



Fish Passage Center

Weekly Report #00 - 5

April 7, 2000

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SUMMARY OF EVENTS:

Water Supply: There have been no significant changes in the water supply forecast this week.

Reservoir Operations: Reservoirs continue to be operated for flood control through the end of April. The new end of April flood control elevations have not been issued yet, pending the April Final Runoff Volume Forecast. A summary of actual elevations on March 31, actual elevations on April 6, and required flood control elevations at the end of March is shown in the following Table.

| Reservoir | Actual Elev. 3/31/00 in [ft] | Required End of March Flood Control Elevation in [ft] | Actual Elev. 4/5/00 in [ft] |
|---------------------|------------------------------|---|-----------------------------|
| <i>Libby</i> | 2337.0 | 2331.3 | 2337.9 |
| <i>Hungry Horse</i> | 3502.1 | 3516.5 | 3501.9 |
| <i>Grand Coulee</i> | 1263.1 | 1272.0-1265.1* | 1261.6 |
| <i>Brownlee</i> | 2050.5 | 2053.1-2077.0* | 2051.3 |
| <i>Dworshak</i> | 1522.2 | 1512.2-1526.8* | 1523.4 |

Libby reservoir continues to refill in order to meet the 95 BiOp and the sturgeon BiOp, which includes refill to full pool elevation by June 30 and sturgeon pulse. The reservoir is at minimum outflow of 4 kcfs.

Hungry Horse is drafted below the required end of March flood control elevation for power generation purposes. This operation resulted in 284.4 KAF less water for early April flows in the mid Columbia.

Current outflows are 2.4 kcfs, and the reservoir is in refill to an April 10 BiOp required elevation.

Grand Coulee was drafted for power generation purposes below flood control elevations during the fall/winter period. Instead of being in refill through the end of March required flood control elevation, the reservoir space was used for partial flood control shift from Dworshak reservoir. Current outflows were in the 74.9 kcfs to 110.9 kcfs range between March 31-April 5.

Brownlee was drafted 2.6 ft below the required end of March flood control elevation for power generation purposes. Current outflows below Hells Canyon Dam are in the range of 26.3 kcfs to 30 kcfs for the period of March 31-April 5.

Dworshak is being operated for flood control operations through the end of March. The reservoir was 10 ft above the required end of March flood control elevation due to available space at Grand Coulee. Outflows for flood control operations gradually increased from 4 kcfs on April 2 to 14.8 kcfs on April 5. Outflow is limited by Idaho State Total Dissolved Gas standards.

Spill: Spill was initiated at Dworshak Dam on April 5th as the project increased outflow to achieve its end of April flood control elevation. The outflow was initially increased to 13.8 Kcfs and then was again increased an additional 2

Kcfs to provide the maximum outflow while not exceeding the 110% total dissolved gas standard.

The Lyons Ferry Hatchery released chinook from both the hatchery (450,000) and the Tucannon River (128,000) release sites. These fish were observed at Lower Monumental Dam in substantial numbers. Included in these fish are listed spring chinook from the Tucannon River and yearling fall chinook from Lyons Ferry that are to serve as broodstock for this ESU. Consequently, spill for fish passage was initiated at Lower Monumental and Ice Harbor dams, beginning the evening of April 4th. Pending resolution of the 2000 Spill negotiations, spill was requested as described in the 1998 Supplemental Biological Opinion. Spill to the gas cap was requested at Lower Monumental Dam from 1800 to 0600 daily. At Ice Harbor Dam, the request was to spill to the gas cap during nighttime hours (1800-0600) and to 45 Kcfs during daytime hours.

Some involuntary spill has occurred at McNary Dam over the past few days, but no other lower Columbia Project is spilling water. With the exception of a small amount of spill at Wanapum Dam, no spill occurred in the Mid Columbia over the past week.

Total dissolved gas exemptions to 120% are now in place from the states of Oregon and Washington through August 31, 2000. The gas levels have not exceeded the standards or waiver limits over the past week.

Special Note on reported GBT data: Fish Passage Center is reporting the data collected on April 4 from Lower Granite as received from the site, however, FPC urges caution in interpreting these results. This is the first sample of the season with a new crew. The present numbers show a higher incidence of lateral line signs than would be expected, given the forebay total dissolved gas levels and because there was no spill occurring up-river when fish were collected. Interpretation of the data is further limited by small sample size, well below the program target of 100 fish per species. FPC will be on site for the next sample to assure the accuracy of the data.

Smolt Monitoring Program: Yearling chinook collections at the Salmon River trap (WTB) increased into the thousands again on April 5 and 6. Most marked yearling chinook passing the Salmon River trap this week were hatchery fish from Rapid River Hatchery (PIT tags) and McCall Hatchery's outplants into Johnson Creek (elastomer marks) and wild fish from the South Fork Salmon River drainage. Yearling chinook collections have dropped substantially from last week's highs at the Imnaha River trap (IMN) – the bulk of the Imnaha Acclimation Pond release appears to be in the mainstem Snake River now. Grande Ronde River trap (GRN) collections of both yearling chinook and steelhead (including freeze branded Cottonwood Acclimation Pond steelhead) increased the past several days as flows rose sharply in the Grande Ronde River. Lower Granite Dam yearling chinook and steelhead passage indices increased greatly on April 6 as flows jumped 20 kcfs. Throughout this week large numbers of yearling chinook were collected at Lower Monumental Dam. Most of these fish are from Lyons Ferry Hatchery's outplants of spring chinook in the Tucannon River and its on-site releases of yearling fall chinook (elastomer marks).

In the mid-Columbia River, collections at Rock Island Dam had more subyearling chinook than any other salmonid. In the lower Columbia River, the numbers of yearling chinook collected each day this week increased rapidly at both McNary and John Day dams. This week's marked yearling chinook in the lower Columbia River included Lyons Ferry Hatchery yearling fall chinook (elastomer marks) at both McNary and John Day dams and Umatilla River drainage spring chinook (PIT tags) at both John Day and Bonneville dams. Problems were experienced this week with the rotational sampling gate at Bonneville Dam Powerhouse 2, thus impacting the resulting passage indices on the last two days of this week.

Adult Fish Passage: Most adult fish ladders were operating at full criteria through the week. Adult fish trapping and sampling facilities are presently operating at Bonneville and Lower Granite dams with the sampling program at Wells Dam scheduled to begin operation in May.

Passage of adult chinook at Bonneville Dam was strong through the week (3/31-4/6) with daily counts ranging between 330 and 2,833. The cumulative count through April 6 was 12,580, already 20 and 4.9 times greater than the respective 1999 count and 10-year average. The adult run appears to be passing upstream projects satisfactorily with The Dalles reporting about 3,000, John Day, 1,100, and McNary near 200 adult fish. Adult and jack chinook were counted at Lower Granite during the past week. Note that the Mid-Columbia projects will not start counting until April 15 and May 1 at Wells Dam. Another interesting aspect of this year's spring chinook run is the high number of jack chinook that have been counted at Bonneville (79) and The Dalles (42) dams to date. The 10-year average jack count is 9 and 2, respectively for Bonneville and The Dalles. Although early in the passage season, the adult spring chinook run appears to be on track to surpass the 134,000 projected count made by the Technical Advisory Committee for Bonneville Dam. Steelhead counts ranged between 35 and 61 for the week with the cumulative count through April 6 of 988, very near the 10-year average of 1,015. Wild steelhead totaled 451 for the season.

At Lower Granite Dam, the steelhead count totaled 1,553 through April 5 with about 21.5% of the steelhead reported as "wild". To date, the 2000 count of steelhead remains well below the 1999 and 10-year average.

Hatchery Releases: *Snake River* – Volitional release of yearling spring chinook continued at Rapid River Hatchery (Salmon R) with about 75% of the total estimated in the river, Imnaha Acclimation Pond (Imnaha R), and Curl Lake Acclimation Pond (Tucannon R). Other volitional releases began from Sawtooth Hatchery (upper Salmon R) and Lostine Acclimation Pond. Direct stream releases of yearling chinook were completed during the week at Dworshak H (Clearwater R), McCall Hatchery (S.F Salmon R), with about ½ of the yearling spring chinook from Kooskia planted on 4/6. Many of the remaining yearling releases of spring, summer, and fall chinook will occur during the upcoming week and the following.

Most steelhead from Snake River basin hatcheries are scheduled for release from mid-

April through mid-May. Volitional release of juvenile steelhead continues or was initiated in the Grande Ronde, Touchet, Salmon River, with direct stream releases below Hells Canyon Dam from Niagara Springs H and into L. Salmon River (Hazard Cr) during the week. Wallowa Acclimation Ponds began their first release groups from that site during the week.

The volitional release of yearling fall chinook (450,000 total) directly from Lyons Ferry H into the Snake River continued with many of these fish now passing McNary Dam and into the John Day pool. The other releases of yearling fall chinook will be during the upcoming week from the Pittsburg Landing, CPT John, and Big Canyon Acclimation ponds.

Mid-Columbia – (above McNary Dam) Yakama Tribal Supplementation Facilities at Clark Flat and Easton continued volitional release of yearling chinook in the upper Yakama River basin. Yearling chinook were released into the Entiat River during this week. Most spring chinook will be released during the next two weeks into the Methow and Wenatchee rivers. Juvenile steelhead and coho salmon will be released in April and May from Mid-Columbia hatcheries. Sockeye were released into Lake Wenatchee and the Okanogan R this past fall (1999) with no spring releases made into either Basin. Yearling summer chinook releases will occur during the upcoming 2 weeks with subyearling summer and fall chinook released from late May to late June.

Lower Columbia - (from above Bonneville Dam to below McNary Dam). Yearling spring chinook releases were completed in the Klickitat R; on going in the Warm Springs R (Deschutes basin). The Hood and Umatilla, and Deschutes rivers will be planted during the next 2 week. The Wind and Little White Salmon R basin hatcheries will begin their releases in 2 weeks.

The Umatilla River will receive the remaining coho in the upcoming two weeks. Approximately 2.5 million coho were released at various sites in the Klickitat River during this week. The next large release of subyearling Tule fall chinook from Spring Creek NFH is scheduled for mid April. Juvenile steelhead, chinook and coho releases will mainly occur in April.

