



## Fish Passage Center

# Weekly Report #10 - 25

September 3, 2010

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### Summary of Events:

**Water Supply:** Precipitation throughout the Columbia Basin has varied between 12% and 99% of average at individual sub-basins over August. Precipitation above The Dalles has been 76% of average over August. Over the 2010 water year, precipitation has ranged between 84% and 100% of average.

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

| Location                       | Water Year 2010   |           | Water Year 2010                    |           |
|--------------------------------|-------------------|-----------|------------------------------------|-----------|
|                                | August 1-30       |           | October 1, 2009 to August 30, 2010 |           |
|                                | Observed (inches) | % Average | Observed (inches)                  | % Average |
| Columbia Above Coulee          | 1.34              | 82        | 20.86                              | 87        |
| SNAKE RIVER ABOVE ICE HARBOR   | 0.68              | 82        | 16.20                              | 96        |
| Columbia Above The Dalles      | 0.87              | 76        | 20.41                              | 92        |
| Kootenai                       | 1.32              | 81        | 20.62                              | 84        |
| Clark Fork                     | 1.25              | 99        | 15.29                              | 92        |
| Flathead                       | 1.39              | 89        | 21.95                              | 100       |
| Pend Oreille/Spokane           | 0.47              | 38        | 27.64                              | 93        |
| Central Washington             | 0.05              | 12        | 8.67                               | 100       |
| SNAKE RIVER PLAIN              | 0.54              | 96        | 9.81                               | 91        |
| Salmon/Boise/Payette           | 0.46              | 67        | 18.54                              | 97        |
| Clearwater                     | 0.84              | 72        | 27.71                              | 94        |
| SW Washington Cascades/Cowlitz | 0.19              | 13        | 61.84                              | 90        |
| Willamette Valley              | 0.38              | 36        | 53.63                              | 93        |

Table 2 displays the June Final and July Final runoff volume forecasts for multiple reservoirs. The July Final Runoff Volume Forecasts remained similar to the June Final Forecasts at Upper Columbia locations; however increased between 11-18% relative to the June Final forecasts at Snake River locations. The current forecast at The Dalles between January and July is 81900 Kaf (76% of average).

**Table 2. June Final and July Final Runoff Volume Forecasts for various reservoirs within the Columbia and Snake River Basins.**

| Location                                | June Final            |                              | July Final            |                              |
|---|-----------------------|------------------------------|-----------------------|------------------------------|
|   | % Average (1971-2000) | Probable Runoff Volume (Kaf) | % Average (1971-2000) | Probable Runoff Volume (Kaf) |
| The Dalles (Jan-July)                   | 69                    | 74000                        | 76                    | 81900                        |
| Grand Coulee (Jan-July)                 | 74                    | 46400                        | 76                    | 47900                        |
| Libby Res. Inflow, MT (Apr-Aug)         | 71                    | 4420                         | 71                    | 4440                         |
| Hungry Horse Res. Inflow, MT (Jan-July) | 75                    | 1660                         | 81                    | 1800                         |
| Lower Granite Res. Inflow (Apr-July)    | 68                    | 14600                        | 86                    | 18600                        |
| Brownlee Res. Inflow (Apr-July)         | 58                    | 3670                         | 74                    | 4680                         |
| Dworshak Res. Inflow (Apr-July)         | 63                    | 1670                         | 74                    | 1950                         |

\* Denotes COE Forecast

The Summer Biological Opinion flow period began on June 21 in the lower Snake River (Lower Granite). According to the June Final Water Supply Forecast, the summer flow objective this summer was 50 Kcfs at Lower Granite, flows at Lower Granite Dam averaged 47.0 Kcfs from June 21-August 31. Flows at Lower Granite have averaged 26.0 Kcfs over the last week.

The Summer Biological Opinion flow period began on July 1<sup>st</sup> at McNary Dam with a flow objective of 200 Kcfs. Flows from July 1<sup>st</sup> to August 31<sup>st</sup> averaged 154.8 Kcfs and 112.5 Kcfs last week.

The Grand Coulee Reservoir is at 1277.1 feet (9-1-10) and drafted 2.1 feet over the last week. The end of August draft elevation at Grand Coulee was 1277.3 feet; Grand Coulee was at 1277.1 feet on August 31<sup>st</sup>. Outflows at Grand Coulee have ranged between 46.7 and 96.2 Kcfs over the last week.

The Libby Reservoir is currently at elevation 2442.0 feet (9-1-10) and drafted 0.4 feet last week. Outflows at Libby Dam have been 7.0-7.8 Kcfs.

Hungry Horse is currently at an elevation of 3547.8 feet (9-1-10) and has drafted 1.5 ft last week. Outflows at Hungry Horse are currently 3.9 Kcfs.

Dworshak is currently at an elevation of 1533.2 feet (9-1-10) and has drafted approximately 6.2 feet last week. The end of August target elevation at Dworshak was 1535 feet; Dworshak was at 1534.1 feet on August 31<sup>st</sup>. Outflows from Dworshak are currently 8 Kcfs.

The Brownlee Reservoir was at an elevation of 2054.2 feet on September 1<sup>st</sup>, 2010 refilling 0.2 feet last week. Over the last week, outflows at Brownlee have ranged between 8.1-9.9 Kcfs.

**Spill:**

On August 31<sup>st</sup> the Snake projects ended the summer spill program. The following table shows the planned operations for summer 2010.

| Project          | Day/Night Spill   |
|------------------|---|
| Lower Granite    | 18 Kcfs/18 Kcfs   |
| Little Goose     | 30%/30%   |
| Lower Monumental | 17 Kcfs/17 Kcfs   |
| Ice Harbor       | <b>June 21-July 13:</b> 30%/30% vs. 45 Kcfs/Gas Cap<br><b>July 13-August 31:</b> 45 Kcfs/Gas Cap (approximate Gas Cap range = 75-95 Kcfs) |

Decreasing late season flows have resulted in spill levels that were generally below the planned summer spill amounts. For the past week, spill levels at Lower Granite Dam have been below the 18 Kcfs due to low flows and powerhouse minimums. On Friday, August 20<sup>th</sup>, TMT members decided to modify spill operations at Little Goose Dam for the remainder of August. This decision was made in order to avoid the daily fluctuations in spill levels that were occurring under the 30% spill operation. Under this modified operation, the 30% requirement was changed to a set spill volume. This spill volume was set at approximately 11.2 Kcfs, which was first initiated at 13:00 on Friday, August 20<sup>th</sup>. On Monday, August 23<sup>rd</sup>, this set spill volume was reduced to approximately 9.3 Kcfs and was subsequently reduced to 7.5 Kcfs on the 28<sup>th</sup>. Under these modified operations, spill at Little Goose Dam has been near, or in excess of, 30%. Spill levels at Lower Monumental Dam have been consistently below the 17 Kcfs due to low flows and powerhouse minimums. The Ice Harbor simulated test of 30% spill versus 45 Kcfs during daytime hours and gas cap spill during nighttime hours ended July 13<sup>th</sup>. After that, spill at Ice Harbor reverted back to the 45Kcfs/gas cap level. However, due to low flows spill is presently occurring as all flow in excess of that needed to operate one turbine unit at this project.

Summer spill programs in the lower Columbia River also ended on August 31<sup>st</sup>. The following table shows the planned operations for summer 2010.

| Project    | Day/Night Spill  |
|------------|--|
| McNary     | 50%/50%  |
| John Day   | <b>Testing (July 1-July 22):</b> 30%/30% vs. 40%/40%<br><b>Post-Testing (July 23-August 31):</b> 30%/30%                           |
| The Dalles | 40%/40%  |
| Bonneville | <b>Testing (June 16-July 20):</b> 85 Kcfs/121 Kcfs vs. 95 Kcfs/95 Kcfs<br><b>Post-Testing (July 21-August 31):</b> 75 Kcfs/Gas Cap |

The planned spill level of 50% of instantaneous flows was not met at McNary Dam this week due to low flows and powerhouse minimums. At John Day Dam, the spill test ended, and spill occurred as 30%

of instantaneous flow. The planned spill levels of 40% were met at The Dalles Dam until the last two days of the summer spill season, where due to low flows the levels dropped below 40%. Due to low flows and powerhouse minimums, the 75Kcfs/gas cap spill levels at Bonneville Dam could not be met this week. Currently, Bonneville Dam is spilling everything in excess of powerhouse minimum, which has equated to approximately 55 to 70 Kcfs spill.

Total dissolved gas levels at all monitors were below the States' water quality waiver levels throughout the lower Snake and lower Columbia hydrosystem over the past week.

At present, GBT monitoring is being implemented at Lower Monumental, McNary, Bonneville and Rock Island dams. No fish were observed with signs of GBT this past week. GBT sampling has ended for 2010.

#### **Smolt Monitoring:**

Subyearling Chinook indices continued to decrease over the past week at all Snake River Sites and at Rock Island Dam. McNary Dam had another one day spike in passage of subyearling Chinook on August 31, when the index reached 22,000 so that over the past two weeks the index has remained relatively stable. Temperatures have moderated in the river, with recent rains allowing full sampling to continue at John Day and Bonneville dams this week.

At Lower Granite Dam passage indices for subyearling Chinook decreased this past week with the index averaging 230 per day while last week the index averaged 570 fish per day. Little Goose Dam also saw a decrease in the average subyearling passage index this past week when the index averaged 110 per day compared to 360 per day last week. Similarly, at Lower Monumental Dam passage indices were down this past week compared to the previous week.

At Rock Island Dam passage indices for subyearlings were lower for the third week in a row. The daily index averaged 32 this week compared to about 54 per day last week. Rock Island Dam finished sampling on August 31.

At McNary Dam subyearling Chinook indices averaged 10,400 per day this week compared to 10,500 per day average last week. This week's average was bolstered by a spike in the index to 22,000 on August 31. PIT-tag detections indicate about an equal mixture of fish marked in the Snake River as well as at Rock Island Dam were passing the project over the past week.

John Day Dam and Bonneville Dam are back on full samples with the reduced river temperatures in the past week. Because the sites had both been on limited sampling due to temperatures in excess of 70 degrees F measured in the forebay of the dams the previous weeks trends in indices over that time period are not considered representative.

#### **Hatchery Release:**

**Snake River Zone:** The Snake River Zone encompasses the Snake River and its tributaries from its confluence with the Columbia River to Hells Canyon Dam. There were no releases of juvenile salmonids scheduled for this zone this week. Furthermore, there are no releases of juvenile salmonids scheduled for this zone over the next two weeks.

**Mid-Columbia Zone:** The Mid-Columbia Zone encompasses the area of the Columbia River and its tributaries from McNary Dam to Chief Joseph Dam. There were no releases of juvenile salmonids scheduled for this zone this week. Furthermore, there are no releases of juvenile salmonids scheduled for this zone over the next two weeks.

**Lower Columbia Zone:** The Lower Columbia Zone is defined as the Columbia River and its tributaries from Bonneville Dam to McNary Dam. There were no releases of juvenile salmonids scheduled for this zone this week. There are also no releases of juvenile salmonids scheduled for this zone over the next two weeks.

#### **Adult Fish Passage:**

Fall Chinook began to pass Bonneville Dam on August 1<sup>st</sup>. Daily counts of fall Chinook at Bonneville Dam ranged from 9126 to 15,268. The 2010 adult fall Chinook count of 121,479 is about 88.2% of the 2009 count, while being 1.10 times greater than the 10 average. The 2010 Bonneville Dam fall Chinook jack count of 13,840 is about 32.1% of the 2009 count. However, the 2010 fall Chinook jack count is about 1.08 times greater than the 10 year average. The 2010 McNary Dam adult fall Chinook count of 18,680 is about 74.9% of the 2009 count, while being 1.18 times greater than the 10 year average. The 2010 fall Chinook jack McNary Dam jack count of 2,426 is about 24.8% of the 2009 count and about 84.3% of the 10 year average. The 2010 Lower Granite fall Chinook adult dam count of 1,589 is about 94.4% of the 2009 count. However, it is about 2.1 times greater than the 10 year average.

