*Fish Passage Center*

# Weekly Report #01 - 14

June 15, 2001

2501 SW First Ave., Suite 230
Portland, OR 97201-4752
phone: 503/230-4582
fax: 503/230-7559

## SIGNIFICANT POINTS

- **Biological Opinion flow targets for spring migrants have not been achieved in any river reach.**
- **Hydropower economic considerations continue to prioritize reservoir refill, precluding implementation of the salmon managers request for higher migration flows through the Mid-Columbia.**

## SUMMARY OF EVENTS:

**Water supply**: Precipitation continued to be below average for most areas east of the Cascades in the past week. Cumulative precipitation throughout the region continues to be below average.

**Reservoir Operations:** Federal operators and regulators continued to emphasize refill as illustrated in the following table:

| Reservoir | Elevations June 7 - June 14 |
|---|---|
| Libby | 2416.9 – 2421.6 |
| Hungry Horse | 3530.3 – 3534.7 |
| Grand Coulee | 1277.7 – 1280.3 |
| Dworshak | 1578.9 – 1582.7 |
| Brownlee * | 2075.7 – 2076.6 |

* June 8 through June 13

**Flows:** Hydrosystem operations emphasizing refill of storage reservoirs, and low run off volumes have combined to result in mainstem Snake River and Columbia river flows far below the NMFS Biological Opinion target migration flows for spring migrants. As reservoirs continue to refill during the past week, mainstem migration flows have steadily declined. Snake River flows at Lower Granite Dam have steadily declined over the past week. The week average flow at Lower Granite Dam was 41 kcfs, ranging from a high of 44.9 on June 9 to a low of 38.8 kcfs on June 14. This is far below the Biological Opinion flow target of 85 kcfs. Flows at Priest Rapids in the Mid-Columbia River averaged 97.4 kcfs over the past week, ranging from a low of 69.7 kcfs on June 10 to a high daily average flow 129.0 kcfs on June 8. Flows at McNary Dam on the Lower Columbia River averaged 137 kcfs for the past week, ranging from a low daily average flow of 115 kcfs on June 10 to a high daily average flow of 171 kcfs on June 8. Flows over the past week are significantly below the NMFS Biological Opinion target flow of 220 kcfs for the spring salmon downstream migration.

**Spill:** A modified lower Columbia spill program continues at The Dalles, Bonneville, McNary and John Day dams. The FERC fish spill program continues at the Mid Columbia projects. Total dissolved gas readings at most monitors are reading in excess of 100%, but less than the waiver limits. Fish with bubbles in their lateral line have been sampled at both McNary and Rock Island dams, but no fish with bubbles in the unpaired fins have been observed. At a meeting of the Executive Committee today members are expected to consider curtailment of the spill program.

**Smolt Monitoring Program**. Collections of subyearling chinook at Lower Granite Dam rose above 10,000 fish on June 7, remained between 14,100 and 17,550 fish for the first five days of this reporting period, and then doubled to over 35,000 fish on June 13 and 14. Lower Granite Dam PIT tag detections show large numbers of hatchery fall chinook from Captain Johns Acclimation Pond, Big Canyon Creek Acclimation Pond, and Pittsburg Landing Acclimation Pond during this reporting period. A tug breakdown on June 13 at Little Goose Dam resulted in barging delays this week from that site and Lower Monumental Dam. Raceway holding time criteria of 48 hours was exceeded as some groups were held for 72 hours. Subyearling chinook passage indices rose from below 50 fish to over 200 fish during the course of this week at Rock Island Dam. A one-day increase in flow on June 12 was followed by a large one-day increase (3-4 fold) in passage indices of subyearling chinook for the 24-hr sampling period ending 0700 AM June 13 at McNary and John Day dams. Passage indices of subyearling chinook at Bonneville Dam have fluctuated between approximately 22,000 and 44,000 fish during the past two weeks, with no change in passage trend.

**Hatchery Releases** – See the Hatchery Release Summary for the previous two-week and next two week projected releases for the Columbia River Basin above Bonneville Dam.

*Snake River* – Releases of yearling chinook, coho, sockeye, and steelhead are completed for this 2001 migration season. Approximately 1.2 million subyearling fall chinook will be released from late May through June into the Snake and Clearwater rivers, with 107,000 released below Hells Canyon Dam by IDFG. The normal on-site release of subyearling fall chinook from Lyons Ferry Hatchery was transported by fish barge to the release site below Bonneville Dam. The approximate number of fall chinook loaded on the fish barge on 5/31 was 200,000 and would have been released June 1 or 2. A table with the 2001 migration and the previous two years is given for comparison purposes. One obvious difference in release totals for the Snake River was the reduction of hatchery spring chinook released from State, Federal and Tribal facilities in 2001.

**Snake River Hatchery Releases – 2001 Migration**

| Year | Spr Chin | Sum Chin | Fall Chin | Steelhead |
|---|---|---|---|---|
| 1999 | 9,309,857 | 1,574,369 | 1,834,739 | 9,840,622 |
| 2000 | 5,968,537 | 1,172,717 | 3,234,767 | 9,775,735 |
| 2001 | 2,807,948 | 1,343,943 | 2,541,500 | 9,821,057 |

| Year | Coho | Sockeye | Total |
|---|---|---|---|
| 1999 | 788,358 | 151,899 | 23,499,844 |
| 2000 | 797,474 | 40,419 | 20,989,649 |
| 2001 | 582,192 | 86,029 | 17,182,669 |

*Mid-Columbia [above McNary Dam]* – Releases of yearling spring and summer chinook, sockeye, and coho salmon and steelhead are completed for the 2001 migration season. Subyearling summer chinook from Wells and Turtle Rock hatcheries will be completed in June and possibly by early July. About 1.7 million subyearling fall chinook salmon were released from Priest Rapids Hatchery on June 11 with 1.3 million fish (each release day) scheduled on June 13, 15, 17, and the final one on June 19. Approximately 6.9 million will be released from Priest Rapids Hatchery, nearly 47 fish per pound. Tentatively, Ringold Hatchery will release subyearling fall chinook (3.6 million) starting June 18 in the Hanford Reach of the Mid-Columbia. Release of subyearling fall chinook was initiated in the Yakama River basin. The following table lists hatchery fish released in the Mid-Columbia Reach for Year 2001 and the preceding two years. A couple of observations: spring chinook numbers were reduced from the previous 2 years; however, numbers of summer Chinook released in this Reach was increased by 1.3 million and Coho salmon were up near .5 million.

**Mid-Columbia River Hatchery Releases – 2001 Migration**

| Year | Spry Chin | Sum Chin | Fall Chin | Steelhead |
|---|---|---|---|---|
| 1999 | 4,956,745 | 2,977,364 | 11,870,800 | 1,726,741 |
| 2000 | 3,939,920 | 2,853,950 | 12,293,934 | 1,396,898 |
| 2001 | 3,249,761 | 4,216,806 | 12,239,000 | 1,292,692 |

| Year | Coho | Sockeye | Total |
|---|---|---|---|
| 1999 | 1,486,500 | 210,591 | 23,228,741 |
| 2000 | 1,662,994 | 142,901 | 22,290,597 |
| 2001 | 2,142,069 | 241,216 | 23,381,544 |

*Lower Columbia [McNary Dam to above Bonneville Dam]*– Releases of yearling spring and fall chinook salmon are completed for this migration season. No summer Chinook or sockeye salmon are released in the River Zone. About 10.6 million subyearling tule fall chinook were released from Spring Creek National Fish Hatchery in March and April, 2001. Releases of "Bright" subyearling fall chinook should be completed in the Umatilla and Klickitat River basins. Little White Salmon Hatchery is scheduled to release about 2 million subyearling fall Chinook on June 21st. Normal production of subyearling "bright" fall chinook generally ranges between 8 and 10 million annually. Releases of about 6.6 million coho salmon were completed in the Umatilla, Little White Salmon, and Klickitat River basins for the 2001 migration. Steelhead were released in the Umatilla, Little White Salmon, Klickitat, and Hood River basins from late April through May. The following Table lists hatchery fish released in the Lower Columbia Reach for 2001 and two preceding years. In regard to hatchery releases for the 2001 migration, numbers released in 2001 are very similar to the 1999 total. Spring chinook releases are close to the previous 2 years when yearling releases only are considered. The major difference is the shortfall of tule fall chinook released from Spring Creek Hatchery in 2001 compared to year 2000. Coho and steelhead releases are within the normal range for past years.

**Lower Columbia River Hatchery Releases – 2001 Migration**

| Year | Spr Chin | Fall Chin | Steelhead |
|---|---|---|---|
| 1999 | 5,488,404 | 19,322,806 | 621,079 |
| 2000 | 5,320,322 | 28,615,317 | 635,308 |
| 2001 | 5,988,521 | 19,547,682 | 596,408 |

| Year | Coho | Total |
|---|---|---|
| 1999 | 7,186,404 | 32,618,693 |
| 2000 | 8,021,720 | 42,592,667 |
| 2001 | 6,791,808 | 32,924,419 |

**Adult Fish Passage** – Fish counting started April 1 at most COE projects; currently all COE projects are counting adult fish passing mainstem Columbia and Snake River dams. The PUD projects on the Mid-Columbia River began counting on April 15 at Priest Rapids, Rock Island, and Rocky Reach dams, with Wells Dam initiating counting on May 1. The Fish Passage Center Weekly Report will list in a table; the adult fish counts for the week with the previous year (2000) and the 10-year averages through the same ending date so the reader can compare passage throughout the year for the individual species.

At Bonneville Dam, adult summer chinook salmon counted through June 14 was 21,286 and compares with 7,472 in 2000 and 5,236 for the 10-year average. The 2001 count was about double (2.8 times greater) and 4.1 times greater than the respective Year 2000 and 10-year average. Most of the spring/summer chinook from the Snake River have already passed Bonneville Dam based on PIT tag passage at the Bonneville Adult trapping site. PIT tagged adult summer/fall chinook from the upper Columbia River and major tributaries (Wenatchee, Methow ) and hatcheries are now passing Bonneville Dam and the lower Columbia River. At The Dalles Dam, 16,127 adult summer chinook salmon have been counted (approx. 75.8% of the Bonneville count). Since there are no hatchery releases of summer chinook in the Bonneville Dam to McNary Dam Reach, the conversion rate should be fairly equal by the end of summer migration.

