #04 - 7

April 23, 2004

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**Highlights:**

- **Precipitation, Snowpack, and Water Supply Forecasts are currently below average in most Columbia Sub-Basins.**
- **The operators have not been completely adhering to the requests outlined in SOR 2004-5, which asked for, among other things, flows at Priest Rapids to be increased to 110 Kcfs until further notice and minimal flow fluctuations below Priest Rapids Dam. Over the last week, the Hanford Reach has experienced extreme flow fluctuations.**
- **Spill was terminated at Lower Granite and Little Goose dams at 0600 hours on April 23, counter to requests by the fishery agencies and tribes.**
- **Yearling chinook continue to predominate juvenile passage at all sites.**
- **Cumulative adult spring chinook counts at Bonneville have reached the 10 year average for this date; few 5-year old fish, which out-migrated in 2001, have been present.**

**Summary of Events:**

**Water Supply:** Precipitation throughout the Columbia Basin was very low over most of March and through mid-April. Only one site in Table 1 contained greater than average precipitation over the first nineteen 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<br>April 1-19 |              | Water Year 2004<br>October 1, 2003 to<br>April 19, 2004 |              |
|--------------------------------|-------------------------------|--------------|---|--------------|
|                                | Observed<br>(inches)          | %<br>Average | Observed<br>(inches)                                    | %<br>Average |
| Columbia Above Coulee          | 0.81                          | 78           | 14.19   | 93           |
| Snake River Above Ice Harbor   | 0.63                          | 68           | 9.67  | 86           |
| Columbia Above The Dalles      | 0.69                          | 66           | 14.12   | 92           |
| Kootenai                       | 0.67                          | 60           | 14.58   | 93           |
| Clark Fork                     | 0.68                          | 86           | 8.16  | 83           |
| Flathead                       | 1.44                          | 144          | 12.17   | 92           |
| Pend Oreille/Spokane           | 0.78                          | 54           | 19.21   | 89           |
| Central Washington             | 0.26                          | 63           | 5.48  | 87           |
| Snake River Plain              | 0.50                          | 76           | 5.32  | 79           |
| Salmon/Boise/Payette           | 0.37                          | 37           | 11.22   | 81           |
| Clearwater                     | 1.19                          | 71           | 19.30   | 95           |
| SW Washington Cascades/Cowlitz | 1.50                          | 44           | 49.83   | 88           |
| Willamette Valley              | 2.03                          | 66           | 44.75   | 93           |

Snowpack within the Columbia Basin is also below average, however in the last week has slightly increased (with respect to average). Average snowpack in the Columbia River for basins above the Snake River confluence is 68% of average (2% increase from last week), for Snake River Basins the average snowpack is 65% of average (8% increase from last week), and for lower Columbia Basins between McNary and Bonneville Dam average snowpack is 82% of average (9% increase 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 April Mid-Month water supply forecasts have continued to decrease relative to the April Final Forecast. The May early-bird forecast is scheduled for release early next week.

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

| Location                                | April Final           |                              | April Mid-Month       |                              |
|---|-----------------------|------------------------------|-----------------------|------------------------------|
|   | % Average (1971-2000) | Probable Runoff Volume (Kaf) | % Average (1971-2000) | Probable Runoff Volume (Kaf) |
| The Dalles (Jan-July)                   | 78                    | 84200                        | 77                    | 82800                        |
| Grand Coulee (Jan-July)                 | 85                    | 53600                        | 84                    | 53000                        |
| Libby Res. Inflow, MT (Jan-July)        | 84                    | 5290                         | 82                    | 5190                         |
| Hungry Horse Res. Inflow, MT (Jan-July) | 76                    | 1680                         | 76                    | 1700                         |
| Lower Granite Res. Inflow (Apr- July)   | 72                    | 15600                        | 70                    | 15000                        |
| Brownlee Res. Inflow (Apr-July)         | 50                    | 3130                         | 48                    | 3040                         |
| Dworshak Res. Inflow (Apr-July)         | 81                    | 2150                         | 78                    | 2050                         |

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 49.9 Kcfs at Lower Granite.

The Spring Flow Objective Periods at McNary Dam and Priest Rapids Dam began on April 10th. The flow objectives at McNary and Priest Rapids will be 220 Kcfs and 135 Kcfs,

respectively. Over the spring flow objective period, flows have averaged 162.7 Kcfs at McNary Dam.

On April 14, 2004, the Salmon Managers submitted SOR 2004-5 to the Action Agencies, which asked for flows at Priest Rapids to be increased to 110 Kcfs until further notice. At the 4-14-04 TMT Meeting, the Action Agencies agreed to ramp flows up to 110 Kcfs by Monday, April 19th, 2004. However, BPA actually ramped down flows to approximately 72.9 Kcfs over the weekend, relative to Chief Joseph Dam discharges on Thursday and Friday and in doing so, did decrease discharges on the way to 110 Kcfs at Priest Rapids Dam. The following table displays average daily outflows from Chief Joseph and Priest Rapids dams over the last week.

**Table 3. Average daily outflows from Chief Joseph and Priest Rapids dams from 4-15-04 to 4-22-04.**

| Date               | Ave. Daily Flow at CHJ, Kcfs | Ave. Daily Flow at PRD, Kcfs |
|--------------------|------------------------------|------------------------------|
| 4-15-04, Thursday  | 74.0                         | 101.8                        |
| 4-16-04, Friday    | 106.2                        | 103.7                        |
| 4-17-04, Saturday  | 85.0                         | 93.1                         |
| 4-18-04, Sunday    | 72.9                         | 97.3                         |
| 4-19-04, Monday    | 120.5                        | 124.9                        |
| 4-20-04, Tuesday   | 117.3                        | 149.1                        |
| 4-21-04, Wednesday | 105.3                        | 128.3                        |
| 4-22-04, Thursday  | 93.8                         | 104.7                        |

Also, from the above table, average daily discharges early in the week were much higher than called for by the Salmon Managers. SOR 2004-5 Modified asks for 110 Kcfs seven days per week at Priest Rapids because of refill concerns at Grand Coulee Dam. If the 110 Kcfs is met as a weekly average, as was agreed upon at the 4-14-04 TMT Meeting, flows will have to drop significantly below 110 Kcfs at some point during the week, which is also not consistent with the intent of SOR 2004-5.

The most troubling action at Priest Rapids Dam over the last week has been the extreme flow fluctuations at, and below, Priest Rapids Dam. The following table shows average, maximum, minimum, and daily flow fluctuations at the USGS Gage below Priest Rapids Dam. These operations could have resulted in a high stranding mortality of peak numbers of Hanford Reach bright fall chinook emerging below Priest Rapids Dam.

**Table 4. Average, maximum, minimum, and daily flow fluctuations at the USGS Gage below Priest Rapids Dam between 4-15-04 and 4-22-04.**

| Flows at USGS Gage below Priest Rapids, Kcfs |         |         |         |                        |
|--|---------|---------|---------|------------------------|
| Date   | Average | Maximum | Minimum | Daily Flow Fluctuation |
| 4-15-04                                      | 100.5   | 112.0   | 82.0    | 30.0                   |
| 4-16-04                                      | 102.6   | 119.0   | 86.8    | 32.2                   |
| 4-17-04                                      | 91.4    | 120.0   | 72.3    | 47.7                   |
| 4-18-04                                      | 97.3    | 117.0   | 83.1    | 33.9                   |
| 4-19-04                                      | 120.6   | 177.0   | 79.8    | 97.2                   |
| 4-20-04                                      | 149.9   | 161.0   | 145.0   | 16.0                   |
| 4-21-04                                      | 130.7   | 147.0   | 116.0   | 31.0                   |
| 4-22-04                                      | 109.3   | 128.0   | 89.5    | 38.5                   |

Grand Coulee is currently at an elevation of 1270.9 feet and has drafted slightly over the past several days in response to the request for increased flows at Priest Rapids Dam.

The Libby Reservoir is currently at an elevation of 2406.5 feet. Inflows to Libby over the last week have ranged between 9.1 and 15.8 Kcfs; Libby has been able to refill 2.4 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 3528.2 feet. Over the last week, inflows to Hungry Horse have ranged between 4.5 and 9.8 Kcfs, enabling Hungry Horse to refill nearly three feet while still meeting its project minimum flows.

The Dworshak reservoir is currently at an elevation of 1555.7 feet. Inflows to Dworshak have remained relatively high over the past week ranging between 7.9 and 13.0 Kcfs. Outflows have increased to a current day average of 6.7 Kcfs, Dworshak has refilled approximately two feet in the last week.

The Brownlee Reservoir is currently at an elevation of 2066.5 feet. Inflows to Brownlee have ranged between 11.4 and 12.9 Kcfs, enabling it to refill 3.6 feet in the last week.

**Spill:** Spill at the Snake River transportation collector projects remains a contentious issue this year. Spill at Lower Granite Dam was initiated on the evening of April 3, and at Little Goose Dam on April 7. Spill over this past week averaged 39% of average daily flow at Lower Granite and 36% at Little Goose. The low final April Runoff Volume forecast resulted in a desire by some agencies to terminate spill at the Snake River collector projects. Bonneville Power Administration's interpretation of the Biological Opinion is that Action 40 calls for spill to be terminated, while the Salmon Managers see Action 51 as allowing for adaptive management based on the review of new information. The Salmon Managers submitted a System Operational Request (SOR 2004-3) for spill to be continued at Lower Granite and Little Goose dams, and initiated at Lower Monumental Dam, through at least May 1 based on the results of recent transportation studies indicating that transportation provides less of a benefit than in-river migration for early migrating chinook. The data are less conclusive for steelhead (only two years available) and, if conditions did not improve significantly, transport of steelhead would be favored. The Salmon Managers also requested that Snake River research spill and RSW studies be conducted.

The SOR was discussed at the Technical Management Team where resolution was not achieved. Consequently, the issue was raised to the Implementation Team. The Implementation Team met on April 15th and no resolution was achieved. The Corps made the decision regarding spill in 2004 stating, "Based on the discussions at IT, the Corps has decided to provide spill at Lower Granite and Little Goose until 23 April to provide inriver passage for yearling Chinook prior to the steelhead juvenile migration. In addition, subject to further consideration by the Study Review Work Group regarding the design of the modified spill research at Lower Monumental, up to 18 days of spill will be initiated there for early inriver passage

and for the study. Three days of spill will be available prior to 26 April and 15 days will be available beginning 26 April and provided per the research design. Although the study is not considered the premier study, other valuable research can be gathered and the sunk costs are not lost. The Lower Granite behavioral guidance structure testing planned for 2004 will be postponed until April 2005."

The state and tribal fishery agencies and US Fish and Wildlife Service submitted an SOR on April 22, 2004 requesting that spill at Lower Granite and Little Goose Dam continue beyond the April 23 end date. Early in the discussions on spill the April 23 end date was chosen by the federal Action Agencies on the basis of their interpretation of when steelhead predominated in the Lower Granite passage based on historic data. However, based on real-time passage data collected at Lower Granite Dam, it is clear that steelhead numbers have not increased sufficiently to predominate in the passage index at Lower Granite Dam. The intent of this request for continued spill during the early part of the season under Action 51 was to provide spill for yearling chinook migrants to continue migrating inriver. The request was not considered and spill was terminated at 0600 hours on April 23, 2004.

Spill at Lower Monumental Dam is scheduled to begin April 24 and will occur nightly from 1800 hours to 0600 hours, for 6 days rather than the 3 days of 24 hours. Spill will then occur for 15 days following this for the conduct of the salvaged study design. Spill at Ice Harbor Dam was initiated on the evening of April 13th. Spill has averaged 82% 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. Spill averaged 31%, 26%, 39% and 38% of daily flow at McNary, John Day, The Dalles and Bonneville dams, respectively.

Total dissolved gas levels remain below the waiver limits. Gas bubble trauma monitoring is occurring at all sites. Only two fish (at Rock Island Dam) with signs of GBT has been observed.

**Smolt Monitoring:** Yearling chinook continued to predominate the juvenile migration this past week at all sites, while steelhead numbers increased steadily at the Snake River projects and coho smolt numbers climbed at Bonneville Dam.

At Snake River Basin traps yearling chinook numbers held steady at White Bird and Lewiston traps but decreased at Imnaha and Grande Ronde traps. The White Bird Trap, on the Salmon River collected a season high of 2,194 yearling chinook on April 9 but numbers have declined over the past two weeks as the hatchery origin fish numbers continue to drop. Steelhead numbers remained small and were down compared to last week, with an average daily collection of about 40 this week compared to 60 per day last week. The Imnaha Trap continues to catch large numbers of yearling chinook despite the large drop compared to last week; the average daily catch for this week was 900 compared to over 1,400 per day last week. These yearling chinook were mostly hatchery fish released from a volitional release at Imnaha Acclimation Pond that ended April 15. With the bulk of the hatchery fish having passed, catch in the last 5 days has been about one third unclipped wild fish. Steelhead collection dropped off substantially this past week in both hatchery and wild fish, with daily collection averaging about 200 per day this week compared to 1,200 per day last week. Numbers of yearling chinook captured at the Grande Ronde trap declined compared to the previous week with a daily average of just over 100 compared to 450 last week, however, there was a large one day capture of 1,261 on the 16th which is included in last weeks total. Steelhead numbers remained low with a season high of 170 collected on the 16th. At the Lewiston Trap the numbers of yearling chinook decreased this past week with an average daily catch of 40, while steelhead collection increased to 180 per day average this week compared to 40 per day average last week.