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

| Date | Grand Coulee | | Chief Joseph | | Wells | | Rocky Reach | | Rock Island | | Wanapum | | Priest Rapids | |
|----------|--------------|-------|--------------|-------|-------|-------|-------------|-------|-------------|-------|---------|-------|---------------|-------|
| | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill |
| 03/24/00 | 87.4 | 0.0 | 86.5 | 0.0 | 85.0 | 0.0 | 83.1 | 0.0 | 83.8 | 0.0 | 98.1 | 0.0 | 99.9 | 0.0 |
| 03/25/00 | 66.4 | 0.0 | 69.9 | 0.0 | 73.2 | 0.0 | 82.1 | 0.0 | 78.9 | 0.0 | 71.8 | 0.0 | 74.8 | 0.0 |
| 03/26/00 | 53.8 | 0.0 | 55.3 | 0.0 | 56.1 | 0.0 | 56.2 | 0.0 | 58.1 | 0.0 | 61.8 | 0.0 | 66.2 | 0.0 |
| 03/27/00 | 109.5 | 0.0 | 109.6 | 0.0 | 107.6 | 0.0 | 108.7 | 0.0 | 108.5 | 0.0 | 99.2 | 0.0 | 97.8 | 0.0 |
| 03/28/00 | 105.3 | 0.0 | 107.0 | 0.0 | 111.0 | 0.5 | 116.0 | 0.0 | 117.3 | 0.0 | 116.9 | 0.0 | 121.8 | 0.0 |
| 03/29/00 | 95.5 | 0.0 | 98.0 | 0.0 | 99.6 | 0.0 | 101.7 | 0.0 | 102.5 | 0.0 | 118.6 | 0.0 | 123.4 | 0.0 |
| 03/30/00 | 96.2 | 0.0 | 102.8 | 0.0 | 106.8 | 0.0 | 106.7 | 0.0 | 110.1 | 0.0 | 109.6 | 0.0 | 113.6 | 0.0 |
| 03/31/00 | 86.9 | 0.0 | 86.0 | 0.0 | 86.3 | 0.0 | 85.8 | 0.0 | 88.4 | 0.0 | 107.2 | 0.0 | 111.1 | 0.0 |
| 04/01/00 | 74.9 | 0.0 | 76.7 | 0.0 | 79.4 | 0.0 | 82.0 | 0.0 | 83.3 | 0.0 | 73.9 | 0.0 | 77.9 | 0.0 |
| 04/02/00 | 81.6 | 0.0 | 81.1 | 0.0 | 81.6 | 0.0 | 83.1 | 0.0 | 84.5 | 0.0 | 84.1 | 0.0 | 88.4 | 0.0 |
| 04/03/00 | 110.9 | 0.0 | 115.6 | 0.0 | 118.0 | 0.0 | 125.7 | 0.0 | 127.1 | 0.0 | 113.4 | 3.0 | 112.0 | 0.0 |
| 04/04/00 | 103.9 | 0.0 | 104.3 | 0.0 | 105.0 | 0.0 | 108.4 | 0.0 | 111.4 | 0.0 | 124.8 | 0.4 | 135.2 | 0.0 |
| 04/05/00 | 91.1 | 0.0 | 93.8 | 0.0 | 95.4 | 0.0 | 98.4 | 0.0 | 103.7 | 0.0 | 118.7 | 0.0 | 120.2 | 0.0 |
| 04/06/00 | 91.1 | 0.0 | 96.8 | 0.0 | 101.5 | 0.6 | 102.1 | 0.0 | 102.6 | 0.0 | 111.1 | 0.0 | 116.1 | 0.0 |

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

| Date | Dworshak | | Hells Canyon | | Lower Granite | | Little Goose | | Lower Monumental | | Ice Harbor | |
|----------|----------|-------|--------------|---------|---------------|-------|--------------|-------|------------------|-------|------------|-------|
| | Flow | Spill | Inflow | Outflow | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill |
| 03/24/00 | 4.1 | 0.0 | 22.6 | 26.1 | 53.2 | 0.0 | 53.7 | 0.0 | 59.1 | 0.0 | 57.7 | 0.0 |
| 03/25/00 | 4.1 | 0.0 | 21.9 | 24.0 | 53.4 | 0.0 | 57.2 | 0.0 | 61.9 | 0.0 | 63.0 | 0.0 |
| 03/26/00 | 4.1 | 0.0 | 24.5 | 22.3 | 51.3 | 0.0 | 53.3 | 0.0 | 56.6 | 0.0 | 55.3 | 0.0 |
| 03/27/00 | 4.1 | 0.0 | 23.0 | 23.9 | 50.1 | 0.0 | 49.9 | 0.0 | 52.6 | 0.0 | 55.6 | 0.0 |
| 03/28/00 | 4.0 | 0.0 | 25.5 | 22.8 | 52.7 | 0.0 | 56.7 | 0.0 | 60.6 | 0.0 | 59.0 | 0.0 |
| 03/29/00 | 4.0 | 0.0 | 25.6 | 28.6 | 59.3 | 0.0 | 60.6 | 0.0 | 65.2 | 0.0 | 66.0 | 0.0 |
| 03/30/00 | 4.0 | 0.0 | 26.3 | 29.5 | 57.4 | 2.7 | 55.5 | 0.0 | 59.8 | 0.1 | 57.1 | 0.0 |
| 03/31/00 | 4.0 | 0.0 | 26.6 | 26.1 | 55.4 | 0.0 | 56.6 | 0.0 | 60.0 | 0.0 | 61.6 | 0.0 |
| 04/01/00 | 4.0 | 0.0 | 25.6 | 28.9 | 56.1 | 0.0 | 60.5 | 0.0 | 65.1 | 0.0 | 65.7 | 0.0 |
| 04/02/00 | 4.0 | 0.0 | 25.6 | 30.1 | 56.3 | 0.0 | 51.4 | 0.0 | 53.0 | 0.0 | 52.0 | 0.0 |
| 04/03/00 | 9.1 | 0.0 | 26.2 | 28.3 | 63.4 | 0.8 | 65.2 | 0.0 | 69.0 | 0.0 | 69.0 | 0.0 |
| 04/04/00 | 10.8 | 0.0 | 28.3 | 28.6 | 55.2 | 0.0 | 59.8 | 0.0 | 65.8 | 7.2 | 68.5 | 20.7 |
| 04/05/00 | 14.8 | 4.0 | 30.3 | 26.5 | 79.5 | 5.0 | 75.3 | 0.0 | 80.0 | 16.8 | 84.9 | 63.8 |
| 04/06/00 | 15.7 | 4.9 | --- | --- | 86.5 | 0.3 | 89.1 | 0.0 | 95.6 | 20.9 | 101.1 | 65.6 |

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

| Date | McNary | | John Day | | The Dalles | | Bonneville | | PH1 | PH2 |
|----------|--------|-------|----------|-------|------------|-------|------------|-------|------|-------|
| | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | | |
| 03/24/00 | 186.1 | 0.0 | 201.1 | 0.0 | 198.5 | 0.0 | 212.2 | 0.0 | 91.2 | 111.8 |
| 03/25/00 | 139.8 | 0.0 | 173.2 | 0.0 | 171.9 | 0.0 | 183.3 | 0.0 | 81.8 | 92.3 |
| 03/26/00 | 123.9 | 0.0 | 127.1 | 0.0 | 134.7 | 0.0 | 166.1 | 0.0 | 78.6 | 78.3 |
| 03/27/00 | 130.5 | 0.0 | 155.1 | 0.0 | 162.1 | 0.0 | 172.5 | 0.0 | 76.2 | 87.1 |
| 03/28/00 | 163.4 | 0.0 | 161.8 | 0.0 | 161.7 | 0.0 | 174.1 | 0.0 | 77.2 | 87.7 |
| 03/29/00 | 173.6 | 0.0 | 202.2 | 0.0 | 205.9 | 0.0 | 199.8 | 0.0 | 84.5 | 106.1 |
| 03/30/00 | 179.8 | 0.0 | 186.2 | 0.0 | 189.4 | 0.0 | 207.4 | 0.0 | 87.3 | 110.8 |
| 03/31/00 | 186.0 | 0.0 | 207.9 | 0.0 | 204.1 | 0.0 | 211.1 | 0.0 | 85.8 | 116.1 |
| 04/01/00 | 142.8 | 0.0 | 162.0 | 0.0 | 170.5 | 0.0 | 180.0 | 0.0 | 80.0 | 90.8 |
| 04/02/00 | 151.6 | 0.0 | 168.6 | 0.0 | 170.0 | 0.0 | 177.9 | 0.0 | 77.2 | 91.5 |
| 04/03/00 | 159.1 | 0.0 | 175.2 | 0.0 | 180.9 | 0.0 | 194.8 | 0.0 | 85.1 | 100.5 |
| 04/04/00 | 175.4 | 6.0 | 178.0 | 0.0 | 179.9 | 0.0 | 190.4 | 0.0 | 87.8 | 93.4 |
| 04/05/00 | 202.2 | 43.4 | 212.3 | 0.0 | 212.8 | 0.0 | 217.6 | 0.0 | 91.7 | 116.7 |
| 04/06/00 | 226.2 | 59.0 | 228.9 | 1.8 | 239.3 | 0.0 | 245.4 | 19.2 | 95.7 | 121.2 |