The adult spring chinook counts continued in the Snake River and Mid-Columbia projects. The spring chinook counts at Lower Granite Dam averaged about 1,000 per day for the week with 169,198 through June 14. This compares with 33,140 for year 2000 and 13,311 for the 10-year average. Based on PIT tags at Lower Granite adult trap, "summer" chinook salmon from the South Fork Salmon River and other tributaries with "summer" chinook have dominated passage at the project for the past two to three weeks. An estimated 13,000 returning adult hatchery "summer" chinook released in the South Fork Salmon River in migration year 1999 have already passed Lower

Granite Dam based on PIT tag returns to date. In the Mid-Columbia River, about 50,000 adult spring chinook have been counted at Priest Rapids Dam with nearly 39,000 counted at Rock Island Dam. Based on the difference between the Rock Island count and Rocky Reach count (about 14,500); about 24,500 should have entered the Wenatchee River and tributaries. About 9,200 adult spring chinook have been counted at Wells Dam and would be expected to enter the Methow River and tributaries to spawn.

Steelhead passage at Bonneville Dam had counts ranging between 377 and 577 per day and averaging 487 per day through the week ending June 14. The early returns of steelhead at Bonneville Dam indicate that the 2001 upstream migration season might be fairly strong as the 2001 count of 11,642 is 1.8 times greater than the year 2000 and 10-year average through June 14. Numbers are increasing daily at The Dalles, John Day, McNary dams and are entering the Snake River. Mid-Columbia projects are still at reduced rates, less than 5 per day.

Adult sockeye passage at Bonneville Dam rose from 506 (daily count on 6/8) to 1,697 on 6/14. The count to date is 9,114 and was about 91% of the 2000 count and 4.2 times greater than the 10-year average. These sockeye are passing the lower river projects and are moving up into the Mid-Columbia River to their main spawning sites in Lake Wenatchee and Lake Osoyoos. Only a small portion of the run will enter the Snake River to spawn; however, it was good to note that one or two sockeye have been counted in the Snake River.

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

| | Grand Coulee | | Chief Joseph | | Wells | | Rocky Reach | | Rock Island | | Wanapum | | Priest Rapids | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill |
| 06/01/01 | 69.2 | 0.1 | 66.4 | 0.0 | 73.5 | 5.6 | 75.8 | 0.0 | 84.2 | 16.5 | 105.4 | 45.4 | 91.2 | 55.8 |
| 06/02/01 | 55.7 | 0.1 | 57.0 | 0.0 | 61.4 | 4.9 | 61.6 | 0.0 | 68.3 | 13.9 | 86.8 | 37.6 | 78.8 | 48.2 |
| 06/03/01 | 49.8 | 0.1 | 52.3 | 0.0 | 63.4 | 4.9 | 61.0 | 0.0 | 67.1 | 13.5 | 80.1 | 34.7 | 70.5 | 43.4 |
| 06/04/01 | 74.5 | 0.1 | 76.2 | 0.0 | 82.8 | 6.4 | 88.0 | 0.0 | 95.8 | 18.9 | 104.4 | 45.1 | 89.7 | 54.0 |
| 06/05/01 | 76.2 | 0.1 | 79.0 | 0.0 | 83.5 | 6.2 | 84.7 | 0.0 | 89.6 | 17.4 | 113.8 | 48.9 | 105.5 | 64.6 |
| 06/06/01 | 91.8 | 0.1 | 88.4 | 0.0 | 91.4 | 6.6 | 87.0 | 0.0 | 93.1 | 17.5 | 103.3 | 44.5 | 87.9 | 54.1 |
| 06/07/01 | 105.4 | 0.1 | 108.5 | 0.0 | 112.4 | 8.5 | 112.1 | 0.0 | 117.6 | 22.7 | 133.7 | 57.6 | 115.0 | 70.4 |
| 06/08/01 | 85.6 | 0.1 | 89.5 | 0.0 | 97.6 | 7.1 | 104.9 | 0.0 | 111.8 | 21.8 | 139.8 | 60.1 | 129.5 | 80.0 |
| 06/09/01 | 67.4 | 0.1 | 70.6 | 0.0 | 76.4 | 6.0 | 72.9 | 0.0 | 80.4 | 15.4 | 97.4 | 41.8 | 83.5 | 51.4 |
| 06/10/01 | 53.4 | 0.1 | 54.4 | 0.0 | 58.3 | 4.4 | 57.3 | 0.0 | 63.5 | 12.6 | 78.8 | 33.9 | 68.5 | 42.7 |
| 06/11/01 | 101.3 | 0.1 | 102.8 | 0.0 | 106.8 | 7.9 | 104.2 | 0.0 | 109.1 | 21.3 | 123.4 | 53.3 | 107.7 | 65.4 |
| 06/12/01 | 75.2 | 0.1 | 76.9 | 0.0 | 82.1 | 6.4 | 82.0 | 0.0 | 88.9 | 17.5 | 114.9 | 49.4 | 109.0 | 67.1 |
| 06/13/01 | 68.8 | 0.1 | 71.8 | 0.0 | 77.1 | 5.6 | 77.6 | 0.0 | 82.7 | 16.1 | 94.5 | 40.5 | 80.1 | 49.0 |
| 06/14/01 | 83.6 | 0.1 | 82.2 | 0.0 | 84.3 | 6.4 | 79.8 | 0.0 | 84.6 | 16.3 | 98.8 | 42.3 | 86.7 | 53.3 |

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

| | Dworshak | | Brownlee | Hells Canyon | Lower Granite | | Little Goose | | Lower Monumental | | Ice Harbor | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Flow | Spill | Inflow | Outflow | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill |
| 06/01/01 | 1.8 | 0.0 | 10.3 | 10.4 | 51.8 | 0.0 | 51.3 | 0.0 | 53.5 | 0.0 | 53.3 | 0.0 |
| 06/02/01 | 1.8 | 0.0 | 9.1 | 8.6 | 47.7 | 0.0 | 48.2 | 0.0 | 49.2 | 0.0 | 47.6 | 0.0 |
| 06/03/01 | 1.8 | 0.0 | 8.6 | 8.6 | 43.7 | 0.0 | 44.2 | 0.0 | 46.4 | 0.0 | 45.6 | 0.0 |
| 06/04/01 | 1.7 | 0.0 | 8.9 | 8.0 | 43.1 | 0.0 | 43.9 | 0.0 | 46.8 | 0.0 | 45.8 | 0.0 |
| 06/05/01 | 1.7 | 0.0 | 9.6 | 7.7 | 43.4 | 0.0 | 42.9 | 0.0 | 43.8 | 0.0 | 42.7 | 0.0 |
| 06/06/01 | 1.7 | 0.0 | 9.7 | 8.9 | 41.4 | 0.0 | 42.3 | 0.0 | 43.7 | 0.0 | 43.3 | 0.0 |
| 06/07/01 | 1.7 | 0.0 | 10.3 | 13.0 | 42.1 | 0.0 | 41.5 | 0.0 | 44.0 | 0.0 | 43.2 | 0.0 |
| 06/08/01 | 1.6 | 0.0 | 9.0 | 13.2 | 45.7 | 0.0 | 46.7 | 0.0 | 49.5 | 0.0 | 49.3 | 0.0 |
| 06/09/01 | 1.7 | 0.0 | 8.9 | 8.8 | 45.7 | 0.0 | 44.5 | 0.0 | 45.4 | 0.0 | 43.5 | 0.0 |
| 06/10/01 | 1.7 | 0.0 | 8.7 | 7.6 | 38.2 | 0.0 | 39.4 | 0.0 | 41.5 | 0.0 | 40.3 | 0.0 |
| 06/11/01 | 1.7 | 0.0 | 9.0 | 8.1 | 39.0 | 0.0 | 40.2 | 0.0 | 41.3 | 0.0 | 41.3 | 0.0 |
| 06/12/01 | 1.6 | 0.0 | 8.9 | 7.8 | 39.4 | 0.0 | 40.1 | 0.0 | 43.0 | 0.0 | 41.2 | 0.0 |
| 06/13/01 | 1.7 | 0.0 | 8.9 | 7.8 | 41.6 | 0.0 | 41.0 | 0.0 | 41.6 | 0.0 | 41.6 | 0.0 |
| 06/14/01 | 1.7 | 0.0 | --- | --- | 38.2 | 0.0 | 40.0 | 0.0 | 41.2 | 0.0 | 41.0 | 0.0 |

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

| | McNary | | John Day | | The Dalles | | Bonneville | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date | Flow | Spill | Flow | Spill | Flow | Spill | Flow | Spill | PH1 | PH2 |
| 06/01/01 | 158.0 | 7.6 | 153.4 | 20.8 | 158.6 | 46.6 | 172.7 | 49.3 | 8.1 | 108.6 |
| 06/02/01 | 126.4 | 7.3 | 125.9 | 17.4 | 117.4 | 34.8 | 133.9 | 49.6 | 0.5 | 77.1 |
| 06/03/01 | 106.5 | 7.2 | 101.5 | 15.7 | 101.6 | 30.1 | 116.4 | 49.4 | 0.6 | 59.8 |
| 06/04/01 | 135.9 | 7.5 | 141.2 | 19.1 | 143.3 | 42.5 | 144.6 | 49.3 | 0.5 | 88.1 |
| 06/05/01 | 157.7 | 7.5 | 152.4 | 20.6 | 148.6 | 43.8 | 154.3 | 49.6 | 2.3 | 95.7 |
| 06/06/01 | 133.8 | 7.3 | 147.1 | 19.2 | 149.4 | 44.8 | 157.3 | 49.8 | 0.6 | 100.2 |
| 06/07/01 | 134.0 | 7.3 | 128.4 | 17.6 | 126.8 | 36.9 | 142.5 | 49.7 | 0.7 | 85.4 |
| 06/08/01 | 159.3 | 7.4 | 160.9 | 23.6 | 156.5 | 46.1 | 160.3 | 49.7 | 9.1 | 94.8 |
| 06/09/01 | 148.3 | 7.4 | 140.7 | 20.2 | 136.2 | 41.1 | 163.6 | 49.3 | 9.2 | 98.3 |
| 06/10/01 | 111.6 | 7.4 | 109.8 | 15.4 | 110.4 | 33.1 | 117.3 | 49.3 | 0.7 | 60.6 |
| 06/11/01 | 129.0 | 7.3 | 133.1 | 17.4 | 137.2 | 40.7 | 147.1 | 49.3 | 2.3 | 88.8 |
| 06/12/01 | 166.3 | 7.2 | 167.7 | 20.8 | 162.7 | 47.6 | 166.3 | 49.1 | 8.7 | 101.8 |
| 06/13/01 | 124.8 | 7.4 | 132.8 | 17.5 | 134.6 | 40.8 | 159.1 | 49.1 | 3.9 | 99.4 |
| 06/14/01 | 123.9 | 7.4 | 120.6 | 15.0 | 115.3 | 34.0 | 133.4 | 48.7 | 0.7 | 77.3 |