Daily steelhead counts at Bonneville Dam for

the past week ranged between 3,023 and 5,206. The Bonneville Dam 2010 steelhead count of 333,996 is about 67.2% of the 2009 count of 496,741. However, the 2010 steelhead count is about 1.14 times greater than of the 10 year average of 293,377. At Willamette Falls Dam, the 2010 count for steelhead was 28,758, as of August 14th. This year's steelhead count is about 1.7 times greater than the 2009 count of 16,887 at Willamette Falls Dam for the same date range.

During this time of year, there are times when there are higher steelhead counts at upstream projects compared to downstream projects. The higher counts of steelhead at upstream sites compared to downstream sites in any particular year is because some steelhead spend the winter between sites, for instance between Ice Harbor and Lower Granite, and then start their migration upstream the following year. The summer steelhead run is delineated according to dates of passage past Bonneville Dam and is made up of two components. A-run steelhead are considered those that pass Bonneville Dam from the first of June through August 25th and B-run steelhead pass Bonneville from August 26th through October. The 2010 B-run adult steelhead count at Bonneville of 29,908 is about 56.74% of the 2009 count of 52,755 and about 83.8% of the 10 year average count of 35,681.

In the Snake River, this year's Lower Granite steelhead count of 39,296 is about 1.52 times greater than the 2009 count and about 1.92 times greater than the 10 year average count of 20,450. The 2010 LGR wild steelhead count as of September 2nd was 15,312. The 2010 Rock Island Dam adult steelhead count of 13,414 is about 1.05 times greater than the 2009 count and 1.8 times greater than the 10 year average. The 2010 adult sockeye count at Bonneville Dam of 386,519 is about 2.17 times greater than the 2009 count and about 4.1 times greater than the 10 year average. The 2010 adult sockeye count at McNary Dam of 278,802 is about 2.29 times greater than the 2009 count and 4 times greater than the 10 year average. Two of the major spawning sites for sockeye in the Upper Columbia River zone are Lake Wenatchee and Lake Osoyoos (Okanogan basin). In the Snake River zone at Lower Granite Dam 2010 adult sockeye count of 2,174 is about 1.79 times greater than the 2009 count of 1,215 and 9 times greater than the 10 year average of 242. The 2010 adult coho count at Bonneville Dam is 10,064 adults and 763 jacks. The Bonneville 2010 adult coho count is about 24.9% of the 2009 count and about 55.3% of the 10 year average. The Bonneville 2010

coho jack count is about 28.3% of the 2009 count of 2,698 and about 66.7% of the 10 year average count of 1,144.

**Hatchery Releases Last Two Weeks**

**There were no hatchery releases from 08/20/10-9/02/10.**

**Hatchery Releases Next Two Weeks**

**There are no hatchery releases planned from 09/03/10-9/17/10.**

**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 |
| 08/20/2010 | 85.2         | 0.2   | 86.4         | 0.0   | 90.0  | 6.0   | 89.5        | 6.9   | 92.5        | 16.5  | 96.5    | 18.9  | 95.4          | 26.0  |
| 08/21/2010 | 47.4         | 0.2   | 46.6         | 0.0   | 56.5  | 4.5   | 58.9        | 0.0   | 61.2        | 0.0   | 73.3    | 18.8  | 75.0          | 25.7  |
| 08/22/2010 | 54.1         | 0.2   | 59.1         | 0.0   | 51.0  | 4.3   | 48.4        | 0.0   | 49.2        | 0.0   | 42.8    | 18.1  | 44.6          | 25.1  |
| 08/23/2010 | 90.3         | 0.2   | 92.1         | 0.0   | 95.0  | 6.4   | 94.7        | 0.0   | 96.5        | 0.0   | 94.0    | 12.1  | 84.3          | 25.7  |
| 08/24/2010 | 90.3         | 0.2   | 86.7         | 0.0   | 88.6  | 6.0   | 86.2        | 0.0   | 87.6        | 0.0   | 94.9    | 1.7   | 94.6          | 9.2   |
| 08/25/2010 | 96.2         | 0.2   | 98.2         | 0.0   | 97.6  | 7.2   | 97.8        | 0.0   | 99.1        | 0.0   | 92.6    | 1.9   | 86.2          | 1.0   |
| 08/26/2010 | 71.5         | 0.2   | 71.0         | 0.0   | 78.6  | 6.7   | 81.1        | 0.0   | 84.3        | 0.0   | 104.1   | 1.9   | 104.3         | 0.9   |
| 08/27/2010 | 70.9         | 0.2   | 70.0         | 0.0   | 70.3  | 0.0   | 75.4        | 0.0   | 77.5        | 0.0   | 88.1    | 1.4   | 85.7          | 1.0   |
| 08/28/2010 | 65.9         | 0.2   | 65.5         | 0.0   | 61.9  | 0.0   | 64.3        | 0.0   | 66.1        | 0.0   | 67.5    | 1.4   | 64.0          | 0.7   |
| 08/29/2010 | 46.7         | 0.2   | 53.4         | 0.0   | 50.1  | 0.0   | 52.1        | 0.0   | 55.3        | 0.0   | 47.8    | 0.9   | 43.5          | 1.0   |
| 08/30/2010 | 84.5         | 0.2   | 80.9         | 0.0   | 76.7  | 0.0   | 74.8        | 0.0   | 75.0        | 0.0   | 78.9    | 1.6   | 75.6          | 1.0   |
| 08/31/2010 | 83.7         | 0.2   | 81.0         | 0.0   | 85.2  | 0.4   | 83.4        | 0.8   | 83.2        | 0.0   | 77.4    | 1.6   | 72.1          | 1.0   |
| 09/01/2010 | 50.9         | 0.1   | 58.4         | 0.0   | 60.6  | 0.0   | 63.4        | 0.0   | 65.3        | 0.0   | 78.8    | 2.7   | 74.0          | 0.8   |
| 09/02/2010 | 53.1         | 0.2   | 57.1         | 0.0   | 59.8  | 0.0   | 56.6        | 0.0   | 58.1        | 0.0   | 62.9    | 1.8   | 62.5          | 1.1   |

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

| Date       | Dworshak |       | Brownlee Canyon |         | Lower Granite |       | Little Goose |       | Lower Monumental |       | Ice Harbor |       |
|------------|----------|-------|-----------------|---------|---------------|-------|--------------|-------|------------------|-------|------------|-------|
|            | Flow     | Spill | Inflow          | Outflow | Flow          | Spill | Flow         | Spill | Flow             | Spill | Flow       | Spill |
| 08/20/2010 | 10.1     | 0.0   | 8.9             | 11.8    | 30.4          | 17.7  | 29.2         | 9.3   | 26.8             | 14.6  | 26.8       | 16.9  |
| 08/21/2010 | 10.2     | 0.0   | 8.5             | 11.9    | 31.0          | 18.2  | 33.4         | 11.2  | 32.3             | 17.4  | 33.5       | 23.7  |
| 08/22/2010 | 10.2     | 0.0   | 8.1             | 10.7    | 26.7          | 13.6  | 25.9         | 11.1  | 24.6             | 12.3  | 25.8       | 15.8  |
| 08/23/2010 | 10.3     | 0.0   | 8.4             | 8.9     | 27.0          | 14.2  | 28.5         | 10.2  | 26.7             | 14.6  | 27.5       | 17.9  |
| 08/24/2010 | 10.3     | 0.0   | 8.4             | 8.9     | 28.0          | 15.0  | 27.7         | 9.3   | 27.0             | 14.6  | 26.4       | 16.5  |
| 08/25/2010 | 10.3     | 0.0   | 8.7             | 10.2    | 27.4          | 14.7  | 27.3         | 9.3   | 25.3             | 13.0  | 26.0       | 16.1  |
| 08/26/2010 | 8.0      | 0.0   | 9.1             | 9.9     | 26.3          | 13.4  | 26.9         | 9.3   | 26.1             | 14.0  | 26.2       | 16.1  |
| 08/27/2010 | 8.0      | 0.0   | 8.5             | 9.0     | 25.1          | 12.3  | 25.3         | 9.3   | 24.2             | 12.1  | 24.9       | 15.3  |
| 08/28/2010 | 8.0      | 0.0   | 8.9             | 8.9     | 24.1          | 11.5  | 23.7         | 8.4   | 22.2             | 9.9   | 23.3       | 13.1  |
| 08/29/2010 | 8.1      | 0.0   | 8.9             | 9.0     | 24.1          | 11.5  | 23.7         | 7.5   | 22.2             | 9.9   | 21.9       | 11.9  |
| 08/30/2010 | 8.1      | 0.0   | 9.1             | 9.0     | 24.2          | 11.5  | 24.8         | 7.5   | 22.1             | 10.0  | 22.0       | 11.9  |
| 08/31/2010 | 8.1      | 0.0   | 9.5             | 9.0     | 24.2          | 11.5  | 24.6         | 7.5   | 23.3             | 10.9  | 22.7       | 13.0  |
| 09/01/2010 | 8.1      | 0.0   | 9.6             | 9.0     | 25.5          | 0.0   | 25.5         | 0.0   | 25.5             | 0.0   | 23.6       | 0.0   |
| 09/02/2010 | 8.2      | 0.0   | ---             | ---     | 27.6          | 0.0   | 26.3         | 0.0   | 26.6             | 0.0   | 27.5       | 0.0   |

**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 |      |      |
| 08/20/2010 | 117.8  | 59.1  | 116.0    | 34.7  | 108.8      | 43.5  | 117.9      | 74.8  | 0.0  | 30.7 |
| 08/21/2010 | 120.6  | 60.4  | 105.5    | 31.7  | 100.5      | 40.3  | 118.3      | 75.1  | 0.0  | 30.8 |
| 08/22/2010 | 113.7  | 57.0  | 102.7    | 30.9  | 99.2       | 39.7  | 117.9      | 74.7  | 0.0  | 30.8 |
| 08/23/2010 | 109.8  | 54.9  | 108.8    | 32.6  | 105.9      | 42.4  | 118.3      | 74.7  | 0.0  | 31.2 |
| 08/24/2010 | 107.2  | 53.7  | 109.4    | 32.7  | 105.3      | 41.6  | 116.3      | 72.9  | 0.0  | 31.0 |
| 08/25/2010 | 131.8  | 65.9  | 117.3    | 35.3  | 111.6      | 44.2  | 113.4      | 70.1  | 0.0  | 30.9 |
| 08/26/2010 | 111.5  | 55.9  | 104.0    | 31.1  | 98.0       | 39.0  | 112.9      | 69.9  | 0.0  | 30.7 |
| 08/27/2010 | 120.8  | 60.7  | 109.9    | 32.9  | 103.8      | 41.4  | 112.6      | 69.5  | 0.0  | 30.7 |
| 08/28/2010 | 106.9  | 51.3  | 99.4     | 29.8  | 95.1       | 37.7  | 111.0      | 68.1  | 0.0  | 30.6 |
| 08/29/2010 | 99.6   | 43.5  | 95.0     | 28.5  | 94.0       | 37.3  | 108.0      | 64.9  | 0.0  | 30.7 |
| 08/30/2010 | 93.0   | 37.3  | 95.3     | 28.6  | 90.2       | 34.2  | 103.9      | 60.9  | 0.0  | 30.6 |
| 08/31/2010 | 100.3  | 45.5  | 88.5     | 26.6  | 88.9       | 34.2  | 96.6       | 55.3  | 0.0  | 30.7 |
| 09/01/2010 | 92.3   | 0.0   | 81.7     | 0.9   | 83.7       | 0.0   | 87.2       | 2.1   | 1.2  | 76.5 |
| 09/02/2010 | 93.4   | 0.0   | 96.8     | 0.9   | 100.7      | 0.0   | 108.5      | 1.7   | 18.6 | 80.8 |