At Lower Granite Dam the numbers of yearling chinook and steelhead continued to increase rapidly over the past week despite a decrease in indices in the past few days as flows continue to drop in the Snake River. The average weekly passage index for yearling chinook in-

creased this past week to 58,000 compared to 38,000 last week. The steelhead average daily passage index also increased from 10,000 last week to 23,000 this week. Coho indices were in the hundreds this past week and small numbers of sockeye and subyearling chinook were also captured. At Little Goose Dam relatively smaller numbers of yearling chinook and steelhead were captured but the numbers represent relatively large increases over the past week with the average daily index of yearling chinook at 28,000 this week compared to 3,000 last week while steelhead averaged 7,800 per day this week compared to 3,100 per day last week. Lower Monumental Dam had a rapid increase in the yearling chinook indices with a high of 151,000 on April 16 as yearling fall chinook releases from Lyons Ferry Hatchery on April 12 began to reach the dam. Despite the decline in numbers since the 16th, this week the average index for yearling chinook was up to 39,000 compared to 30,000 per day last week (which includes the large number seen on the 16th). Steelhead indices have continued to increase at the site with an average index of 4,500 this past week compared to 1,700 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.

Rock Island Dam has reported relatively large increases in the numbers of yearling chinook, steelhead, and sockeye smolts this past week. The weekly average yearling chinook index was 350 this week compared to 80 last week, steelhead averaged 40 per day compared to 20 last week, while sockeye averaged 280 per day this week compared to 100 per day last week. Subyearling chinook numbers declined as the number of fry decreases from 20 per day this week compared to 70 last week. Small numbers of coho have begun to be captured at the trap.

In the Lower Columbia, at McNary, where sampling is carried out every other day, in conjunction with NMFS transportation study that begins April 20, yearling chinook indices have steadily increased to 12,000 per day this week compared to 2,500 last week, while steelhead indices averaged 2,600 per day compared to 300 per day last

week. Subyearling chinook, sockeye and coho indices remain relatively low, with average daily values all just approaching or passing 200 fish per day in the past few samples. Smolt Monitoring crews found unusual patterns of descaling in some of the fish sampled on the 17th and 20th of April. The site reported unusual patchy descaling occurred on the 17th while on the 20th 4 out of 100 fish in the GBT sample were completely descaled on one side. Testing of the high velocity vertical barrier screens began this week and it is likely that the unusual pattern of descaling was related to those tests. At John Day Dam the numbers of yearling chinook have increased steadily since sampling began April 1, with the average daily index at 6,300 this week, compared to 3,600 last week. Steelhead indices also increased steadily over the past week with the average daily value at 800 compared to 500 last week. Small numbers of coho and sockeye smolts have been reported this past week. At Bonneville Dam, the average daily index for yearling chinook was 46,000 compared to 9,000 last week. The steelhead index averaged 800 this week compared to 1,000 last week. The indices for coho continued to increase this week with an average index of 13,000 per day versus 9,000 per day last week. Subyearling chinook numbers were down to 34,000 per day index this week compared to 46,000 last week as the latest release from Spring Creek hatchery peaked on April 16 when the index stood at 286,000.

**Hatchery Releases** - The scheduled release of juvenile salmonids from Columbia River Basin hatcheries above Bonneville Dam for the 2004 migration season is estimated near 81.9 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 30 million salmon during the past two weeks. Fish were released in all of the River Zones with most of the yearling spring, summer, and fall chinook planted in the Columbia River basin. For the upcoming two weeks, about 19 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 23-April-2004 |              |                |               |
|------------------|----------------------|--------------|----------------|---------------|
|                  | Snake River          | Mid-Columbia | Lower Columbia | Total Release |
| Fall Chinook     | 2,614,000            | 12,430,000   | 21,772,094     | 36,816,094    |
| Spring Chinook   | 10,469,406           | 4,017,179    | 5,182,789      | 19,669,374    |
| Summer Chinook   | 2,402,002            | 3,235,990    |                | 5,637,992     |
| Coho             | 1,199,433            | 1,141,000    | 5,924,000      | 8,264,433     |
| Sockeye          | 62,000               | 315,790      |                | 377,790       |
| Summer Steelhead | 9,288,579            | 1,302,231    | 476,330        | 11,067,140    |
| Winter Steelhead |                      |              | 90,000         | 90,000        |
| Total            | 26,035,420           | 22,442,190   | 33,445,213     | 81,922,823    |

**Snake River** - Release of yearling chinook from hatcheries in the Snake River basin is basically 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 on-going from most hatcheries this week with trucking of steelhead from the Niagara Springs, Hagerman, and Magic Valley being released in the Salmon River basin. Some releases were initiated and mostly completed in the Clearwater River basin during the past two weeks. The Grande Ronde, Imnaha, and Tucannon River basins will have direct and volitional releases during the next two weeks.

**Mid-Columbia** - Volitional releases of yearling spring chinook commenced mid-March in the Yakama River at Clark Flat, Easton, and Jack Creek ponds with greater than 70% of these fish having emigrated from the ponds. Releases of upper Mid-Columbia spring chinook are in-river with steelhead releases initiated at some facilities and completed during the past week at others. The large yearling summer chinook release from Dryden Pond is scheduled for the upcoming week.

**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 and Little White Salmon NFHs. The volitional release from Warm Springs and the Hood River Acclimation Ponds will continue until most have migrated 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.

**Adult Fish Passage:** At Bonneville Dam, counts of spring chinook ranged from near 4,000 per day early in the week to about 13,000 per day by the end of the report week, April 22. The adult spring chinook count through April 22 was 75,840, and that compares to 109,013 in 2003 and 60,410 for the 10-year average. This week, numbers of spring chinook rose to levels that were closer to expectations for the 2004 season; few 5-year old chinook have been present in the run this season with the bulk of the chinook being 4-year old fish. One interesting point noted from PIT tag returns interrogated at Bonneville Dam was the return of two, 4-ocean residing adult spring chinook; one from Rapid River Hatchery located near Riggins, ID while the other 4-ocean chinook was from Carson NFH located about 14 miles up the Wind River in WA state.

Of the spring chinook past Bonneville Dam, approximately 54% have been counted at The Dalles Dam with greater than 13,000 passing McNary Dam through April 22. At present, most of the chinook past McNary Dam are choosing the Snake River; about 7,800 counted at Ice Harbor Dam with only 98 counted at Priest Rapids Dam (Mid-upper Columbia River).

PIT tagged hatchery adult fish have been tallied from Rapid River, Dworshak Complex, Clearwater Complex, and Grande Ronde River Acclimation Ponds in the Snake River; Leavenworth, Entiat, Winthrop, and the three Yakima R acclimation ponds located in the Mid/upper Columbia River; and Carson, Warm Springs, and 2 Umatilla R. sites in the lower Columbia River. Note that not all hatcheries released PIT tagged fish so that would preclude them from having these fish among the PIT tag returns. Wild adult spring chinook have been from the Snake, Umatilla, John Day and Yakima River basins to date.

Passage of adult steelhead is beginning to wind down in the Snake River as most have passed the projects and should be in spawning areas in the upstream tributaries of the Clearwater, Salmon, Imnaha, Tucannon, and Grande Ronde basins. About 7,000 steelhead have been counted

at Lower Granite Dam since March 1st. This total is well below the 2003 count, but exceeds the 10-year average to date. Note that adult steelhead presently passing Bonneville Dam should be considered as Skamania stock summer run or Wild/hatchery winter run steelhead from tributaries located in the Bonneville pool.

**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 |
| 04/09/04 | 56.9         | 0.0   | 61.8         | 0.0   | 68.6  | 0.0   | 73.0        | 0.0   | 79.3        | 0.0   | 77.5    | 0.0   | 71.6          | 0.0   |
| 04/10/04 | 57.9         | 0.0   | 53.2         | 0.0   | 62.0  | 0.0   | 63.2        | 0.0   | 68.5        | 0.0   | 73.0    | 0.0   | 72.9          | 0.0   |
| 04/11/04 | 26.4         | 0.0   | 34.2         | 0.0   | 33.1  | 0.0   | 38.7        | 0.0   | 45.5        | 0.0   | 72.4    | 0.0   | 71.9          | 0.0   |
| 04/12/04 | 68.3         | 0.0   | 63.0         | 0.0   | 78.9  | 8.4   | 80.4        | 0.0   | 87.7        | 0.0   | 76.7    | 0.0   | 73.6          | 0.0   |
| 04/13/04 | 74.9         | 0.0   | 77.8         | 0.0   | 90.4  | 9.0   | 92.5        | 0.0   | 100.6       | 0.0   | 83.9    | 0.0   | 78.0          | 0.0   |
| 04/14/04 | 73.2         | 0.0   | 77.9         | 0.0   | 87.8  | 9.1   | 84.7        | 0.0   | 92.7        | 0.0   | 105.4   | 0.0   | 106.0         | 0.0   |
| 04/15/04 | 76.4         | 0.0   | 74.0         | 0.0   | 92.9  | 9.8   | 91.9        | 0.0   | 99.6        | 0.0   | 100.7   | 0.0   | 101.8         | 0.0   |
| 04/16/04 | 98.0         | 0.0   | 106.2        | 0.0   | 103.6 | 11.1  | 99.4        | 0.0   | 105.9       | 0.0   | 106.5   | 0.0   | 103.7         | 0.0   |
| 04/17/04 | 86.6         | 0.0   | 85.0         | 0.0   | 89.1  | 10.5  | 87.4        | 0.0   | 95.8        | 17.0  | 95.7    | 0.0   | 93.1          | 0.0   |
| 04/18/04 | 72.3         | 0.0   | 72.9         | 0.0   | 82.4  | 10.1  | 79.6        | 0.0   | 85.7        | 13.6  | 94.7    | 0.0   | 97.3          | 0.0   |
| 04/19/04 | 127.1        | 0.0   | 120.5        | 0.0   | 125.9 | 12.4  | 124.3       | 0.0   | 129.9       | 24.6  | 128.6   | 9.9   | 124.9         | 16.1  |
| 04/20/04 | 116.8        | 0.0   | 117.3        | 0.0   | 130.9 | 12.4  | 129.2       | 0.0   | 136.3       | 23.3  | 157.5   | 62.7  | 149.1         | 92.2  |
| 04/21/04 | 96.4         | 0.0   | 105.3        | 0.0   | 116.4 | 12.2  | 120.7       | 0.0   | 126.6       | 24.8  | 135.9   | 54.6  | 128.3         | 78.9  |
| 04/22/04 | 98.9         | 0.0   | 93.8         | 0.0   | 99.1  | 11.2  | 94.5        | 0.0   | 101.4       | 23.5  | 120.8   | 48.3  | 104.7         | 64.9  |

**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 |
| 04/09/04 | 1.6      | 0.0   | 17.2         | 9.0     | 54.7          | 24.3  | 56.2         | 20.8  | 58.7             | 0.0   | 54.2       | 0.0   |
| 04/10/04 | 1.7      | 0.0   | 16.8         | 8.9     | 49.5          | 18.7  | 52.1         | 21.7  | 54.9             | 0.0   | 53.4       | 0.0   |
| 04/11/04 | 1.6      | 0.0   | 15.9         | 8.9     | 49.2          | 18.7  | 49.8         | 21.0  | 50.1             | 0.0   | 47.8       | 0.0   |
| 04/12/04 | 1.6      | 0.0   | 16.8         | 15.9    | 46.8          | 18.5  | 46.6         | 21.7  | 46.4             | 0.0   | 43.6       | 0.0   |
| 04/13/04 | 1.6      | 0.0   | 14.5         | 14.6    | 54.6          | 18.3  | 57.0         | 20.6  | 58.9             | 0.0   | 55.0       | 10.7  |
| 04/14/04 | 1.6      | 0.0   | 15.0         | 19.4    | 58.0          | 18.2  | 58.7         | 20.0  | 59.8             | 0.0   | 62.4       | 44.9  |
| 04/15/04 | 1.6      | 0.0   | 14.8         | 13.0    | 64.2          | 18.4  | 67.5         | 19.9  | 69.8             | 0.0   | 73.5       | 66.2  |
| 04/16/04 | 6.1      | 0.0   | 11.8         | 8.9     | 56.6          | 18.3  | 57.2         | 20.6  | 59.4             | 0.0   | 61.1       | 53.4  |
| 04/17/04 | 7.5      | 0.0   | 12.9         | 8.9     | 50.9          | 18.3  | 51.1         | 19.0  | 50.6             | 0.0   | 51.2       | 40.7  |
| 04/18/04 | 7.4      | 0.0   | 11.3         | 8.8     | 49.6          | 18.3  | 51.4         | 20.1  | 53.4             | 0.0   | 56.3       | 44.8  |
| 04/19/04 | 7.3      | 0.0   | 11.4         | 8.9     | 46.8          | 18.3  | 48.4         | 18.3  | 49.4             | 0.0   | 53.3       | 44.8  |
| 04/20/04 | 6.7      | 0.0   | 11.9         | 8.9     | 45.2          | 18.4  | 45.8         | 16.9  | 46.2             | 0.0   | 48.2       | 39.1  |
| 04/21/04 | 6.7      | 0.0   | 11.9         | 8.8     | 43.8          | 18.5  | 45.3         | 15.0  | 46.2             | 0.0   | 48.0       | 38.7  |
| 04/22/04 | 6.7      | 0.0   | ---          | ---     | 42.4          | 18.6  | 44.7         | 15.6  | 46.3             | 0.0   | 49.4       | 39.8  |