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

Total Dissolved Gas Saturation Data at Upper Columbia River Sites

| Date | Hungry H. Dnst | | | Boundary | | | Grand Coulee | | | Grand C. Tlwr | | | Chief Joseph | | | | # | | | |
|------|----------------|------|------|----------|------|------|--------------|------|------|---------------|------|------|--------------|------|------|-----|-----|-----|------|----|
| | 24 h | 12 h | | 24 h | 12 h | | 24 h | 12 h | | 24 h | 12 h | | 24 h | 12 h | | | | | | |
| | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | | Avg | High | |
| 3/24 | 97 | 97 | 97 | 24 | 102 | 102 | 103 | 24 | 104 | 105 | 105 | 24 | 103 | 103 | 104 | 23 | --- | --- | --- | 0 |
| 3/25 | 97 | 97 | 97 | 24 | 102 | 102 | 103 | 24 | 105 | 105 | 105 | 24 | 103 | 104 | 104 | 23 | --- | --- | --- | 0 |
| 3/26 | 96 | 97 | 97 | 24 | 102 | 103 | 103 | 24 | 105 | 105 | 105 | 24 | 104 | 104 | 105 | 23 | --- | --- | --- | 0 |
| 3/27 | 97 | 97 | 98 | 24 | 103 | 104 | 104 | 24 | 106 | 106 | 107 | 24 | 104 | 105 | 105 | 23 | --- | --- | --- | 0 |
| 3/28 | 97 | 97 | 98 | 24 | 103 | 103 | 104 | 24 | 105 | 106 | 106 | 24 | 104 | 104 | 104 | 23 | 105 | 105 | 107 | 6 |
| 3/29 | 97 | 97 | 97 | 24 | 102 | 102 | 103 | 24 | 104 | 104 | 105 | 24 | 103 | 103 | 103 | 24 | 104 | 104 | 105 | 24 |
| 3/30 | 96 | 96 | 96 | 24 | 102 | 102 | 103 | 24 | 104 | 104 | 104 | 24 | 102 | 102 | 103 | 24 | 103 | 103 | 103 | 24 |
| 3/31 | 96 | 96 | 96 | 24 | 102 | 103 | 103 | 24 | 104 | 105 | 109 | 24 | 102 | 103 | 104 | 24 | 103 | 103 | 103 | 23 |
| 4/1 | 97 | 97 | 98 | 24 | 103 | 104 | 105 | 24 | 105 | 106 | 107 | 24 | 103 | 104 | 104 | 24 | 104 | 104 | 104 | 21 |
| 4/2 | 96 | 96 | 97 | 23 | 103 | 103 | 104 | 15 | 105 | 105 | 105 | 23 | 103 | 103 | 104 | 23 | 104 | 104 | 105 | 22 |
| 4/3 | 97 | 97 | 97 | 24 | --- | --- | --- | 0 | 106 | 107 | 108 | 24 | 103 | 104 | 104 | 24 | 105 | 106 | 106 | 23 |
| 4/4 | 99 | 101 | 129 | 21 | --- | --- | --- | 0 | 106 | 107 | 108 | 22 | 104 | 105 | 107 | 24 | 105 | 106 | 106 | 22 |
| 4/5 | 97 | 98 | 98 | 20 | 105 | 105 | 106 | 6 | 105 | 106 | 108 | 24 | 104 | 104 | 106 | 24 | 104 | 105 | 105 | 23 |
| 4/6 | 98 | 98 | 98 | 15 | 105 | 106 | 107 | 24 | 105 | 106 | 106 | 24 | 104 | 104 | 106 | 24 | 104 | 105 | 105 | 23 |

Total Dissolved Gas Saturation Data at Mid Columbia River Sites

| Date | Chief J. Dnst | | | Wells | | | Wells Dwnstrm | | | Rocky Reach | | | Rocky R. Tlwr | | | | # | | | |
|------|---------------|------|------|-------|------|------|---------------|------|------|-------------|------|------|---------------|------|------|-----|-----|-----|------|----|
| | 24 h | 12 h | | 24 h | 12 h | | 24 h | 12 h | | 24 h | 12 h | | 24 h | 12 h | | | | | | |
| | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | | Avg | High | |
| 3/24 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | 101 | 102 | 102 | 22 | --- | --- | --- | 0 |
| 3/25 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | 101 | 101 | 102 | 23 | --- | --- | --- | 0 |
| 3/26 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | 101 | 102 | 103 | 23 | --- | --- | --- | 0 |
| 3/27 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 | 103 | 104 | 104 | 23 | --- | --- | --- | 0 |
| 3/28 | 105 | 105 | 109 | 7 | 103 | 103 | 104 | 9 | 103 | 103 | 104 | 9 | 103 | 103 | 104 | 22 | --- | --- | --- | 0 |
| 3/29 | 105 | 105 | 106 | 24 | 102 | 103 | 103 | 17 | 103 | 103 | 103 | 17 | 102 | 102 | 103 | 24 | 103 | 103 | 104 | 15 |
| 3/30 | 103 | 103 | 104 | 24 | 102 | 103 | 103 | 16 | 102 | 103 | 103 | 16 | 100 | 101 | 101 | 24 | 102 | 103 | 103 | 22 |
| 3/31 | 103 | 104 | 105 | 23 | 102 | 103 | 103 | 19 | 103 | 103 | 104 | 19 | 101 | 101 | 102 | 23 | 103 | 103 | 103 | 22 |
| 4/1 | 104 | 104 | 105 | 21 | 103 | 104 | 104 | 17 | 103 | 104 | 104 | 17 | 101 | 102 | 102 | 24 | 104 | 104 | 105 | 23 |
| 4/2 | 104 | 104 | 105 | 22 | 104 | 104 | 104 | 13 | 104 | 104 | 104 | 13 | 103 | 103 | 104 | 21 | 105 | 105 | 105 | 21 |
| 4/3 | 105 | 105 | 107 | 23 | 104 | 105 | 105 | 20 | 104 | 105 | 106 | 20 | 103 | 104 | 105 | 24 | 105 | 105 | 105 | 2 |
| 4/4 | 105 | 106 | 107 | 23 | 105 | 105 | 105 | 20 | 105 | 105 | 105 | 20 | 104 | 104 | 104 | 20 | --- | --- | --- | 0 |
| 4/5 | 104 | 105 | 106 | 23 | 104 | 104 | 104 | 18 | 104 | 104 | 105 | 18 | 103 | 103 | 103 | 23 | --- | --- | --- | 0 |
| 4/6 | 104 | 105 | 106 | 23 | 103 | 104 | 104 | 18 | 104 | 104 | 104 | 18 | 102 | 102 | 103 | 21 | --- | --- | --- | 0 |

Total Dissolved Gas Saturation at Mid Columbia River Sites

| Date | Rock Island | | | Rock I. Tlwr | | | Wanapum | | | Wanapum Tlwr | | | Priest Rapids | | | | # | | | |
|------|-------------|------|------|--------------|------|------|---------|------|------|--------------|------|------|---------------|------|------|-----|-----|-----|------|----|
| | 24 h | 12 h | | 24 h | 12 h | | 24 h | 12 h | | 24 h | 12 h | | 24 h | 12 h | | | | | | |
| | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | Avg | High | Avg | | Avg | High | |
| 3/24 | 102 | 102 | 102 | 22 | --- | --- | --- | 0 | 103 | 103 | 107 | 24 | 102 | 102 | 103 | 24 | 102 | 103 | 105 | 24 |
| 3/25 | 102 | 102 | 102 | 22 | --- | --- | --- | 0 | 103 | 103 | 104 | 24 | 102 | 102 | 103 | 24 | 102 | 103 | 105 | 24 |
| 3/26 | 101 | 102 | 102 | 23 | --- | --- | --- | 0 | 104 | 104 | 106 | 24 | 102 | 102 | 103 | 24 | 102 | 103 | 106 | 24 |
| 3/27 | 103 | 104 | 104 | 24 | --- | --- | --- | 0 | 105 | 105 | 107 | 24 | 103 | 103 | 104 | 24 | 103 | 105 | 106 | 24 |
| 3/28 | 103 | 103 | 104 | 21 | --- | --- | --- | 0 | 103 | 103 | 104 | 24 | 103 | 103 | 104 | 24 | 103 | 104 | 104 | 24 |
| 3/29 | 102 | 102 | 103 | 24 | --- | --- | --- | 0 | 103 | 103 | 106 | 24 | 102 | 102 | 103 | 24 | 102 | 103 | 104 | 24 |
| 3/30 | 101 | 102 | 102 | 23 | --- | --- | --- | 0 | 103 | 103 | 104 | 24 | 102 | 102 | 102 | 24 | 102 | 103 | 116 | 24 |
| 3/31 | 102 | 102 | 103 | 23 | --- | --- | --- | 0 | 104 | 104 | 107 | 24 | 103 | 103 | 104 | 24 | 103 | 104 | 106 | 23 |
| 4/1 | 103 | 104 | 104 | 24 | 104 | 105 | 105 | 13 | 104 | 104 | 105 | 24 | 104 | 104 | 104 | 24 | 104 | 104 | 105 | 24 |
| 4/2 | 103 | 103 | 104 | 21 | 105 | 105 | 106 | 19 | 104 | 104 | 107 | 23 | 103 | 103 | 103 | 23 | 103 | 104 | 105 | 23 |
| 4/3 | 104 | 105 | 105 | 24 | 106 | 106 | 107 | 23 | 108 | 108 | 112 | 24 | 105 | 105 | 106 | 24 | 105 | 106 | 109 | 24 |
| 4/4 | 105 | 105 | 105 | 24 | 106 | 106 | 106 | 24 | 106 | 106 | 106 | 24 | 105 | 105 | 106 | 24 | 105 | 106 | 107 | 24 |
| 4/5 | 104 | 104 | 104 | 22 | 105 | 105 | 106 | 22 | 105 | 105 | 106 | 23 | 104 | 104 | 105 | 24 | 104 | 105 | 107 | 24 |
| 4/6 | 104 | 104 | 104 | 23 | 105 | 105 | 106 | 23 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |

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

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

| Date | <u>Priest R. Dnst</u> | | | <u>Pasco</u> | | | <u>Dworshak</u> | | | <u>Clwrtr-Peck</u> | | | <u>Anatone</u> | | | | | | | |
|------|-----------------------|-------------|----------|--------------|-------------|----------|-----------------|-------------|----------|--------------------|-------------|----------|----------------|-------------|----------|-------------|-------------|----------|------------|------------|
| | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | | |
| | <u>Avg</u> | <u>Avg</u> | | <u>High</u> | <u>Avg</u> | | <u>Avg</u> | <u>High</u> | | <u>Avg</u> | <u>Avg</u> | | <u>High</u> | <u>Avg</u> | | <u>Avg</u> | <u>High</u> | | <u>Avg</u> | <u>Avg</u> | High |
| 3/24 | 103 | 103 | 104 | 24 | 103 | 104 | 104 | 24 | 96 | 96 | 96 | 8 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 3/25 | 103 | 103 | 104 | 24 | 103 | 103 | 104 | 24 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 3/26 | 103 | 103 | 104 | 24 | 103 | 103 | 104 | 24 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 3/27 | 104 | 104 | 105 | 24 | 104 | 105 | 105 | 24 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |
| 3/28 | 104 | 104 | 104 | 24 | 103 | 103 | 104 | 24 | --- | --- | --- | 0 | 101 | 101 | 102 | 11 | --- | --- | --- | 0 |
| 3/29 | 103 | 103 | 103 | 24 | 102 | 103 | 103 | 24 | 96 | 96 | 96 | 6 | 100 | 100 | 100 | 24 | --- | --- | --- | 0 |
| 3/30 | 102 | 102 | 104 | 24 | 102 | 103 | 103 | 24 | 96 | 96 | 97 | 11 | 100 | 101 | 102 | 24 | --- | --- | --- | 0 |
| 3/31 | 104 | 104 | 105 | 23 | 103 | 104 | 104 | 24 | 96 | 96 | 96 | 11 | 100 | 101 | 102 | 24 | --- | --- | --- | 0 |
| 4/1 | 105 | 105 | 106 | 24 | 104 | 104 | 105 | 18 | 96 | 96 | 97 | 19 | 101 | 102 | 103 | 22 | 103 | 104 | 105 | 15 |
| 4/2 | 104 | 104 | 105 | 23 | 105 | 105 | 106 | 23 | 96 | 96 | 97 | 24 | 101 | 101 | 102 | 24 | 102 | 103 | 104 | 23 |
| 4/3 | 105 | 105 | 106 | 24 | 106 | 106 | 107 | 24 | 97 | 98 | 99 | 22 | 100 | 101 | 102 | 24 | 103 | 104 | 105 | 24 |
| 4/4 | 106 | 106 | 107 | 24 | 105 | 106 | 106 | 21 | 98 | 98 | 99 | 23 | 100 | 101 | 102 | 22 | 102 | 103 | 104 | 23 |
| 4/5 | 105 | 105 | 106 | 24 | 103 | 103 | 104 | 22 | 106 | 109 | 110 | 24 | 103 | 105 | 106 | 24 | 101 | 102 | 103 | 24 |
| 4/6 | --- | --- | --- | 0 | 103 | 103 | 104 | 21 | 109 | 110 | 110 | 24 | 104 | 105 | 105 | 24 | 101 | 101 | 102 | 24 |