# 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 | Fish with L. Line GBT: Num Fish | Avg. Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lower Granite Dam** | | | | | | | | | | | | | |
| | 06/05/01 | Yearling Chinook | 70 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/05/01 | Steelhead | 30 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/12/01 | Yearling Chinook | 15 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/12/01 | Steelhead | 85 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| **Little Goose Dam** | | | | | | | | | | | | | |
| | 06/06/01 | Yearling Chinook | 16 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/06/01 | Steelhead | 84 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/13/01 | Yearling Chinook | 76 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/13/01 | Steelhead | 24 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| **Lower Monumental Dam** | | | | | | | | | | | | | |
| | 06/11/01 | Yearling Chinook | 7 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/11/01 | Steelhead | 53 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| **McNary Dam** | | | | | | | | | | | | | |
| | 06/07/01 | Subyearling Chinook | 28 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/07/01 | Yearling Chinook | 44 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/07/01 | Steelhead | 28 | 1 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 1 | 1 |
| | 06/11/01 | Subyearling Chinook | 91 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/11/01 | Yearling Chinook | 9 | 1 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 1 | 1 |
| | 06/14/01 | Subyearling Chinook | 31 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| **Bonneville Dam** | | | | | | | | | | | | | |
| | 06/05/01 | Yearling Chinook | 51 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/05/01 | Steelhead | 10 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/08/01 | Yearling Chinook | 27 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/08/01 | Steelhead | 3 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| **Rock Island Dam** | | | | | | | | | | | | | |
| | 06/07/01 | Yearling Chinook | 8 | 1 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 1 | 1 |
| | 06/07/01 | Steelhead | 92 | 5 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 5 | 1 |
| | 06/12/01 | Yearling Chinook | 5 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/12/01 | Steelhead | 95 | 15 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 15 | 1 |
| | 06/14/01 | Yearling Chinook | 4 | 0 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 0 | 0 |
| | 06/14/01 | Steelhead | 34 | 2 | 0 | 0.00% | 0.00% | 0 | 0 | 0 | 0 | 2 | 1 |

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

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

| | Hungry H. Dnst | | | | Boundary | | | | Grand Coulee | | | | Grand C. Tlwr | | | | Chief Joseph | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # |
| Date | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr |
| 6/1 | 104 | 105 | 107 | 23 | 114 | 116 | 117 | 24 | 107 | 107 | 108 | 24 | 105 | 106 | 107 | 24 | 108 | 108 | 109 | 24 |
| 6/2 | 106 | 107 | 108 | 24 | 111 | 112 | 114 | 24 | 106 | 106 | 106 | 24 | 104 | 105 | 105 | 24 | 106 | 106 | 107 | 24 |
| 6/3 | 105 | 105 | 106 | 23 | 111 | 112 | 114 | 23 | 106 | 106 | 106 | 23 | 104 | 105 | 106 | 23 | 106 | 106 | 107 | 23 |
| 6/4 | 104 | 105 | 106 | 24 | 111 | 111 | 114 | 24 | 106 | 107 | 108 | 24 | 104 | 105 | 106 | 24 | 106 | 106 | 107 | 23 |
| 6/5 | 104 | 105 | 106 | 24 | 110 | 110 | 112 | 24 | 106 | 106 | 107 | 24 | 104 | 105 | 105 | 24 | 105 | 105 | 105 | 24 |
| 6/6 | 104 | 105 | 105 | 24 | 109 | 110 | 111 | 24 | 105 | 105 | 105 | 24 | 103 | 104 | 105 | 20 | 104 | 104 | 105 | 23 |
| 6/7 | 104 | 105 | 106 | 23 | 111 | 112 | 115 | 24 | 105 | 105 | 106 | 24 | 103 | 104 | 104 | 24 | 104 | 105 | 105 | 23 |
| 6/8 | 103 | 104 | 105 | 24 | 109 | 109 | 110 | 24 | 106 | 106 | 106 | 24 | 104 | 104 | 105 | 24 | 105 | 106 | 106 | 24 |
| 6/9 | 102 | 103 | 105 | 24 | 108 | 108 | 109 | 24 | 106 | 106 | 106 | 24 | 104 | 105 | 105 | 24 | 105 | 105 | 106 | 24 |
| 6/10 | 102 | 103 | 104 | 24 | 107 | 108 | 108 | 24 | 106 | 106 | 106 | 24 | 104 | 105 | 106 | 24 | 105 | 106 | 107 | 23 |
| 6/11 | 103 | 104 | 105 | 24 | 107 | 107 | 108 | 24 | 106 | 106 | 107 | 24 | 104 | 105 | 106 | 24 | 105 | 105 | 105 | 23 |
| 6/12 | 102 | 102 | 103 | 24 | 107 | 107 | 108 | 24 | 106 | 106 | 107 | 24 | 104 | 105 | 106 | 24 | 104 | 104 | 105 | 23 |
| 6/13 | 103 | 104 | 105 | 24 | 107 | 108 | 108 | 24 | 106 | 106 | 107 | 24 | 104 | 105 | 106 | 24 | 104 | 105 | 105 | 23 |
| 6/14 | 100 | 102 | 103 | 24 | 109 | 109 | 110 | 24 | 107 | 107 | 107 | 24 | 105 | 105 | 106 | 24 | 105 | 105 | 105 | 23 |

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

| | Chief J. Dnst | | | | Wells | | | | Wells Dwnstrm | | | | Rocky Reach | | | | Rocky R. Tlwr | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # |
| Date | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr |
| 6/1 | 107 | 108 | 108 | 24 | 109 | 109 | 110 | 24 | 110 | 110 | 111 | 24 | 108 | 108 | 109 | 23 | 109 | 110 | 110 | 22 |
| 6/2 | 107 | 107 | 109 | 24 | 107 | 107 | 108 | 23 | 108 | 109 | 109 | 23 | 107 | 107 | 108 | 24 | 109 | 109 | 109 | 24 |
| 6/3 | 106 | 107 | 107 | 23 | 106 | 106 | 107 | 23 | 107 | 108 | 108 | 23 | 107 | 107 | 107 | 23 | 108 | 108 | 109 | 23 |
| 6/4 | 106 | 107 | 108 | 23 | 106 | 107 | 107 | 24 | 108 | 109 | 109 | 24 | 107 | 107 | 107 | 21 | 108 | 108 | 109 | 20 |
| 6/5 | 105 | 106 | 107 | 24 | 105 | 105 | 105 | 21 | 107 | 107 | 107 | 21 | 106 | 106 | 107 | 24 | 108 | 108 | 108 | 23 |
| 6/6 | 105 | 105 | 106 | 23 | 104 | 105 | 105 | 24 | 106 | 107 | 107 | 24 | 105 | 105 | 106 | 23 | 107 | 107 | 107 | 23 |
| 6/7 | 105 | 105 | 106 | 23 | 105 | 105 | 106 | 23 | 107 | 107 | 108 | 23 | 105 | 105 | 106 | 13 | 107 | 107 | 107 | 13 |
| 6/8 | 106 | 107 | 108 | 24 | 106 | 106 | 107 | 23 | 107 | 108 | 108 | 23 | 107 | 107 | 107 | 16 | 108 | 108 | 108 | 16 |
| 6/9 | 107 | 108 | 109 | 23 | 105 | 106 | 106 | 21 | 107 | 107 | 108 | 21 | 108 | 108 | 108 | 23 | 108 | 108 | 108 | 23 |
| 6/10 | 106 | 106 | 107 | 23 | 105 | 105 | 105 | 24 | 106 | 107 | 107 | 24 | 107 | 107 | 108 | 22 | 108 | 108 | 109 | 21 |
| 6/11 | 106 | 106 | 107 | 23 | 105 | 106 | 106 | 23 | 107 | 108 | 108 | 23 | 107 | 108 | 108 | 23 | 108 | 108 | 108 | 20 |
| 6/12 | 105 | 106 | 107 | 23 | 104 | 105 | 105 | 24 | 106 | 107 | 107 | 24 | 106 | 106 | 106 | 21 | 106 | 106 | 107 | 21 |
| 6/13 | 105 | 105 | 106 | 23 | 104 | 104 | 105 | 20 | 106 | 106 | 107 | 20 | 105 | 106 | 106 | 23 | 106 | 106 | 107 | 20 |
| 6/14 | 105 | 105 | 106 | 21 | 105 | 105 | 106 | 22 | 106 | 107 | 108 | 22 | 106 | 107 | 107 | 20 | 107 | 107 | 107 | 17 |