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

| Site                        | Date     | Species             | Number of Fish | Number w GBT signs | Number w Fin Signs | % Fin GBT | % Severe Fin GBT | Number of Fish with Fin GBT Listed by Highest Rank |        |        |        |
|-----------------------------|----------|---------------------|----------------|--------------------|--------------------|-----------|------------------|--|--------|--------|--------|
|                             |          |                     |                |                    |                    |           |                  | Rank 1   | Rank 2 | Rank 3 | Rank 4 |
| <b>Little Goose Dam</b>     |          |                     |                |                    |                    |           |                  |  |        |        |        |
|                             | 08/24/10 | Chinook + Steelhead | 1              | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
|                             | 09/01/10 | Chinook + Steelhead | 10             | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
| <b>Lower Monumental Dam</b> |          |                     |                |                    |                    |           |                  |  |        |        |        |
|                             | 08/25/10 | Chinook + Steelhead | 31             | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
|                             | 09/02/10 | Chinook + Steelhead | 21             | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
| <b>McNary Dam</b>           |          |                     |                |                    |                    |           |                  |  |        |        |        |
|                             | 08/26/10 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
|                             | 08/30/10 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
| <b>Bonneville Dam</b>       |          |                     |                |                    |                    |           |                  |  |        |        |        |
|                             | 08/25/10 | Chinook + Steelhead | 100            | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
|                             | 08/28/10 | Chinook + Steelhead | 26             | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
|                             | 08/31/10 | Chinook + Steelhead | 42             | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |
|                             | 09/03/10 | Chinook + Steelhead | 2              | 0                  | 0                  | 0.00%     | 0.00%            | 0  | 0      | 0      | 0      |

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

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

| Date | <u>Hungry H. Dnst</u> |             |             | <u>Boundary</u> |             |            | <u>Grand Coulee</u> |             |            | <u>Grand C. Tlwr</u> |             |           | <u>Chief Joseph</u> |             |             |           |       |       |       |    |
|------|-----------------------|-------------|-------------|-----------------|-------------|------------|---------------------|-------------|------------|----------------------|-------------|-----------|---------------------|-------------|-------------|-----------|-------|-------|-------|----|
|      | <u>24 h</u>           | <u>12 h</u> | <u>#</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>hr</u>       | <u>Avg</u>  | <u>Avg</u> | <u>High</u>         | <u>hr</u>   | <u>Avg</u> | <u>Avg</u>           | <u>High</u> | <u>hr</u> | <u>Avg</u>          | <u>Avg</u>  | <u>High</u> | <u>hr</u> |       |       |       |    |
| 8/20 | 104.5                 | 104.6       | 104.7       | 24              | 106.9       | 107.2      | 107.8               | 22          | 107.1      | 107.5                | 108.3       | 24        | 108.6               | 109.3       | 109.7       | 22        | 107.0 | 107.3 | 107.5 | 24 |
| 8/21 | 104.7                 | 105.4       | 105.9       | 24              | 106.4       | 106.8      | 107.4               | 23          | 106.3      | 106.6                | 106.9       | 24        | 108.2               | 108.9       | 111.0       | 23        | 107.0 | 107.5 | 107.9 | 24 |
| 8/22 | 104.4                 | 104.6       | 104.9       | 24              | 105.1       | 105.5      | 106.1               | 23          | 105.8      | 106.1                | 106.6       | 24        | 107.3               | 108.2       | 109.5       | 23        | 106.5 | 106.9 | 108.5 | 24 |
| 8/23 | 103.5                 | 103.8       | 104.2       | 24              | 103.4       | 103.9      | 104.4               | 22          | 104.9      | 105.1                | 105.6       | 24        | 106.7               | 107.4       | 108.0       | 22        | 105.4 | 105.7 | 106.0 | 24 |
| 8/24 | 103.1                 | 103.3       | 103.8       | 24              | 103.9       | 105.0      | 106.1               | 23          | 105.0      | 105.2                | 105.5       | 24        | 107.1               | 107.9       | 108.7       | 23        | 105.5 | 106.0 | 106.2 | 24 |
| 8/25 | 103.6                 | 104.0       | 104.4       | 24              | 105.0       | 106.3      | 107.5               | 23          | 104.7      | 105.1                | 105.7       | 24        | 107.5               | 108.3       | 109.0       | 23        | 107.4 | 108.1 | 108.4 | 24 |
| 8/26 | 104.3                 | 104.6       | 105.3       | 24              | 105.5       | 106.1      | 106.6               | 23          | 104.6      | 105.2                | 105.7       | 24        | 106.5               | 107.4       | 108.4       | 23        | 106.9 | 107.4 | 107.7 | 24 |
| 8/27 | 104.4                 | 104.7       | 105.0       | 24              | 104.2       | 104.6      | 105.0               | 24          | 105.5      | 105.9                | 106.2       | 24        | 104.5               | 105.1       | 105.6       | 24        | 105.5 | 105.8 | 106.1 | 24 |
| 8/28 | 104.2                 | 104.6       | 105.2       | 24              | 104.0       | 104.8      | 105.4               | 24          | 105.7      | 106.0                | 106.4       | 24        | 104.5               | 105.7       | 106.6       | 24        | 105.0 | 105.6 | 106.0 | 24 |
| 8/29 | 104.1                 | 104.2       | 104.4       | 24              | 103.4       | 104.0      | 104.6               | 23          | 104.9      | 105.1                | 105.3       | 24        | 103.7               | 104.3       | 104.8       | 23        | 104.2 | 104.7 | 104.9 | 24 |
| 8/30 | 103.6                 | 103.9       | 104.3       | 24              | 103.4       | 104.0      | 104.7               | 22          | 104.4      | 104.9                | 105.3       | 24        | 104.3               | 104.9       | 105.5       | 22        | 104.0 | 104.2 | 104.5 | 24 |
| 8/31 | 102.6                 | 102.8       | 103.1       | 24              | 102.8       | 103.5      | 105.7               | 21          | 102.7      | 102.8                | 103.3       | 24        | 104.0               | 104.3       | 104.9       | 21        | 104.0 | 104.2 | 104.3 | 24 |
| 9/1  | 102.2                 | 102.4       | 102.8       | 24              | 103.3       | 104.0      | 104.5               | 24          | 102.0      | 102.3                | 102.5       | 24        | 103.1               | 103.7       | 104.2       | 24        | 104.0 | 104.3 | 104.8 | 24 |
| 9/2  | 101.6                 | 101.8       | 102.2       | 24              | 102.4       | 103.1      | 103.7               | 24          | 101.3      | 101.7                | 102.2       | 24        | 102.2               | 102.8       | 103.2       | 24        | 104.0 | 104.6 | 105.6 | 24 |

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

| Date | <u>Chief J. Dnst</u> |             |             | <u>Wells</u> |             |            | <u>Wells Dwnstrm</u> |             |            | <u>Rocky Reach</u> |             |           | <u>Rocky R. Tlwr</u> |             |             |           |       |       |       |    |
|------|----------------------|-------------|-------------|--------------|-------------|------------|----------------------|-------------|------------|--------------------|-------------|-----------|----------------------|-------------|-------------|-----------|-------|-------|-------|----|
|      | <u>24 h</u>          | <u>12 h</u> | <u>#</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>hr</u>    | <u>Avg</u>  | <u>Avg</u> | <u>High</u>          | <u>hr</u>   | <u>Avg</u> | <u>Avg</u>         | <u>High</u> | <u>hr</u> | <u>Avg</u>           | <u>Avg</u>  | <u>High</u> | <u>hr</u> |       |       |       |    |
| 8/20 | 108.0                | 109.0       | 110.2       | 24           | 108.1       | 108.9      | 109.6                | 24          | 109.3      | 110.2              | 111.0       | 24        | 109.7                | 110.1       | 110.5       | 24        | 110.8 | 111.7 | 112.3 | 24 |
| 8/21 | 108.9                | 109.9       | 111.5       | 24           | 107.0       | 107.4      | 107.9                | 24          | 107.9      | 108.5              | 108.9       | 24        | 108.8                | 109.0       | 109.7       | 24        | 107.8 | 108.4 | 109.9 | 24 |
| 8/22 | 107.6                | 108.8       | 110.0       | 24           | 106.1       | 106.8      | 107.8                | 23          | 106.8      | 107.5              | 108.3       | 23        | 106.6                | 107.0       | 107.7       | 24        | 104.8 | 105.5 | 106.5 | 24 |
| 8/23 | 105.9                | 106.5       | 107.6       | 24           | 104.9       | 105.6      | 106.2                | 24          | 106.0      | 106.8              | 107.3       | 24        | 105.1                | 105.3       | 105.8       | 24        | 104.2 | 104.4 | 104.5 | 24 |
| 8/24 | 106.2                | 106.8       | 108.3       | 24           | 105.8       | 107.2      | 107.7                | 24          | 106.9      | 108.6              | 109.6       | 24        | 104.7                | 105.4       | 106.1       | 24        | 103.7 | 104.3 | 104.9 | 24 |
| 8/25 | 109.0                | 109.7       | 110.9       | 24           | 107.1       | 108.0      | 108.5                | 23          | 108.9      | 110.4              | 111.0       | 23        | 106.7                | 107.6       | 108.0       | 24        | 105.4 | 106.3 | 106.7 | 24 |
| 8/26 | 108.6                | 109.2       | 110.2       | 24           | 107.5       | 108.2      | 108.9                | 24          | 109.6      | 110.2              | 110.6       | 24        | 107.7                | 107.9       | 108.0       | 24        | 106.0 | 106.6 | 107.1 | 24 |
| 8/27 | 107.1                | 107.8       | 108.8       | 24           | 106.9       | 107.5      | 108.6                | 24          | 108.5      | 109.1              | 110.9       | 24        | 107.0                | 107.3       | 107.6       | 24        | 105.5 | 106.1 | 106.6 | 24 |
| 8/28 | 107.2                | 107.8       | 109.0       | 24           | 106.5       | 107.1      | 107.8                | 24          | 108.0      | 108.6              | 109.3       | 24        | 107.0                | 107.2       | 107.8       | 24        | 105.4 | 105.8 | 106.1 | 24 |
| 8/29 | 106.5                | 107.7       | 110.9       | 24           | 106.4       | 107.1      | 107.8                | 24          | 107.8      | 108.7              | 109.5       | 24        | 106.8                | 107.2       | 107.6       | 24        | 104.9 | 105.3 | 105.7 | 24 |
| 8/30 | 105.3                | 105.9       | 107.6       | 24           | 104.8       | 105.1      | 105.6                | 24          | 105.5      | 106.1              | 106.6       | 24        | 106.6                | 106.7       | 106.9       | 24        | 105.1 | 105.7 | 106.1 | 24 |
| 8/31 | 105.1                | 105.5       | 105.8       | 24           | 104.1       | 104.3      | 104.5                | 24          | 104.5      | 104.9              | 105.4       | 24        | 105.6                | 105.8       | 105.8       | 24        | 105.0 | 105.4 | 106.7 | 24 |
| 9/1  | 106.0                | 107.0       | 108.2       | 24           | 103.8       | 104.2      | 104.7                | 24          | 103.7      | 104.2              | 104.6       | 24        | 105.0                | 105.3       | 105.7       | 24        | 103.8 | 104.2 | 104.9 | 24 |
| 9/2  | 104.5                | 106.0       | 107.5       | 24           | 103.6       | 104.4      | 105.1                | 23          | 103.6      | 104.4              | 104.7       | 23        | 103.6                | 104.2       | 104.7       | 24        | 102.2 | 102.6 | 103.0 | 24 |