**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 |      |       |
| 04/09/04 | 129.3  | 0.0   | 142.3    | 0.0   | 150.0      | 0.0   | 151.3      | 2.4   | 49.0 | 93.4  |
| 04/10/04 | 128.4  | 0.0   | 141.1    | 0.0   | 143.8      | 0.0   | 150.9      | 2.4   | 43.9 | 98.1  |
| 04/11/04 | 128.8  | 0.0   | 112.1    | 0.0   | 117.1      | 0.0   | 140.8      | 2.4   | 33.7 | 98.3  |
| 04/12/04 | 152.4  | 29.5  | 161.9    | 22.7  | 167.2      | 19.2  | 154.5      | 14.9  | 34.7 | 98.5  |
| 04/13/04 | 131.2  | 40.3  | 134.2    | 42.7  | 140.7      | 53.2  | 176.6      | 50.5  | 14.9 | 103.0 |
| 04/14/04 | 148.2  | 47.0  | 146.9    | 41.4  | 148.1      | 58.3  | 182.6      | 50.5  | 18.3 | 102.6 |
| 04/15/04 | 178.3  | 63.8  | 182.8    | 45.2  | 185.9      | 73.0  | 201.3      | 51.3  | 26.6 | 111.9 |
| 04/16/04 | 189.1  | 64.5  | 192.0    | 47.8  | 191.5      | 74.8  | 215.7      | 62.6  | 29.3 | 112.4 |
| 04/17/04 | 165.0  | 37.1  | 183.1    | 53.0  | 184.8      | 73.1  | 216.0      | 75.8  | 20.7 | 108.2 |
| 04/18/04 | 159.3  | 41.9  | 141.5    | 33.9  | 144.2      | 55.6  | 177.7      | 75.7  | 2.0  | 88.7  |
| 04/19/04 | 166.9  | 55.8  | 166.9    | 44.2  | 166.6      | 62.8  | 198.1      | 75.1  | 10.9 | 100.7 |
| 04/20/04 | 198.7  | 66.2  | 173.7    | 42.7  | 178.4      | 70.8  | 194.4      | 74.9  | 7.9  | 100.2 |
| 04/21/04 | 196.1  | 67.9  | 204.9    | 47.8  | 209.4      | 83.7  | 236.8      | 85.6  | 34.5 | 105.3 |
| 04/22/04 | 201.8  | 55.9  | 175.1    | 46.7  | 170.0      | 67.0  | 210.8      | 93.9  | 7.3  | 98.2  |



# HATCHERY RELEASE LAST TWO WEEKS

## Hatchery Release Summary

From: **4/9/2004** to **4/22/2004**

| Agency   | Hatchery                 | Species | Race | MigYr | NumRel            | RelStart | RelEnd   | RelSite                       | RelRiver                |
|--|--------------------------|---------|------|-------|-------------------|----------|----------|-------------------------------|-------------------------|
| Colville Tribe                                 | Leavenworth NFH          | CH1     | SP   | 2004  | 95,000            | 04-09-04 | 04-09-04 | Ellisford Pond                | Okanogan River          |
| Colville Tribe                                 | Wells Hatchery           | CH1     | SU   | 2004  | 10,000            | 04-12-04 | 04-13-04 | Bonaparte Acclimation Pond    | Okanogan River          |
| <b>Colville Tribe Total</b>                    |                          |         |      |       | <b>105,000</b>    |          |          |                               |                         |
| Idaho Dept. of Fish and Game                   | Clearwater Hatchery      | CH1     | SP   | 2004  | 354,000           | 04-07-04 | 04-09-04 | Red River Acclim Pond         | S Fk Clearwater River   |
| Idaho Dept. of Fish and Game                   | Clearwater Hatchery      | CH1     | SP   | 2004  | 750,000           | 04-07-04 | 04-09-04 | Crooked R Acclim Pond         | S Fk Clearwater River   |
| Idaho Dept. of Fish and Game                   | Clearwater Hatchery      | ST      | SU   | 2004  | 102,000           | 04-22-04 | 04-23-04 | Clear Creek                   | Clearwater River M F    |
| Idaho Dept. of Fish and Game                   | Clearwater Hatchery      | ST      | SU   | 2004  | 255,000           | 04-16-04 | 04-26-04 | Red River Acclim Pond         | S Fk Clearwater River   |
| Idaho Dept. of Fish and Game                   | Clearwater Hatchery      | ST      | SU   | 2004  | 255,000           | 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  | 315,000           | 04-20-04 | 04-21-04 | Redhouse (SFk ClearH20 R)     | 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  | 132,528           | 04-12-04 | 04-12-04 | Salmon River (ID)             | Salmon River (ID)       |
| Idaho Dept. of Fish and Game                   | Magic Valley Hatchery    | ST      | SU   | 2004  | 178,984           | 04-08-04 | 04-09-04 | Hammer Creek                  | 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                   | Magic Valley Hatchery    | ST      | SU   | 2004  | 228,000           | 04-13-04 | 04-20-04 | Salmon River (ID)             | Salmon River (ID)       |
| Idaho Dept. of Fish and Game                   | Niagara Springs          | ST      | SU   | 2004  | 445,000           | 04-02-04 | 05-04-04 | Little Salmon River           | Salmon River (ID)       |
| Idaho Dept. of Fish and Game                   | Niagara Springs          | ST      | SU   | 2004  | 830,000           | 04-13-04 | 05-01-04 | Pahsimeroi River              | Pahsimeroi River        |
| Idaho Dept. of Fish and Game                   | Pahsimeroi Hatchery      | CH1     | SU   | 2004  | 127,780           | 04-15-04 | 04-15-04 | Pahsimeroi Hatchery           | Pahsimeroi River        |
| Idaho Dept. of Fish and Game                   | Pahsimeroi Hatchery      | CH1     | SU   | 2004  | 1,008,200         | 04-15-04 | 04-15-04 | Pahsimeroi Hatchery           | 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                   | Sawtooth Hatchery        | CH1     | SP   | 2004  | 187,961           | 04-13-04 | 04-13-04 | Sawtooth Hatchery             | Salmon River (ID)       |
| Idaho Dept. of Fish and Game                   | Sawtooth Hatchery        | CH1     | SP   | 2004  | 633,454           | 04-13-04 | 04-13-04 | Sawtooth Hatchery             | Salmon River (ID)       |
| <b>Idaho Dept. of Fish and Game Total</b>      |                          |         |      |       | <b>9,513,465</b>  |          |          |                               |                         |
| Nez Perce Tribe                                | Dworshak NFH             | ST      | SU   | 2004  | 100,000           | 04-19-04 | 04-23-04 | American River                | S Fk Clearwater River   |
| Nez Perce Tribe                                | Dworshak NFH             | ST      | SU   | 2004  | 100,000           | 04-19-04 | 04-23-04 | Newsome Creek                 | S Fk Clearwater River   |
| Nez Perce Tribe                                | Irrigon Hatchery Complex | ST      | SU   | 2004  | 100,000           | 04-13-04 | 04-16-04 | Big Sheep Creek               | Imnaha River            |
| Nez Perce Tribe                                | Lookingglass Hatchery    | CH1     | SP   | 2004  | 133,804           | 03-29-04 | 04-14-04 | Lostine Accim Pond            | Wallowa River           |
| Nez Perce Tribe                                | Lyons Ferry Hatchery     | CH1     | FA   | 2004  | 150,000           | 04-12-04 | 04-12-04 | Big Canyon (Clearwater R)     | Clearwater River M F    |
| Nez Perce Tribe                                | Lyons Ferry Hatchery     | CH1     | FA   | 2004  | 150,000           | 04-12-04 | 04-12-04 | Pittsburg Landing Acclim Pond | Snake River             |
| <b>Nez Perce Tribe Total</b>                   |                          |         |      |       | <b>733,804</b>    |          |          |                               |                         |
| 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              | Imnaha Acclim. Pond      | CH1     | SP   | 2004  | 398,660           | 04-01-04 | 04-15-04 | Imnaha Acclim Pond            | Imnaha River            |
| Oregon Dept. of Fish and Wildlife              | Irrigon Hatchery Complex | ST      | SU   | 2004  | 137,000           | 04-12-04 | 04-13-04 | L Sheep Acclim Pond           | Imnaha River            |
| Oregon Dept. of Fish and Wildlife              | Irrigon Hatchery Complex | ST      | SU   | 2004  | 162,000           | 04-12-04 | 04-15-04 | Big Canyon Acclim.Pd (G R)    | Grande Ronde River      |
| Oregon Dept. of Fish and Wildlife              | Irrigon Hatchery Complex | ST      | SU   | 2004  | 404,000           | 04-12-04 | 04-15-04 | Wallowa Acclim Pond           | Wallowa River           |
| <b>Oregon Dept. of Fish and Wildlife Total</b> |                          |         |      |       | <b>1,664,160</b>  |          |          |                               |                         |
| U.S. Fish and Wildlife Service                 | Carson NFH               | CH1     | SP   | 2004  | 1,432,391         | 04-14-04 | 04-15-04 | Carson Hatchery               | Wind River              |
| U.S. Fish and Wildlife Service                 | Dworshak NFH             | ST      | SU   | 2004  | 200,000           | 04-12-04 | 04-16-04 | Clear Creek                   | Clearwater River M F    |
| U.S. Fish and Wildlife Service                 | Dworshak NFH             | ST      | SU   | 2004  | 200,000           | 04-12-04 | 04-16-04 | Redhouse (SFk ClearH20 R)     | S Fk Clearwater River   |
| 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                 | Entiat Hatchery          | CH1     | SP   | 2004  | 390,000           | 04-14-04 | 04-14-04 | Entiat Hatchery               | Entiat River            |
| U.S. Fish and Wildlife Service                 | Hagerman NFH             | ST      | SU   | 2004  | 105,000           | 04-05-04 | 04-14-04 | Little Salmon River           | 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                 | Leavenworth NFH          | CH1     | SP   | 2004  | 1,450,000         | 04-19-04 | 04-19-04 | Leavenworth Hatchery          | Wenatchee River         |
| U.S. Fish and Wildlife Service                 | Little White Salmon NFH  | CH1     | SP   | 2004  | 1,037,000         | 04-15-04 | 04-15-04 | Little White Salmon Hatchery  | Little White Salmon Riv |
| U.S. Fish and Wildlife Service                 | Spring Creek NFH         | CH0     | FA   | 2004  | 3,942,000         | 04-14-04 | 04-14-04 | Spring Creek Hatchery         | L Col R (D/s McN Dam    |
| U.S. Fish and Wildlife Service                 | Warm Springs NFH         | CH1     | SP   | 2004  | 444,000           | 03-24-04 | 04-21-04 | Warm Springs Hatchery         | Deschutes River         |
| U.S. Fish and Wildlife Service                 | Winthrop NFH             | CH1     | SP   | 2004  | 41,000            | 04-15-04 | 04-23-04 | Winthrop Hatchery             | Methow River            |
| U.S. Fish and Wildlife Service                 | Winthrop NFH             | CH1     | SP   | 2004  | 539,000           | 04-15-04 | 04-23-04 | Winthrop Hatchery             | Methow River            |
| U.S. Fish and Wildlife Service                 | Winthrop NFH             | CO      | UN   | 2004  | 206,000           | 04-20-04 | 04-20-04 | Winthrop Hatchery             | Methow River            |
| U.S. Fish and Wildlife Service                 | Winthrop NFH             | ST      | SU   | 2004  | 117,000           | 04-15-04 | 04-30-04 | Winthrop Hatchery             | Methow River            |
| <b>U.S. Fish and Wildlife Service Total</b>    |                          |         |      |       | <b>12,075,391</b> |          |          |                               |                         |

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

**HATCHERY RELEASE LAST TWO WEEKS Continued**

|  |                          |     |    |      |                   |          |          |                           |                    |
|--|--------------------------|-----|----|------|-------------------|----------|----------|---------------------------|--------------------|
| Umatilla Tribe                                     | Bonneville Hatchery      | CH1 | FA | 2004 | 250,000           | 04-05-04 | 04-23-04 | Thornhollow Acclim Pond   | Umatilla River     |
| Umatilla Tribe                                     | Cascade Hatchery         | CO  | UN | 2004 | 187,500           | 04-01-04 | 04-09-04 | Pendelton Acclim Pond     | Umatilla River     |
| Umatilla Tribe                                     | Little White Salmon NFH  | CH1 | SP | 2004 | 371,000           | 04-19-04 | 04-30-04 | Imequas Acclim Pond       | Umatilla River     |
| Umatilla Tribe                                     | Lookingglass Hatchery    | CH1 | SP | 2004 | 70,977            | 04-01-04 | 04-14-04 | Catherine Cr Acclim Pond  | Grande Ronde River |
| Umatilla Tribe                                     | Lookingglass Hatchery    | CH1 | SP | 2004 | 78,930            | 04-01-04 | 04-14-04 | Grande Ronde Acclim Pond  | Grande Ronde River |
| Umatilla Tribe                                     | Umatilla Hatchery        | ST  | SU | 2004 | 45,200            | 04-19-04 | 04-30-04 | Bonifer Acclim Pond       | Umatilla River     |
| Umatilla Tribe                                     | Umatilla Hatchery        | ST  | SU | 2004 | 45,200            | 04-19-04 | 04-30-04 | Minthorn Acclimation Pond | Umatilla River     |
| Umatilla Tribe                                     | Umatilla Hatchery        | ST  | SU | 2004 | 45,200            | 04-19-04 | 04-30-04 | Pendelton Acclim Pond     | Umatilla River     |
| <b>Umatilla Tribe Total</b>                        |                          |     |    |      | <b>1,094,007</b>  |          |          |                           |                    |
| 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         |
| <b>Warm Springs Tribe Total</b>                    |                          |     |    |      | <b>165,000</b>    |          |          |                           |                    |
| 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 | 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     | CH1 | FA | 2004 | 454,000           | 04-12-04 | 04-15-04 | Lyons Ferry Hatchery      | Snake River        |
| Washington Dept. of Fish and Wildlife              | Lyons Ferry Hatchery     | CH1 | SP | 2004 | 45,000            | 03-15-04 | 04-18-04 | Curl Lake Acclim Pond     | Tucannon River     |
| Washington Dept. of Fish and Wildlife              | Lyons Ferry Hatchery     | CH1 | SP | 2004 | 125,000           | 03-15-04 | 04-18-04 | Curl Lake Acclim Pond     | Tucannon River     |
| Washington Dept. of Fish and Wildlife              | Lyons Ferry Hatchery     | ST  | SU | 2004 | 44,000            | 04-15-04 | 04-15-04 | Curl Lake Acclim Pond     | Tucannon River     |
| Washington Dept. of Fish and Wildlife              | Lyons Ferry Hatchery     | ST  | SU | 2004 | 60,000            | 04-15-04 | 04-15-04 | Baileysburg Bridge        | Touchet River      |
| Washington Dept. of Fish and Wildlife              | Lyons Ferry Hatchery     | ST  | SU | 2004 | 60,000            | 04-19-04 | 04-19-04 | Lyons Ferry Hatchery      | Snake 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 | 100,000           | 04-15-04 | 04-15-04 | Tucannon River            | Tucannon River     |
| Washington Dept. of Fish and Wildlife              | Lyons Ferry Hatchery     | ST  | SU | 2004 | 100,000           | 04-15-04 | 04-15-04 | Walla Walla River         | Walla Walla 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              | Ringold Springs Hatchery | ST  | SU | 2004 | 161,147           | 04-12-04 | 04-20-04 | Ringold Springs Hatchery  | Mid-Columbia River |
| Washington Dept. of Fish and Wildlife              | Skamania Hatchery        | ST  | WI | 2004 | 20,000            | 04-15-04 | 04-15-04 | Salmon Creek (WA)         | Columbia 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       |
| <b>Washington Dept. of Fish and Wildlife Total</b> |                          |     |    |      | <b>4,629,927</b>  |          |          |                           |                    |
| 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       |
| <b>Yakama Tribe Total</b>                          |                          |     |    |      | <b>2,173,400</b>  |          |          |                           |                    |
| <b>Grand Total</b>                                 |                          |     |    |      | <b>32,154,154</b> |          |          |                           |                    |