## Total Dissolved Gas Saturation at Mid Columbia River Sites

| | Rock Island | | | | Rock I. Tlwr | | | | Wanapum | | | | Wanapum Tlwr | | | | Priest Rapids | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # |
| Date | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr |
| 6/1 | 103 | 103 | 104 | 23 | 117 | 117 | 118 | 22 | 114 | 115 | 116 | 24 | 113 | 114 | 115 | 24 | 114 | 116 | 118 | 24 |
| 6/2 | 103 | 103 | 104 | 24 | 116 | 117 | 117 | 24 | 110 | 111 | 111 | 24 | 113 | 114 | 115 | 24 | 111 | 111 | 112 | 24 |
| 6/3 | 101 | 102 | 104 | 24 | 116 | 116 | 117 | 24 | 109 | 109 | 110 | 24 | 112 | 112 | 113 | 24 | 108 | 109 | 109 | 24 |
| 6/4 | 103 | 105 | 108 | 22 | 116 | 116 | 117 | 22 | 107 | 108 | 108 | 24 | 112 | 112 | 113 | 24 | 107 | 108 | 109 | 24 |
| 6/5 | 107 | 107 | 107 | 24 | 115 | 116 | 118 | 23 | 108 | 109 | 110 | 24 | 112 | 113 | 113 | 24 | 109 | 110 | 110 | 20 |
| 6/6 | 106 | 107 | 107 | 24 | 114 | 115 | 117 | 23 | 110 | 111 | 112 | 24 | 113 | 113 | 114 | 24 | 111 | 111 | 113 | 22 |
| 6/7 | 106 | 106 | 106 | 13 | 115 | 115 | 117 | 13 | 112 | 114 | 115 | 24 | 113 | 114 | 115 | 24 | 112 | 113 | 114 | 23 |
| 6/8 | 107 | 107 | 108 | 16 | 115 | 115 | 116 | 16 | 113 | 114 | 115 | 24 | 114 | 114 | 114 | 24 | 114 | 114 | 115 | 24 |
| 6/9 | 107 | 107 | 108 | 23 | 115 | 116 | 117 | 22 | 113 | 113 | 114 | 24 | 114 | 114 | 115 | 24 | 113 | 114 | 114 | 24 |
| 6/10 | 107 | 107 | 108 | 20 | 116 | 116 | 118 | 20 | 112 | 112 | 112 | 24 | 113 | 113 | 114 | 24 | 112 | 112 | 113 | 24 |
| 6/11 | 107 | 108 | 108 | 22 | 116 | 116 | 118 | 18 | 111 | 111 | 112 | 24 | 113 | 115 | 117 | 24 | 111 | 112 | 112 | 24 |
| 6/12 | 105 | 106 | 107 | 23 | 115 | 115 | 116 | 20 | 110 | 110 | 111 | 24 | 113 | 113 | 115 | 24 | 111 | 111 | 113 | 23 |
| 6/13 | 105 | 106 | 106 | 20 | 114 | 115 | 116 | 20 | 110 | 111 | 111 | 24 | 112 | 113 | 114 | 24 | 111 | 113 | 115 | 24 |
| 6/14 | 106 | 106 | 106 | 17 | 114 | 115 | 116 | 13 | --- | --- | --- | 0 | --- | --- | --- | 0 | --- | --- | --- | 0 |

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

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

| | Priest R. Dnst | | | | Pasco | | | | Dworshak | | | | Clrwtr-Peck | | | | Anatone | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # |
| Date | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr |
| 6/1 | 116 | 118 | 119 | 24 | 112 | 113 | 114 | 24 | 105 | 107 | 109 | 24 | --- | --- | --- | 0 | 103 | 104 | 106 | 24 |
| 6/2 | 113 | 114 | 115 | 24 | 108 | 108 | 109 | 24 | 104 | 105 | 107 | 24 | --- | --- | --- | 0 | 102 | 103 | 104 | 24 |
| 6/3 | 111 | 112 | 113 | 24 | 107 | 108 | 108 | 24 | 104 | 105 | 105 | 24 | 101 | 101 | 102 | 24 | 101 | 102 | 103 | 23 |
| 6/4 | 112 | 114 | 115 | 24 | 107 | 108 | 109 | 24 | 104 | 104 | 105 | 24 | 101 | 101 | 101 | 24 | 102 | 102 | 102 | 24 |
| 6/5 | 115 | 115 | 116 | 24 | 106 | 107 | 108 | 24 | 105 | 106 | 107 | 24 | --- | --- | --- | 0 | 101 | 102 | 103 | 24 |
| 6/6 | 115 | 116 | 117 | 24 | 108 | 110 | 111 | 24 | 106 | 107 | 108 | 24 | 102 | 104 | 104 | 24 | 102 | 103 | 104 | 24 |
| 6/7 | 117 | 119 | 120 | 23 | 111 | 113 | 113 | 24 | 105 | 106 | 107 | 24 | 102 | 103 | 104 | 24 | 103 | 103 | 104 | 24 |
| 6/8 | 119 | 120 | 120 | 24 | 113 | 115 | 115 | 24 | 106 | 107 | 108 | 24 | --- | --- | --- | 0 | 103 | 104 | 105 | 24 |
| 6/9 | 116 | 117 | 119 | 24 | 113 | 113 | 114 | 24 | 105 | 106 | 108 | 23 | --- | --- | --- | 0 | 103 | 103 | 105 | 24 |
| 6/10 | 113 | 114 | 114 | 24 | 111 | 111 | 112 | 24 | 105 | 106 | 106 | 24 | 101 | 102 | 102 | 24 | 102 | 102 | 103 | 23 |
| 6/11 | 114 | 116 | 119 | 24 | 108 | 108 | 110 | 24 | 105 | 106 | 107 | 24 | 102 | 103 | 104 | 24 | 102 | 103 | 104 | 23 |
| 6/12 | 116 | 118 | 118 | 24 | 107 | 109 | 110 | 24 | 106 | 107 | 108 | 24 | 101 | 101 | 102 | 24 | 102 | 102 | 103 | 24 |
| 6/13 | 114 | 116 | 119 | 24 | 111 | 112 | 112 | 24 | 106 | 106 | 107 | 24 | 101 | 102 | 103 | 24 | 102 | 103 | 104 | 21 |
| 6/14 | --- | --- | --- | 0 | 111 | 111 | 112 | 24 | 106 | 107 | 109 | 21 | 103 | 104 | 105 | 24 | 103 | 104 | 105 | 24 |

## Total Dissolved Gas Saturation Data at Snake River Sites

| | Clrwtr-Lewiston | | | | Lower Granite | | | | L. Granite Tlwr | | | | Little Goose | | | | L. Goose Tlwr | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # |
| Date | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr |
| 6/1 | 102 | 104 | 106 | 24 | 104 | 105 | 106 | 24 | 102 | 102 | 103 | 24 | 106 | 107 | 108 | 24 | 104 | 105 | 105 | 24 |
| 6/2 | 100 | 102 | 103 | 24 | 103 | 103 | 103 | 24 | 102 | 102 | 102 | 24 | 102 | 102 | 103 | 24 | 102 | 102 | 103 | 24 |
| 6/3 | 100 | 101 | 102 | 24 | 102 | 103 | 103 | 24 | 101 | 102 | 102 | 24 | 101 | 101 | 102 | 24 | 101 | 101 | 101 | 24 |
| 6/4 | 100 | 101 | 101 | 24 | 102 | 103 | 103 | 24 | 101 | 102 | 102 | 24 | 100 | 101 | 101 | 24 | 101 | 101 | 102 | 24 |
| 6/5 | 100 | 101 | 102 | 24 | 100 | 101 | 101 | 24 | 100 | 100 | 101 | 24 | 99 | 99 | 100 | 24 | 100 | 100 | 100 | 24 |
| 6/6 | 102 | 104 | 106 | 24 | 99 | 99 | 100 | 24 | 98 | 98 | 98 | 24 | 98 | 98 | 98 | 24 | 99 | 99 | 99 | 24 |
| 6/7 | 102 | 103 | 105 | 24 | 100 | 101 | 102 | 24 | 98 | 98 | 98 | 24 | 101 | 104 | 105 | 24 | 100 | 100 | 101 | 24 |
| 6/8 | 102 | 104 | 105 | 24 | 101 | 102 | 102 | 24 | 99 | 100 | 100 | 24 | 104 | 104 | 105 | 24 | 102 | 102 | 102 | 24 |
| 6/9 | 103 | 105 | 125 | 24 | 100 | 101 | 102 | 24 | 100 | 101 | 101 | 24 | 101 | 101 | 102 | 24 | 101 | 101 | 101 | 24 |
| 6/10 | 101 | 102 | 103 | 24 | 102 | 103 | 103 | 24 | 101 | 102 | 102 | 24 | 100 | 100 | 100 | 24 | 100 | 100 | 100 | 24 |
| 6/11 | 101 | 102 | 103 | 24 | 104 | 104 | 105 | 24 | 103 | 103 | 103 | 24 | 99 | 99 | 100 | 24 | 100 | 100 | 100 | 24 |
| 6/12 | 100 | 101 | 102 | 24 | 103 | 103 | 104 | 24 | 102 | 103 | 103 | 24 | 98 | 99 | 99 | 24 | 99 | 100 | 100 | 24 |
| 6/13 | 101 | 102 | 104 | 24 | 102 | 102 | 104 | 24 | 101 | 101 | 102 | 24 | 99 | 99 | 100 | 24 | 100 | 100 | 100 | 24 |
| 6/14 | 102 | 104 | 105 | 24 | 101 | 101 | 102 | 24 | 101 | 101 | 101 | 24 | 100 | 100 | 101 | 24 | 101 | 101 | 101 | 24 |