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

| Date | <u>Rock Island</u> |             |             | <u>Rock I. Tlwr</u> |             |            | <u>Wanapum</u> |             |            | <u>Wanapum Tlwr</u> |             |           | <u>Priest Rapids</u> |             |             |           |       |       |       |    |
|------|--------------------|-------------|-------------|---------------------|-------------|------------|----------------|-------------|------------|---------------------|-------------|-----------|----------------------|-------------|-------------|-----------|-------|-------|-------|----|
|      | <u>24 h</u>        | <u>12 h</u> | <u>#</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>hr</u>           | <u>Avg</u>  | <u>Avg</u> | <u>High</u>    | <u>hr</u>   | <u>Avg</u> | <u>Avg</u>          | <u>High</u> | <u>hr</u> | <u>Avg</u>           | <u>Avg</u>  | <u>High</u> | <u>hr</u> |       |       |       |    |
| 8/20 | 109.5              | 110.0       | 110.3       | 24                  | 114.5       | 115.6      | 118.6          | 24          | 106.7      | 108.8               | 110.0       | 24        | 111.6                | 113.0       | 114.2       | 24        | 107.3 | 108.9 | 109.5 | 24 |
| 8/21 | 108.8              | 109.3       | 109.9       | 24                  | 109.5       | 110.3      | 113.9          | 24          | 106.9      | 108.4               | 109.1       | 24        | 112.9                | 113.9       | 115.0       | 24        | 108.8 | 109.4 | 109.8 | 23 |
| 8/22 | 105.7              | 106.3       | 107.1       | 24                  | 106.1       | 106.6      | 107.5          | 24          | 103.5      | 104.7               | 107.0       | 24        | 112.6                | 113.2       | 113.9       | 24        | 103.5 | 106.4 | 106.9 | 22 |
| 8/23 | 104.4              | 105.0       | 105.6       | 24                  | 104.6       | 105.2      | 105.8          | 24          | 103.3      | 104.4               | 106.2       | 24        | 107.8                | 110.7       | 113.2       | 24        | 104.2 | 105.2 | 107.3 | 24 |
| 8/24 | 104.5              | 105.0       | 105.2       | 24                  | 105.2       | 105.5      | 107.2          | 24          | 106.5      | 108.3               | 110.0       | 24        | 106.3                | 107.2       | 107.5       | 24        | 107.3 | 107.8 | 108.4 | 24 |
| 8/25 | 105.4              | 106.4       | 107.3       | 24                  | 105.7       | 106.5      | 107.4          | 24          | 107.4      | 109.8               | 111.4       | 24        | 107.0                | 107.4       | 107.8       | 24        | 107.1 | 108.2 | 108.5 | 24 |
| 8/26 | 106.6              | 106.9       | 107.2       | 24                  | 106.9       | 107.3      | 107.4          | 24          | 105.9      | 107.3               | 108.5       | 24        | 106.1                | 106.9       | 107.3       | 24        | 106.8 | 107.4 | 107.7 | 24 |
| 8/27 | 106.0              | 106.5       | 106.9       | 24                  | 106.3       | 106.7      | 106.9          | 24          | 103.7      | 104.3               | 105.3       | 24        | 104.1                | 104.4       | 104.8       | 24        | 104.2 | 104.9 | 105.2 | 24 |
| 8/28 | 106.2              | 106.5       | 106.9       | 24                  | 106.5       | 106.8      | 107.2          | 24          | 102.8      | 104.0               | 105.6       | 24        | 104.1                | 104.6       | 105.0       | 24        | 103.5 | 104.0 | 104.2 | 24 |
| 8/29 | 106.0              | 106.3       | 106.6       | 24                  | 106.3       | 106.7      | 106.9          | 24          | 102.0      | 103.3               | 104.0       | 24        | 104.0                | 104.6       | 105.4       | 24        | 102.8 | 103.1 | 103.8 | 24 |
| 8/30 | 105.4              | 105.8       | 106.2       | 24                  | 105.5       | 106.0      | 106.3          | 24          | 102.6      | 103.6               | 104.6       | 24        | 103.1                | 103.4       | 104.0       | 24        | 101.8 | 102.0 | 102.3 | 24 |
| 8/31 | 104.9              | 105.4       | 105.9       | 24                  | 105.5       | 105.8      | 106.2          | 24          | 101.0      | 102.7               | 103.2       | 24        | 103.0                | 103.5       | 104.0       | 24        | 101.3 | 101.7 | 101.9 | 24 |
| 9/1  | 103.7              | 104.7       | 105.1       | 24                  | 104.8       | 105.1      | 105.5          | 24          | 102.4      | 102.6               | 102.7       | 24        | 103.7                | 104.5       | 109.4       | 24        | 101.3 | 101.7 | 101.8 | 24 |
| 9/2  | 102.5              | 103.5       | 103.7       | 24                  | 103.7       | 104.0      | 104.3          | 24          | ---        | ---                 | ---         | 0         | ---                  | ---         | ---         | 0         | ---   | ---   | ---   | 0  |



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

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

| Date | 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  | #     |    |      |      |       |    |
|      | Avg            | Avg   | High  | Avg   | Avg   | High  | Avg      | Avg  | High | Avg         | Avg  | High | Avg     | Avg   | High  |    |      |      |       |    |
| 8/20 | 110.4          | 111.3 | 111.7 | 24    | 107.0 | 107.8 | 108.2    | 24   | 98.2 | 98.5        | 98.8 | 24   | 100.4   | 101.7 | 102.7 | 23 | 98.6 | 99.5 | 100.5 | 24 |
| 8/21 | 110.6          | 111.1 | 111.4 | 24    | 106.0 | 106.6 | 107.2    | 24   | 98.3 | 98.5        | 98.9 | 24   | 100.4   | 101.5 | 102.8 | 23 | 98.2 | 99.0 | 100.0 | 24 |
| 8/22 | 108.8          | 109.2 | 109.6 | 23    | 104.4 | 104.9 | 105.8    | 24   | 97.4 | 97.6        | 97.9 | 24   | 99.3    | 99.9  | 101.2 | 23 | 97.5 | 98.1 | 99.0  | 24 |
| 8/23 | 108.1          | 108.6 | 109.0 | 24    | 102.6 | 103.2 | 103.6    | 24   | 96.5 | 96.7        | 97.0 | 24   | 98.7    | 99.8  | 100.8 | 23 | 97.5 | 98.6 | 99.4  | 24 |
| 8/24 | 108.7          | 109.6 | 110.0 | 24    | 104.4 | 106.0 | 106.7    | 24   | 97.1 | 97.4        | 97.7 | 24   | 99.3    | 100.6 | 101.5 | 24 | 98.5 | 99.6 | 100.5 | 24 |
| 8/25 | 107.0          | 108.0 | 108.7 | 24    | 106.5 | 107.3 | 107.8    | 24   | 97.2 | 97.2        | 97.6 | 10   | 99.9    | 101.2 | 102.3 | 23 | 98.8 | 99.8 | 101.2 | 24 |
| 8/26 | 107.3          | 107.8 | 108.1 | 24    | 104.7 | 105.5 | 106.9    | 24   | ---  | ---         | ---  | 0    | 100.7   | 102.2 | 103.8 | 24 | 98.2 | 99.0 | 100.4 | 24 |
| 8/27 | 104.8          | 105.2 | 105.5 | 24    | 102.5 | 103.5 | 104.0    | 24   | 97.9 | 98.3        | 98.5 | 23   | 100.1   | 101.5 | 102.7 | 23 | 97.6 | 98.8 | 100.0 | 24 |
| 8/28 | 104.3          | 104.7 | 105.2 | 24    | 103.0 | 103.3 | 103.7    | 24   | 98.6 | 98.8        | 99.1 | 24   | 99.8    | 100.4 | 101.1 | 23 | 97.7 | 98.2 | 98.7  | 24 |
| 8/29 | 104.1          | 104.5 | 104.8 | 24    | 102.2 | 102.7 | 103.2    | 24   | 98.5 | 98.7        | 99.0 | 24   | 100.1   | 101.3 | 102.4 | 24 | 98.1 | 99.2 | 100.1 | 24 |
| 8/30 | 103.1          | 103.3 | 103.5 | 24    | 101.2 | 101.6 | 102.0    | 24   | 98.2 | 98.5        | 99.0 | 24   | 99.9    | 101.1 | 102.5 | 24 | 98.0 | 98.7 | 99.3  | 24 |
| 8/31 | 102.7          | 102.9 | 103.1 | 24    | 100.6 | 101.1 | 101.3    | 24   | 97.8 | 98.0        | 98.3 | 24   | 99.5    | 100.6 | 101.9 | 23 | 98.2 | 99.0 | 99.7  | 24 |
| 9/1  | 102.9          | 103.1 | 103.5 | 24    | 100.8 | 101.6 | 102.1    | 24   | 97.8 | 98.0        | 98.3 | 24   | 99.5    | 100.3 | 101.9 | 23 | 98.0 | 98.2 | 99.6  | 16 |
| 9/2  | ---            | ---   | ---   | 0     | 101.2 | 101.9 | 102.2    | 24   | 97.6 | 98.0        | 98.2 | 24   | 98.0    | 98.0  | 98.9  | 10 | ---  | ---  | ---   | 0  |

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

| Date | 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  | #     |    |       |       |       |    |
|      | Avg             | Avg   | High  | Avg           | Avg   | High  | Avg             | Avg  | High  | Avg          | Avg   | High | Avg           | Avg   | High  |    |       |       |       |    |
| 8/20 | 102.4           | 104.3 | 105.6 | 24            | 102.1 | 102.4 | 103.0           | 24   | 114.9 | 115.3        | 115.5 | 24   | 108.8         | 109.0 | 109.5 | 24 | 107.5 | 108.1 | 108.8 | 24 |
| 8/21 | 102.2           | 103.9 | 105.3 | 24            | 101.9 | 102.0 | 102.4           | 24   | 115.0 | 115.3        | 115.5 | 24   | 108.3         | 108.6 | 108.9 | 24 | 107.5 | 108.0 | 108.4 | 24 |
| 8/22 | 100.8           | 101.8 | 102.8 | 24            | 100.2 | 100.7 | 101.5           | 24   | 113.3 | 113.6        | 114.1 | 24   | 108.0         | 108.2 | 108.4 | 24 | 105.7 | 106.1 | 106.6 | 24 |
| 8/23 | 101.5           | 103.4 | 104.8 | 23            | 99.1  | 99.3  | 99.5            | 24   | 113.5 | 113.9        | 114.3 | 24   | 105.7         | 106.1 | 107.4 | 24 | 106.6 | 107.2 | 107.7 | 24 |
| 8/24 | 102.1           | 104.1 | 105.6 | 23            | 99.9  | 100.2 | 100.5           | 24   | 113.7 | 114.1        | 114.6 | 24   | 105.5         | 105.8 | 106.0 | 24 | 106.8 | 107.4 | 107.9 | 24 |
| 8/25 | 102.4           | 104.4 | 105.8 | 23            | 100.4 | 100.6 | 101.2           | 24   | 113.4 | 113.7        | 114.1 | 24   | 106.2         | 106.6 | 107.2 | 24 | 106.7 | 107.2 | 107.8 | 24 |
| 8/26 | 102.3           | 104.0 | 105.7 | 23            | 99.9  | 100.3 | 100.4           | 24   | 113.4 | 114.0        | 114.4 | 24   | 106.9         | 107.2 | 107.7 | 24 | 106.7 | 107.1 | 107.6 | 24 |
| 8/27 | 102.0           | 104.0 | 105.4 | 23            | 99.2  | 99.9  | 100.2           | 24   | 112.1 | 112.4        | 113.2 | 24   | 106.3         | 106.4 | 106.7 | 24 | 106.4 | 106.7 | 107.0 | 24 |
| 8/28 | 100.9           | 101.8 | 102.4 | 23            | 100.5 | 101.1 | 102.1           | 24   | 111.4 | 111.7        | 112.1 | 24   | 106.4         | 106.5 | 106.8 | 24 | 106.5 | 106.9 | 107.3 | 24 |
| 8/29 | 101.8           | 103.6 | 104.8 | 24            | 102.1 | 102.3 | 102.6           | 24   | 111.7 | 112.0        | 112.4 | 24   | 106.2         | 106.4 | 106.6 | 24 | 106.4 | 106.8 | 107.1 | 24 |
| 8/30 | 101.5           | 103.1 | 104.4 | 24            | 100.9 | 101.4 | 101.7           | 24   | 111.5 | 111.8        | 112.1 | 24   | 106.1         | 106.5 | 106.9 | 24 | 106.5 | 106.8 | 107.0 | 24 |
| 8/31 | 101.1           | 102.6 | 103.8 | 24            | 99.8  | 100.0 | 100.3           | 24   | 111.8 | 112.0        | 112.2 | 24   | 105.3         | 105.5 | 106.1 | 24 | 105.8 | 106.0 | 106.1 | 24 |
| 9/1  | 101.0           | 102.1 | 103.3 | 23            | 99.0  | 99.0  | 99.8            | 12   | 100.4 | 101.7        | 111.1 | 24   | 104.8         | 105.1 | 105.4 | 24 | 104.3 | 104.8 | 105.9 | 24 |
| 9/2  | 99.7            | 99.7  | 102.6 | 12            | ---   | ---   | ---             | 0    | 98.8  | 99.5         | 99.9  | 24   | 104.1         | 104.6 | 105.0 | 24 | 103.1 | 103.6 | 104.0 | 24 |