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

## HATCHERY RELEASE NEXT 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        |
| <b>Colville Tribe Total</b>                    |                          |         |          |       | <b>9,000</b>     |          |          |                           |                       |
| Idaho Dept. of Fish and Game                   | Clearwater Hatchery      | ST      | SU       | 2004  | 102,000          | 04-22-04 | 04-23-04 | Clear Creek               | Clearwater River M F  |
| Idaho Dept. of Fish and Game                   | Clearwater Hatchery      | ST      | SU       | 2004  | 255,000          | 04-16-04 | 04-26-04 | Red River Acclim Pond     | S Fk Clearwater River |
| Idaho Dept. of Fish and Game                   | Clearwater Hatchery      | ST      | SU       | 2004  | 255,000          | 04-21-04 | 04-23-04 | Crooked R 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          | 04-02-04 | 05-04-04 | Little Salmon River       | Salmon River (ID)     |
| Idaho Dept. of Fish and Game                   | Niagara Springs          | ST      | SU       | 2004  | 830,000          | 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   |
| <b>Idaho Dept. of Fish and Game Total</b>      |                          |         |          |       | <b>5,597,558</b> |          |          |                           |                       |
| Nez Perce Tribe                                | Clearwater Hatchery      | ST      | SU       | 2004  | 25,500           | 04-27-04 | 04-27-04 | Meadow Creek - CLES       | S Fk Clearwater River |
| Nez Perce Tribe                                | Clearwater Hatchery      | ST      | SU       | 2004  | 25,500           | 04-27-04 | 04-27-04 | Mill Cr Bridge            | S Fk Clearwater River |
| Nez Perce Tribe                                | Clearwater Hatchery      | ST      | SU       | 2004  | 51,000           | 04-27-04 | 04-28-04 | Lolo Creek                | Clearwater River M F  |
| Nez Perce Tribe                                | Dworshak NFH             | CO      | UN       | 2004  | 235,000          | 05-03-04 | 05-03-04 | Clear Creek               | Clearwater River M F  |
| Nez Perce Tribe                                | Dworshak NFH             | ST      | SU       | 2004  | 100,000          | 04-19-04 | 04-23-04 | American River            | S Fk Clearwater River |
| Nez Perce Tribe                                | Dworshak NFH             | ST      | SU       | 2004  | 100,000          | 04-19-04 | 04-23-04 | Newsome Creek             | S Fk Clearwater River |
| <b>Nez Perce Tribe Total</b>                   |                          |         |          |       | <b>537,000</b>   |          |          |                           |                       |
| 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  | 80,000           | 04-29-04 | 05-06-04 | L Sheep Acclim Pond       | Imnaha River          |
| <b>Oregon Dept. of Fish and Wildlife Total</b> |                          |         |          |       | <b>642,500</b>   |          |          |                           |                       |
| 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  | 3,400,000        | 05-06-04 | 05-06-04 | Spring Creek Hatchery     | L Col R (D/s McN Dam) |
| U.S. Fish and Wildlife Service                 | Winthrop NFH             | CH1     | SP       | 2004  | 41,000           | 04-15-04 | 04-23-04 | Winthrop Hatchery         | Methow River          |
| U.S. Fish and Wildlife Service                 | Winthrop NFH             | CH1     | SP       | 2004  | 539,000          | 04-15-04 | 04-23-04 | Winthrop Hatchery         | Methow River          |
| U.S. Fish and Wildlife Service                 | Winthrop NFH             | ST      | SU       | 2004  | 117,000          | 04-15-04 | 04-30-04 | Winthrop Hatchery         | Methow River          |
| <b>U.S. Fish and Wildlife Service Total</b>    |                          |         |          |       | <b>6,069,000</b> |          |          |                           |                       |
| Umatilla Tribe                                 | Bonneville Hatchery      | CH1     | FA       | 2004  | 250,000          | 04-05-04 | 04-23-04 | Thornhollow Acclim Pond   | Umatilla River        |
| Umatilla Tribe                                 | Little White Salmon NFH  | CH1     | SP       | 2004  | 371,000          | 04-19-04 | 04-30-04 | Imeques Acclim Pond       | Umatilla River        |
| Umatilla Tribe                                 | Umatilla Hatchery        | ST      | SU       | 2004  | 45,200           | 04-19-04 | 04-30-04 | Bonifer Acclim Pond       | Umatilla River        |
| Umatilla Tribe                                 | Umatilla Hatchery        | ST      | SU       | 2004  | 45,200           | 04-19-04 | 04-30-04 | Minthorn Acclimation Pond | Umatilla River        |
| Umatilla Tribe                                 | Umatilla Hatchery        | ST      | SU       | 2004  | 45,200           | 04-19-04 | 04-30-04 | Pendelton Acclim Pond     | Umatilla River        |
| <b>Umatilla Tribe Total</b>                    |                          |         |          |       | <b>756,600</b>   |          |          |                           |                       |
| 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            |
| <b>Warm Springs Tribe Total</b>                |                          |         |          |       | <b>165,000</b>   |          |          |                           |                       |

**HATCHERY RELEASE NEXT TWO WEEKS (continued)**

| <b>Hatchery Release Summary</b>                    |                      |     |    |                  |                   |          |                 |                        |                  |
|--|----------------------|-----|----|------------------|-------------------|----------|-----------------|------------------------|------------------|
| <b>From:</b>                                       |                      |     |    | <b>4/23/2004</b> | <b>to</b>         |          | <b>5/6/2004</b> |                        |                  |
| 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 Riv |
| 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 Ri  |
| 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  | WI | 2004             | 20,000            | 04-15-04 | 04-30-04        | White Salmon River     | White Salmon Ri  |
| 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 Riv |
| 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     |
| <b>Washington Dept. of Fish and Wildlife Total</b> |                      |     |    |                  | <b>3,655,780</b>  |          |                 |                        |                  |
| 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     |
| <b>Yakama Tribe Total</b>                          |                      |     |    |                  | <b>2,173,400</b>  |          |                 |                        |                  |
| <b>Grand Total</b>                                 |                      |     |    |                  | <b>19,605,838</b> |          |                 |                        |                  |