Total Dissolved Gas Saturation Data at Snake River Sites

| Date | <u>Clwrtr-Lewiston</u> | | | <u>Lower Granite</u> | | | <u>L. Granite Tlwr</u> | | | <u>Little Goose</u> | | | <u>L. Goose Tlwr</u> | | | | | | | |
|------|------------------------|-------------|----------|----------------------|-------------|----------|------------------------|-------------|----------|---------------------|-------------|----------|----------------------|-------------|----------|-------------|-------------|----------|------------|------------|
| | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | | |
| | <u>Avg</u> | <u>Avg</u> | | <u>High</u> | <u>Avg</u> | | <u>Avg</u> | <u>High</u> | | <u>Avg</u> | <u>Avg</u> | | <u>High</u> | <u>Avg</u> | | <u>Avg</u> | <u>High</u> | | <u>Avg</u> | <u>Avg</u> | High |
| 3/24 | --- | --- | --- | 0 | 102 | 103 | 103 | 19 | 102 | 102 | 103 | 16 | 102 | 104 | 105 | 24 | 101 | 102 | 102 | 24 |
| 3/25 | --- | --- | --- | 0 | 103 | 103 | 103 | 24 | 102 | 102 | 103 | 24 | 102 | 102 | 103 | 24 | 101 | 102 | 102 | 24 |
| 3/26 | --- | --- | --- | 0 | 103 | 103 | 104 | 24 | 102 | 102 | 102 | 24 | 102 | 102 | 103 | 24 | 101 | 102 | 102 | 24 |
| 3/27 | --- | --- | --- | 0 | 103 | 103 | 103 | 24 | 102 | 102 | 103 | 24 | 103 | 104 | 104 | 24 | 103 | 103 | 103 | 24 |
| 3/28 | 101 | 101 | 103 | 12 | 102 | 103 | 103 | 24 | 102 | 102 | 103 | 24 | 102 | 103 | 103 | 24 | 102 | 102 | 103 | 24 |
| 3/29 | 100 | 100 | 100 | 24 | 102 | 102 | 102 | 24 | 101 | 101 | 102 | 24 | 102 | 102 | 102 | 24 | 101 | 102 | 102 | 24 |
| 3/30 | 101 | 103 | 104 | 24 | 102 | 102 | 104 | 24 | 102 | 103 | 111 | 24 | 101 | 101 | 102 | 24 | 101 | 101 | 101 | 24 |
| 3/31 | 102 | 103 | 105 | 24 | 101 | 102 | 104 | 24 | 100 | 101 | 101 | 24 | 101 | 101 | 101 | 24 | 100 | 101 | 101 | 24 |
| 4/1 | 102 | 103 | 105 | 22 | 102 | 102 | 103 | 22 | 101 | 102 | 102 | 22 | 102 | 102 | 102 | 24 | 101 | 102 | 102 | 24 |
| 4/2 | 102 | 104 | 105 | 24 | 102 | 103 | 104 | 23 | 102 | 102 | 102 | 23 | 102 | 103 | 105 | 24 | 102 | 102 | 102 | 24 |
| 4/3 | 102 | 103 | 105 | 23 | 105 | 106 | 108 | 24 | 104 | 105 | 106 | 24 | 105 | 106 | 108 | 24 | 104 | 105 | 105 | 24 |
| 4/4 | 101 | 102 | 104 | 23 | 105 | 105 | 106 | 23 | 105 | 105 | 105 | 24 | 104 | 105 | 106 | 24 | 104 | 104 | 104 | 24 |
| 4/5 | 101 | 103 | 104 | 23 | 104 | 104 | 104 | 23 | 105 | 107 | 111 | 24 | 102 | 102 | 103 | 17 | 102 | 102 | 103 | 17 |
| 4/6 | 103 | 103 | 104 | 23 | 103 | 104 | 104 | 24 | 103 | 104 | 104 | 24 | 103 | 103 | 103 | 24 | 103 | 103 | 103 | 24 |

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

| Date | <u>Lower Mon.</u> | | | <u>L. Mon. Tlwr</u> | | | <u>Ice Harbor</u> | | | <u>Ice Harbor Tlwr</u> | | | <u>McNary-Oregon</u> | | | | | | | |
|------|-------------------|-------------|----------|---------------------|-------------|----------|-------------------|-------------|----------|------------------------|-------------|----------|----------------------|-------------|----------|-------------|-------------|----------|------------|------------|
| | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | | |
| | <u>Avg</u> | <u>Avg</u> | | <u>High</u> | <u>Avg</u> | | <u>Avg</u> | <u>High</u> | | <u>Avg</u> | <u>Avg</u> | | <u>High</u> | <u>Avg</u> | | <u>Avg</u> | <u>High</u> | | <u>Avg</u> | <u>Avg</u> | High |
| 3/24 | 101 | 102 | 102 | 24 | --- | --- | --- | 0 | 102 | 102 | 103 | 24 | 102 | 102 | 103 | 24 | 102 | 103 | 103 | 24 |
| 3/25 | 101 | 101 | 102 | 24 | --- | --- | --- | 0 | 102 | 102 | 102 | 24 | 102 | 102 | 103 | 24 | 103 | 103 | 103 | 24 |
| 3/26 | 101 | 102 | 103 | 24 | --- | --- | --- | 0 | 102 | 104 | 106 | 24 | 102 | 103 | 103 | 24 | 103 | 104 | 105 | 24 |
| 3/27 | 102 | 103 | 103 | 24 | --- | --- | --- | 0 | 103 | 103 | 103 | 24 | 103 | 104 | 105 | 24 | 103 | 104 | 104 | 24 |
| 3/28 | 102 | 102 | 102 | 24 | --- | --- | --- | 0 | 102 | 102 | 103 | 24 | 103 | 103 | 103 | 24 | 103 | 103 | 103 | 23 |
| 3/29 | 101 | 101 | 102 | 24 | --- | --- | --- | 0 | 101 | 101 | 102 | 24 | 102 | 102 | 102 | 23 | 102 | 102 | 103 | 24 |
| 3/30 | 101 | 101 | 102 | 24 | 100 | 100 | 101 | 24 | 101 | 101 | 102 | 24 | 101 | 101 | 103 | 24 | 101 | 103 | 104 | 24 |
| 3/31 | 101 | 101 | 101 | 7 | 100 | 100 | 101 | 23 | 101 | 102 | 103 | 24 | 101 | 102 | 102 | 24 | 102 | 103 | 104 | 24 |
| 4/1 | 103 | 103 | 103 | 24 | 101 | 101 | 102 | 24 | 103 | 103 | 104 | 24 | 103 | 103 | 103 | 24 | 103 | 104 | 106 | 23 |
| 4/2 | 103 | 104 | 107 | 24 | 101 | 101 | 101 | 24 | 103 | 103 | 104 | 23 | 103 | 103 | 104 | 23 | 104 | 105 | 106 | 23 |
| 4/3 | 104 | 105 | 107 | 24 | 101 | 101 | 102 | 24 | 104 | 104 | 106 | 23 | 104 | 104 | 104 | 23 | 104 | 105 | 107 | 24 |
| 4/4 | 103 | 104 | 105 | 19 | 103 | 104 | 109 | 23 | 104 | 104 | 104 | 23 | 107 | 110 | 116 | 24 | 104 | 104 | 104 | 23 |
| 4/5 | 103 | 103 | 104 | 17 | 106 | 107 | 111 | 17 | 103 | 103 | 103 | 18 | 114 | 115 | 116 | 17 | 104 | 105 | 106 | 24 |
| 4/6 | 103 | 103 | 104 | 24 | 110 | 112 | 115 | 24 | 105 | 106 | 107 | 24 | 116 | 117 | 119 | 24 | 103 | 104 | 104 | 24 |