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

| Date | 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  | #     |    |     |     |     |   |
|      | Avg        | Avg   | High  | Avg          | Avg   | High  | Avg        | Avg  | High  | Avg             | Avg   | High | Avg           | Avg   | High  |    |     |     |     |   |
| 8/20 | 105.3      | 105.6 | 106.0 | 24           | 114.9 | 116.3 | 116.7      | 24   | 109.3 | 109.7           | 110.0 | 24   | 112.0         | 112.9 | 113.5 | 24 | --- | --- | --- | 0 |
| 8/21 | 105.3      | 105.7 | 106.1 | 24           | 115.7 | 115.9 | 116.2      | 24   | 109.3 | 109.4           | 109.6 | 24   | 113.4         | 114.0 | 114.7 | 24 | --- | --- | --- | 0 |
| 8/22 | 104.0      | 104.1 | 104.3 | 24           | 112.3 | 113.5 | 115.4      | 24   | 107.9 | 108.4           | 109.0 | 24   | 112.9         | 112.9 | 113.0 | 3  | --- | --- | --- | 0 |
| 8/23 | 102.5      | 102.8 | 103.6 | 24           | 113.6 | 114.8 | 115.2      | 24   | 105.6 | 105.9           | 106.3 | 24   | 111.6         | 111.9 | 112.7 | 15 | --- | --- | --- | 0 |
| 8/24 | 102.9      | 103.1 | 103.3 | 24           | 112.9 | 113.5 | 114.2      | 24   | 106.1 | 106.6           | 107.0 | 24   | 110.5         | 111.1 | 111.6 | 24 | --- | --- | --- | 0 |
| 8/25 | 103.4      | 103.6 | 103.8 | 24           | 112.7 | 113.0 | 113.5      | 24   | 107.5 | 107.9           | 108.6 | 24   | 110.2         | 110.8 | 111.2 | 24 | --- | --- | --- | 0 |
| 8/26 | 103.6      | 104.0 | 104.5 | 24           | 113.1 | 113.5 | 113.8      | 24   | 108.4 | 108.8           | 108.9 | 24   | 109.8         | 110.2 | 110.9 | 24 | --- | --- | --- | 0 |
| 8/27 | 103.3      | 103.7 | 104.0 | 24           | 112.6 | 113.1 | 113.5      | 24   | 106.7 | 106.9           | 107.1 | 24   | 110.2         | 110.9 | 111.6 | 24 | --- | --- | --- | 0 |
| 8/28 | 105.0      | 105.5 | 105.8 | 24           | 112.2 | 112.5 | 112.7      | 24   | 107.6 | 108.4           | 109.2 | 24   | 110.1         | 110.6 | 111.2 | 24 | --- | --- | --- | 0 |
| 8/29 | 104.2      | 104.4 | 104.9 | 24           | 112.1 | 112.3 | 112.7      | 24   | 108.6 | 109.0           | 109.5 | 24   | 110.0         | 110.7 | 111.5 | 24 | --- | --- | --- | 0 |
| 8/30 | 103.3      | 103.5 | 103.8 | 24           | 111.9 | 112.3 | 112.4      | 24   | 107.4 | 107.8           | 108.3 | 24   | 109.3         | 109.7 | 109.9 | 24 | --- | --- | --- | 0 |
| 8/31 | 102.6      | 102.8 | 103.2 | 24           | 111.9 | 112.3 | 112.6      | 24   | 105.8 | 106.0           | 106.5 | 24   | 109.1         | 109.3 | 109.8 | 24 | --- | --- | --- | 0 |
| 9/1  | 102.1      | 102.6 | 103.0 | 24           | 102.9 | 103.9 | 109.7      | 24   | 104.7 | 105.0           | 105.4 | 24   | 105.5         | 106.3 | 109.6 | 24 | --- | --- | --- | 0 |
| 9/2  | 101.3      | 101.5 | 101.9 | 24           | 101.7 | 102.3 | 102.6      | 24   | 103.7 | 103.9           | 104.1 | 24   | 104.2         | 104.7 | 105.3 | 24 | --- | --- | --- | 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 River Sites

| Date | 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   |       |    |
|      | Avg         | Avg   | High  |    | Avg         | Avg   | High  |    | Avg      | Avg   | High  |    | Avg           | Avg   | High  |    | Avg        | AVG   | High  |    |
| 8/20 | 106.8       | 106.9 | 107.1 | 24 | 114.8       | 115.4 | 116.3 | 24 | 103.6    | 104.0 | 104.3 | 24 | 113.9         | 114.6 | 114.8 | 24 | 104.0      | 104.2 | 104.5 | 24 |
| 8/21 | 105.9       | 106.4 | 106.7 | 24 | 114.4       | 115.0 | 116.3 | 24 | 103.7    | 103.9 | 104.1 | 24 | 113.3         | 113.9 | 114.5 | 24 | 104.1      | 104.5 | 104.8 | 24 |
| 8/22 | 103.5       | 103.7 | 104.3 | 24 | 112.9       | 113.3 | 114.2 | 24 | 101.9    | 102.3 | 102.8 | 24 | 112.8         | 113.3 | 113.8 | 24 | 102.4      | 102.7 | 103.3 | 24 |
| 8/23 | 102.6       | 102.8 | 103.2 | 24 | 113.1       | 113.3 | 113.6 | 24 | 100.9    | 101.3 | 102.4 | 24 | 113.2         | 113.8 | 114.2 | 24 | 101.8      | 102.4 | 103.3 | 24 |
| 8/24 | 103.8       | 104.2 | 104.4 | 24 | 113.3       | 113.7 | 114.3 | 24 | 101.7    | 102.3 | 103.4 | 24 | 113.9         | 114.1 | 114.5 | 24 | 106.1      | 107.5 | 107.8 | 24 |
| 8/25 | 104.2       | 104.5 | 105.3 | 24 | 114.4       | 115.7 | 116.4 | 24 | 102.3    | 102.7 | 103.2 | 24 | 114.2         | 114.5 | 114.8 | 24 | 107.8      | 108.4 | 108.8 | 24 |
| 8/26 | 104.7       | 105.3 | 105.5 | 24 | 113.2       | 113.9 | 114.3 | 24 | 101.6    | 102.1 | 102.7 | 24 | 113.0         | 113.4 | 113.9 | 24 | 106.9      | 107.8 | 108.4 | 24 |
| 8/27 | 103.5       | 103.9 | 104.2 | 24 | 113.0       | 113.3 | 113.7 | 24 | 101.0    | 101.6 | 101.9 | 24 | 113.4         | 114.0 | 114.3 | 24 | 103.5      | 103.7 | 104.2 | 24 |
| 8/28 | 105.0       | 105.3 | 105.5 | 24 | 113.5       | 113.9 | 114.0 | 24 | 101.7    | 102.0 | 102.1 | 24 | 112.9         | 113.3 | 113.6 | 24 | 104.6      | 105.5 | 105.7 | 24 |
| 8/29 | 104.1       | 104.6 | 105.3 | 24 | 111.8       | 112.1 | 112.3 | 24 | 101.4    | 101.5 | 101.7 | 24 | 112.1         | 112.5 | 113.0 | 24 | 104.7      | 105.0 | 105.7 | 24 |
| 8/30 | 102.4       | 102.7 | 103.0 | 24 | 110.7       | 111.0 | 111.3 | 24 | 100.9    | 101.1 | 101.2 | 24 | 112.4         | 112.9 | 113.3 | 24 | 103.0      | 103.3 | 103.7 | 24 |
| 8/31 | 101.6       | 101.8 | 102.0 | 24 | 111.3       | 111.7 | 111.9 | 24 | 100.4    | 100.7 | 100.9 | 24 | 111.7         | 112.1 | 112.4 | 24 | 103.2      | 103.5 | 103.8 | 24 |
| 9/1  | 101.5       | 101.7 | 102.0 | 24 | 102.8       | 104.6 | 111.8 | 24 | 100.6    | 100.7 | 100.9 | 24 | 102.7         | 103.3 | 105.6 | 24 | 103.5      | 103.7 | 103.7 | 24 |
| 9/2  | 100.6       | 100.8 | 102.3 | 24 | 100.5       | 101.0 | 101.3 | 24 | 100.9    | 101.8 | 102.1 | 24 | 102.0         | 102.8 | 105.7 | 24 | 103.4      | 103.8 | 104.2 | 24 |

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

| Date | The Dalles Dnst |       |       | #  | Bonneville |       |       | #  | Warrendale |       |       | #  | Camas\Washougal |       |       | #  | Cascade Island |       |       | #  |
|------|-----------------|-------|-------|----|------------|-------|-------|----|------------|-------|-------|----|-----------------|-------|-------|----|----------------|-------|-------|----|
|      | 24 h            | 12 h  |       |    | 24 h       | 12 h  |       |    | 24h        | 12h   |       |    | 24h             | 12h   |       |    | 24h            | 12h   |       |    |
|      | Avg             | Avg   | High  |    | Avg        | Avg   | High  |    | Avg        | Avg   | High  |    | Avg             | Avg   | High  |    | Avg            | AVG   | High  |    |
| 8/20 | 111.6           | 112.2 | 112.4 | 24 | 103.1      | 103.3 | 103.6 | 24 | 114.2      | 114.6 | 115.2 | 24 | 110.3           | 111.8 | 112.6 | 24 | 113.2          | 113.3 | 113.4 | 24 |
| 8/21 | 110.8           | 111.4 | 112.0 | 24 | 102.6      | 102.8 | 103.3 | 24 | 113.9      | 114.2 | 114.8 | 24 | 110.5           | 111.2 | 111.7 | 24 | 113.2          | 113.3 | 113.5 | 24 |
| 8/22 | 109.5           | 109.8 | 110.2 | 24 | 101.0      | 101.3 | 102.0 | 24 | 113.4      | 113.8 | 114.2 | 24 | 109.4           | 110.2 | 110.5 | 24 | 113.0          | 113.1 | 113.1 | 24 |
| 8/23 | 110.1           | 110.9 | 111.8 | 24 | 101.6      | 102.5 | 102.9 | 24 | 114.5      | 115.3 | 115.9 | 24 | 111.1           | 113.2 | 114.4 | 24 | 113.0          | 113.2 | 113.4 | 24 |
| 8/24 | 112.3           | 113.3 | 113.7 | 24 | 102.9      | 103.4 | 103.8 | 24 | 114.0      | 114.8 | 115.3 | 24 | 109.7           | 111.6 | 114.5 | 24 | 112.9          | 113.1 | 113.3 | 24 |
| 8/25 | 113.8           | 114.3 | 114.9 | 24 | 105.6      | 106.7 | 107.4 | 24 | 115.8      | 116.8 | 117.3 | 24 | 110.7           | 113.0 | 114.3 | 24 | 112.8          | 113.0 | 113.4 | 24 |
| 8/26 | 112.4           | 113.4 | 114.6 | 24 | 106.9      | 107.5 | 107.8 | 23 | 114.7      | 115.2 | 116.2 | 24 | 112.2           | 113.1 | 114.5 | 24 | 112.8          | 113.1 | 113.4 | 24 |
| 8/27 | 111.6           | 111.9 | 112.2 | 24 | 105.1      | 105.3 | 105.4 | 24 | 114.4      | 114.9 | 115.7 | 24 | 112.4           | 114.4 | 115.3 | 24 | 112.6          | 112.7 | 112.9 | 24 |
| 8/28 | 111.7           | 112.0 | 112.6 | 24 | 105.3      | 105.4 | 105.4 | 24 | 115.3      | 115.9 | 116.3 | 24 | 113.6           | 114.4 | 114.9 | 24 | 112.6          | 112.8 | 113.0 | 24 |
| 8/29 | 111.6           | 111.9 | 112.2 | 24 | 103.7      | 103.9 | 104.6 | 24 | 114.2      | 114.8 | 115.8 | 24 | 111.8           | 112.7 | 113.1 | 24 | 112.2          | 112.3 | 112.5 | 24 |
| 8/30 | 110.7           | 111.3 | 111.5 | 24 | 103.8      | 103.9 | 104.1 | 24 | 114.2      | 115.1 | 116.1 | 24 | 112.8           | 113.6 | 114.2 | 24 | 112.6          | 112.9 | 113.8 | 24 |
| 8/31 | 109.2           | 109.7 | 109.9 | 24 | 102.9      | 103.0 | 103.3 | 24 | 112.4      | 113.6 | 115.2 | 24 | 111.8           | 112.4 | 113.5 | 24 | 114.0          | 115.1 | 115.2 | 24 |
| 9/1  | 105.7           | 107.0 | 110.0 | 24 | 102.0      | 102.2 | 102.5 | 24 | 104.5      | 107.7 | 111.2 | 24 | 109.8           | 110.8 | 111.9 | 24 | 111.3          | 112.8 | 116.1 | 24 |
| 9/2  | 104.6           | 105.2 | 105.5 | 24 | 102.7      | 103.2 | 103.4 | 24 | 103.6      | 104.3 | 105.1 | 24 | 104.1           | 104.9 | 107.6 | 24 | 112.1          | 113.9 | 117.1 | 24 |