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

| | Lower Mon. | | | | L. Mon. Tlwr | | | | Ice Harbor | | | | Ice Harbor Tlwr | | | | McNary-Oregon | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # | 24 h | 12 h | | # |
| Date | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr |
| 6/1 | 106 | 107 | 107 | 24 | 105 | 105 | 106 | 24 | 106 | 107 | 109 | 24 | 107 | 108 | 110 | 24 | 106 | 107 | 110 | 24 |
| 6/2 | 104 | 104 | 104 | 24 | 103 | 103 | 104 | 24 | 104 | 104 | 105 | 24 | 106 | 107 | 107 | 24 | 106 | 107 | 107 | 24 |
| 6/3 | 103 | 103 | 104 | 24 | 102 | 103 | 104 | 24 | 103 | 104 | 105 | 24 | 106 | 107 | 107 | 24 | 106 | 107 | 107 | 24 |
| 6/4 | 103 | 103 | 103 | 24 | 102 | 103 | 103 | 24 | 103 | 104 | 104 | 24 | 105 | 106 | 108 | 24 | 106 | 106 | 106 | 24 |
| 6/5 | 102 | 102 | 103 | 24 | 101 | 102 | 102 | 24 | 102 | 103 | 103 | 24 | 104 | 104 | 105 | 24 | 104 | 104 | 105 | 24 |
| 6/6 | 100 | 101 | 101 | 24 | 100 | 101 | 101 | 24 | 101 | 102 | 103 | 24 | 103 | 104 | 104 | 24 | 105 | 106 | 107 | 24 |
| 6/7 | 102 | 105 | 108 | 24 | 100 | 101 | 102 | 24 | 103 | 104 | 107 | 23 | 104 | 105 | 105 | 23 | 110 | 113 | 116 | 24 |
| 6/8 | 103 | 104 | 107 | 24 | 102 | 102 | 103 | 24 | 103 | 105 | 108 | 23 | 104 | 105 | 105 | 24 | 110 | 112 | 114 | 24 |
| 6/9 | 101 | 102 | 104 | 24 | 101 | 101 | 101 | 23 | 101 | 102 | 103 | 24 | 104 | 105 | 105 | 24 | 110 | 111 | 113 | 24 |
| 6/10 | 102 | 102 | 102 | 24 | 101 | 102 | 102 | 24 | 101 | 101 | 103 | 24 | 104 | 105 | 105 | 24 | 109 | 110 | 110 | 24 |
| 6/11 | 102 | 102 | 102 | 24 | 102 | 102 | 103 | 24 | 100 | 101 | 101 | 24 | 103 | 104 | 105 | 24 | 109 | 109 | 110 | 24 |
| 6/12 | 101 | 101 | 102 | 24 | 101 | 101 | 101 | 24 | 99 | 99 | 99 | 24 | 103 | 103 | 104 | 24 | 107 | 107 | 108 | 24 |
| 6/13 | 100 | 101 | 102 | 24 | 100 | 101 | 101 | 24 | 99 | 99 | 100 | 24 | 102 | 103 | 104 | 24 | 106 | 107 | 109 | 24 |
| 6/14 | 101 | 102 | 103 | 24 | 100 | 101 | 102 | 24 | 100 | 102 | 103 | 24 | 103 | 104 | 104 | 24 | 107 | 108 | 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**

| | McNary-Wash | | | | McNary Tlwr | | | | John Day | | | | John Day Tlwr | | | | The Dalles | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24 h | 12 h | | # | 24 h | 12 h | | # | 24h | 12h | | # | 24h | 12h | | # | 24h | 12h | | # |
| Date | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | AVG | High | hr |
| 6/1 | 108 | 108 | 110 | 24 | 109 | 112 | 114 | 24 | 105 | 107 | 109 | 24 | 109 | 115 | 115 | 24 | 105 | 106 | 109 | 24 |
| 6/2 | 106 | 106 | 106 | 24 | 108 | 110 | 114 | 24 | 103 | 103 | 103 | 24 | 108 | 113 | 115 | 24 | 102 | 103 | 104 | 24 |
| 6/3 | 106 | 106 | 106 | 24 | 109 | 111 | 114 | 24 | 101 | 101 | 102 | 23 | 107 | 110 | 113 | 21 | 103 | 104 | 104 | 23 |
| 6/4 | 105 | 106 | 106 | 24 | 107 | 109 | 113 | 24 | 101 | 101 | 102 | 23 | 107 | 113 | 114 | 24 | 102 | 102 | 103 | 23 |
| 6/5 | 104 | 105 | 105 | 24 | 107 | 110 | 113 | 24 | 100 | 100 | 101 | 24 | 107 | 114 | 115 | 24 | 102 | 103 | 104 | 24 |
| 6/6 | 103 | 104 | 105 | 24 | 106 | 108 | 113 | 22 | 100 | 100 | 101 | 23 | 106 | 112 | 114 | 24 | 102 | 104 | 105 | 23 |
| 6/7 | 107 | 108 | 110 | 24 | 108 | 110 | 113 | 24 | 100 | 100 | 100 | 23 | 107 | 113 | 114 | 24 | 104 | 105 | 106 | 23 |
| 6/8 | 110 | 112 | 113 | 24 | 108 | 110 | 114 | 24 | 101 | 101 | 102 | 24 | 107 | 114 | 115 | 24 | 104 | 105 | 106 | 24 |
| 6/9 | 110 | 110 | 111 | 23 | 110 | 112 | 114 | 24 | 101 | 101 | 101 | 24 | 107 | 114 | 115 | 23 | 103 | 104 | 106 | 24 |
| 6/10 | 108 | 109 | 109 | 24 | 110 | 112 | 115 | 24 | 100 | 100 | 101 | 23 | 106 | 111 | 113 | 24 | 103 | 104 | 104 | 23 |
| 6/11 | 109 | 109 | 110 | 24 | 111 | 113 | 115 | 24 | 100 | 100 | 101 | 11 | 107 | 113 | 114 | 24 | 102 | 103 | 104 | 23 |
| 6/12 | 107 | 108 | 109 | 24 | 108 | 110 | 113 | 24 | 100 | 100 | 101 | 8 | 107 | 114 | 115 | 24 | 102 | 103 | 104 | 23 |
| 6/13 | 106 | 107 | 111 | 24 | 108 | 111 | 114 | 24 | 100 | 101 | 102 | 23 | 107 | 113 | 114 | 24 | 101 | 102 | 103 | 23 |
| 6/14 | 105 | 107 | 108 | 24 | 107 | 108 | 113 | 24 | 100 | 100 | 101 | 23 | 107 | 112 | 113 | 24 | 103 | 104 | 106 | 23 |

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

| | The Dalles Dnst | | | | Bonneville | | | | Warrendale | | | | Skamania | | | | Camas\Washugal | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 24 h | 12 h | | # | 24 h | 12 h | | # | 24h | 12h | | # | 24h | 12h | | # | 24h | 12h | | # |
| Date | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr | Avg | Avg | High | hr |
| 6/1 | 112 | 113 | 114 | 24 | 110 | 111 | 111 | 24 | 114 | 115 | 115 | 24 | 111 | 112 | 112 | 24 | 111 | 111 | 113 | 24 |
| 6/2 | 110 | 110 | 111 | 24 | 107 | 108 | 108 | 24 | 114 | 115 | 115 | 24 | 110 | 110 | 111 | 24 | 110 | 110 | 111 | 24 |
| 6/3 | 108 | 108 | 109 | 24 | 105 | 105 | 106 | 23 | 114 | 115 | 116 | 23 | 110 | 110 | 110 | 23 | 110 | 111 | 112 | 24 |
| 6/4 | 108 | 109 | 110 | 24 | 104 | 105 | 105 | 23 | 113 | 113 | 114 | 23 | 108 | 108 | 109 | 23 | 111 | 113 | 114 | 24 |
| 6/5 | 108 | 108 | 109 | 24 | 104 | 104 | 105 | 24 | 112 | 113 | 114 | 24 | 107 | 107 | 108 | 24 | 109 | 110 | 111 | 24 |
| 6/6 | 109 | 110 | 111 | 24 | 105 | 105 | 106 | 23 | 112 | 113 | 113 | 23 | 107 | 108 | 108 | 23 | 109 | 111 | 112 | 24 |
| 6/7 | 111 | 112 | 112 | 23 | 107 | 108 | 109 | 23 | 114 | 115 | 116 | 23 | 110 | 111 | 112 | 23 | 111 | 113 | 114 | 24 |
| 6/8 | 112 | 113 | 113 | 24 | 109 | 110 | 111 | 24 | 115 | 115 | 116 | 23 | 111 | 112 | 113 | 24 | 113 | 115 | 116 | 24 |
| 6/9 | 111 | 112 | 113 | 24 | 108 | 108 | 108 | 23 | 112 | 114 | 114 | 24 | 110 | 110 | 111 | 24 | 110 | 111 | 113 | 24 |
| 6/10 | 110 | 111 | 111 | 24 | 107 | 107 | 108 | 23 | 115 | 115 | 116 | 23 | 111 | 112 | 113 | 23 | 110 | 112 | 113 | 24 |
| 6/11 | 110 | 111 | 111 | 24 | 106 | 107 | 107 | 23 | 113 | 114 | 115 | 23 | 109 | 111 | 111 | 23 | 110 | 111 | 113 | 24 |
| 6/12 | 109 | 110 | 111 | 24 | 104 | 104 | 105 | 23 | 111 | 112 | 113 | 23 | 107 | 107 | 109 | 23 | 107 | 107 | 108 | 24 |
| 6/13 | 110 | 110 | 110 | 24 | 104 | 105 | 106 | 23 | 112 | 112 | 113 | 23 | 107 | 108 | 108 | 23 | 108 | 110 | 112 | 24 |
| 6/14 | 109 | 110 | 111 | 24 | 104 | 104 | 105 | 21 | 112 | 112 | 114 | 16 | 108 | 109 | 109 | 21 | 109 | 110 | 114 | 23 |