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

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

| Date | <u>McNary-Wash</u> | | | <u>McNary Tlwr</u> | | | <u>John Day</u> | | | <u>John Day Tlwr</u> | | | <u>The Dalles</u> | | | | | | | |
|------|--------------------|-------------|----------|--------------------|-------------|----------|-----------------|------------|----------|----------------------|------------|----------|-------------------|------------|----------|----|-----|-----|-----|----|
| | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24h</u> | <u>12h</u> | <u>#</u> | <u>24h</u> | <u>12h</u> | <u>#</u> | <u>24h</u> | <u>12h</u> | <u>#</u> | | | | | |
| | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | AVG | High | hr | | | | |
| 3/24 | 105 | 106 | 106 | 24 | 105 | 105 | 105 | 24 | 103 | 103 | 104 | 15 | 102 | 102 | 103 | 24 | 103 | 103 | 103 | 13 |
| 3/25 | 104 | 105 | 105 | 24 | 104 | 104 | 105 | 24 | 102 | 103 | 103 | 24 | 102 | 102 | 103 | 24 | 102 | 103 | 103 | 24 |
| 3/26 | 105 | 106 | 107 | 24 | 104 | 105 | 105 | 24 | 104 | 105 | 108 | 24 | 102 | 102 | 103 | 24 | 102 | 102 | 103 | 24 |
| 3/27 | 106 | 107 | 108 | 24 | 106 | 106 | 107 | 24 | 103 | 104 | 104 | 24 | 103 | 103 | 103 | 24 | 103 | 104 | 104 | 24 |
| 3/28 | 104 | 105 | 105 | 24 | 104 | 105 | 105 | 24 | 102 | 103 | 103 | 24 | 102 | 103 | 103 | 24 | 102 | 103 | 103 | 24 |
| 3/29 | 103 | 103 | 104 | 24 | 103 | 103 | 104 | 24 | 101 | 102 | 102 | 24 | 101 | 101 | 102 | 22 | 101 | 102 | 102 | 24 |
| 3/30 | 103 | 104 | 105 | 24 | 102 | 103 | 103 | 24 | 102 | 103 | 106 | 24 | 101 | 101 | 101 | 24 | 101 | 101 | 102 | 24 |
| 3/31 | 104 | 105 | 106 | 24 | 103 | 103 | 104 | 24 | 102 | 103 | 104 | 23 | 101 | 101 | 102 | 23 | 102 | 102 | 102 | 24 |
| 4/1 | 106 | 107 | 107 | 24 | 104 | 105 | 106 | 24 | 102 | 103 | 103 | 21 | 102 | 102 | 102 | 22 | 103 | 103 | 103 | 21 |
| 4/2 | 107 | 107 | 109 | 23 | 105 | 105 | 106 | 23 | 104 | 106 | 107 | 23 | 102 | 102 | 103 | 23 | 103 | 103 | 103 | 23 |
| 4/3 | 108 | 109 | 110 | 24 | 106 | 107 | 107 | 24 | 104 | 105 | 105 | 23 | 103 | 103 | 103 | 24 | 103 | 104 | 104 | 23 |
| 4/4 | 107 | 108 | 108 | 23 | 107 | 108 | 111 | 23 | 104 | 104 | 104 | 21 | 103 | 103 | 103 | 23 | 104 | 104 | 104 | 23 |
| 4/5 | 106 | 106 | 107 | 17 | 114 | 114 | 114 | 17 | 103 | 103 | 104 | 23 | 103 | 103 | 104 | 24 | 103 | 103 | 103 | 22 |
| 4/6 | 104 | 105 | 106 | 24 | 113 | 114 | 114 | 24 | 103 | 103 | 103 | 23 | 104 | 104 | 111 | 22 | 102 | 103 | 103 | 23 |

Total Dissolved Gas Saturation Data at Lower Columbia River Sites

| Date | <u>The Dalles Dnst</u> | | | <u>Bonneville</u> | | | <u>Warrendale</u> | | | <u>Skamania</u> | | | <u>CamasWashugal</u> | | | | | | | |
|------|------------------------|-------------|----------|-------------------|-------------|----------|-------------------|------------|----------|-----------------|------------|----------|----------------------|------------|----------|----|-----|-----|-----|----|
| | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24 h</u> | <u>12 h</u> | <u>#</u> | <u>24h</u> | <u>12h</u> | <u>#</u> | <u>24h</u> | <u>12h</u> | <u>#</u> | <u>24h</u> | <u>12h</u> | <u>#</u> | | | | | |
| | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | | | | |
| 3/24 | 102 | 102 | 102 | 23 | 102 | 103 | 103 | 24 | 103 | 104 | 104 | 24 | 103 | 103 | 104 | 24 | 103 | 104 | 105 | 23 |
| 3/25 | 102 | 102 | 102 | 23 | 102 | 102 | 103 | 24 | 103 | 103 | 103 | 24 | 102 | 102 | 103 | 24 | 102 | 102 | 103 | 23 |
| 3/26 | 102 | 102 | 103 | 23 | 102 | 102 | 103 | 24 | 103 | 103 | 104 | 24 | 102 | 103 | 104 | 24 | 103 | 104 | 104 | 23 |
| 3/27 | 103 | 103 | 103 | 23 | 103 | 103 | 103 | 24 | 103 | 103 | 104 | 24 | 101 | 102 | 102 | 24 | 103 | 103 | 103 | 23 |
| 3/28 | 102 | 102 | 102 | 23 | 102 | 102 | 103 | 24 | 102 | 102 | 103 | 24 | 101 | 102 | 103 | 24 | 102 | 103 | 103 | 23 |
| 3/29 | 101 | 101 | 101 | 23 | 101 | 102 | 102 | 24 | 102 | 102 | 102 | 24 | 102 | 102 | 103 | 24 | 102 | 103 | 104 | 22 |
| 3/30 | 101 | 101 | 101 | 23 | 101 | 101 | 101 | 24 | 101 | 101 | 102 | 24 | 101 | 102 | 103 | 24 | 102 | 103 | 104 | 23 |
| 3/31 | 101 | 102 | 102 | 23 | 101 | 101 | 102 | 24 | 101 | 102 | 102 | 24 | 102 | 103 | 104 | 24 | 102 | 104 | 104 | 23 |
| 4/1 | 103 | 103 | 104 | 22 | 102 | 102 | 102 | 21 | 103 | 103 | 104 | 21 | 103 | 104 | 104 | 21 | 104 | 105 | 106 | 22 |
| 4/2 | 103 | 103 | 104 | 23 | 102 | 102 | 103 | 23 | 103 | 103 | 104 | 23 | 103 | 104 | 105 | 23 | 104 | 105 | 106 | 23 |
| 4/3 | 104 | 104 | 105 | 24 | 103 | 104 | 104 | 23 | 104 | 105 | 105 | 23 | 104 | 106 | 107 | 23 | 105 | 106 | 107 | 24 |
| 4/4 | 104 | 104 | 104 | 24 | 103 | 103 | 104 | 23 | 104 | 104 | 105 | 23 | 104 | 104 | 104 | 20 | 104 | 104 | 105 | 24 |
| 4/5 | 103 | 104 | 104 | 24 | 102 | 102 | 102 | 22 | 103 | 103 | 104 | 23 | 103 | 103 | 104 | 23 | 104 | 105 | 105 | 24 |
| 4/6 | 103 | 103 | 104 | 24 | 102 | 102 | 102 | 23 | 104 | 105 | 107 | 23 | 103 | 104 | 105 | 23 | 103 | 103 | 104 | 24 |

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 | | | | Fish with L. Line GBT | |
|-----------------------------|----------|------------------|----------------|--------------------|--------------------|-----------|------------------|--|--------|--------|--------|-----------------------|-----------|
| | | | | | | | | Rank 1 | Rank 2 | Rank 3 | Rank 4 | Num Fish | Avg. Rank |
| Lower Granite Dam | | | | | | | | | | | | | |
| | 04/04/00 | Yearling Chinook | 12 | 4 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 4 | 1.5 |
| | 04/04/00 | Steelhead | 45 | 5 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 4 | 1 |
| Little Goose Dam | | | | | | | | | | | | | |
| | 04/05/00 | Yearling Chinook | 5 | 1 | 1 | 20.00% | 0.00% | 1 | 0 | 0 | 0 | 0 | 0 |
| | 04/05/00 | Steelhead | 3 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| Lower Monumental Dam | | | | | | | | | | | | | |
| | 04/04/00 | Yearling Chinook | 100 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 04/04/00 | Steelhead | 13 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| McNary Dam | | | | | | | | | | | | | |
| | 04/03/00 | Yearling Chinook | 49 | 1 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 1 | 1 |
| | 04/03/00 | Steelhead | 18 | 1 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 1 | 1 |
| | 04/06/00 | Yearling Chinook | 68 | 1 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 1 | 1 |
| | 04/06/00 | Steelhead | 25 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| Bonneville Dam | | | | | | | | | | | | | |
| | 04/03/00 | Yearling Chinook | 25 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 04/03/00 | Steelhead | 1 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 04/06/00 | Yearling Chinook | 54 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 04/06/00 | Steelhead | 11 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |

Hatchery Release Summary

From 3/24/00 to 4/6/00

| Hatchery | Species... | Migration Year | Number Released | ...Release Dates... Begin... ..End | Release Site | River Name |
|------------------------|------------|----------------|------------------|---------------------------------------|--------------------|-------------------------|
| IDFG | | | | | | |
| Magic Valley | | | | | | |
| SU | Steelhead | 2000 | 52,000 | 04/03/00 05/12/00 | Squaw Cr Acclim Pd | Salmon River |
| McCall | | | | | | |
| SU | Chinook | 2000 | 821,000 | 04/03/00 04/06/00 | S Fk Salmon R | Salmon River |
| SU | Chinook | 2000 | 195,400 | 04/03/00 04/06/00 | S Fk Salmon R | Salmon River |
| Niagara Springs | | | | | | |
| SU | Steelhead | 2000 | 600,000 | 03/27/00 04/08/00 | Hells Canyon Dam | Snake River |
| Rapid River | | | | | | |
| SP | Chinook | 2000 | 2,463,000 | 03/16/00 04/15/00 | Rapid River H | Little Salmon River |
| Sawtooth | | | | | | |
| SP | Chinook | 2000 | 124,500 | 04/04/00 04/21/00 | Sawtooth H | Salmon River |
| Agency Totals: | | | 4,255,900 | ..... |  |  |
| Nez Perce Tribe | | | | | | |
| Lookingglass | | | | | | |
| SP | Chinook | 2000 | 35,000 | 04/01/00 04/18/00 | Lostine Accim Pd | Wallowa River |
| McCall | | | | | | |
| SU | Chinook | 2000 | 80,000 | 03/27/00 03/30/00 | Johnson Cr | South Fork Salmon River |
| Agency Totals: | | | 115,000 | ..... |  |  |
| ODFW | | | | | | |
| Imnaha | | | | | | |
| SP | Chinook | 2000 | 180,000 | 03/22/00 04/18/00 | Imnaha Acclim Pd | Imnaha River |
| Lookingglass | | | | | | |
| SP | Chinook | 2000 | 38,000 | 04/01/00 04/18/00 | Catherine Cr | Grande Ronde River |
| Round Butte | | | | | | |
| SU | Steelhead | 2000 | 161,000 | 04/04/00 04/14/00 | Bel. Pelton Dam | Deschutes River |
| Wallowa | | | | | | |
| SU | Steelhead | 2000 | 348,000 | 04/05/00 04/07/00 | Wallowa Acclim Pd | Wallowa River |
| Agency Totals: | | | 727,000 | ..... |  |  |
| Umatilla Tribe | | | | | | |
| Minthorn | | | | | | |
| SU | Steelhead | 2000 | 50,000 | 04/03/00 04/10/00 | Bonifer Acclim Pd | Umatilla River |
| SU | Steelhead | 2000 | 50,000 | 04/03/00 04/10/00 | Minthorn Acclim Pd | Umatilla River |
| Agency Totals: | | | 100,000 | ..... |  |  |
| USFWS | | | | | | |
| Dworshak | | | | | | |
| SP | Chinook | 2000 | 1,030,000 | 03/22/00 04/06/00 | Dworshak H | Clearwater Rvr M F |
| Entiat | | | | | | |
| SP | Chinook | 2000 | 363,000 | 04/04/00 04/04/00 | Entiat H | Entiat River |
| Hagerman | | | | | | |
| SU | Steelhead | 2000 | 150,000 | 04/03/00 04/07/00 | Little Salmon R | Salmon River |
| SU | Steelhead | 2000 | 50,000 | 04/03/00 04/07/00 | Hazard Cr | Little Salmon River |
| Kooskia | | | | | | |
| SP | Chinook | 2000 | 379,000 | 04/06/00 04/07/00 | Kooskia H | Clearwater Rvr M F |
| SP | Chinook | 2000 | 50,000 | 04/06/00 04/07/00 | Clear Cr | Clearwater Rvr M F |
| Warm Springs | | | | | | |
| SP | Chinook | 2000 | 679,982 | 03/22/00 04/19/00 | Warm Springs H | Deschutes River |
| Agency Totals: | | | 2,701,982 | ..... |  |  |