Two-Week Summary of Passage Indices

| COMBINED YEARLING CHINOOK |               |               |               |               |                  |                  |                |                |                  |                  |                  |
|---------------------------|---------------|---------------|---------------|---------------|------------------|------------------|----------------|----------------|------------------|------------------|------------------|
| Date                      | WTB<br>(Coll) | IMN<br>(Coll) | GRN<br>(Coll) | LEW<br>(Coll) | LGR<br>(INDEX)   | LGS<br>(INDEX)   | LMN<br>(INDEX) | RIS<br>(INDEX) | MCN<br>(INDEX)   | JDA<br>(INDEX)   | BO2<br>(INDEX)   |
| 08/20/2010 *              | ---           | ---           | ---           | ---           | 3                | 3                | 0              | 0              | 0                | 0                | 0                |
| 08/21/2010 *              | ---           | ---           | ---           | ---           | 0                | 2                | 0              | 0              | 0                | ---              | ---              |
| 08/22/2010 *              | ---           | ---           | ---           | ---           | 0                | 0                | 0              | 0              | 0                | ---              | 0                |
| 08/23/2010 *              | ---           | ---           | ---           | ---           | 0                | 0                | 2              | 0              | 0                | ---              | ---              |
| 08/24/2010 *              | ---           | ---           | ---           | ---           | 0                | 3                | 0              | 0              | 0                | 0                | 0                |
| 08/25/2010 *              | ---           | ---           | ---           | ---           | 0                | 0                | 0              | 0              | 0                | ---              | 0                |
| 08/26/2010 *              | ---           | ---           | ---           | ---           | 0                | 2                | 0              | 0              | 0                | ---              | 0                |
| 08/27/2010 *              | ---           | ---           | ---           | ---           | 0                | 0                | 0              | 0              | 0                | 0                | 0                |
| 08/28/2010 *              | ---           | ---           | ---           | ---           | 0                | 2                | 2              | 0              | 0                | ---              | 0                |
| 08/29/2010                | ---           | ---           | ---           | ---           | 0                | 2                | 0              | 0              | 0                | 0                | 0                |
| 08/30/2010                | ---           | ---           | ---           | ---           | 0                | 0                | 0              | 0              | 0                | 0                | 0                |
| 08/31/2010                | ---           | ---           | ---           | ---           | 0                | 0                | 0              | 0              | 0                | 0                | 0                |
| 09/01/2010 *              | ---           | ---           | ---           | ---           | 0                | 0                | 0              | ---            | 0                | 0                | 0                |
| 09/02/2010                | ---           | ---           | ---           | ---           | ---              | 0                | ---            | ---            | 0                | 0                | 0                |
| 09/03/2010                | ---           | ---           | ---           | ---           | ---              | ---              | ---            | ---            | ---              | ---              | ---              |
| <b>Total:</b>             | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>3</b>         | <b>14</b>        | <b>4</b>       | <b>0</b>       | <b>0</b>         | <b>0</b>         | <b>0</b>         |
| <b># Days:</b>            | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>13</b>        | <b>14</b>        | <b>13</b>      | <b>12</b>      | <b>14</b>        | <b>8</b>         | <b>12</b>        |
| <b>Average:</b>           | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>         | <b>1</b>         | <b>0</b>       | <b>0</b>       | <b>0</b>         | <b>0</b>         | <b>0</b>         |
| <b>YTD</b>                | <b>56,130</b> | <b>80,004</b> | <b>27,916</b> | <b>7,995</b>  | <b>2,452,571</b> | <b>1,260,528</b> | <b>452,093</b> | <b>11,800</b>  | <b>2,093,842</b> | <b>1,034,554</b> | <b>2,302,148</b> |

| COMBINED SUBYEARLING CHINOOK |               |               |               |               |                  |                  |                |                |                  |                  |                  |
|------------------------------|---------------|---------------|---------------|---------------|------------------|------------------|----------------|----------------|------------------|------------------|------------------|
| Date                         | WTB<br>(Coll) | IMN<br>(Coll) | GRN<br>(Coll) | LEW<br>(Coll) | LGR<br>(INDEX)   | LGS<br>(INDEX)   | LMN<br>(INDEX) | RIS<br>(INDEX) | MCN<br>(INDEX)   | JDA<br>(INDEX)   | BO2<br>(INDEX)   |
| 08/20/2010 *                 | ---           | ---           | ---           | ---           | 1,394            | 1,248            | 246            | 64             | 5,317            | 890              | 2,535            |
| 08/21/2010 *                 | ---           | ---           | ---           | ---           | 737              | 194              | 69             | 81             | 8,803            | ---              | ---              |
| 08/22/2010 *                 | ---           | ---           | ---           | ---           | 469              | 213              | 159            | 54             | 8,661            | ---              | 1,165            |
| 08/23/2010 *                 | ---           | ---           | ---           | ---           | 319              | 425              | 142            | 17             | 4,953            | ---              | ---              |
| 08/24/2010 *                 | ---           | ---           | ---           | ---           | 320              | 112              | 75             | 69             | 8,502            | 1,052            | 586              |
| 08/25/2010 *                 | ---           | ---           | ---           | ---           | 376              | 116              | 137            | 63             | 30,788           | ---              | 1,039            |
| 08/26/2010 *                 | ---           | ---           | ---           | ---           | 380              | 213              | 89             | 32             | 6,615            | ---              | 2,240            |
| 08/27/2010 *                 | ---           | ---           | ---           | ---           | 418              | 210              | 89             | 24             | 9,506            | 1,559            | 2,714            |
| 08/28/2010 *                 | ---           | ---           | ---           | ---           | 232              | 131              | 37             | 27             | 12,626           | ---              | 726              |
| 08/29/2010                   | ---           | ---           | ---           | ---           | 182              | 64               | 26             | 16             | 7,822            | 3,795            | 589              |
| 08/30/2010                   | ---           | ---           | ---           | ---           | 157              | 156              | 9              | 28             | 7,617            | 2,184            | 629              |
| 08/31/2010                   | ---           | ---           | ---           | ---           | 172              | 133              | 8              | 67             | 22,676           | 3,321            | 403              |
| 09/01/2010 *                 | ---           | ---           | ---           | ---           | 248              | 54               | 24             | ---            | 7,726            | 3,507            | 886              |
| 09/02/2010                   | ---           | ---           | ---           | ---           | ---              | 23               | ---            | ---            | 4,755            | 3,597            | 1,109            |
| 09/03/2010                   | ---           | ---           | ---           | ---           | ---              | ---              | ---            | ---            | ---              | ---              | ---              |
| <b>Total:</b>                | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>5,404</b>     | <b>3,292</b>     | <b>1,110</b>   | <b>542</b>     | <b>146,367</b>   | <b>19,905</b>    | <b>14,621</b>    |
| <b># Days:</b>               | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>13</b>        | <b>14</b>        | <b>13</b>      | <b>12</b>      | <b>14</b>        | <b>8</b>         | <b>12</b>        |
| <b>Average:</b>              | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>416</b>       | <b>235</b>       | <b>85</b>      | <b>45</b>      | <b>10,455</b>    | <b>2,488</b>     | <b>1,218</b>     |
| <b>YTD</b>                   | <b>0</b>      | <b>42</b>     | <b>28</b>     | <b>1,275</b>  | <b>1,024,244</b> | <b>1,307,964</b> | <b>770,532</b> | <b>23,361</b>  | <b>3,877,955</b> | <b>2,223,185</b> | <b>5,096,044</b> |

Two-Week Summary of Passage Indices

| COMBINED COHO   |               |               |               |               |                |                |                |                |                |                |                |
|-----------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Date            | WTB<br>(Coll) | IMN<br>(Coll) | GRN<br>(Coll) | LEW<br>(Coll) | LGR<br>(INDEX) | LGS<br>(INDEX) | LMN<br>(INDEX) | RIS<br>(INDEX) | MCN<br>(INDEX) | JDA<br>(INDEX) | BO2<br>(INDEX) |
| 08/20/2010      | *             | ---           | ---           | ---           | ---            | 3              | 3              | 0              | 0              | 0              | 0              |
| 08/21/2010      | *             | ---           | ---           | ---           | ---            | 0              | 0              | 0              | 0              | 0              | ---            |
| 08/22/2010      | *             | ---           | ---           | ---           | ---            | 0              | 2              | 0              | 0              | 0              | ---            |
| 08/23/2010      | *             | ---           | ---           | ---           | ---            | 0              | 0              | 0              | 0              | 0              | ---            |
| 08/24/2010      | *             | ---           | ---           | ---           | ---            | 0              | 0              | 0              | 0              | 0              | 0              |
| 08/25/2010      | *             | ---           | ---           | ---           | ---            | 0              | 0              | 0              | 0              | 0              | ---            |
| 08/26/2010      | *             | ---           | ---           | ---           | ---            | 2              | 0              | 0              | 0              | 0              | ---            |
| 08/27/2010      | *             | ---           | ---           | ---           | ---            | 0              | 2              | 0              | 0              | 0              | 0              |
| 08/28/2010      | *             | ---           | ---           | ---           | ---            | 0              | 0              | 0              | 0              | 0              | ---            |
| 08/29/2010      |               | ---           | ---           | ---           | ---            | 0              | 2              | 0              | 0              | 0              | 0              |
| 08/30/2010      |               | ---           | ---           | ---           | ---            | 4              | 0              | 0              | 0              | 0              | 0              |
| 08/31/2010      |               | ---           | ---           | ---           | ---            | 0              | 1              | 0              | 0              | 0              | 0              |
| 09/01/2010      | *             | ---           | ---           | ---           | ---            | 0              | 0              | 0              | ---            | 0              | 0              |
| 09/02/2010      |               | ---           | ---           | ---           | ---            | ---            | 0              | ---            | ---            | 0              | 0              |
| 09/03/2010      |               | ---           | ---           | ---           | ---            | ---            | ---            | ---            | ---            | ---            | ---            |
| <b>Total:</b>   |               | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>       | <b>9</b>       | <b>10</b>      | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>14</b>      |
| <b># Days:</b>  |               | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>       | <b>13</b>      | <b>14</b>      | <b>13</b>      | <b>12</b>      | <b>14</b>      | <b>12</b>      |
| <b>Average:</b> |               | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>       | <b>1</b>       | <b>1</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>1</b>       |
| <b>YTD</b>      |               | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>104</b>     | <b>40,179</b>  | <b>53,911</b>  | <b>13,604</b>  | <b>41,441</b>  | <b>85,780</b>  | <b>524,778</b> |