## HATCHERY RELEASE SUMMARY LAST TWO WEEKS

**Hatchery Release Summary**

**From: 6/1/01 to 6/14/01**

| Agency | Hatchery | Species | Race | MigYr | NumRel | RelStart | RelEnd | RelSite | RelRiver |
|---|---|---|---|---|---|---|---|---|---|
| IDFG | Magic Valley | ST | SU | 2001 | 75,912 | 04-09-01 | 06-04-01 | Squaw Cr Acclim Pd | Salmon River |
| IDFG | Oxbow-Idaho | CH0 | FA | 2001 | 107,000 | 05-25-01 | 06-01-01 | Hells Canyon Dam | Snake River |
| **IDFG Total** | | | | | **182,912** | | | | |
| Nez Perce Tribe | Lyons Ferry | CH0 | FA | 2001 | 24,000 | 06-01-01 | 07-06-01 | Big Canyon (Clearwater R) | Clearwater Rvr M F |
| Nez Perce Tribe | Lyons Ferry | CH0 | FA | 2001 | 400,000 | 05-23-01 | 06-01-01 | Pittsburg Landing | Snake River |
| Nez Perce Tribe | Lyons Ferry | CH0 | FA | 2001 | 500,000 | 05-23-01 | 06-22-01 | Big Canyon (Clearwater R) | Clearwater Rvr M F |
| Nez Perce Tribe | Lyons Ferry | CH0 | FA | 2001 | 500,000 | 05-23-01 | 06-22-01 | Cpt John Acclim Pd | Snake River |
| **Nez Perce Tribe Total** | | | | | **1,424,000** | | | | |
| NMFS | Lyons Ferry | CH0 | FA | 2001 | 7,500 | 06-01-01 | 07-06-01 | Pittsburg Landing | Snake River |
| **NMFS Total** | | | | | **7,500** | | | | |
| ODFW | Big Canyon | ST | SU | 2001 | 130,500 | 05-19-01 | 06-03-01 | Big Canyon Acclim.Pd | Grande Ronde River |
| **ODFW Total** | | | | | **130,500** | | | | |
| WDFW | Klickitat | CH0 | FA | 2001 | 2,300,000 | 05-29-01 | 06-15-01 | Klickitat H | Klickitat River |
| WDFW | Lyons Ferry | CH0 | FA | 2001 | 200,000 | 05-25-01 | 06-01-01 | Lyons Ferry H | Snake River |
| WDFW | Priest Rapids | CH0 | FA | 2001 | 6,900,000 | 06-11-01 | 06-21-01 | Priest Rapids H | Mid-Columbia River |
| WDFW | Wells | CH0 | SU | 2001 | 484,000 | 06-01-01 | 06-20-01 | Wells H | Mid-Columbia River |
| **WDFW Total** | | | | | **9,884,000** | | | | |
| **Grand Total** | | | | | **11,628,912** | | | | |

## HATCHERY RELEASE SUMMARY NEXT TWO WEEKS

**Hatchery Release Summary**

**From: 6/15/01 to 6/28/01**

| Agency | Hatchery | Species | Race | MigYr | NumRel | RelStart | RelEnd | RelSite | RelRiver |
|---|---|---|---|---|---|---|---|---|---|
| Nez Perce Tribe | Lyons Ferry | CH0 | FA | 2001 | 24,000 | 06-01-01 | 07-06-01 | Big Canyon (Clearwater R) | Clearwater Rvr M F |
| Nez Perce Tribe | Lyons Ferry | CH0 | FA | 2001 | 500,000 | 05-23-01 | 06-22-01 | Big Canyon (Clearwater R) | Clearwater Rvr M F |
| Nez Perce Tribe | Lyons Ferry | CH0 | FA | 2001 | 500,000 | 05-23-01 | 06-22-01 | Cpt John Acclim Pd | Snake River |
| **Nez Perce Tribe Total** | | | | | **1,024,000** | | | | |
| NMFS | Lyons Ferry | CH0 | FA | 2001 | 7,500 | 06-01-01 | 07-06-01 | Pittsburg Landing | Snake River |
| **NMFS Total** | | | | | **7,500** | | | | |
| USFWS | L White Salmon | CH0 | FA | 2001 | 1,939,000 | 06-21-01 | 06-21-01 | Little White Salmon H | Little White Salmon River |
| **USFWS Total** | | | | | **1,939,000** | | | | |
| WDFW | Klickitat | CH0 | FA | 2001 | 2,300,000 | 05-29-01 | 06-15-01 | Klickitat H | Klickitat River |
| WDFW | Priest Rapids | CH0 | FA | 2001 | 6,900,000 | 06-11-01 | 06-21-01 | Priest Rapids H | Mid-Columbia River |
| WDFW | Ringold Springs | CH0 | FA | 2001 | 3,500,000 | 06-18-01 | 06-22-01 | Ringold Springs H | Mid-Columbia River |
| WDFW | Turtle Rock | CH0 | SU | 2001 | 450,000 | 06-25-01 | 07-06-01 | Turtle Rock H | Mid-Columbia River |
| WDFW | Turtle Rock | CH0 | SU | 2001 | 600,000 | 06-25-01 | 07-06-01 | Turtle Rock H | Mid-Columbia River |
| WDFW | Wells | CH0 | SU | 2001 | 484,000 | 06-01-01 | 06-20-01 | Wells H | Mid-Columbia River |
| **WDFW Total** | | | | | **14,234,000** | | | | |
| **Grand Total** | | | | | **17,204,500** | | | | |

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

# Two-Week Summary of Passage Indices

## COMBINED YEARLING CHINOOK

| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 06/01/2001 | 10 | 9 | 2 | 2 | 3,800 | 3,027 | 3,480 | 66 | 130,064 | 34,833 | 44,088 |
| 06/02/2001 | --- | --- | --- | --- | 6,460 | 2,390 | 2,910 | 56 | 81,000 | 59,634 | 30,809 |
| 06/03/2001 | --- | --- | --- | --- | 2,300 | 4,258 | 4,290 | 31 | 52,653 | 25,022 | 33,858 |
| 06/04/2001 | 0 | 9 | --- | 2 | 1,720 | 1,926 | 1,236 | 37 | 20,700 | 15,413 | 58,300 |
| 06/05/2001 | 7 | 10 | --- | 1 | 4,750 | 975 | 1,180 | 40 | 25,659 | 23,580 | 45,149 |
| 06/06/2001 * | 0 | 9 | --- | 2 | 5,020 | 575 | 400 | 24 | 14,900 | 24,578 | 45,589 |
| 06/07/2001 | 2 | 11 | --- | 0 | 4,300 | 600 | 465 | 14 | 19,986 | 19,480 | 21,298 |
| 06/08/2001 | 3 | 13 | --- | 1 | 6,400 | 183 | 270 | 21 | 17,894 | 8,755 | 13,328 |
| 06/09/2001 | --- | --- | --- | --- | 2,700 | 627 | 210 | 22 | 22,321 | 19,903 | 14,252 |
| 06/10/2001 | --- | --- | --- | --- | 1,600 | 1,861 | 750 | 10 | 12,600 | 30,382 | 10,043 |
| 06/11/2001 | --- | 20 | --- | 1 | 1,300 | 3,287 | 537 | 11 | 10,782 | 10,557 | 8,421 |
| 06/12/2001 * | --- | 17 | --- | 1 | 1,550 | 1,392 | 350 | 16 | 3,534 | 6,701 | 13,342 |
| 06/13/2001 | --- | 23 | --- | 1 | 1,695 | 545 | 390 | 14 | 11,424 | 12,572 | 15,125 |
| 06/14/2001 * | --- | 18 | --- | 0 | 2,260 | 1,163 | 390 | 5 | 13,523 | 7,171 | 6,725 |
| 06/15/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total:** | **22** | **139** | **2** | **11** | **45,855** | **22,809** | **16,858** | **367** | **437,040** | **298,581** | **360,327** |
| **# Days:** | **6** | **10** | **1** | **10** | **14** | **14** | **14** | **14** | **14** | **14** | **14** |
| **Average:** | **4** | **14** | **2** | **1** | **3,275** | **1,629** | **1,204** | **26** | **31,217** | **21,327** | **25,738** |
| **YTD** | **12,660** | **26,709** | **9,049** | **524** | **1,952,481** | **739,316** | **544,372** | **6,411** | **2,180,342** | **881,997** | **1,641,951** |

## 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 06/01/2001 | 0 | 0 | 1 | 0 | 0 | 0 | 510 | 14 | 57,401 | 1,739 | 38,031 |
| 06/02/2001 | --- | --- | --- | --- | 60 | 0 | 600 | 13 | 36,800 | 984 | 25,635 |
| 06/03/2001 | --- | --- | --- | --- | 100 | 0 | 600 | 60 | 81,103 | 3,286 | 21,983 |
| 06/04/2001 | 0 | 0 | --- | 1 | 180 | 0 | 900 | 170 | 65,800 | 1,845 | 25,211 |
| 06/05/2001 | 0 | 0 | --- | 0 | 50 | 10 | 780 | 5 | 31,962 | 3,318 | 24,221 |
| 06/06/2001 * | 0 | 0 | --- | 0 | 830 | 0 | 260 | 3 | 18,200 | 2,024 | 33,156 |
| 06/07/2001 | 0 | 0 | --- | 0 | 11,130 | 4 | 285 | 11 | 13,295 | 2,120 | 24,661 |
| 06/08/2001 | 0 | 0 | --- | 1 | 17,550 | 4 | 440 | 26 | 20,053 | 1,230 | 23,373 |
| 06/09/2001 | --- | --- | --- | --- | 16,700 | 22 | 180 | 29 | 19,892 | 3,062 | 44,140 |
| 06/10/2001 | --- | --- | --- | --- | 14,100 | 4 | 150 | 33 | 17,300 | 4,505 | 38,917 |
| 06/11/2001 | --- | 0 | --- | 0 | 14,600 | 0 | 170 | 47 | 37,351 | 4,024 | 37,800 |
| 06/12/2001 * | --- | 0 | --- | 0 | 17,000 | 0 | 120 | 109 | 33,916 | 4,525 | 33,665 |
| 06/13/2001 | --- | 0 | --- | 1 | 38,300 | 0 | 140 | 124 | 106,602 | 20,578 | 28,862 |
| 06/14/2001 * | --- | 0 | --- | 0 | 35,400 | 451 | 108 | 205 | 39,769 | 7,745 | 37,534 |
| 06/15/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total:** | **0** | **0** | **1** | **3** | **166,000** | **495** | **5,243** | **849** | **579,444** | **60,985** | **437,189** |
| **# Days:** | **6** | **10** | **1** | **10** | **14** | **14** | **14** | **14** | **14** | **14** | **14** |
| **Average:** | **0** | **0** | **1** | **0** | **11,857** | **35** | **375** | **61** | **41,389** | **4,356** | **31,228** |
| **YTD** | **1** | **1** | **13** | **27** | **166,420** | **494** | **7,660** | **1,457** | **755,808** | **65,556** | **1,207,352** |

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

These data are preliminary and have been derived from various sources. For verification and/or origin of these data, contact the operators of the Fish Passage Data System at (503) 230-4099.