Hatchery Release Summary

From 3/24/00 to 4/6/00

| Hatchery | Species... | Migration Year | Number Released | ...Release Dates... | | Release Site | River Name |
|------------------------|--------------|----------------|-------------------|---------------------|----------|----------------------|--------------------|
| | | | | Begin... | ...End | | |
| WDFW | | | | | | | |
| Klickitat | | | | | | | |
| | SP Chinook | 2000 | 563,000 | 03/01/00 | 03/24/00 | Klickitat H | Klickitat River |
| Lyons Ferry | | | | | | | |
| | FA Chinook | 2000 | 450,000 | 03/22/00 | 04/15/00 | Lyons Ferry H | Snake River |
| | SU Steelhead | 2000 | 250,000 | 03/25/00 | 04/30/00 | Cottonwood Acclim Pd | Grande Ronde River |
| | SU Steelhead | 2000 | 125,000 | 03/25/00 | 04/30/00 | Dayton Acclim Pd | Touchet River |
| Ringold Springs | | | | | | | |
| | SU Steelhead | 2000 | 180,000 | 04/03/00 | 04/12/00 | Ringold Springs H | Mid-Columbia River |
| Tucannon | | | | | | | |
| | SP Chinook | 2000 | 128,000 | 03/10/00 | 04/20/00 | Curl Lake | Tucannon River |
| Washougal | | | | | | | |
| | Coho | 2000 | 2,500,000 | 03/27/00 | 04/04/00 | Klickitat R | Klickitat River |
| Agency Totals: | | | 4,196,000 | ..... |  |  |  |
| Yakima Tribe | | | | | | | |
| Clark Flat | | | | | | | |
| | SP Chinook | 2000 | 229,000 | 03/15/00 | 06/01/00 | Clark Flat Acclim Pd | Yakama River |
| Easton Pond | | | | | | | |
| | SP Chinook | 2000 | 236,800 | 03/15/00 | 06/01/00 | Easton Pd | Yakama River |
| Jack Creek Pond | | | | | | | |
| | SP Chinook | 2000 | 137,500 | 03/31/00 | 06/01/00 | Jack Creek Acclim Pd | Yakama River |
| Agency Totals: | | | 603,300 | ..... |  |  |  |
| Total Release.. | | | 12,699,182 | | | | |

Hatchery Release Summary

From 4/7/00 to 4/20/00

| Hatchery | Species... | Migration Year | Number Released | ...Release Dates... Begin... | ...End | Release Site | River Name |
|------------------------|------------|----------------|------------------|---------------------------------|----------|------------------------|-----------------------|
| IDFG | | | | | | | |
| Clearwater | | | | | | | |
| SP | Chinook | 2000 | 396,800 | 04/14/00 | 04/14/00 | Crooked R Acclim Pd | S Fk Clearwater River |
| SP | Chinook | 2000 | 159,000 | 04/14/00 | 04/14/00 | Red River Acclim Pd | S Fk Clearwater River |
| Magic Valley | | | | | | | |
| SU | Steelhead | 2000 | 100,000 | 04/10/00 | 04/11/00 | Squaw Cr Acclim Pd | Salmon River |
| SU | Steelhead | 2000 | 115,000 | 04/12/00 | 04/13/00 | Little Salmon R | Salmon River |
| SU | Steelhead | 2000 | 190,000 | 04/13/00 | 04/17/00 | Lemhi R | Salmon River |
| SU | Steelhead | 2000 | 40,000 | 04/15/00 | 04/25/00 | Salmon R | Salmon River |
| SU | Steelhead | 2000 | 60,000 | 04/15/00 | 04/25/00 | N Fk Salmon R | Salmon River |
| SU | Steelhead | 2000 | 120,000 | 04/17/00 | 04/18/00 | Shoup Br (Salmon R) | Salmon River |
| SU | Steelhead | 2000 | 315,000 | 04/18/00 | 04/21/00 | McNabb/Salmon R | Salmon River |
| Niagara Springs | | | | | | | |
| SU | Steelhead | 2000 | 190,000 | 04/09/00 | 04/12/00 | Little Salmon R | Salmon River |
| SU | Steelhead | 2000 | 830,000 | 04/13/00 | 05/01/00 | Pahsimeroi H | Pahsimeroi River |
| Pahsimeroi | | | | | | | |
| SU | Chinook | 2000 | 53,900 | 04/12/00 | 04/25/00 | Pahsimeroi H | Pahsimeroi River |
| Powell | | | | | | | |
| SP | Chinook | 2000 | 328,400 | 04/13/00 | 04/13/00 | Powell Acclim Pd | Lochsa River |
| Agency Totals: | | | 2,898,100 | ..... |  |  |  |
| Nez Perce Tribe | | | | | | | |
| Kooskia | | | | | | | |
| | Coho | 2000 | 280,000 | 04/15/00 | 04/21/00 | Kooskia H | Clearwater Rvr M F |
| Lyons Ferry | | | | | | | |
| FA | Chinook | 2000 | 150,000 | 04/08/00 | 04/12/00 | Cpt John Acclim Pd | Snake River |
| FA | Chinook | 2000 | 150,000 | 04/11/00 | 04/13/00 | Big Canyon (Clearwater | Clearwater Rvr M F |
| FA | Chinook | 2000 | 150,000 | 04/11/00 | 04/13/00 | Pittsburg Landing | Snake River |
| Agency Totals: | | | 730,000 | ..... |  |  |  |
| ODFW | | | | | | | |
| Big Canyon | | | | | | | |
| SU | Steelhead | 2000 | 174,000 | 04/12/00 | 04/14/00 | Big Canyon H | Grande Ronde River |
| Irrigon | | | | | | | |
| SU | Steelhead | 2000 | 100,000 | 04/19/00 | 04/21/00 | Big Sheep Cr | Imnaha River |
| Li Sheep | | | | | | | |
| SU | Steelhead | 2000 | 155,000 | 04/13/00 | 04/13/00 | L Sheep Acclim Pd | Imnaha River |
| Round Butte | | | | | | | |
| SP | Chinook | 2000 | 300,000 | 04/12/00 | 04/20/00 | Bel. Pelton Dam | Deschutes River |
| Agency Totals: | | | 729,000 | ..... |  |  |  |
| Umatilla Tribe | | | | | | | |
| Cascade | | | | | | | |
| | Coho | 2000 | 750,000 | 04/10/00 | 04/20/00 | Umatilla R | Umatilla River |
| Imeques | | | | | | | |
| SP | Chinook | 2000 | 275,000 | 04/10/00 | 04/20/00 | Imeques Acclim Pd | Umatilla River |
| Minthorn | | | | | | | |
| SU | Steelhead | 2000 | 50,000 | 04/20/00 | 04/30/00 | Minthorn Acclim Pd | Umatilla River |
| Thornhollow | | | | | | | |
| FA | Chinook | 2000 | 240,000 | 04/10/00 | 04/20/00 | Thornhollow Acclim Pd | Umatilla River |
| Agency Totals: | | | 1,315,000 | ..... |  |  |  |