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

| Site                        | Date     | Species             | Number of Fish | Number w GBT signs | Number w Fin Signs | % Fin GBT | % Severe Fin GBT | Number of Fish with Fin GBT Listed by Highest Rank |        |        |        |
|-----------------------------|----------|---------------------|----------------|--------------------|--------------------|-----------|------------------|--|--------|--------|--------|
|                             |          |                     |                |                    |                    |           |                  | Rank 1   | Rank 2 | Rank 3 | Rank 4 |
| <b>Lower Granite Dam</b>    |          |                     |                |                    |                    |           |                  |  |        |        |        |
|                             | 04/13/04 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
|                             | 04/20/04 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
| <b>Little Goose Dam</b>     |          |                     |                |                    |                    |           |                  |  |        |        |        |
|                             | 04/14/04 | Chinook + Steelhead | 100            | 1                  | 1                  | 1.00%     | 1.00%            | 0  | 0      | 1      | 0      |
|                             | 04/21/04 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
| <b>Lower Monumental Dam</b> |          |                     |                |                    |                    |           |                  |  |        |        |        |
|                             | 04/19/04 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
| <b>McNary Dam</b>           |          |                     |                |                    |                    |           |                  |  |        |        |        |
|                             | 04/20/04 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
|                             | 04/22/04 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
| <b>Bonneville Dam</b>       |          |                     |                |                    |                    |           |                  |  |        |        |        |
|                             | 04/13/04 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
|                             | 04/17/04 | Chinook + Steelhead | 84             | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
|                             | 04/20/04 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
| <b>Rock Island Dam</b>      |          |                     |                |                    |                    |           |                  |  |        |        |        |
|                             | 04/19/04 | Chinook + Steelhead | 84             | 1                  | 1                  | 1.19%     | 0.00%            | 1  | 0      | 0      | 0      |
|                             | 04/22/04 | 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> |      |   | <u>24 h</u>     | <u>12 h</u> |      |    | <u>24 h</u>         | <u>12 h</u> |      |    | <u>24 h</u>          | <u>12 h</u> |      |    | <u>24 h</u>         | <u>12 h</u> |      |    |
|      | Avg                   | Avg         | High |   | Avg             | Avg         | High |    | Avg                 | Avg         | High |    | Avg                  | Avg         | High |    | Avg                 | Avg         | High |    |
| 4/9  | ---                   | ---         | ---  | 0 | ---             | ---         | ---  | 0  | ---                 | ---         | ---  | 0  | ---                  | ---         | ---  | 0  | ---                 | ---         | ---  | 0  |
| 4/10 | ---                   | ---         | ---  | 0 | 106             | 107         | 108  | 24 | 105                 | 105         | 106  | 24 | 103                  | 103         | 105  | 24 | 105                 | 106         | 106  | 23 |
| 4/11 | ---                   | ---         | ---  | 0 | 107             | 108         | 109  | 24 | 108                 | 110         | 111  | 24 | 105                  | 107         | 109  | 24 | 106                 | 107         | 107  | 23 |
| 4/12 | ---                   | ---         | ---  | 0 | 107             | 108         | 109  | 24 | 110                 | 111         | 112  | 18 | 106                  | 106         | 108  | 24 | 108                 | 108         | 109  | 16 |
| 4/13 | ---                   | ---         | ---  | 0 | 108             | 109         | 109  | 24 | 110                 | 111         | 112  | 24 | 105                  | 106         | 108  | 24 | 107                 | 107         | 108  | 23 |
| 4/14 | ---                   | ---         | ---  | 0 | 109             | 109         | 110  | 24 | 109                 | 110         | 111  | 24 | 105                  | 105         | 106  | 20 | 107                 | 107         | 107  | 23 |
| 4/15 | ---                   | ---         | ---  | 0 | 109             | 110         | 111  | 24 | 109                 | 110         | 110  | 24 | 105                  | 105         | 106  | 24 | 107                 | 108         | 108  | 23 |
| 4/16 | ---                   | ---         | ---  | 0 | 109             | 110         | 110  | 24 | 109                 | 109         | 109  | 24 | 104                  | 104         | 105  | 24 | 107                 | 107         | 107  | 23 |
| 4/17 | ---                   | ---         | ---  | 0 | 110             | 110         | 111  | 24 | 108                 | 108         | 109  | 24 | 104                  | 105         | 105  | 24 | 106                 | 106         | 107  | 23 |
| 4/18 | ---                   | ---         | ---  | 0 | 108             | 108         | 109  | 24 | 107                 | 108         | 108  | 24 | 104                  | 105         | 106  | 24 | 106                 | 107         | 109  | 23 |
| 4/19 | ---                   | ---         | ---  | 0 | 108             | 109         | 109  | 24 | 108                 | 108         | 109  | 24 | 104                  | 104         | 105  | 24 | 106                 | 106         | 106  | 23 |
| 4/20 | ---                   | ---         | ---  | 0 | 107             | 108         | 108  | 24 | 108                 | 108         | 109  | 24 | 104                  | 104         | 106  | 24 | 106                 | 106         | 106  | 23 |
| 4/21 | ---                   | ---         | ---  | 0 | 107             | 108         | 108  | 24 | 107                 | 107         | 108  | 24 | 104                  | 104         | 107  | 24 | 105                 | 106         | 106  | 24 |
| 4/22 | ---                   | ---         | ---  | 0 | 107             | 108         | 108  | 24 | 106                 | 106         | 107  | 24 | 103                  | 104         | 105  | 24 | 104                 | 104         | 105  | 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> |      |    | <u>24 h</u>  | <u>12 h</u> |      |    | <u>24 h</u>          | <u>12 h</u> |      |    | <u>24 h</u>        | <u>12 h</u> |      |    | <u>24 h</u>          | <u>12 h</u> |      |    |
|      | Avg                  | Avg         | High |    | Avg          | Avg         | High |    | Avg                  | Avg         | High |    | Avg                | Avg         | High |    | Avg                  | Avg         | High |    |
| 4/9  | ---                  | ---         | ---  | 0  | ---          | ---         | ---  | 0  | ---                  | ---         | ---  | 0  | ---                | ---         | ---  | 0  | ---                  | ---         | ---  | 0  |
| 4/10 | 106                  | 107         | 108  | 23 | 107          | 108         | 109  | 24 | 106                  | 108         | 110  | 24 | ---                | ---         | ---  | 0  | ---                  | ---         | ---  | 0  |
| 4/11 | 106                  | 108         | 109  | 23 | 109          | 111         | 113  | 24 | 108                  | 110         | 111  | 24 | ---                | ---         | ---  | 0  | ---                  | ---         | ---  | 0  |
| 4/12 | 107                  | 107         | 108  | 16 | 109          | 109         | 110  | 24 | 111                  | 112         | 114  | 24 | ---                | ---         | ---  | 0  | ---                  | ---         | ---  | 0  |
| 4/13 | 108                  | 109         | 109  | 23 | 108          | 109         | 109  | 24 | 110                  | 111         | 111  | 24 | 116                | 116         | 117  | 14 | 116                  | 116         | 116  | 14 |
| 4/14 | 108                  | 108         | 109  | 23 | 108          | 108         | 108  | 24 | 110                  | 110         | 111  | 24 | 117                | 117         | 117  | 24 | 117                  | 117         | 117  | 24 |
| 4/15 | 108                  | 109         | 110  | 23 | 107          | 107         | 108  | 24 | 109                  | 109         | 110  | 24 | 116                | 116         | 117  | 24 | 116                  | 116         | 116  | 24 |
| 4/16 | 107                  | 108         | 109  | 23 | 107          | 107         | 108  | 24 | 109                  | 110         | 110  | 24 | 115                | 115         | 115  | 24 | 115                  | 115         | 115  | 24 |
| 4/17 | 106                  | 107         | 109  | 23 | 107          | 108         | 108  | 24 | 110                  | 111         | 111  | 24 | 114                | 115         | 115  | 24 | 114                  | 115         | 115  | 24 |
| 4/18 | 107                  | 107         | 108  | 23 | 107          | 107         | 108  | 24 | 110                  | 110         | 111  | 24 | 115                | 115         | 115  | 24 | 115                  | 115         | 115  | 24 |
| 4/19 | 106                  | 106         | 107  | 23 | 107          | 107         | 108  | 24 | 110                  | 111         | 112  | 24 | 116                | 117         | 117  | 24 | 116                  | 116         | 117  | 24 |
| 4/20 | 106                  | 107         | 108  | 23 | 107          | 107         | 107  | 24 | 110                  | 111         | 111  | 24 | 116                | 116         | 117  | 24 | 116                  | 116         | 117  | 24 |
| 4/21 | 105                  | 106         | 106  | 24 | 106          | 106         | 106  | 22 | 109                  | 109         | 110  | 22 | 112                | 114         | 116  | 23 | 112                  | 114         | 116  | 23 |
| 4/22 | 104                  | 105         | 106  | 23 | 105          | 106         | 106  | 24 | 109                  | 109         | 110  | 24 | 108                | 108         | 108  | 24 | 108                  | 108         | 108  | 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> |      |    | <u>24 h</u>         | <u>12 h</u> |      |    | <u>24 h</u>    | <u>12 h</u> |      |    | <u>24 h</u>         | <u>12 h</u> |      |    | <u>24 h</u>          | <u>12 h</u> |      |    |
|      | Avg                | Avg         | High |    | Avg                 | Avg         | High |    | Avg            | Avg         | High |    | Avg                 | Avg         | High |    | Avg                  | Avg         | High |    |
| 4/9  | ---                | ---         | ---  | 0  | ---                 | ---         | ---  | 0  | 107            | 109         | 110  | 23 | 106                 | 106         | 106  | 23 | 106                  | 106         | 108  | 23 |
| 4/10 | 107                | 107         | 107  | 24 | 107                 | 107         | 108  | 24 | ---            | ---         | ---  | 0  | ---                 | ---         | ---  | 0  | ---                  | ---         | ---  | 0  |
| 4/11 | 108                | 108         | 109  | 24 | 108                 | 108         | 109  | 24 | 109            | 110         | 111  | 23 | 108                 | 108         | 109  | 23 | 108                  | 109         | 109  | 23 |
| 4/12 | 108                | 109         | 109  | 24 | 108                 | 109         | 109  | 24 | 111            | 112         | 114  | 23 | 109                 | 109         | 110  | 23 | 109                  | 110         | 111  | 23 |
| 4/13 | 109                | 109         | 110  | 24 | 109                 | 109         | 110  | 24 | 109            | 109         | 110  | 23 | 109                 | 109         | 109  | 23 | 109                  | 110         | 110  | 23 |
| 4/14 | 109                | 109         | 110  | 24 | 109                 | 110         | 110  | 24 | ---            | ---         | ---  | 0  | ---                 | ---         | ---  | 0  | ---                  | ---         | ---  | 0  |
| 4/15 | 109                | 109         | 110  | 24 | 109                 | 110         | 110  | 24 | 108            | 108         | 108  | 23 | 107                 | 108         | 108  | 23 | 107                  | 108         | 108  | 23 |
| 4/16 | 108                | 109         | 109  | 24 | 109                 | 109         | 110  | 24 | 107            | 107         | 108  | 23 | 107                 | 107         | 107  | 23 | 107                  | 107         | 108  | 23 |
| 4/17 | 108                | 108         | 109  | 24 | 114                 | 115         | 117  | 24 | 108            | 108         | 109  | 22 | 107                 | 107         | 108  | 23 | 107                  | 107         | 107  | 23 |
| 4/18 | 108                | 108         | 109  | 24 | 113                 | 114         | 115  | 24 | 108            | 108         | 109  | 23 | 108                 | 108         | 108  | 23 | 107                  | 107         | 107  | 23 |
| 4/19 | 109                | 110         | 111  | 24 | 114                 | 115         | 116  | 24 | 108            | 108         | 109  | 23 | 109                 | 110         | 117  | 23 | 108                  | 108         | 109  | 23 |
| 4/20 | 110                | 110         | 111  | 24 | 114                 | 116         | 116  | 24 | 109            | 110         | 110  | 23 | 116                 | 116         | 118  | 23 | 110                  | 113         | 114  | 23 |
| 4/21 | 109                | 109         | 109  | 24 | 114                 | 115         | 116  | 24 | 109            | 109         | 110  | 23 | 115                 | 116         | 117  | 23 | 113                  | 113         | 114  | 23 |
| 4/22 | 108                | 108         | 109  | 24 | 114                 | 115         | 117  | 24 | 109            | 109         | 110  | 23 | 114                 | 115         | 116  | 23 | 113                  | 113         | 114  | 23 |

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

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

| Date | <u>Priest R. Dnst</u> |             |      | #  | <u>Pasco</u> |             |      | #  | <u>Dworshak</u> |             |      | #  | <u>Clrwtr-Peck</u> |             |      | #  | <u>Anatone</u> |             |      | #  |
|------|-----------------------|-------------|------|----|--------------|-------------|------|----|-----------------|-------------|------|----|--------------------|-------------|------|----|----------------|-------------|------|----|
|      | <u>24 h</u>           | <u>12 h</u> |      |    | <u>24 h</u>  | <u>12 h</u> |      |    | <u>24 h</u>     | <u>12 h</u> |      |    | <u>24 h</u>        | <u>12 h</u> |      |    | <u>24 h</u>    | <u>12 h</u> |      |    |
|      | Avg                   | Avg         | High |    | Avg          | Avg         | High |    | Avg             | Avg         | High |    | Avg                | Avg         | High |    | Avg            | Avg         | High |    |
| 4/9  | 105                   | 105         | 106  | 23 | ---          | ---         | ---  | 0  | ---             | ---         | ---  | 0  | ---                | ---         | ---  | 0  | ---            | ---         | ---  | 0  |
| 4/10 | ---                   | ---         | ---  | 0  | 104          | 105         | 106  | 24 | 104             | 106         | 106  | 24 | 102                | 103         | 104  | 24 | 102            | 103         | 104  | 24 |
| 4/11 | 107                   | 108         | 108  | 23 | 105          | 106         | 107  | 24 | 104             | 105         | 106  | 24 | 102                | 103         | 104  | 24 | 103            | 104         | 105  | 24 |
| 4/12 | 108                   | 109         | 109  | 23 | 107          | 107         | 108  | 18 | 105             | 106         | 107  | 18 | 102                | 103         | 104  | 18 | 103            | 104         | 104  | 18 |
| 4/13 | 108                   | 108         | 109  | 23 | 106          | 107         | 107  | 24 | 105             | 106         | 107  | 24 | 102                | 102         | 103  | 24 | 103            | 103         | 104  | 24 |
| 4/14 | ---                   | ---         | ---  | 0  | 104          | 105         | 105  | 24 | 104             | 105         | 106  | 24 | 101                | 102         | 102  | 24 | 102            | 103         | 104  | 24 |
| 4/15 | 107                   | 107         | 107  | 23 | 102          | 103         | 104  | 24 | 103             | 104         | 104  | 24 | 101                | 101         | 102  | 24 | 102            | 103         | 103  | 23 |
| 4/16 | 106                   | 106         | 107  | 23 | 102          | 103         | 104  | 24 | 98              | 100         | 102  | 24 | 101                | 101         | 102  | 24 | 102            | 103         | 104  | 24 |
| 4/17 | 106                   | 106         | 107  | 23 | 103          | 104         | 104  | 24 | 97              | 98          | 98   | 24 | 100                | 101         | 101  | 24 | 102            | 103         | 104  | 24 |
| 4/18 | 106                   | 106         | 106  | 23 | 103          | 103         | 104  | 24 | 97              | 97          | 97   | 24 | 100                | 100         | 100  | 24 | 102            | 103         | 103  | 24 |
| 4/19 | 107                   | 109         | 117  | 23 | 104          | 107         | 108  | 24 | 97              | 97          | 98   | 24 | 100                | 101         | 101  | 24 | 102            | 103         | 103  | 24 |
| 4/20 | 118                   | 118         | 119  | 23 | 106          | 107         | 110  | 24 | 97              | 97          | 97   | 24 | 100                | 100         | 101  | 24 | 102            | 103         | 104  | 24 |
| 4/21 | 118                   | 118         | 118  | 23 | 111          | 112         | 113  | 24 | 97              | 97          | 98   | 24 | 100                | 101         | 101  | 24 | 102            | 103         | 104  | 24 |
| 4/22 | 117                   | 117         | 118  | 23 | 112          | 113         | 114  | 24 | 96              | 97          | 97   | 21 | 99                 | 100         | 101  | 24 | 102            | 103         | 104  | 20 |