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

# Two-Week Summary of Passage Indices

## COMBINED COHO

| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 06/01/2001 | 0 | 0 | 0 | 0 | 980 | 200 | 90 | 732 | 17,287 | 8,056 | 82,656 |
| 06/02/2001 | --- | --- | --- | --- | 2,000 | 185 | 0 | 491 | 8,100 | 1,505 | 41,157 |
| 06/03/2001 | --- | --- | --- | --- | 260 | 35 | 30 | 464 | 2,997 | 346 | 31,584 |
| 06/04/2001 | 0 | 0 | --- | 1 | 320 | 0 | 0 | 185 | 2,900 | 238 | 28,100 |
| 06/05/2001 | 0 | 0 | --- | 0 | 260 | 285 | 0 | 191 | 2,594 | 209 | 26,808 |
| 06/06/2001 * | 0 | 0 | --- | 0 | 520 | 150 | 20 | 76 | 3,100 | 116 | 41,444 |
| 06/07/2001 | 0 | 0 | --- | 0 | 2,360 | 192 | 0 | 212 | 4,827 | 57 | 18,832 |
| 06/08/2001 | 0 | 0 | --- | 0 | 2,700 | 180 | 30 | 343 | 17,625 | 176 | 12,749 |
| 06/09/2001 | --- | --- | --- | --- | 1,050 | 24 | 10 | 241 | 13,042 | 353 | 18,210 |
| 06/10/2001 | --- | --- | --- | --- | 500 | 102 | 0 | 174 | 2,300 | 347 | 11,456 |
| 06/11/2001 | --- | 0 | --- | 0 | 100 | 20 | 0 | 208 | 431 | 292 | 6,924 |
| 06/12/2001 * | --- | 0 | --- | 0 | 150 | 20 | 10 | 291 | 300 | 69 | 8,067 |
| 06/13/2001 | --- | 0 | --- | 0 | 880 | 130 | 10 | 121 | 1,049 | 372 | 9,569 |
| 06/14/2001 * | --- | 0 | --- | 0 | 940 | 202 | 12 | 68 | 2,204 | 115 | 5,161 |
| 06/15/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total:** | **0** | **0** | **0** | **1** | **13,020** | **1,725** | **212** | **3,797** | **78,756** | **12,251** | **342,717** |
| **# Days:** | **6** | **10** | **1** | **10** | **14** | **14** | **14** | **14** | **14** | **14** | **14** |
| **Average:** | **0** | **0** | **0** | **0** | **930** | **123** | **15** | **271** | **5,625** | **875** | **24,480** |
| **YTD** | **0** | **0** | **0** | **6** | **38,720** | **6,570** | **654** | **42,132** | **125,020** | **49,143** | **2,136,095** |

## 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 06/01/2001 | 32 | 131 | 0 | 9 | 9,440 | 3,629 | 4,830 | 583 | 15,205 | 5,970 | 7,974 |
| 06/02/2001 | --- | --- | --- | --- | 30,200 | 9,488 | 3,960 | 521 | 8,100 | 926 | 4,468 |
| 06/03/2001 | --- | --- | --- | --- | 7,500 | 4,029 | 2,340 | 278 | 3,348 | 519 | 4,548 |
| 06/04/2001 | 0 | 107 | --- | 13 | 2,380 | 2,598 | 3,304 | 184 | 4,200 | 357 | 6,303 |
| 06/05/2001 | 8 | 80 | --- | 111 | 1,450 | 4,901 | 3,480 | 301 | 6,886 | 612 | 6,819 |
| 06/06/2001 * | 1 | 54 | --- | 93 | 2,490 | 4,265 | 2,040 | 338 | 3,200 | 289 | 7,368 |
| 06/07/2001 | 5 | 38 | --- | 22 | 20,910 | 3,912 | 1,365 | 420 | 8,215 | 1,089 | 3,587 |
| 06/08/2001 | 3 | 40 | --- | 4 | 27,800 | 1,963 | 2,540 | 371 | 12,028 | 1,025 | 3,670 |
| 06/09/2001 | --- | --- | --- | --- | 16,900 | 3,466 | 1,590 | 176 | 15,251 | 530 | 5,146 |
| 06/10/2001 | --- | --- | --- | --- | 10,500 | 3,946 | 2,080 | 187 | 3,300 | 693 | 6,748 |
| 06/11/2001 | --- | 19 | --- | 23 | 2,050 | 1,397 | 1,173 | 161 | 2,848 | 292 | 2,058 |
| 06/12/2001 * | --- | 80 | --- | 129 | 1,650 | 2,707 | 870 | 217 | 3,825 | 138 | 7,136 |
| 06/13/2001 | --- | 61 | --- | 51 | 9,505 | 1,807 | 1,330 | 108 | 5,856 | 676 | 9,878 |
| 06/14/2001 * | --- | 35 | --- | 20 | 22,460 | 1,678 | 1,200 | 46 | 3,306 | 459 | 4,066 |
| 06/15/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total:** | **49** | **645** | **0** | **475** | **165,235** | **49,786** | **32,102** | **3,891** | **95,568** | **13,575** | **79,769** |
| **# Days:** | **6** | **10** | **1** | **10** | **14** | **14** | **14** | **14** | **14** | **14** | **14** |
| **Average:** | **8** | **65** | **0** | **48** | **11,803** | **3,556** | **2,293** | **278** | **6,826** | **970** | **5,698** |
| **YTD** | **4,567** | **34,036** | **4,357** | **5,188** | **5,381,681** | **761,824** | **309,938** | **15,926** | **525,837** | **179,355** | **464,715** |

# Two-Week Summary of Passage Indices



## COMBINED SOCKEYE

| Date | WTB (Coll) | IMN (Coll) | GRN (Coll) | LEW (Coll) | LGR (INDEX) | LGS (INDEX) | LMN (INDEX) | RIS (INDEX) | MCN (INDEX) | JDA (INDEX) | BO2 (INDEX) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 06/01/2001 | 2 | 0 | 0 | 0 | 40 | 50 | 0 | 42 | 79,892 | 10,432 | 2,607 |
| 06/02/2001 | --- | --- | --- | --- | 120 | 50 | 0 | 35 | 25,500 | 1,795 | 2,822 |
| 06/03/2001 | --- | --- | --- | --- | 40 | 0 | 30 | 46 | 8,759 | 692 | 4,548 |
| 06/04/2001 | 1 | 0 | --- | 0 | 20 | 0 | 30 | 27 | 3,000 | 1,369 | 2,889 |
| 06/05/2001 | 0 | 0 | --- | 0 | 40 | 10 | 0 | 16 | 5,976 | 1,642 | 3,762 |
| 06/06/2001 * | 0 | 0 | --- | 0 | 50 | 25 | 20 | 7 | 5,700 | 2,371 | 17,038 |
| 06/07/2001 | 0 | 0 | --- | 0 | 50 | 0 | 0 | 17 | 5,167 | 3,552 | 4,035 |
| 06/08/2001 | 0 | 0 | --- | 0 | 50 | 4 | 0 | 12 | 5,625 | 4,158 | 2,125 |
| 06/09/2001 | --- | --- | --- | --- | 0 | 0 | 10 | 3 | 6,631 | 9,068 | 7,126 |
| 06/10/2001 | --- | --- | --- | --- | 0 | 2 | 0 | 8 | 4,600 | 3,985 | 7,375 |
| 06/11/2001 | --- | 0 | --- | 0 | 150 | 20 | 10 | 6 | 1,295 | 1,225 | 936 |
| 06/12/2001 * | --- | 0 | --- | 0 | 50 | 0 | 0 | 0 | 900 | 1,485 | 4,964 |
| 06/13/2001 | --- | 0 | --- | 0 | 40 | 10 | 0 | 3 | 2,320 | 3,031 | 5,402 |
| 06/14/2001 * | --- | 0 | --- | 0 | 100 | 38 | 0 | 3 | 1,402 | 2,983 | 2,033 |
| 06/15/2001 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Total:** | **3** | **0** | **0** | **0** | **750** | **209** | **100** | **225** | **156,767** | **47,788** | **67,662** |
| **# Days:** | **6** | **10** | **1** | **10** | **14** | **14** | **14** | **14** | **14** | **14** | **14** |
| **Average:** | **1** | **0** | **0** | **0** | **54** | **15** | **7** | **16** | **11,198** | **3,413** | **4,833** |
| **YTD** | **24** | **0** | **0** | **0** | **4,340** | **9,295** | **886** | **2,823** | **271,552** | **54,308** | **71,403** |

**Definitions for Smolt Index Counts**

WTB (Collection) = Salmon River Trap at Whitebird : Collection Counts
IMN (Collection) = Imnaha River Trap : Collection Counts
GRN (Collection) = Grande Ronde River Trap : Collection Counts
LEW (Collection) = Snake River Trap at Lewiston : Collection Counts
LGR (Index) = Lower Granite Dam Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
LGS (Index) = Little Goose Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouse 1 & 2 Flow + Spill)}
MCN (Index) = McNary Dam Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
JDA (Index) = John Day Dam Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse Flow / (Powerhouse Flow + Spill)}
BO2 (Index) = Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse 2 Flow / (Powerhouse 1 & 2 Flow + Spill)}
BO1 (Index) = Bonneville Dam First Powerhouse Bypass Collection System : Passage Index Counts
Passage Index = Collection Counts / {Powerhouse 1 Flow / (Powerhouse 1 & 2 Flow + Spill)}

JDA and BO2 data collected for the FPC by Pacific States Marine Fisheries Commission.
RIS data collected for the FPC by Chelan Co. PUD/Washington Dept. of Fish and Wildlife.
LGR, LMN, and MCN data collected for the FPC by Washington Dept. of Fish and Wildlife.
LGS and GRN data collected for the FPC by Oregon Dept. of Fish and Wildlife.
IMN data collected for the FPC by the Nez Perce Tribe.