Hatchery Release Summary

From 4/7/00 to 4/20/00

| Hatchery | Species... | Migration Year | Number Released | ...Release Dates... Begin... ..End | Release Site | River Name |
|---------------------------|------------------------|----------------|-------------------|---------------------------------------|---------------------------|---------------------------|
| USFWS | | | | | | |
| Carson | | | | | | |
| | SP Chinook | 2000 | 1,420,000 | 04/20/00 04/20/00 | Carson H | Wind River |
| Dworshak | | | | | | |
| | SU Steelhead | 2000 | 200,000 | 04/17/00 04/21/00 | Clear Cr | Clearwater Rvr M F |
| | SU Steelhead | 2000 | 600,000 | 04/17/00 04/21/00 | Redhouse (SFk) | Clearwater Rvr M F |
| Leavenworth | | | | | | |
| | SP Chinook | 2000 | 1,695,000 | 04/18/00 04/18/00 | Leavenworth H | Wenatchee River |
| L White Salmon | | | | | | |
| | Coho | 2000 | 550,000 | 04/20/00 04/20/00 | Little White Salmon H | Little White Salmon River |
| | SP Chinook | 2000 | 1,100,000 | 04/20/00 04/20/00 | Little White Salmon H | Little White Salmon River |
| Spring Creek | | | | | | |
| | FA Chinook | 2000 | 4,300,000 | 04/20/00 04/20/00 | Spring Creek H | Columbia River |
| Willard | | | | | | |
| | Coho | 2000 | 980,000 | 04/20/00 04/20/00 | Willard H | Little White Salmon River |
| Winthrop | | | | | | |
| | SU Steelhead | 2000 | 105,000 | 04/12/00 05/31/00 | Winthrop H | Methow River |
| | SP Chinook | 2000 | 376,500 | 04/12/00 04/12/00 | Winthrop H | Methow River |
| | Agency Totals: | | 11,326,50 | ..... |  |  |
| WDFW | | | | | | |
| Chewuch | | | | | | |
| | SP Chinook | 2000 | 218,000 | 04/15/00 04/25/00 | Chewuch R | Methow River |
| Chiwawa | | | | | | |
| | SP Chinook | 2000 | 76,000 | 04/20/00 04/30/00 | Chiwawa H | Wenatchee River |
| East Bank | | | | | | |
| | SU Steelhead | 2000 | 45,000 | 04/20/00 04/30/00 | Wenatchee R | Wenatchee River |
| Klickitat | | | | | | |
| | Coho | 2000 | 1,400,000 | 04/15/00 06/05/00 | Klickitat H | Klickitat River |
| Lyons Ferry | | | | | | |
| | SU Steelhead | 2000 | 160,000 | 04/15/00 04/15/00 | Tucannon R | Tucannon River |
| | SU Steelhead | 2000 | 175,000 | 04/15/00 04/30/00 | Walla Walla R | Walla Walla River |
| | SU Steelhead | 2000 | 20,179 | 04/15/00 04/15/00 | Lyons Ferry H | Snake River |
| Methow | | | | | | |
| | SP Chinook | 2000 | 216,000 | 04/15/00 04/25/00 | Methow H | Methow River |
| | SP Chinook | 2000 | 15,200 | 04/15/00 04/25/00 | Twisp R | Methow River |
| Turtle Rock | | | | | | |
| | SU Chinook | 2000 | 218,000 | 04/10/00 04/20/00 | Turtle Rock H | Mid-Columbia River |
| Wells | | | | | | |
| | SU Steelhead | 2000 | 140,000 | 04/10/00 04/30/00 | Chewuch R | Methow River |
| | SU Chinook | 2000 | 293,000 | 04/10/00 04/25/00 | Similkameen Acclim Pd | Okanogan River |
| | SU Steelhead | 2000 | 140,000 | 04/10/00 04/30/00 | Twisp R | Methow River |
| | SU Steelhead | 2000 | 68,000 | 04/10/00 04/25/00 | Similkameen Acclim Pd | Okanogan River |
| | SU Steelhead | 2000 | 140,000 | 04/10/00 04/30/00 | Methow R | Methow River |
| | SU Chinook | 2000 | 205,000 | 04/15/00 04/30/00 | Carlton Acclim Pd | Methow River |
| | SU Chinook | 2000 | 466,000 | 04/17/00 04/25/00 | Wells H | Mid-Columbia River |
| | Agency Totals: | | 3,995,379 | ..... |  |  |
| Warm Springs Tribe | | | | | | |
| Oak Springs | | | | | | |
| | SU Steelhead | 2000 | 34,000 | 04/13/00 04/27/00 | Blackberry Acclim Pd | Hood River |
| | WI Steelhead | 2000 | 31,000 | 04/17/00 05/01/00 | E Fk Irrig Dist Sand Trap | Hood River |
| | WI Steelhead | 2000 | 32,000 | 04/17/00 05/01/00 | Parkdale Acclim Pd | Hood River |
| Round Butte | | | | | | |
| | SP Chinook | 2000 | 30,500 | 04/10/00 04/25/00 | Parkdale Acclim Pd | Hood River |
| | SP Chinook | 2000 | 56,000 | 04/10/00 04/24/00 | Blackberry Acclim Pd | Hood River |
| | SP Chinook | 2000 | 40,000 | 04/10/00 04/24/00 | Jones Creek Acclim Pd | Hood River |
| | Agency Totals: | | 223,500 | ..... |  |  |
| | Total Release.. | | 21,217,479 | | | |

Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK

| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) |
|-----------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 03/25/00 | --- | 662 | --- | --- | --- | --- | --- | --- | --- | --- | 715 |
| 03/26/00 | --- | 289 | --- | --- | 20 | --- | --- | --- | --- | --- | 727 |
| 03/27/00 | 364 | 390 | 12 | 12 | 250 | --- | --- | --- | --- | --- | 374 |
| 03/28/00 | 640 | 4,109 | 32 | 3 | 250 | --- | --- | --- | --- | --- | 452 |
| 03/29/00 | 2,022 | 7,017 | 32 | 6 | 300 | --- | --- | --- | --- | --- | 458 |
| 03/30/00 | 934 | 2,421 | 34 | 35 | 200 | --- | --- | --- | --- | --- | 583 |
| 03/31/00 | 682 | 883 | 57 | 21 | 599 | --- | --- | --- | --- | --- | 394 |
| 04/01/00 | --- | 834 | --- | --- | 588 | --- | --- | 0 | 540 | --- | 703 |
| 04/02/00 | --- | 339 | --- | --- | 440 | 185 | 3,920 | 0 | 462 | --- | 614 |
| 04/03/00 | 164 | 943 | 31 | 15 | 532 | 390 | 6,290 | 0 | 624 | --- | 602 |
| 04/04/00 | 569 | 305 | 92 | 46 | 790 | 415 | 8,365 | 1 | 1,636 | 250 | 2,046 |
| 04/05/00 | 1,790 | 721 | 122 | 14 | 633 | 314 | 4,997 | 19 | 2,395 | 585 | 307* |
| 04/06/00 | 2,877 | 250 | 98 | 57 | 1,738 | 339 | 4,382 | 49 | 4,407 | 1,015 | 831* |
| 04/07/00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | 10,042 | 19,163 | 510 | 209 | 6,340 | 1,643 | 27,954 | 69 | 10,064 | 1,850 | 7,668 |
| # Days: | 9 | 13 | 9 | 9 | 12 | 5 | 5 | 6 | 6 | 3 | 13 |
| Average: | 1,116 | 1,474 | 57 | 23 | 528 | 329 | 5,591 | 12 | 1,677 | 617 | 697 |

COMBINED SUBYEARLING CHINOOK

| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) |
|-----------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 03/25/00 | --- | 0 | --- | --- | --- | --- | --- | --- | --- | --- | 1,173 |
| 03/26/00 | --- | 0 | --- | --- | 0 | --- | --- | --- | --- | --- | 2,610 |
| 03/27/00 | 0 | 0 | 0 | 32 | 0 | --- | --- | --- | --- | --- | 1,600 |
| 03/28/00 | 0 | 0 | 0 | 0 | 0 | --- | --- | --- | --- | --- | 1,572 |
| 03/29/00 | 0 | 0 | 0 | 2 | 30 | --- | --- | --- | --- | --- | 1,355 |
| 03/30/00 | 0 | 0 | 0 | 4 | 10 | --- | --- | --- | --- | --- | 212 |
| 03/31/00 | 0 | 0 | 0 | 13 | 0 | --- | --- | --- | --- | --- | 1,951 |
| 04/01/00 | --- | 0 | --- | --- | 0 | --- | --- | 78 | 80 | --- | 931 |
| 04/02/00 | --- | 0 | --- | --- | 0 | 0 | 0 | 67 | 54 | --- | 850 |
| 04/03/00 | 0 | 0 | 0 | 51 | 0 | 0 | 0 | 63 | 150 | --- | 824 |
| 04/04/00 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 52 | 106 | 0 | 1,328 |
| 04/05/00 | 0 | 1 | 0 | 12 | 4 | 0 | 0 | 242 | 75 | 0 | 201* |
| 04/06/00 | 0 | 0 | 0 | 6 | 79 | 0 | 0 | 57 | 46 | 0 | 674* |
| 04/07/00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | 0 | 1 | 0 | 122 | 123 | 0 | 0 | 559 | 511 | 0 | 14,406 |
| # Days: | 9 | 13 | 9 | 9 | 12 | 5 | 5 | 6 | 6 | 3 | 13 |
| Average: | 0 | 0 | 0 | 14 | 10 | 0 | 0 | 93 | 85 | 0 | 1,310 |

The data presented in the following passage index section is preliminary and has been derived from various sources. For verification and/or origin of data, contact the operators of the Fish Passage Data System at (503) 230-4099.

Smolt indices, wild & hatchery 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 sampling system. Collection counts may be constrained due to sampling effort or river flow. 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 hour period that spans two calendar days. In this report, the date shown corresponds with the sample end date.

Two-Week Summary of Passage Indices

COMBINED COHO

| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) |
|-----------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 03/25/00 | --- | 0 | --- | --- | --- | --- | --- | --- | --- | --- | 0 |
| 03/26/00 | --- | 0 | --- | --- | 0 | --- | --- | --- | --- | --- | 0 |
| 03/27/00 | 0 | 0 | 0 | 1 | 0 | --- | --- | --- | --- | --- | 0 |
| 03/28/00 | 0 | 0 | 0 | 0 | 0 | --- | --- | --- | --- | --- | 0 |
| 03/29/00 | 0 | 0 | 0 | 0 | 0 | --- | --- | --- | --- | --- | 0 |
| 03/30/00 | 0 | 0 | 0 | 1 | 0 | --- | --- | --- | --- | --- | 35 |
| 03/31/00 | 0 | 0 | 0 | 3 | 0 | --- | --- | --- | --- | --- | 18 |
| 04/01/00 | --- | 0 | --- | --- | 0 | --- | --- | 0 | 20 | --- | 158 |
| 04/02/00 | --- | 0 | --- | --- | 0 | 0 | 10 | 0 | 12 | --- | 217 |
| 04/03/00 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | --- | 106 |
| 04/04/00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 465 |
| 04/05/00 | 0 | 0 | 0 | 0 | 12 | 7 | 0 | 1 | 20 | 5 | 96* |
| 04/06/00 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 6 | 0 | 20 | 569* |
| 04/07/00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | 0 | 0 | 0 | 6 | 16 | 7 | 10 | 7 | 52 | 25 | 999 |
| # Days: | 9 | 13 | 9 | 9 | 12 | 5 | 5 | 6 | 6 | 3 | 13 |
| Average: | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 1 | 9 | 8 | 91 |

COMBINED STEELHEAD

| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) |
|-----------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 03/25/00 | --- | 0 | --- | --- | --- | --- | --- | --- | --- | --- | 0 |
| 03/26/00 | --- | 0 | --- | --- | 50 | --- | --- | --- | --- | --- | 19 |
| 03/27/00 | 0 | 0 | 6 | 3 | 100 | --- | --- | --- | --- | --- | 42 |
| 03/28/00 | 0 | 2 | 6 | 2 | 230 | --- | --- | --- | --- | --- | 0 |
| 03/29/00 | 0 | 3 | 8 | 2 | 190 | --- | --- | --- | --- | --- | 0 |
| 03/30/00 | 0 | 3 | 2 | 5 | 200 | --- | --- | --- | --- | --- | 35 |
| 03/31/00 | 0 | 1 | 1 | 2 | 465 | --- | --- | --- | --- | --- | 36 |
| 04/01/00 | --- | 0 | --- | --- | 612 | --- | --- | 1 | 260 | --- | 35 |
| 04/02/00 | --- | 0 | --- | --- | 530 | 16 | 70 | 0 | 115 | --- | 38 |
| 04/03/00 | 0 | 0 | 12 | 8 | 1,148 | 156 | 120 | 1 | 181 | --- | 27 |
| 04/04/00 | 1 | 2 | 79 | 15 | 2,280 | 93 | 373 | 1 | 272 | 80 | 378 |
| 04/05/00 | 0 | 58 | 259 | 24 | 1,814 | 95 | 227 | 6 | 347 | 115 | 86* |
| 04/06/00 | 9 | 18 | 201 | 37 | 5,301 | 229 | 104 | 14 | 593 | 200 | 166* |
| 04/07/00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | 10 | 87 | 574 | 98 | 12,920 | 589 | 894 | 23 | 1,768 | 395 | 610 |
| # Days: | 9 | 13 | 9 | 9 | 12 | 5 | 5 | 6 | 6 | 3 | 13 |
| Average: | 1 | 7 | 64 | 11 | 1,077 | 118 | 179 | 4 | 295 | 132 | 55 |