| COMBINED STEELHEAD |               |               |               |               |                |                  |                  |                |                |                |                |
|--------------------|---------------|---------------|---------------|---------------|----------------|------------------|------------------|----------------|----------------|----------------|----------------|
| Date               | WTB<br>(Coll) | IMN<br>(Coll) | GRN<br>(Coll) | LEW<br>(Coll) | LGR<br>(INDEX) | LGS<br>(INDEX)   | LMN<br>(INDEX)   | RIS<br>(INDEX) | MCN<br>(INDEX) | JDA<br>(INDEX) | BO2<br>(INDEX) |
| 08/20/2010         | *             | ---           | ---           | ---           | ---            | 0                | 0                | 0              | 0              | 0              | 22             |
| 08/21/2010         | *             | ---           | ---           | ---           | ---            | 0                | 0                | 0              | 0              | 0              | ---            |
| 08/22/2010         | *             | ---           | ---           | ---           | ---            | 2                | 0                | 0              | 2              | 0              | ---            |
| 08/23/2010         | *             | ---           | ---           | ---           | ---            | 0                | 2                | 2              | 1              | 0              | ---            |
| 08/24/2010         | *             | ---           | ---           | ---           | ---            | 0                | 0                | 0              | 0              | 0              | 0              |
| 08/25/2010         | *             | ---           | ---           | ---           | ---            | 0                | 2                | 0              | 1              | 0              | ---            |
| 08/26/2010         | *             | ---           | ---           | ---           | ---            | 0                | 0                | 0              | 1              | 0              | ---            |
| 08/27/2010         | *             | ---           | ---           | ---           | ---            | 0                | 2                | 0              | 0              | 0              | 0              |
| 08/28/2010         | *             | ---           | ---           | ---           | ---            | 0                | 0                | 0              | 0              | 0              | ---            |
| 08/29/2010         |               | ---           | ---           | ---           | ---            | 0                | 0                | 0              | 0              | 0              | 0              |
| 08/30/2010         |               | ---           | ---           | ---           | ---            | 0                | 0                | 0              | 1              | 0              | 0              |
| 08/31/2010         |               | ---           | ---           | ---           | ---            | 0                | 0                | 0              | 1              | 0              | 0              |
| 09/01/2010         | *             | ---           | ---           | ---           | ---            | 0                | 0                | 0              | ---            | 0              | 0              |
| 09/02/2010         |               | ---           | ---           | ---           | ---            | ---              | 0                | ---            | ---            | 0              | 0              |
| 09/03/2010         |               | ---           | ---           | ---           | ---            | ---              | ---              | ---            | ---            | ---            | ---            |
| <b>Total:</b>      |               | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>       | <b>2</b>         | <b>6</b>         | <b>2</b>       | <b>7</b>       | <b>0</b>       | <b>22</b>      |
| <b># Days:</b>     |               | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>       | <b>13</b>        | <b>14</b>        | <b>13</b>      | <b>12</b>      | <b>14</b>      | <b>8</b>       |
| <b>Average:</b>    |               | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>0</b>       | <b>0</b>         | <b>0</b>         | <b>0</b>       | <b>1</b>       | <b>0</b>       | <b>3</b>       |
| <b>YTD</b>         |               | <b>4,385</b>  | <b>27,688</b> | <b>4,051</b>  | <b>11,795</b>  | <b>2,045,799</b> | <b>1,594,181</b> | <b>427,856</b> | <b>17,309</b>  | <b>448,224</b> | <b>594,822</b> |

## Two-Week Summary of Passage Indices

| Date            | COMBINED SOCKEYE |               |               |               |                |                |                |                |                |                  |                |                |
|-----------------|------------------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|------------------|----------------|----------------|
|                 | WTB<br>(Coll)    | IMN<br>(Coll) | GRN<br>(Coll) | LEW<br>(Coll) | LGR<br>(INDEX) | LGS<br>(INDEX) | LMN<br>(INDEX) | RIS<br>(INDEX) | MCN<br>(INDEX) | JDA<br>(INDEX)   | BO2<br>(INDEX) |                |
| 08/20/2010      | *                | ---           | ---           | ---           | 0              | 0              | 0              | 0              | 0              | 0                | 0              |                |
| 08/21/2010      | *                | ---           | ---           | ---           | 3              | 0              | 0              | 0              | 0              | ---              | ---            |                |
| 08/22/2010      | *                | ---           | ---           | ---           | 0              | 0              | 2              | 0              | 10             | ---              | 0              |                |
| 08/23/2010      | *                | ---           | ---           | ---           | 0              | 0              | 0              | 0              | 0              | ---              | ---            |                |
| 08/24/2010      | *                | ---           | ---           | ---           | 0              | 0              | 0              | 1              | 10             | 0                | 0              |                |
| 08/25/2010      | *                | ---           | ---           | ---           | 0              | 0              | 0              | 1              | 21             | ---              | 0              |                |
| 08/26/2010      | *                | ---           | ---           | ---           | 2              | 0              | 0              | 0              | 0              | ---              | 0              |                |
| 08/27/2010      | *                | ---           | ---           | ---           | 0              | 0              | 0              | 0              | 10             | 0                | 0              |                |
| 08/28/2010      | *                | ---           | ---           | ---           | 2              | 0              | 0              | 0              | 0              | ---              | 0              |                |
| 08/29/2010      |                  | ---           | ---           | ---           | 0              | 0              | 0              | 0              | 0              | 29               | 0              |                |
| 08/30/2010      |                  | ---           | ---           | ---           | 0              | 0              | 0              | 0              | 0              | 0                | 0              |                |
| 08/31/2010      |                  | ---           | ---           | ---           | 0              | 3              | 0              | 0              | 0              | 0                | 0              |                |
| 09/01/2010      | *                | ---           | ---           | ---           | 0              | 0              | 0              | ---            | 0              | 0                | 0              |                |
| 09/02/2010      |                  | ---           | ---           | ---           | ---            | 0              | ---            | ---            | 0              | 0                | 0              |                |
| 09/03/2010      |                  | ---           | ---           | ---           | ---            | ---            | ---            | ---            | ---            | ---              | ---            |                |
| <b>Total:</b>   |                  | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>7</b>       | <b>3</b>       | <b>2</b>       | <b>2</b>       | <b>51</b>      | <b>29</b>        | <b>0</b>       |                |
| <b># Days:</b>  |                  | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>13</b>      | <b>14</b>      | <b>13</b>      | <b>12</b>      | <b>14</b>      | <b>8</b>         | <b>12</b>      |                |
| <b>Average:</b> |                  | <b>0</b>      | <b>0</b>      | <b>0</b>      | <b>1</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>4</b>       | <b>4</b>         | <b>0</b>       |                |
| <b>YTD</b>      |                  | <b>80</b>     | <b>0</b>      | <b>0</b>      | <b>188</b>     | <b>8,770</b>   | <b>12,824</b>  | <b>2,204</b>   | <b>36,508</b>  | <b>1,469,150</b> | <b>656,084</b> | <b>803,520</b> |

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

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

### Definitions for Smolt Index Counts

- WTB (Collection) = Salmon River Trap at Whitebird : Collection Counts
- IMN (Collection) = Imnaha River Trap : Collection Counts
- GRN (Collection) = Grande Ronde River Trap : Collection Counts
- LEW (Collection) = Snake River Trap at Lewiston : Collection Counts
- 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)}

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.

### Two Week Transportation Summary

Source: Fish Passage Center

Updated:

9/3/10 9:25 AM

08/20/10 TO 09/03/10

| Site                           | Data                     | Species |     |    |    |    | Grand Total |
|--------------------------------|--------------------------|---------|-----|----|----|----|-------------|
|                                |                          | CH0     | CH1 | CO | ST | SO |             |
| <b>LGR</b>                     | Sum of NumberCollected   | 2,302   | 1   | 4  | 1  | 3  | 2,311       |
|                                | Sum of NumberBarged      | 0       | 0   | 0  | 0  | 0  | 0           |
|                                | Sum of NumberBypassed    | 0       | 0   | 0  | 0  | 0  | 0           |
|                                | Sum of Numbertrucked     | 2,684   | 1   | 5  | 3  | 4  | 2,697       |
|                                | Sum of SampleMorts       | 32      | 0   | 0  | 0  | 0  | 32          |
|                                | Sum of FacilityMorts     | 4       | 0   | 0  | 0  | 0  | 4           |
|                                | Sum of ResearchMorts     | 0       | 0   | 0  | 0  | 0  | 0           |
|                                | Sum of TotalProjectMorts | 36      | 0   | 0  | 0  | 0  | 36          |
| <b>LGS</b>                     | Sum of NumberCollected   | 2,178   | 8   | 6  | 3  | 2  | 2,197       |
|                                | Sum of NumberBarged      | 0       | 0   | 0  | 0  | 0  | 0           |
|                                | Sum of NumberBypassed    | 0       | 0   | 0  | 0  | 0  | 0           |
|                                | Sum of Numbertrucked     | 2,610   | 8   | 6  | 6  | 2  | 2,632       |
|                                | Sum of SampleMorts       | 28      | 1   | 0  | 0  | 0  | 29          |
|                                | Sum of FacilityMorts     | 10      | 0   | 0  | 0  | 0  | 10          |
|                                | Sum of ResearchMorts     | 0       | 0   | 0  | 0  | 0  | 0           |
|                                | Sum of TotalProjectMorts | 38      | 1   | 0  | 0  | 0  | 39          |
| <b>LMN</b>                     | Sum of NumberCollected   | 519     | 2   |    | 1  |    | 522         |
|                                | Sum of NumberBarged      | 0       | 0   |    | 0  |    | 0           |
|                                | Sum of NumberBypassed    | 31      | 0   |    | 0  |    | 31          |
|                                | Sum of Numbertrucked     | 638     | 2   |    | 1  |    | 641         |
|                                | Sum of SampleMorts       | 6       | 0   |    | 0  |    | 6           |
|                                | Sum of FacilityMorts     | 0       | 0   |    | 0  |    | 0           |
|                                | Sum of ResearchMorts     | 0       | 0   |    | 0  |    | 0           |
|                                | Sum of TotalProjectMorts | 6       | 0   |    | 0  |    | 6           |
| <b>MCN</b>                     | Sum of NumberCollected   | 76,610  |     |    |    | 25 | 76,635      |
|                                | Sum of NumberBarged      | 0       |     |    |    | 0  | 0           |
|                                | Sum of NumberBypassed    | 0       |     |    |    | 0  | 0           |
|                                | Sum of Numbertrucked     | 74,352  |     |    |    | 25 | 74,377      |
|                                | Sum of SampleMorts       | 90      |     |    |    | 0  | 90          |
|                                | Sum of FacilityMorts     | 436     |     |    |    | 0  | 436         |
|                                | Sum of ResearchMorts     | 0       |     |    |    | 0  | 0           |
|                                | Sum of TotalProjectMorts | 526     |     |    |    | 0  | 526         |
| Total Sum of NumberCollected   |                          | 81,609  | 11  | 10 | 5  | 30 | 81,665      |
| Total Sum of NumberBarged      |                          | 0       | 0   | 0  | 0  | 0  | 0           |
| Total Sum of NumberBypassed    |                          | 31      | 0   | 0  | 0  | 0  | 31          |
| Total Sum of Numbertrucked     |                          | 80,284  | 11  | 11 | 10 | 31 | 80,347      |
| Total Sum of SampleMorts       |                          | 156     | 1   | 0  | 0  | 0  | 157         |
| Total Sum of FacilityMorts     |                          | 450     | 0   | 0  | 0  | 0  | 450         |
| Total Sum of ResearchMorts     |                          | 0       | 0   | 0  | 0  | 0  | 0           |
| Total Sum of TotalProjectMorts |                          | 606     | 1   | 0  | 0  | 0  | 607         |

### YTD Transportation Summary

Source: Fish Passage Center

Updated:

9/3/10 9:25 AM

TO: 09/03/10

|                                |                          | Species   |           |         |         |           |             |
|--------------------------------|--------------------------|-----------|-----------|---------|---------|-----------|-------------|
| Site                           | Data                     | CH0       | CH1       | CO      | SO      | ST        | Grand Total |
| <b>LGR</b>                     | Sum of NumberCollected   | 610,918   | 1,622,345 | 28,355  | 5,792   | 1,358,152 | 3,625,562   |
|                                | Sum of NumberBarged      | 605,631   | 1,428,784 | 28,337  | 5,772   | 1,309,483 | 3,378,007   |
|                                | Sum of NumberBypassed    | 700       | 191,860   | 0       | 10      | 48,344    | 240,914     |
|                                | Sum of NumberTrucked     | 3,298     | 1         | 7       | 5       | 4         | 3,315       |
|                                | Sum of SampleMorts       | 249       | 54        | 1       | 0       | 19        | 323         |
|                                | Sum of FacilityMorts     | 1,040     | 1,231     | 10      | 5       | 285       | 2,571       |
|                                | Sum of ResearchMorts     | 0         | 415       | 0       | 0       | 17        | 432         |
|                                | Sum of TotalProjectMorts | 1,289     | 1,700     | 11      | 5       | 321       | 3,326       |
| <b>LGS</b>                     | Sum of NumberCollected   | 860,319   | 873,202   | 36,908  | 8,876   | 1,085,610 | 2,864,915   |
|                                | Sum of NumberBarged      | 849,625   | 791,515   | 36,896  | 8,872   | 1,025,889 | 2,712,797   |
|                                | Sum of NumberBypassed    | 68        | 81,373    | 0       | 0       | 59,473    | 140,914     |
|                                | Sum of NumberTrucked     | 4,705     | 8         | 10      | 2       | 9         | 4,734       |
|                                | Sum of SampleMorts       | 240       | 30        | 2       | 1       | 10        | 283         |
|                                | Sum of FacilityMorts     | 5,659     | 276       | 0       | 1       | 229       | 6,165       |
|                                | Sum of ResearchMorts     | 0         | 0         | 0       | 0       | 0         | 0           |
|                                | Sum of TotalProjectMorts | 5,899     | 306       | 2       | 2       | 239       | 6,448       |
| <b>LMN</b>                     | Sum of NumberCollected   | 509,361   | 305,752   | 8,789   | 1,525   | 239,911   | 1,065,338   |
|                                | Sum of NumberBarged      | 507,240   | 304,265   | 8,789   | 1,421   | 234,687   | 1,056,402   |
|                                | Sum of NumberBypassed    | 565       | 1,473     | 0       | 0       | 5,000     | 7,038       |
|                                | Sum of NumberTrucked     | 900       | 2         | 0       | 0       | 1         | 903         |
|                                | Sum of SampleMorts       | 57        | 9         | 0       | 1       | 10        | 77          |
|                                | Sum of FacilityMorts     | 618       | 201       | 0       | 3       | 314       | 1,136       |
|                                | Sum of ResearchMorts     | 0         | 0         | 0       | 0       | 0         | 0           |
|                                | Sum of TotalProjectMorts | 675       | 210       | 0       | 4       | 324       | 1,213       |
| <b>MCN</b>                     | Sum of NumberCollected   | 1,922,348 | 1,224,094 | 47,445  | 848,905 | 260,030   | 4,302,822   |
|                                | Sum of NumberBarged      | 299,909   | 173       | 70      | 190     | 86        | 300,428     |
|                                | Sum of NumberBypassed    | 1,490,588 | 1,222,563 | 47,275  | 847,904 | 259,728   | 3,868,058   |
|                                | Sum of NumberTrucked     | 119,663   | 0         | 40      | 65      | 0         | 119,768     |
|                                | Sum of SampleMorts       | 521       | 121       | 5       | 96      | 17        | 760         |
|                                | Sum of FacilityMorts     | 6,880     | 1,237     | 55      | 650     | 199       | 9,021       |
|                                | Sum of ResearchMorts     | 0         | 0         | 0       | 0       | 0         | 0           |
|                                | Sum of TotalProjectMorts | 7,401     | 1,358     | 60      | 746     | 216       | 9,781       |
| Total Sum of NumberCollected   |                          | 3,902,946 | 4,025,393 | 121,497 | 865,098 | 2,943,703 | 11,858,637  |
| Total Sum of NumberBarged      |                          | 2,262,405 | 2,524,737 | 74,092  | 16,255  | 2,570,145 | 7,447,634   |
| Total Sum of NumberBypassed    |                          | 1,491,921 | 1,497,269 | 47,275  | 847,914 | 372,545   | 4,256,924   |
| Total Sum of NumberTrucked     |                          | 128,566   | 11        | 57      | 72      | 14        | 128,720     |
| Total Sum of SampleMorts       |                          | 1,067     | 214       | 8       | 98      | 56        | 1,443       |
| Total Sum of FacilityMorts     |                          | 14,197    | 2,945     | 65      | 659     | 1,027     | 18,893      |
| Total Sum of ResearchMorts     |                          | 0         | 415       | 0       | 0       | 17        | 432         |
| Total Sum of TotalProjectMorts |                          | 15,264    | 3,574     | 73      | 757     | 1,100     | 20,768      |

Cumulative Adult Passage at Mainstem Dams Through: 09/02

| DAM | EndDate | Spring Chinook |       |        |       |            |       | Summer Chinook |       |       |       |            |       |
|-----|---------|----------------|-------|--------|-------|------------|-------|----------------|-------|-------|-------|------------|-------|
|     |         | 2010           |       | 2009   |       | 10-Yr Avg. |       | 2010           |       | 2009  |       | 10-Yr Avg. |       |
|     |         | Adult          | Jack  | Adult  | Jack  | Adult      | Jack  | Adult          | Jack  | Adult | Jack  | Adult      | Jack  |
| BON | 09/02   | 244384         | 12612 | 114525 | 66631 | 167834     | 17301 | 97604          | 15603 | 81936 | 37416 | 82525      | 13362 |
| TDA | 09/02   | 189839         | 11546 | 93908  | 53646 | 121486     | 13792 | 81292          | 12528 | 79916 | 27878 | 72634      | 10423 |
| JDA | 09/01   | 179446         | 11794 | 76806  | 49733 | 101283     | 12037 | 70955          | 12475 | 65989 | 33147 | 66361      | 11207 |
| MCN | 09/02   | 153246         | 9178  | 70413  | 43328 | 93119      | 11340 | 66526          | 8063  | 57137 | 21182 | 62804      | 9141  |
| IHR | 09/02   | 101188         | 6047  | 55435  | 28223 | 64058      | 7222  | 29583          | 3503  | 23856 | 9400  | 15236      | 3378  |
| LMN | 09/02   | 97334          | 5898  | 66931  | 20009 | 63381      | 6004  | 35097          | 4362  | 23353 | 11733 | 15714      | 2947  |
| LGS | 09/02   | 92985          | 5461  | 52642  | 24331 | 58937      | 6617  | 32410          | 3968  | 20340 | 11207 | 12950      | 3477  |
| LGR | 09/02   | 94203          | 6409  | 49667  | 31064 | 59309      | 8137  | 28778          | 5294  | 14482 | 16367 | 12293      | 4233  |
| PRD | 09/01   | 30539          | 932   | 13469  | 2910  | 19097      | 834   | 49265          | 1217  | 49417 | 2117  | 55919      | 2554  |
| RIS | 09/01   | 29684          | 1513  | 12634  | 6003  | 15841      | 1581  | 47220          | 4018  | 44295 | 7727  | 52600      | 6133  |
| RRH | 09/01   | 8660           | 523   | 6090   | 1086  | 6208       | 510   | 34173          | 1724  | 34961 | 5231  | 40122      | 4303  |
| WEL | 09/01   | 7555           | 661   | 6307   | 1867  | 4866       | 487   | 26538          | 1856  | 25725 | 3800  | 29472      | 2340  |
| WFA | 08/14   | 64275          | 1679  | 25753  | 2688  | -          | -     | -              | -     | -     | -     | -          | -     |

| EndDate | DAM | Fall Chinook |       |            |       |                  |       |
|---------|-----|--------------|-------|------------|-------|------------------|-------|
|         |     | 2010 Adult   | Jack  | 2009 Adult | Jack  | 10-Yr Avg. Adult | Jack  |
| 9/2     | BON | 121479       | 13840 | 137642     | 43127 | 110161           | 12747 |
| 9/2     | TDA | 51758        | 7971  | 63500      | 22190 | 47034            | 6747  |
| 9/1     | JDA | 27656        | 5342  | 42179      | 16809 | 24913            | 4877  |
| 9/2     | MCN | 18680        | 2426  | 24917      | 9774  | 15837            | 2876  |
| 9/2     | IHR | 6357         | 1244  | 7884       | 5466  | 2617             | 833   |
| 9/2     | LMN | 4593         | 847   | 4731       | 6612  | 1816             | 925   |
| 9/2     | LGS | 2586         | 446   | 3444       | 1657  | 1204             | 283   |
| 9/2     | LGR | 1589         | 393   | 1683       | 1243  | 771              | 241   |
| 9/1     | PRD | 2447         | 582   | 5745       | 786   | 5389             | 1180  |
| 9/1     | RIS | 1555         | 762   | 2544       | 1086  | 2310             | 720   |
| 9/1     | RRH | 1398         | 250   | 2034       | 603   | 1863             | 481   |
| 9/1     | WEL | 221          | 305   | 445        | 219   | 522              | 155   |
| 8/14    | WFA | 0            | 0     | 0          | 0     | -                | -     |

| DAM | Coho  |     |       |      |            |      | Sockeye |        |            | Steelhead |        |            |           |
|-----|-------|-----|-------|------|------------|------|---------|--------|------------|-----------|--------|------------|-----------|
|     | 2010  |     | 2009  |      | 10-Yr Avg. |      | 2010    | 2009   | 10-Yr Avg. | 2010      | 2009   | 10-Yr Avg. | Wild 2010 |
| BON | 10064 | 763 | 40330 | 2698 | 18209      | 1144 | 386519  | 177820 | 94584      | 333996    | 496741 | 293377     | 134336    |
| TDA | 1571  | 244 | 7524  | 2144 | 2160       | 396  | 325129  | 155582 | 80569      | 181072    | 239875 | 127606     | 78397     |
| JDA | 385   | 66  | 4417  | 1310 | 892        | 228  | 324116  | 157391 | 86662      | 120878    | 229077 | 93547      | 52579     |
| MCN | 150   | 13  | 1279  | 365  | 238        | 48   | 278802  | 121668 | 69739      | 101734    | 119673 | 63243      | 41165     |
| IHR | 1     | 0   | 29    | 4    | 4          | 0    | 1302    | 867    | 175        | 64118     | 75034  | 34859      | 20338     |
| LMN | 0     | 0   | 6     | 0    | 0          | 0    | 1654    | 1162   | 220        | 55125     | 54835  | 29824      | 20282     |
| LGS | 2     | 1   | 3     | 0    | 0          | 0    | 1655    | 1065   | 197        | 34794     | 27609  | 18619      | 13418     |
| LGR | 0     | 0   | 0     | 0    | 0          | 0    | 2174    | 1215   | 242        | 39296     | 25796  | 20450      | 15312     |
| PRD | 0     | 0   | 257   | 18   | 45         | 2    | 357056  | 153466 | 88588      | 17144     | 16992  | 8972       | 0         |
| RIS | 0     | 1   | 13    | 44   | 2          | 2    | 338291  | 162817 | 85458      | 13414     | 12733  | 7440       | 6720      |
| RRH | 0     | 0   | 4     | 11   | 1          | 0    | 295611  | 133083 | 64314      | 10059     | 9351   | 5406       | 4445      |
| WEL | 0     | 0   | 0     | 0    | 0          | 0    | 291272  | 134893 | 65136      | 5803      | 5812   | 3371       | 2584      |
| WFA | 32    | 36  | 0     | 0    | -          | -    | 0       | 0      | -          | 28758     | 16887  | -          | -         |

PRD does not post wild steelhead numbers.  
 These numbers were collected from USACE, Grant PUD, Douglas PUD, Chelan PUD, ODFW and DART.  
 Wild steelhead numbers are included in the total. Wild Steelhead are defined as unclipped fish.  
 Historic counts (pre-1996) were obtained from CRITFC and compiled by the FPC.  
 Historic counts 1997 to present were obtained from the Corps of Engineers.

Page last updated on: 09/03/10

BON counts from January 1, 2010 to March 14, 2010 (historical counts begin March 15):

| Year | Chinook Adult | Chinook Jack | Steelhead | Wild Steelhead |
|------|---------------|--------------|-----------|----------------|
| 2009 | 39            | 0            | 2,318     | 657            |
| 2008 | 19            | -1           | 321       | 109            |