## Cumulative Adult Passage at Mainstem Dams Through: 06/14

| | Spring Chinook | | | | | | Summer Chinook | | | | | | Fall Chinook | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2001 | | 2000 | | 10-Yr Avg. | | 2001 | | 2000 | | 10-Yr Avg. | | 2001 | | 2000 | | 10-Yr Avg. | |
| DAM | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack | Adult | Jack |
| **BON** | 391,367 | 14,174 | 178,302 | 21,259 | 70,775 | 4,654 | 21,286 | 2,668 | 7,472 | 2,862 | 5,236 | 638 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TDA** | 302,738 | 10,133 | 102,953 | 14,796 | 41,161 | 3,200 | 16,127 | 1,728 | 4,542 | 1,804 | 3,029 | 370 | 0 | 0 | 0 | 0 | 0 | 0 |
| **JDA** | 260,954 | 6,165 | 86,553 | 12,157 | 33,812 | 2,643 | 10,844 | 709 | 3,757 | 1,098 | 2,238 | 244 | 0 | 0 | 0 | 0 | 0 | 0 |
| **MCN** | 258,904 | 6,676 | 64,647 | 10,836 | 30,645 | 2,566 | 8,739 | 683 | 1,912 | 748 | 1,530 | 181 | 0 | 0 | 0 | 0 | 0 | 0 |
| **IHR** | 170,907 | 2,964 | 38,807 | 9,489 | 16,921 | 1,647 | 2,995 | 231 | 655 | 322 | 579 | 63 | 0 | 0 | 0 | 0 | 0 | 0 |
| **LMN** | 180,811 | 1,779 | 35,520 | 10,336 | 15,613 | 1,755 | 1,092 | 22 | 137 | 123 | 139 | 22 | 0 | 0 | 0 | 0 | 0 | 0 |
| **LGS** | 172,493 | 2,852 | 34,163 | 10,009 | 14,621 | 1,720 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **LWG** | 169,198 | 2,888 | 33,140 | 9,933 | 13,311 | 1,606 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **PRD** | 50,251 | 981 | 20,098 | 1,092 | 9,843 | 292 | 0 | 0 | 276 | 8 | 78 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| **RIS** | 38,864 | 1,666 | 14,386 | 1,461 | 7,051 | 334 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **RRH** | 14,308 | 507 | 5,104 | 365 | 1,749 | 79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **WEL** | 9,158 | 645 | 1,805 | 357 | 730 | 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | Coho | | | | | | Sockeye | | | Steelhead | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2001 | | 2000 | | 10-Yr Avg. | | | | 10-Yr | | | 10-Yr | Wild |
| DAM | Adult | Jack | Adult | Jack | Adult | Jack | 2001 | 2000 | Avg. | 2001 | 2000 | Avg. | 2001 |
| **BON** | 0 | 0 | 0 | 0 | 0 | 0 | 9,114 | 10,029 | 2,180 | 11,642 | 6,438 | 6,289 | 2,445 |
| **TDA** | 0 | 0 | 0 | 0 | 0 | 0 | 6,535 | 5,211 | 1,068 | 3,098 | 1,486 | 1,968 | 807 |
| **JDA** | 0 | 1 | 2 | 0 | 0 | 0 | 4,368 | 4,362 | 758 | 4,051 | 3,906 | 3,564 | 1,467 |
| **MCN** | 0 | 0 | 0 | 0 | 0 | 0 | 2,128 | 2,216 | 382 | 2,735 | 1,118 | 2,340 | 911 |
| **IHR** | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1,804 | 1,016 | 2,234 | 740 |
| **LMN** | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1,943 | 988 | 2,193 | 896 |
| **LGS** | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2,136 | 1,001 | 1,253 | 1,052 |
| **LWG** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,881 | 2,522 | 4,863 | 1,690 |
| **PRD** | 0 | 0 | 0 | 0 | 0 | 0 | 176 | 842 | 165 | 37 | 23 | 72 | ** |
| **RIS** | 6 | 0 | 1 | 0 | 0 | 0 | 21 | 61 | 12 | 83 | 28 | 101 | 44* |
| **RRH** | 0 | 0 | 7 | 0 | 0 | 0 | 13 | 36 | 8 | 124 | 88 | 85 | 51* |
| **WEL** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 | 32 | 25 | 33 | 22 |

LGS is missing 6/9. JDA 6/13 ST/Wild ST switched? LGR 6/9 & 6/10 duplicate? IHR 5/27 & 5/28 duplicate?
PRD through 6/12, RIS, RRH data from Chelan CO PUD's website and through 6/13.
WEL data from Douglas CO PUD and through 6/13
These numbers were collected from the COE's Running Sums text files.
Wild steelhead numbers are included in the total.
*WEL Wild Steelhead count is from the COE and is through 6/11. **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.

# Two Week Transportation Summary

**06/02/01 TO 06/15/01**

| | | Species | | | | | |
|---|---|---|---|---|---|---|---|
| Site | Data | **CH0** | **CH1** | **CO** | **SO** | **ST** | **Grand Total** |
| **LGR** | Sum of NumberCollected | 166,000 | 45,855 | 13,020 | 750 | 165,235 | 390,860 |
| | Sum of NumberBarged | 130,530 | 43,371 | 12,069 | 649 | 140,548 | 327,167 |
| | Sum of NumberBypassed | 0 | 158 | 0 | 0 | 2,041 | 2,199 |
| | Sum of Numbertrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMortalities | 78 | 69 | 14 | 1 | 198 | 360 |
| **LGS** | Sum of NumberCollected | 495 | 22,809 | 1,725 | 209 | 49,786 | 75,024 |
| | Sum of NumberBarged | 493 | 22,663 | 1,725 | 208 | 49,065 | 74,154 |
| | Sum of NumberBypassed | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of Numbertrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMortalities | 2 | 146 | 0 | 1 | 721 | 870 |
| **LMN** | Sum of NumberCollected | 5,243 | 16,858 | 212 | 100 | 32,102 | 54,515 |
| | Sum of NumberBarged | 4,870 | 15,583 | 180 | 99 | 28,145 | 48,877 |
| | Sum of NumberBypassed | 0 | 43 | 0 | 0 | 117 | 160 |
| | Sum of Numbertrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMortalities | 5 | 109 | 0 | 1 | 495 | 610 |
| **MCN** | Sum of NumberCollected | 541,203 | 407,634 | 74,439 | 145,553 | 89,556 | 1,258,385 |
| | Sum of NumberBarged | 191,746 | 149,850 | 34,239 | 45,130 | 34,408 | 455,373 |
| | Sum of NumberBypassed | 344,085 | 251,151 | 38,180 | 99,550 | 52,014 | 784,980 |
| | Sum of Numbertrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMortalities | 423 | 954 | 117 | 265 | 339 | 2,098 |
| Total Sum of NumberCollected | | 712,941 | 493,156 | 89,396 | 146,612 | 336,679 | 1,778,784 |
| Total Sum of NumberBarged | | 327,639 | 231,467 | 48,213 | 46,086 | 252,166 | 905,571 |
| Total Sum of NumberBypassed | | 344,085 | 251,352 | 38,180 | 99,550 | 54,172 | 787,339 |
| Total Sum of Numbertrucked | | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Sum of TotalProjectMortalities | | 508 | 1,278 | 131 | 268 | 1,753 | 3,938 |

# YTD Transportation Summary

**TO: 06/15/01**

| | | Species | | | | | |
|---|---|---|---|---|---|---|---|
| Site | Data | **CH0** | **CH1** | **CO** | **SO** | **ST** | **Grand Total** |
| **LGR** | Sum of NumberCollected | 166,420 | 1,952,481 | 38,720 | 4,340 | 5,381,681 | 7,543,642 |
| | Sum of NumberBarged | 130,950 | 1,860,216 | 36,753 | 3,840 | 5,089,363 | 7,121,122 |
| | Sum of NumberBypassed | 0 | 79,198 | 976 | 221 | 265,274 | 345,669 |
| | Sum of NumberTrucked | 0 | 6,433 | 30 | 167 | 3,386 | 10,016 |
| | Sum of TotalProjectMortalities | 78 | 4,376 | 24 | 12 | 1,209 | 5,699 |
| **LGS** | Sum of NumberCollected | 495 | 741,425 | 6,590 | 9,297 | 763,390 | 1,521,197 |
| | Sum of NumberBarged | 493 | 737,496 | 6,561 | 9,246 | 759,239 | 1,513,035 |
| | Sum of NumberBypassed | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of NumberTrucked | 0 | 898 | 0 | 28 | 336 | 1,262 |
| | Sum of TotalProjectMortalities | 2 | 3,031 | 29 | 23 | 3,815 | 6,900 |
| **LMN** | Sum of NumberCollected | 7,660 | 544,372 | 654 | 886 | 309,938 | 863,510 |
| | Sum of NumberBarged | 7,286 | 520,072 | 622 | 882 | 304,143 | 833,005 |
| | Sum of NumberBypassed | 0 | 16,458 | 0 | 0 | 402 | 16,860 |
| | Sum of NumberTrucked | 0 | 5,519 | 0 | 0 | 319 | 5,838 |
| | Sum of TotalProjectMortalities | 6 | 1,200 | 0 | 4 | 1,729 | 2,939 |
| **MCN** | Sum of NumberCollected | 710,297 | 2,108,697 | 119,437 | 256,246 | 516,567 | 3,711,244 |
| | Sum of NumberBarged | 281,999 | 936,043 | 60,071 | 118,420 | 208,015 | 1,604,548 |
| | Sum of NumberBypassed | 422,486 | 1,162,074 | 57,288 | 136,862 | 303,005 | 2,081,715 |
| | Sum of NumberTrucked | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sum of TotalProjectMortalities | 863 | 4,901 | 175 | 356 | 2,752 | 9,047 |
| Total Sum of NumberCollected | | 884,872 | 5,346,975 | 165,401 | 270,769 | 6,971,576 | 13,639,593 |
| Total Sum of NumberBarged | | 420,728 | 4,053,827 | 104,007 | 132,388 | 6,360,760 | 11,071,710 |
| Total Sum of NumberBypassed | | 422,486 | 1,257,730 | 58,264 | 137,083 | 568,681 | 2,444,244 |
| Total Sum of NumberTrucked | | 0 | 12,850 | 30 | 195 | 4,041 | 17,116 |
| Total Sum of TotalProjectMortalities | | 949 | 13,508 | 228 | 395 | 9,505 | 24,585 |