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

| Date | <u>Clrwtr-Lewiston</u> |             |      | #  | <u>Lower Granite</u> |             |      | #  | <u>L. Granite Tlwr</u> |             |      | #  | <u>Little Goose</u> |             |      | #  | <u>L. Goose Tlwr</u> |             |      | #  |
|------|------------------------|-------------|------|----|----------------------|-------------|------|----|------------------------|-------------|------|----|---------------------|-------------|------|----|----------------------|-------------|------|----|
|      | <u>24 h</u>            | <u>12 h</u> |      |    | <u>24 h</u>          | <u>12 h</u> |      |    | <u>24 h</u>            | <u>12 h</u> |      |    | <u>24 h</u>         | <u>12 h</u> |      |    | <u>24 h</u>          | <u>12 h</u> |      |    |
|      | Avg                    | Avg         | High |    | Avg                  | Avg         | High |    | Avg                    | Avg         | High |    | Avg                 | Avg         | High |    | Avg                  | Avg         | High |    |
| 4/9  | ---                    | ---         | ---  | 0  | ---                  | ---         | ---  | 0  | ---                    | ---         | ---  | 0  | ---                 | ---         | ---  | 0  | ---                  | ---         | ---  | 0  |
| 4/10 | 102                    | 104         | 105  | 24 | 105                  | 106         | 108  | 24 | 111                    | 111         | 112  | 24 | 113                 | 115         | 118  | 24 | 115                  | 119         | 119  | 24 |
| 4/11 | 102                    | 104         | 105  | 24 | 105                  | 106         | 108  | 24 | 111                    | 111         | 112  | 24 | 112                 | 113         | 114  | 24 | 115                  | 118         | 119  | 24 |
| 4/12 | 103                    | 104         | 105  | 18 | 106                  | 106         | 108  | 18 | 111                    | 111         | 113  | 18 | 112                 | 112         | 113  | 18 | 114                  | 116         | 119  | 18 |
| 4/13 | 102                    | 103         | 104  | 24 | 104                  | 105         | 105  | 24 | 111                    | 111         | 112  | 24 | 112                 | 112         | 113  | 24 | 115                  | 118         | 119  | 24 |
| 4/14 | 101                    | 103         | 104  | 24 | 104                  | 105         | 106  | 23 | 111                    | 111         | 113  | 23 | 112                 | 112         | 112  | 24 | 114                  | 117         | 117  | 24 |
| 4/15 | 100                    | 100         | 101  | 24 | 104                  | 104         | 105  | 22 | 110                    | 110         | 112  | 22 | 110                 | 111         | 111  | 24 | 114                  | 117         | 118  | 24 |
| 4/16 | 101                    | 102         | 104  | 24 | 102                  | 103         | 104  | 24 | 110                    | 111         | 111  | 24 | 109                 | 109         | 109  | 24 | 114                  | 118         | 119  | 24 |
| 4/17 | 101                    | 102         | 103  | 24 | 102                  | 102         | 102  | 24 | 111                    | 111         | 112  | 24 | 108                 | 108         | 108  | 24 | 113                  | 117         | 120  | 24 |
| 4/18 | 100                    | 101         | 102  | 24 | 102                  | 102         | 103  | 24 | 110                    | 111         | 112  | 24 | 107                 | 107         | 108  | 24 | 113                  | 118         | 120  | 24 |
| 4/19 | 101                    | 102         | 103  | 24 | 103                  | 103         | 105  | 24 | 111                    | 112         | 113  | 24 | 108                 | 108         | 109  | 24 | 113                  | 117         | 120  | 24 |
| 4/20 | 101                    | 102         | 102  | 24 | 103                  | 103         | 103  | 24 | 111                    | 112         | 112  | 24 | 109                 | 109         | 110  | 24 | 113                  | 117         | 119  | 24 |
| 4/21 | 101                    | 102         | 104  | 24 | 102                  | 103         | 103  | 24 | 111                    | 111         | 112  | 24 | 108                 | 108         | 108  | 24 | 111                  | 114         | 120  | 24 |
| 4/22 | 101                    | 102         | 104  | 24 | 102                  | 103         | 105  | 24 | 111                    | 111         | 114  | 24 | 106                 | 106         | 107  | 24 | 112                  | 115         | 118  | 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>24 h</u>         | <u>12 h</u> |      |    | <u>24 h</u>       | <u>12 h</u> |      |    | <u>24 h</u>            | <u>12 h</u> |      |    | <u>24 h</u>          | <u>12 h</u> |      |    |
|      | Avg               | Avg         | High |    | Avg                 | Avg         | High |    | Avg               | Avg         | High |    | Avg                    | Avg         | High |    | Avg                  | Avg         | High |    |
| 4/9  | ---               | ---         | ---  | 0  | ---                 | ---         | ---  | 0  | ---               | ---         | ---  | 0  | ---                    | ---         | ---  | 0  | ---                  | ---         | ---  | 0  |
| 4/10 | 106               | 108         | 110  | 24 | 102                 | 102         | 103  | 23 | 103               | 104         | 105  | 24 | 102                    | 103         | 103  | 24 | 105                  | 107         | 108  | 24 |
| 4/11 | 111               | 113         | 115  | 24 | 104                 | 105         | 106  | 23 | 104               | 105         | 106  | 24 | 103                    | 104         | 104  | 24 | 106                  | 107         | 109  | 24 |
| 4/12 | 115               | 116         | 118  | 18 | 108                 | 110         | 112  | 17 | 104               | 105         | 106  | 18 | 104                    | 105         | 105  | 18 | 109                  | 110         | 112  | 18 |
| 4/13 | 115               | 115         | 116  | 24 | 110                 | 111         | 112  | 24 | 106               | 107         | 108  | 24 | 106                    | 108         | 112  | 24 | 108                  | 110         | 112  | 24 |
| 4/14 | 114               | 115         | 115  | 24 | 111                 | 112         | 114  | 24 | 109               | 110         | 110  | 24 | 113                    | 113         | 115  | 24 | 108                  | 109         | 110  | 24 |
| 4/15 | 113               | 114         | 115  | 24 | 111                 | 112         | 112  | 24 | 111               | 111         | 111  | 24 | 117                    | 119         | 119  | 24 | 106                  | 106         | 108  | 24 |
| 4/16 | 111               | 111         | 112  | 24 | 110                 | 110         | 111  | 24 | 110               | 110         | 110  | 24 | 116                    | 117         | 120  | 24 | 105                  | 106         | 109  | 24 |
| 4/17 | 111               | 112         | 112  | 24 | 109                 | 110         | 110  | 24 | 109               | 110         | 110  | 24 | 113                    | 114         | 118  | 24 | 107                  | 109         | 111  | 24 |
| 4/18 | 110               | 111         | 112  | 24 | 109                 | 109         | 109  | 24 | 109               | 109         | 109  | 24 | 113                    | 113         | 113  | 24 | 106                  | 107         | 109  | 24 |
| 4/19 | 112               | 113         | 114  | 24 | 109                 | 109         | 110  | 24 | 109               | 109         | 109  | 24 | 115                    | 116         | 116  | 24 | 108                  | 110         | 111  | 24 |
| 4/20 | 112               | 113         | 114  | 24 | 109                 | 109         | 110  | 24 | 109               | 109         | 109  | 24 | 114                    | 115         | 116  | 24 | 107                  | 107         | 108  | 24 |
| 4/21 | 110               | 111         | 112  | 24 | 108                 | 108         | 110  | 24 | 108               | 108         | 108  | 24 | 112                    | 113         | 115  | 24 | 106                  | 106         | 107  | 24 |
| 4/22 | 108               | 109         | 109  | 24 | 107                 | 107         | 107  | 24 | 107               | 107         | 107  | 24 | 112                    | 113         | 113  | 24 | 106                  | 107         | 109  | 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>Avg</u>         | <u>Avg</u> | <u>High</u> | <u>hr</u> |                    | <u>Avg</u>  | <u>Avg</u> | <u>High</u> | <u>hr</u>       |     | <u>Avg</u> | <u>Avg</u> | <u>High</u>          | <u>hr</u> |     | <u>Avg</u> | <u>Avg</u>        | <u>High</u> | <u>hr</u> |    |
| 4/9  | ---                | ---        | ---         | 0         | ---                | ---         | ---        | 0           | ---             | --- | ---        | 0          | ---                  | ---       | --- | 0          | ---               | ---         | ---       | 0  |
| 4/10 | 107                | 108        | 109         | 24        | 105                | 106         | 106        | 24          | 107             | 107 | 109        | 23         | 105                  | 105       | 106 | 23         | 105               | 106         | 106       | 23 |
| 4/11 | 108                | 109        | 110         | 24        | 106                | 107         | 107        | 24          | 108             | 109 | 110        | 24         | 107                  | 108       | 109 | 24         | 106               | 107         | 107       | 24 |
| 4/12 | 109                | 109        | 110         | 18        | 110                | 111         | 116        | 18          | 107             | 108 | 108        | 16         | 110                  | 112       | 119 | 18         | 107               | 107         | 108       | 16 |
| 4/13 | 108                | 108        | 109         | 24        | 111                | 114         | 116        | 24          | 107             | 107 | 107        | 23         | 113                  | 118       | 119 | 24         | 107               | 108         | 110       | 23 |
| 4/14 | 107                | 107        | 107         | 24        | 111                | 114         | 116        | 24          | 106             | 107 | 107        | 23         | 112                  | 118       | 119 | 24         | 111               | 112         | 113       | 23 |
| 4/15 | 106                | 106        | 107         | 24        | 111                | 116         | 117        | 24          | 106             | 107 | 107        | 23         | 112                  | 118       | 119 | 24         | 110               | 112         | 113       | 23 |
| 4/16 | 105                | 106        | 108         | 24        | 111                | 117         | 117        | 24          | 106             | 106 | 106        | 23         | 112                  | 118       | 119 | 24         | 109               | 111         | 113       | 23 |
| 4/17 | 105                | 106        | 106         | 24        | 110                | 113         | 116        | 24          | 105             | 106 | 106        | 23         | 112                  | 118       | 118 | 24         | 109               | 111         | 112       | 23 |
| 4/18 | 106                | 107        | 108         | 24        | 110                | 114         | 116        | 24          | 105             | 105 | 105        | 19         | 110                  | 116       | 118 | 24         | 108               | 110         | 113       | 23 |
| 4/19 | 109                | 110        | 112         | 24        | 112                | 115         | 116        | 24          | ---             | --- | ---        | 0          | 112                  | 118       | 119 | 24         | 109               | 111         | 113       | 23 |
| 4/20 | 108                | 109        | 111         | 24        | 112                | 117         | 118        | 24          | 106             | 106 | 106        | 11         | 112                  | 118       | 119 | 24         | 109               | 111         | 114       | 23 |
| 4/21 | 106                | 107        | 107         | 24        | 112                | 117         | 118        | 24          | 106             | 106 | 106        | 23         | 112                  | 118       | 119 | 24         | 109               | 111         | 113       | 23 |
| 4/22 | 106                | 107        | 110         | 24        | 110                | 116         | 117        | 24          | 106             | 106 | 107        | 23         | 111                  | 116       | 119 | 24         | 107               | 108         | 110       | 23 |

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

| Date | <u>The Dalles Dnst</u> |            |             |           | <u>Bonneville</u> |             |            |             | <u>Warrendale</u> |     |            |            | <u>Camas\Washugal</u> |           |     |            |
|------|------------------------|------------|-------------|-----------|-------------------|-------------|------------|-------------|-------------------|-----|------------|------------|-----------------------|-----------|-----|------------|
|      | <u>24 h</u>            |            | <u>12 h</u> |           | #                 | <u>24 h</u> |            | <u>12 h</u> |                   | #   | <u>24h</u> |            | <u>12h</u>            |           | #   |            |
|      | <u>Avg</u>             | <u>Avg</u> | <u>High</u> | <u>hr</u> |                   | <u>Avg</u>  | <u>Avg</u> | <u>High</u> | <u>hr</u>         |     | <u>Avg</u> | <u>Avg</u> | <u>High</u>           | <u>hr</u> |     | <u>Avg</u> |
| 4/9  | ---                    | ---        | ---         | 0         | ---               | ---         | ---        | 0           | ---               | --- | ---        | 0          | ---                   | ---       | --- | 0          |
| 4/10 | 105                    | 106        | 107         | 24        | 104               | 105         | 105        | 23          | 105               | 106 | 106        | 23         | 105                   | 106       | 107 | 24         |
| 4/11 | 106                    | 107        | 108         | 24        | 105               | 106         | 106        | 24          | 106               | 107 | 107        | 24         | 105                   | 107       | 107 | 24         |
| 4/12 | 108                    | 109        | 112         | 17        | 106               | 106         | 107        | 16          | 107               | 107 | 107        | 16         | 107                   | 108       | 109 | 17         |
| 4/13 | 113                    | 113        | 114         | 24        | 106               | 106         | 106        | 23          | 108               | 108 | 109        | 23         | 107                   | 109       | 110 | 24         |
| 4/14 | 114                    | 115        | 116         | 24        | 106               | 107         | 108        | 23          | 109               | 110 | 110        | 23         | 107                   | 108       | 109 | 24         |
| 4/15 | 114                    | 115        | 115         | 24        | 109               | 109         | 110        | 23          | 110               | 110 | 110        | 23         | 107                   | 107       | 109 | 20         |
| 4/16 | 114                    | 115        | 116         | 24        | 111               | 111         | 112        | 23          | 111               | 112 | 112        | 23         | 109                   | 111       | 112 | 24         |
| 4/17 | 114                    | 115        | 116         | 24        | 112               | 112         | 113        | 23          | 112               | 113 | 113        | 23         | 111                   | 113       | 114 | 24         |
| 4/18 | 113                    | 114        | 116         | 24        | 111               | 112         | 113        | 23          | 113               | 114 | 114        | 23         | 111                   | 112       | 113 | 24         |
| 4/19 | 114                    | 115        | 115         | 24        | 112               | 112         | 113        | 23          | 114               | 114 | 114        | 23         | 111                   | 112       | 113 | 24         |
| 4/20 | 114                    | 115        | 116         | 24        | 112               | 112         | 113        | 23          | 113               | 113 | 113        | 23         | 110                   | 111       | 111 | 24         |
| 4/21 | 114                    | 115        | 116         | 24        | 112               | 112         | 113        | 23          | 113               | 113 | 114        | 23         | 111                   | 112       | 113 | 24         |
| 4/22 | 113                    | 113        | 115         | 24        | 111               | 112         | 112        | 23          | 113               | 114 | 115        | 23         | 112                   | 115       | 116 | 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)       |                |
| 04/09/2004                | *      | 18         | 2,194         | 2,083         | 404          | 33         | 12,319         | 321            | 350            | 20           | 648           | 1,650         | 1,734          |
| 04/10/2004                | *      | 6          | ---           | 1,815         | ---          | ---        | 14,650         | 774            | 540            | 7            | ---           | 2,720         | 1,944          |
| 04/11/2004                |        | ---        | ---           | 1,455         | ---          | ---        | 18,774         | 2,323          | 950            | 10           | 1,085         | 4,440         | 2,690          |
| 04/12/2004                | *      | 9          | 535           | 1,037         | 163          | 130        | 28,265         | 939            | 864            | 0            | ---           | 4,443         | 2,542          |
| 04/13/2004                | *      | 8          | 345           | 933           | 124          | 99         | 35,062         | 2,524          | 1,540          | 6            | 2,931         | 3,890         | 5,569          |
| 04/14/2004                | *      | ---        | 480           | 1,066         | 157          | 37         | 35,793         | 6,729          | 3,740          | 4            | ---           | 3,159         | 10,099         |
| 04/15/2004                | *      | ---        | 203           | 2,041         | 544          | 32         | 51,991         | 4,785          | 53,340         | 21           | 3,356         | 2,539         | 14,851         |
| 04/16/2004                | *      | ---        | 564           | 3,787         | 1,261        | 18         | 83,274         | 7,180          | 150,700        | 498          | 16            | 4,192         | 26,998         |
| 04/17/2004                | *      | 1          | ---           | 2,203         | ---          | ---        | 64,178         | 10,404         | 55,821         | 539          | 6,205         | 4,807         | 67,255         |
| 04/18/2004                | *      | 1          | ---           | 932           | ---          | ---        | 70,383         | 12,217         | 64,628         | 98           | ---           | 4,769         | 61,711         |
| 04/19/2004                | *      | 2          | 332           | 361           | 153          | 59         | 73,186         | 33,047         | 26,927         | 83           | 9,436         | 4,292         | 37,690         |
| 04/20/2004                | *      | 5          | 759           | 861           | 103          | 33         | 30,206         | 26,158         | 29,100         | 24           | ---           | 6,464         | 35,471         |
| 04/21/2004                |        | 2          | 253           | 502           | 68           | 59         | 56,186         | 44,194         | 25,300         | 964          | 19,992        | 9,269         | 35,472         |
| 04/22/2004                |        | ---        | 639           | 628           | 82           | 11         | 51,780         | 43,280         | 32,000         | 418          | ---           | 8,198         | 37,018         |
| 04/23/2004                |        | ---        | ---           | ---           | ---          | ---        | 30,928         | ---            | ---            | ---          | ---           | 9,015         | 30,748         |
| <hr/>                     |        |            |               |               |              |            |                |                |                |              |               |               |                |
| <b>Total:</b>             |        | <b>52</b>  | <b>6,304</b>  | <b>19,704</b> | <b>3,059</b> | <b>511</b> | <b>656,975</b> | <b>194,875</b> | <b>445,800</b> | <b>2,692</b> | <b>43,669</b> | <b>73,847</b> | <b>371,792</b> |
| <b># Days:</b>            |        | <b>9</b>   | <b>10</b>     | <b>14</b>     | <b>10</b>    | <b>10</b>  | <b>15</b>      | <b>14</b>      | <b>14</b>      | <b>14</b>    | <b>8</b>      | <b>15</b>     | <b>15</b>      |
| <b>Average:</b>           |        | <b>6</b>   | <b>630</b>    | <b>1,407</b>  | <b>306</b>   | <b>51</b>  | <b>43,798</b>  | <b>13,920</b>  | <b>31,843</b>  | <b>192</b>   | <b>5,459</b>  | <b>4,923</b>  | <b>24,786</b>  |
| <b>YTD</b>                |        | <b>729</b> | <b>27,662</b> | <b>63,670</b> | <b>7,298</b> | <b>795</b> | <b>720,604</b> | <b>197,147</b> | <b>447,158</b> | <b>2,921</b> | <b>45,017</b> | <b>82,837</b> | <b>386,244</b> |