Definitions for Smolt Index Counts

WTB (Collection) = Salmon River Trap at Whitebird : Collection Counts IMN (Collection) = Imnaha River Trap : Collection Counts
 GRN (Collection) = Grande Ronde River Trap : Collection Counts LEW (Collection) = Snake River Trap at Lewiston : Collection Counts
 LGR (Index) = Lower Granite Dam Bypass Collection System : Passage Index Counts : Passage Index = (Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)})
 LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts : Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
 LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts : Passage Index = Collection Counts / (Powerhouse Flow / (Powerhouse Flow + Spill))

Two-Week Summary of Passage Indices

COMBINED SOCKEYE

| | WTB | IMN | GRN | LEW | LGR | LGS | LMN | RIS | MCN | JDA | BO2 |
|-----------------|----------|-----------|----------|----------|------------|-----------|-----------|----------|-----------|----------|-----------|
| Date | (Coll) | (Coll) | (Coll) | (Coll) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) | (INDEX) |
| 03/25/00 | --- | 0 | --- | --- | --- | --- | --- | --- | --- | --- | 0 |
| 03/26/00 | --- | 0 | --- | --- | 0 | --- | --- | --- | --- | --- | 0 |
| 03/27/00 | 0 | 0 | 0 | 0 | 10 | --- | --- | --- | --- | --- | 0 |
| 03/28/00 | 0 | 0 | 0 | 0 | 30 | --- | --- | --- | --- | --- | 0 |
| 03/29/00 | 0 | 0 | 0 | 0 | 0 | --- | --- | --- | --- | --- | 0 |
| 03/30/00 | 0 | 0 | 0 | 0 | 10 | --- | --- | --- | --- | --- | 0 |
| 03/31/00 | 0 | 0 | 0 | 0 | 21 | --- | --- | --- | --- | --- | 0 |
| 04/01/00 | --- | 0 | --- | --- | 12 | --- | --- | 0 | 0 | --- | 0 |
| 04/02/00 | --- | 0 | --- | --- | 20 | 0 | 10 | 0 | 6 | --- | 0 |
| 04/03/00 | 0 | 0 | 0 | 0 | 16 | 4 | 0 | 0 | 6 | --- | 9 |
| 04/04/00 | 0 | 0 | 0 | 0 | 20 | 12 | 0 | 0 | 4 | 0 | 29 |
| 04/05/00 | 0 | 0 | 0 | 0 | 37 | 5 | 0 | 0 | 7 | 5 | 0* |
| 04/06/00 | 0 | 0 | 0 | 0 | 25 | 6 | 0 | 0 | 0 | 0 | 0* |
| 04/07/00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total: | 0 | 0 | 0 | 0 | 201 | 27 | 10 | 0 | 23 | 5 | 38 |
| # Days: | 9 | 13 | 9 | 9 | 12 | 5 | 5 | 6 | 6 | 3 | 13 |
| Average: | 0 | 0 | 0 | 0 | 17 | 5 | 2 | 0 | 4 | 2 | 3 |

* See sampling comments <http://www.fpc.org/2000Daily/smpcomments.htm>

Definitions for Smolt Index Counts.

RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts : Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouses 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) }

BO1 (Index)= Bonneville Dam First Powerhouse Bypass Trap : Passage Index Counts : Passage Index = Collection Counts / {Powerhouse 1 Flow / (Powerhouses 1 & 2 +Flow + Spill)}

LEW and WTB data collected for the FPC by Idaho Dept. of Fish and Game.

JDA and BO1 data collected for the FPC by National Marine Fisheries Service.

RIS data collected for the FPC by Chelan Co. PUD/Washington Dept. of Fish and Wildlife.

LGR, LMN, and MCN data collected for the FPC by Washington Dept. of Fish and Wildlife.

LGS and GRN data collected for the FPC by Oregon Dept. of Fish and Wildlife. IMN data collected for the FPC by the Nez Perce Tribe.

Cumulative Adult Passage at Mainstem Dams Through 04/06

| DAM | Spring Chinook | | | | | | Summer Chinook | | | | | | Fall Chinook | | | | | |
|-----|----------------|------|-------|------|------------|------|----------------|------|-------|------|------------|------|--------------|------|-------|------|------------|------|
| | 2000 | | 1999 | | 10-Yr Avg. | | 2000 | | 1999 | | 10-Yr Avg. | | 2000 | | 1999 | | 10-Yr Avg. | |
| | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack |
| BON | 12,580 | 79 | 498 | 3 | 2,576 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TDA | 3,012 | 42 | 42 | 0 | 659 | 2 | 0 | 0 | | | | | 0 | 0 | | | | |
| JDA | 1,114 | 2 | 10 | 0 | 219 | 3 | 0 | 0 | | | | | 0 | 0 | | | | |
| MCN | 160 | 1 | 4 | 0 | 59 | 0 | 0 | 0 | | | | | 0 | 0 | | | | |
| IHR | 25 | 1 | 1 | 0 | 16 | 0 | 0 | 0 | | | | | 0 | 0 | | | | |
| LMN | 3 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | | | | | 0 | 0 | | | | |
| LGS | 2 | 1 | 0 | 0 | ** | ** | 0 | 0 | | | ** | ** | 0 | 0 | | | ** | ** |
| LWG | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PRD | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0 | | | | |
| RIS | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0 | | | | |
| RRH | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0 | | | | |
| WEL | 0 | 0 | | | | | 0 | 0 | | | | | 0 | 0 | | | | |

| DAM | Coho | | | | | | Sockeye | | | Steelhead | | | |
|-----|-------|------|-------|------|------------|------|---------|------|------------|-----------|-------|------------|------|
| | 2000 | | 1999 | | 10-Yr Avg. | | 2000 | 1999 | 10-Yr Avg. | 2000 | 1999 | 10-Yr Avg. | Wild |
| | Adult | Jack | Adult | Jack | Adult | Jack | | | | | | | 2000 |
| BON | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 988 | 529 | 1,015 | 451 |
| TDA | 0 | 0 | | | | | 0 | | | 186 | 74 | 462 | 69 |
| JDA | 0 | 0 | | | | | 0 | | | 890 | 794 | 722 | 253 |
| MCN | 0 | 0 | | | | | 0 | | | 165 | 45 | 543 | 24 |
| IHR | 0 | 0 | | | | | 0 | | | 184 | 220 | 811 | 83 |
| LMN | 0 | 0 | | | | | 0 | | | 125 | 180 | 424 | 61 |
| LGS | 0 | 0 | | | ** | ** | 0 | | ** | 116 | 277 | ** | 41 |
| LWG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,553 | 2,431 | 3,231 | 334 |
| PRD | 0 | 0 | | | | | 0 | | | 0 | | | *** |
| RIS | 0 | 0 | | | | | 0 | | | 0 | | | 0 |
| RRH | 0 | 0 | | | | | 0 | | | 0 | | | 0 |
| WEL | 0 | 0 | | | | | 0 | | | 0 | | | 0 |

Note: LGS and LMN are through 04/03, LGR and MCN are through 04/05.

Note: IHR is missing data for 04/02 and 04/03.

Note: LGR's fish ladder was out of service on 03/22 and 03/23; partial counts were collected.

These numbers were collected from the COE's Running Sums text files.

Wild steelhead numbers are included in the total.

**Adult count records at Little Goose Dam have been maintained since 1991, visual counts were not conducted at Little Goose Dam between 1982 and 1990.

***PRD is not reporting Wild Steelhead numbers.

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.

TRANSPORTATION SUMMARY FOR THE PAST TWO WEEKS

March 24 through April 7, 2000

| | | Species Age | | Sockeye | Steelhead | Coho | Grand Total |
|--------------------------------|--------------------------|-------------|-------|---------|-----------|------|-------------|
| | | Chinook | | | | | |
| Site | Data | age 0 | age 1 | | | | |
| LGR | Collected | 110 | 5038 | 94 | 9616 | | 14858 |
| | Number By Passed | 478 | 339 | 0 | 549 | | 1366 |
| | Number Trucked | 4011 | 6084 | 216 | 7204 | | 17515 |
| | Number Barged | 0 | 0 | 0 | 0 | | 0 |
| | Sum of Total Transported | 4011 | 6084 | 216 | 7204 | 0 | 17515 |
| LGS | Collected | | 932 | 8 | 327 | | 1267 |
| | Number By Passed | | 0 | 0 | 0 | | 0 |
| | Number Trucked | | 1561 | 8 | 639 | | 2208 |
| | Number Barged | | 0 | 0 | 0 | | 0 |
| | Sum of Total Transported | 0 | 1561 | 8 | 639 | 0 | 2208 |
| LMN | Collected | | 15658 | 10 | 510 | 10 | 16188 |
| | Number By Passed | | 13 | 0 | 100 | 0 | 113 |
| | Number Trucked | | 12878 | 10 | 12595 | 10 | 25493 |
| | Number Barged | | 0 | 0 | 0 | 0 | 0 |
| | Sum of Total Transported | 0 | 12878 | 10 | 12595 | 10 | 25493 |
| MCN | Collected | 426 | 8805 | 22 | 1576 | 38 | 10867 |
| | Number By Passed | 692 | 7881 | 60 | 1369 | 38 | 10040 |
| | Number Trucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Number Barged | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of Total Transported | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Collected | | 536 | 30433 | 134 | 12029 | 48 | 43180 |
| Total Number By Passed | | 1170 | 8233 | 60 | 2018 | 38 | 11519 |
| Total Number Trucked | | 4011 | 20523 | 234 | 20438 | 10 | 45216 |
| Total Number Barged | | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Sum of Total Transported | | 4011 | 20523 | 234 | 20438 | 10 | 45216 |

Fish Passage Center

4/7/00 12:24 PM

Numbers reported are preliminary. Call FPC Data Center Staff at (503)230-4099 for more information