| 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)   |                  |
| 04/09/2004                   | *      | 6         | 0         | 0         | 0         | 1          | 32           | 0          | 0          | 26           | 30         | 0         | 3,155            |
| 04/10/2004                   | *      | 2         | ---       | 0         | ---       | ---        | 0            | 0          | 0          | 56           | ---        | 0         | 6,655            |
| 04/11/2004                   |        | ---       | ---       | 0         | ---       | ---        | 0            | 0          | 10         | 18           | 10         | 0         | 9,246            |
| 04/12/2004                   | *      | 0         | 0         | 0         | 0         | 0          | 99           | 0          | 0          | 75           | ---        | 0         | 7,770            |
| 04/13/2004                   | *      | 0         | 0         | 0         | 1         | 6          | 0            | 0          | 40         | 151          | 30         | 0         | 4,152            |
| 04/14/2004                   | *      | ---       | 0         | 0         | 0         | 3          | 0            | 31         | 20         | 32           | ---        | 0         | 5,944            |
| 04/15/2004                   | *      | ---       | 0         | 0         | 0         | 3          | 710          | 0          | 20         | 113          | 62         | 0         | 2,272            |
| 04/16/2004                   | *      | ---       | 0         | 0         | 0         | 4          | 143          | 29         | 100        | 33           | 0          | 0         | 286,127          |
| 04/17/2004                   | *      | 1         | ---       | 1         | ---       | ---        | 226          | 0          | 149        | 8            | 38         | 0         | 156,561          |
| 04/18/2004                   | *      | 0         | ---       | 0         | ---       | ---        | 236          | 0          | 298        | 53           | ---        | 0         | 28,016           |
| 04/19/2004                   | *      | 0         | 0         | 0         | 0         | 0          | 973          | 319        | 0          | 14           | 282        | 0         | 5,543            |
| 04/20/2004                   | *      | 1         | 0         | 0         | 1         | 2          | 0            | 0          | 0          | 11           | ---        | 0         | 4,736            |
| 04/21/2004                   |        | 4         | 0         | 0         | 0         | 0          | 0            | 72         | 0          | 9            | 205        | 0         | 4,125            |
| 04/22/2004                   |        | ---       | 0         | 0         | 0         | 44         | 0            | 0          | 0          | 3            | ---        | 0         | 4,224            |
| 04/23/2004                   |        | ---       | ---       | ---       | ---       | ---        | 0            | ---        | ---        | ---          | ---        | 20        | 2,598            |
| <hr/>                        |        |           |           |           |           |            |              |            |            |              |            |           |                  |
| <b>Total:</b>                |        | <b>14</b> | <b>0</b>  | <b>1</b>  | <b>2</b>  | <b>63</b>  | <b>2,419</b> | <b>451</b> | <b>637</b> | <b>602</b>   | <b>657</b> | <b>20</b> | <b>531,124</b>   |
| <b># Days:</b>               |        | <b>9</b>  | <b>10</b> | <b>14</b> | <b>10</b> | <b>10</b>  | <b>15</b>    | <b>14</b>  | <b>14</b>  | <b>14</b>    | <b>8</b>   | <b>15</b> | <b>15</b>        |
| <b>Average:</b>              |        | <b>2</b>  | <b>0</b>  | <b>0</b>  | <b>0</b>  | <b>6</b>   | <b>161</b>   | <b>32</b>  | <b>46</b>  | <b>43</b>    | <b>82</b>  | <b>1</b>  | <b>35,408</b>    |
| <b>YTD</b>                   |        | <b>91</b> | <b>0</b>  | <b>19</b> | <b>2</b>  | <b>102</b> | <b>2,610</b> | <b>451</b> | <b>647</b> | <b>1,071</b> | <b>777</b> | <b>30</b> | <b>1,428,785</b> |

\* 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)        |
| 04/09/2004      | *      | 0        | 0         | 0         | 0         | 0            | 0            | 0          | 0          | 0          | 0          | 787            |
| 04/10/2004      | *      | 0        | ---       | 0         | ---       | 97           | 0            | 0          | 0          | ---        | 20         | 1,390          |
| 04/11/2004      |        | ---      | ---       | 0         | ---       | 32           | 0            | 10         | 0          | 15         | 50         | 3,769          |
| 04/12/2004      | *      | 0        | 0         | 0         | 0         | 99           | 0            | 0          | 0          | ---        | 0          | 3,321          |
| 04/13/2004      | *      | 0        | 0         | 0         | 0         | 160          | 0            | 0          | 0          | 30         | 19         | 6,719          |
| 04/14/2004      | *      | ---      | 0         | 0         | 0         | 302          | 0            | 0          | 0          | ---        | 0          | 9,955          |
| 04/15/2004      | *      | ---      | 0         | 0         | 0         | 284          | 0            | 20         | 0          | 39         | 14         | 18,111         |
| 04/16/2004      | *      | ---      | 0         | 0         | 0         | 714          | 0            | 0          | 2          | 0          | 14         | 19,365         |
| 04/17/2004      | *      | 0        | ---       | 0         | ---       | 0            | 0            | 0          | 1          | 166        | 27         | 18,008         |
| 04/18/2004      | *      | 0        | ---       | 0         | ---       | 709          | 0            | 0          | 0          | ---        | 27         | 9,465          |
| 04/19/2004      | *      | 0        | 0         | 0         | 0         | 243          | 0            | 0          | 0          | 122        | 14         | 6,466          |
| 04/20/2004      | *      | 0        | 0         | 0         | 0         | 0            | 0            | 0          | 0          | ---        | 55         | 13,093         |
| 04/21/2004      |        | 0        | 0         | 0         | 0         | 0            | 0            | 100        | 1          | 219        | 69         | 14,757         |
| 04/22/2004      |        | ---      | 0         | 0         | 0         | 265          | 0            | 100        | 4          | ---        | 101        | 19,009         |
| 04/23/2004      |        | ---      | ---       | ---       | ---       | 251          | ---          | ---        | ---        | ---        | 259        | 23,385         |
| <hr/>           |        |          |           |           |           |              |              |            |            |            |            |                |
| <b>Total:</b>   |        | <b>0</b> | <b>0</b>  | <b>0</b>  | <b>0</b>  | <b>3,156</b> | <b>0</b>     | <b>230</b> | <b>8</b>   | <b>591</b> | <b>669</b> | <b>167,600</b> |
| <b># Days:</b>  |        | <b>9</b> | <b>10</b> | <b>14</b> | <b>10</b> | <b>10</b>    | <b>15</b>    | <b>14</b>  | <b>14</b>  | <b>8</b>   | <b>15</b>  | <b>15</b>      |
| <b>Average:</b> |        | <b>0</b> | <b>0</b>  | <b>0</b>  | <b>0</b>  | <b>210</b>   | <b>0</b>     | <b>16</b>  | <b>1</b>   | <b>74</b>  | <b>45</b>  | <b>11,173</b>  |
| <b>YTD</b>      |        | <b>0</b> | <b>0</b>  | <b>0</b>  | <b>0</b>  | <b>9</b>     | <b>3,419</b> | <b>0</b>   | <b>230</b> | <b>8</b>   | <b>596</b> | <b>170,562</b> |

| 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)       |               |
| 04/09/2004         | *      | 19         | 16         | 35            | 3          | 69           | 2,316          | 596           | 210           | 1          | 170          | 270           | 272           |
| 04/10/2004         | *      | 13         | ---        | 32            | ---        | ---          | 2,241          | 1,174         | 366           | 1          | ---          | 440           | 311           |
| 04/11/2004         |        | ---        | ---        | 28            | ---        | ---          | 2,705          | 1,722         | 770           | 8          | 115          | 690           | 473           |
| 04/12/2004         | *      | 27         | 52         | 38            | 0          | 39           | 6,135          | 677           | 816           | 4          | ---          | 529           | 724           |
| 04/13/2004         | *      | 30         | 75         | 703           | 0          | 53           | 7,061          | 878           | 920           | 6          | 372          | 754           | 1,817         |
| 04/14/2004         | *      | ---        | 40         | 4,795         | 6          | 43           | 11,547         | 4,621         | 1,580         | 3          | ---          | 353           | 1,470         |
| 04/15/2004         | *      | ---        | 64         | 1,672         | 73         | 32           | 16,620         | 4,302         | 3,660         | 41         | 496          | 268           | 1,120         |
| 04/16/2004         | *      | ---        | 88         | 1,170         | 170        | 40           | 21,621         | 8,248         | 4,000         | 83         | 0            | 516           | 1,506         |
| 04/17/2004         | *      | 3          | ---        | 546           | ---        | ---          | 18,984         | 10,816        | 4,776         | 27         | 868          | 591           | 1,470         |
| 04/18/2004         | *      | 3          | ---        | 163           | ---        | ---          | 16,533         | 9,502         | 5,523         | 21         | ---          | 619           | 568           |
| 04/19/2004         | *      | 3          | 19         | 82            | 2          | 129          | 27,475         | 15,832        | 4,517         | 39         | 2,117        | 519           | 554           |
| 04/20/2004         | *      | 2          | 50         | 119           | 6          | 291          | 26,988         | 4,030         | 3,600         | 51         | ---          | 664           | 836           |
| 04/21/2004         |        | 2          | 34         | 121           | 70         | 125          | 23,184         | 4,640         | 4,900         | 62         | 4,975        | 1,025         | 642           |
| 04/22/2004         |        | ---        | 71         | 159           | 8          | 173          | 23,633         | 1,981         | 3,800         | 51         | ---          | 1,290         | 778           |
| 04/23/2004         |        | ---        | ---        | ---           | ---        | ---          | 9,555          | ---           | ---           | ---        | ---          | 1,592         | 541           |
| <hr/>              |        |            |            |               |            |              |                |               |               |            |              |               |               |
| <b>Total:</b>      |        | <b>102</b> | <b>509</b> | <b>9,663</b>  | <b>338</b> | <b>994</b>   | <b>216,598</b> | <b>69,019</b> | <b>39,438</b> | <b>398</b> | <b>9,113</b> | <b>10,120</b> | <b>13,082</b> |
| <b># Days:</b>     |        | <b>9</b>   | <b>10</b>  | <b>14</b>     | <b>10</b>  | <b>10</b>    | <b>15</b>      | <b>14</b>     | <b>14</b>     | <b>14</b>  | <b>8</b>     | <b>15</b>     | <b>15</b>     |
| <b>Average:</b>    |        | <b>11</b>  | <b>51</b>  | <b>690</b>    | <b>34</b>  | <b>99</b>    | <b>14,440</b>  | <b>4,930</b>  | <b>2,817</b>  | <b>28</b>  | <b>1,139</b> | <b>675</b>    | <b>872</b>    |
| <b>YTD</b>         |        | <b>118</b> | <b>618</b> | <b>10,036</b> | <b>357</b> | <b>1,120</b> | <b>236,350</b> | <b>70,613</b> | <b>40,044</b> | <b>404</b> | <b>9,508</b> | <b>11,190</b> | <b>15,611</b> |

\* See sampling comments

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

## Two-Week Summary of Passage Indices

| Date            | COMBINED SOCKEYE |               |               |               |               |                |                |                |                |                |                |                |            |
|-----------------|------------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------|
|                 | ENT<br>(Coll)    | WTB<br>(Coll) | IMN<br>(Coll) | GRN<br>(Coll) | LEW<br>(Coll) | LGR<br>(INDEX) | LGS<br>(INDEX) | LMN<br>(INDEX) | RIS<br>(INDEX) | MCN<br>(INDEX) | JDA<br>(INDEX) | BO2<br>(INDEX) |            |
| 04/09/2004      | *                | 0             | 0             | 0             | 0             | 1              | 0              | 6              | 5              | 16             | 25             | 10             | 6          |
| 04/10/2004      | *                | 0             | ---           | 0             | ---           | ---            | 0              | 7              | 6              | 16             | ---            | 0              | 0          |
| 04/11/2004      |                  | ---           | ---           | 0             | ---           | ---            | 32             | 0              | 10             | 39             | 10             | 10             | 6          |
| 04/12/2004      | *                | 0             | 0             | 0             | 0             | 1              | 0              | 0              | 0              | 0              | ---            | 0              | 26         |
| 04/13/2004      | *                | 0             | 0             | 0             | 0             | 0              | 0              | 9              | 0              | 152            | 15             | 0              | 0          |
| 04/14/2004      | *                | ---           | 0             | 0             | 0             | 0              | 0              | 0              | 20             | 260            | ---            | 0              | 0          |
| 04/15/2004      | *                | ---           | 0             | 0             | 0             | 0              | 142            | 0              | 40             | 105            | 8              | 0              | 33         |
| 04/16/2004      | *                | ---           | 0             | 0             | 0             | 0              | 0              | 0              | 0              | 98             | 0              | 14             | 0          |
| 04/17/2004      | *                | 0             | ---           | 0             | ---           | ---            | 0              | 0              | 0              | 112            | 30             | 0              | 0          |
| 04/18/2004      | *                | 0             | ---           | 0             | ---           | ---            | 0              | 0              | 0              | 144            | ---            | 0              | 0          |
| 04/19/2004      | *                | 0             | 0             | 0             | 0             | 0              | 0              | 0              | 0              | 697            | 49             | 0              | 0          |
| 04/20/2004      | *                | 0             | 0             | 0             | 0             | 0              | 0              | 0              | 0              | 648            | ---            | 0              | 0          |
| 04/21/2004      |                  | 0             | 0             | 0             | 0             | 0              | 0              | 0              | 0              | 45             | 188            | 14             | 0          |
| 04/22/2004      |                  | ---           | 0             | 0             | 0             | 0              | 0              | 0              | 0              | 40             | ---            | 0              | 0          |
| 04/23/2004      |                  | ---           | ---           | ---           | ---           | ---            | 0              | ---            | ---            | ---            | ---            | 0              | 0          |
| <hr/>           |                  |               |               |               |               |                |                |                |                |                |                |                |            |
| <b>Total:</b>   |                  | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>2</b>       | <b>174</b>     | <b>22</b>      | <b>81</b>      | <b>2,372</b>   | <b>325</b>     | <b>48</b>      | <b>71</b>  |
| <b># Days:</b>  |                  | <b>9</b>      | <b>10</b>     | <b>14</b>     | <b>10</b>     | <b>10</b>      | <b>15</b>      | <b>14</b>      | <b>14</b>      | <b>14</b>      | <b>8</b>       | <b>15</b>      | <b>15</b>  |
| <b>Average:</b> |                  | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>       | <b>12</b>      | <b>2</b>       | <b>6</b>       | <b>169</b>     | <b>41</b>      | <b>3</b>       | <b>5</b>   |
| <b>YTD</b>      |                  | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>2</b>       | <b>445</b>     | <b>24</b>      | <b>81</b>      | <b>2,391</b>   | <b>460</b>     | <b>48</b>      | <b>139</b> |

\* See sampling comments

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

Smolt indices, clipped & unclipped or combined, are presented in the following order: yearling chinook (chinook 1's), subyearling chinook (chinook 0's), steelhead, coho, and sockeye. Two classes of fish counts are shown in these tables: collection counts, which account for sample rates but are not adjusted for flow; and passage indices, which are collection counts divided by the proportion of water passing through the sampled powerhouse. Passage indices are not population estimates, but are used to adjust collection counts for daily fluctuations in the site's or project's operations. The classes of counts presented in the report are defined below for each site. Most samples occur over a 24-hr period that spans two calendar days. In this report, the date shown corresponds with the sample end date.

### 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:

4/23/04 10:53 AM

|                                      |                                | 04/10/04 | TO        | 04/23/04 |     |         |             |
|--------------------------------------|--------------------------------|----------|-----------|----------|-----|---------|-------------|
|                                      |                                | Species  |           |          |     |         |             |
| Site                                 | Data                           | CH0      | CH1       | CO       | SO  | ST      | Grand Total |
| <b>LGR</b>                           | Sum of NumberCollected         | 1,575    | 416,520   | 2,035    | 120 | 135,837 | 556,087     |
|                                      | Sum of NumberBarged            | 1,567    | 412,978   | 2,035    | 120 | 132,162 | 548,862     |
|                                      | Sum of NumberBypassed          | 0        | 2,853     | 0        | 0   | 3,649   | 6,502       |
|                                      | Sum of Numbertrucked           | 0        | 0         | 0        | 0   | 0       | 0           |
|                                      | Sum of TotalProjectMortalities | 8        | 689       | 0        | 0   | 24      | 721         |
| <b>LGS</b>                           | Sum of NumberCollected         | 290      | 123,793   |          | 13  | 43,899  | 167,995     |
|                                      | Sum of NumberBarged            | 284      | 123,789   |          | 13  | 43,887  | 167,973     |
|                                      | Sum of NumberBypassed          | 0        | 0         |          | 0   | 0       | 0           |
|                                      | Sum of Numbertrucked           | 0        | 0         |          | 0   | 0       | 0           |
|                                      | Sum of TotalProjectMortalities | 6        | 72        |          | 0   | 14      | 92          |
| <b>LMN</b>                           | Sum of NumberCollected         | 637      | 445,800   | 230      | 81  | 39,438  | 486,186     |
|                                      | Sum of NumberBarged            | 637      | 445,092   | 230      | 81  | 39,247  | 485,287     |
|                                      | Sum of NumberBypassed          | 0        | 105       | 0        | 0   | 95      | 200         |
|                                      | Sum of Numbertrucked           | 0        | 0         | 0        | 0   | 0       | 0           |
|                                      | Sum of TotalProjectMortalities | 0        | 603       | 0        | 0   | 96      | 699         |
| <b>MCN</b>                           | Sum of NumberCollected         | 440      | 28,878    | 390      | 222 | 5,985   | 35,915      |
|                                      | Sum of NumberBarged            | 0        | 0         | 0        | 0   | 0       | 0           |
|                                      | Sum of NumberBypassed          | 436      | 28,817    | 390      | 222 | 5,974   | 35,839      |
|                                      | Sum of Numbertrucked           | 0        | 0         | 0        | 0   | 0       | 0           |
|                                      | Sum of TotalProjectMortalities | 4        | 53        | 0        | 0   | 11      | 68          |
| Total Sum of NumberCollected         |                                | 2,942    | 1,014,991 | 2,655    | 436 | 225,159 | 1,246,183   |
| Total Sum of NumberBarged            |                                | 2,488    | 981,859   | 2,265    | 214 | 215,296 | 1,202,122   |
| Total Sum of NumberBypassed          |                                | 436      | 31,775    | 390      | 222 | 9,718   | 42,541      |
| Total Sum of Numbertrucked           |                                | 0        | 0         | 0        | 0   | 0       | 0           |
| Total Sum of TotalProjectMortalities |                                | 18       | 1,417     | 0        | 0   | 145     | 1,580       |

### YTD Transportation Summary

Source: Fish Passage Center

Updated:

4/23/04 10:53 AM

TO: 04/23/04

|                                      |                                | Species |           |       |     |         |             |
|--------------------------------------|--------------------------------|---------|-----------|-------|-----|---------|-------------|
| Site                                 | Data                           | CH0     | CH1       | CO    | SO  | ST      | Grand Total |
| <b>LGR</b>                           | Sum of NumberCollected         | 1,705   | 460,790   | 2,255 | 310 | 151,357 | 616,417     |
|                                      | Sum of NumberBarged            | 1,567   | 412,978   | 2,035 | 120 | 132,162 | 548,862     |
|                                      | Sum of NumberBypassed          | 0       | 2,853     | 0     | 0   | 3,649   | 6,502       |
|                                      | Sum of NumberTrucked           | 129     | 43,991    | 220   | 181 | 15,496  | 60,017      |
|                                      | Sum of TotalProjectMortalities | 9       | 968       | 0     | 9   | 48      | 1,034       |
| <b>LGS</b>                           | Sum of NumberCollected         | 290     | 125,895   |       | 15  | 45,233  | 171,433     |
|                                      | Sum of NumberBarged            | 284     | 123,789   |       | 13  | 43,887  | 167,973     |
|                                      | Sum of NumberBypassed          | 0       | 0         |       | 0   | 0       | 0           |
|                                      | Sum of NumberTrucked           | 0       | 2,096     |       | 2   | 1,333   | 3,431       |
|                                      | Sum of TotalProjectMortalities | 6       | 77        |       | 0   | 15      | 98          |
| <b>LMN</b>                           | Sum of NumberCollected         | 647     | 447,158   | 230   | 81  | 40,044  | 488,160     |
|                                      | Sum of NumberBarged            | 637     | 445,092   | 230   | 81  | 39,247  | 485,287     |
|                                      | Sum of NumberBypassed          | 0       | 105       | 0     | 0   | 95      | 200         |
|                                      | Sum of NumberTrucked           | 10      | 1,352     | 0     | 0   | 604     | 1,966       |
|                                      | Sum of TotalProjectMortalities | 0       | 609       | 0     | 0   | 98      | 707         |
| <b>MCN</b>                           | Sum of NumberCollected         | 560     | 30,225    | 395   | 357 | 6,380   | 37,917      |
|                                      | Sum of NumberBarged            | 0       | 0         | 0     | 0   | 0       | 0           |
|                                      | Sum of NumberBypassed          | 556     | 30,158    | 395   | 357 | 6,369   | 37,835      |
|                                      | Sum of NumberTrucked           | 0       | 0         | 0     | 0   | 0       | 0           |
|                                      | Sum of TotalProjectMortalities | 4       | 59        | 0     | 0   | 11      | 74          |
| Total Sum of NumberCollected         |                                | 3,202   | 1,064,068 | 2,880 | 763 | 243,014 | 1,313,927   |
| Total Sum of NumberBarged            |                                | 2,488   | 981,859   | 2,265 | 214 | 215,296 | 1,202,122   |
| Total Sum of NumberBypassed          |                                | 556     | 33,116    | 395   | 357 | 10,113  | 44,537      |
| Total Sum of NumberTrucked           |                                | 139     | 47,439    | 220   | 183 | 17,433  | 65,414      |
| Total Sum of TotalProjectMortalities |                                | 19      | 1,713     | 0     | 9   | 172     | 1,913       |

**Cumulative Adult Passage at Mainstem Dams Through: 04/22**

| 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 | 75,684         | 262  | 109,013 | 666  | 60,410     | 400  | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| TDA | 40,978         | 160  | 65,878  | 182  | 33,368     | 150  | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| JDA | 26,852         | 61   | 48,233  | 99   | 22,913     | 61   | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| MCN | 13,231         | 33   | 43,585  | 169  | 16,123     | 50   | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| IHR | 7,829          | 21   | 34,510  | 70   | 9,810      | 17   | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| LMN | 4,873          | 3    | 24,295  | 47   | 7,150      | 11   | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| LGS | 3,060          | 2    | 20,679  | 69   | 5,236      | 33   | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| LWG | 1,851          | 5    | 14,502  | 16   | 4,269      | 3    | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| PRD | 98             | 0    | 5,252   | 0    | 1,117      | 0    | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| RIS | 8              | 0    | 2,427   | 18   | 288        | 0    | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| RRH | 1              | 0    | 221     | 0    | 21         | 0    | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |
| WEL | 0              | 0    | 0       | 0    | 0          | 0    | 0              | 0    | 0     | 0    | 0          | 0    | 0            | 0    | 0     | 0    | 0          | 0    |

| DAM | Coho  |      |       |      |            |      | Sockeye    |      |      | Steelhead |        |       |       |
|-----|-------|------|-------|------|------------|------|------------|------|------|-----------|--------|-------|-------|
|     | 2004  |      | 2003  |      | 10-Yr Avg. |      | 10-Yr Avg. |      |      | 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    | 2,676     | 2,359  | 1,941 | 695   |
| TDA | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 909       | 744    | 733   | 448   |
| JDA | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 1,258     | 1,272  | 2,420 | 705   |
| MCN | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 959       | 1,263  | 1,332 | 445   |
| IHR | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 1,616     | 1,458  | 1,504 | 688   |
| LMN | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 1,361     | 1,760  | 1,585 | 707   |
| LGS | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 1,406     | 1,850  | 1,545 | 734   |
| LWG | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 6,963     | 15,445 | 5,579 | 2,363 |
| PRD | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 2         | 3      | 1     | 0     |
| RIS | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 14        | 12     | 8     | 0     |
| RRH | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 45        | 30     | 26    | 0     |
| WEL | 0     | 0    | 0     | 0    | 0          | 0    | 0          | 0    | 0    | 0         | 0      | 0     | 0     |

PRD, RIS, RRH are through 04/21.

MCN is missing 04/11; LGS is missing 04/09, 04/13 and 04/14.

\*\*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: 04/23/04

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

| Chinook Adult | Chinook Jack | Steelhead | Wild Steelhead |
|---------------|--------------|-----------|----------------|
| 156           | 0            | 1,489     | 238            |

